Yale University
EliScholar – A Digital Platform for Scholarly Publishing at Yale

YPFS Documents (Series 1) Browse by Media Type

2007

Financial Integration in the Nordic-Baltic Region

S. Kal Wajid

Alexander Tieman

May Khamis

Francois Haas

Dirk Schoenmaker

See next page for additional authors

Follow this and additional works at: https://elischolar.library.yale.edu/ypfs-documents

Recommended Citation

Wajid, S. Kal; Tieman, Alexander; Khamis, May; Haas, Francois; Schoenmaker, Dirk; Iossifov, Plamen; and Tintchev, Kalin, "Financial Integration in the Nordic-Baltic Region" (2007). *YPFS Documents (Series 1)*. 14503.
https://elischolar.library.yale.edu/ypfs-documents/14503

This Document is brought to you for free and open access by the Browse by Media Type at EliScholar – A Digital Platform for Scholarly Publishing at Yale. It has been accepted for inclusion in YPFS Documents (Series 1) by an authorized administrator of EliScholar – A Digital Platform for Scholarly Publishing at Yale. For more information, please contact elischolar@yale.edu.

Author/Creator
S. Kal Wajid, Alexander Tieman, May Khamis, Francois Haas, Dirk Schoenmaker, Plamen Iossifov, and Kalin Tintchev

This document is available at EliScholar – A Digital Platform for Scholarly Publishing at Yale:
https://elischolar.library.yale.edu/ypfs-documents/14503

Financial Integration in the Nordic-Baltic Region

Challenges for Financial Policies

S. Kal Wajid
Alexander Tieman
May Khamis
Francois Haas
Dirk Schoenmaker
Plamen Iossifov
Kalin Tintchev

INTERNATIONAL MONETARY FUND

Monetary and Capital Markets Department

Financial Integration in the Nordic-Baltic Region

Challenges for Financial Policies

S. Kal Wajid
Alexander Tieman
May Khamis
Francois Haas
Dirk Schoenmaker
Plamen Iossifov
Kalin Tintchev

INTERNATIONAL MONETARY FUND

©2007 International Monetary Fund

Contents

Glossary vi

Executive Summary 1

Chapter I—Overview 3
- Introduction 3
- The Nordic-Baltic Financial Structure 3
- Challenges for Financial Policies 5
- Arrangements for Cross-border Collaboration 9
- Conclusion 11

Chapter II—Financial Structure in the Nordic-Baltic Region 13
- Financial Intermediation 13
- Concentration and Conglomeration 16
- Regional Expansion by Financial Groups 20
- Conclusion 25

Annex 2.1—Statistical Annex 28

Chapter III—Arrangements to Address Cross-Border Financial Sector Risks and Safety Nets 31
- Cross-Border MoUs 31
- Strengths and Challenges for the Future 36

Annex 3.1—The European Union Framework 40
- Evolution of the cross-border framework 40
- Description of the EU cross-border supervisory framework 41
- The cross-sectoral supervisory framework / supervision of conglomerates 44
- Supplementary arrangements at the EU Level 46
- Conclusion 47

Annex 3.2—Deposit Guarantee Schemes 48
- Challenges 49
- Policy options 50
- Conclusion 52

Chapter IV—Capital Market Integration in the Nordic-Baltic Region 55
- Nordic-Baltic Capital Markets 55
- Capital Market Integration 56
- Integration of Clearing and Settlement Infrastructures 65
- Investment Fund Industry 69
- Cross-Border Regulation of Securities Markets 70
- Conclusion 71

References 74

Tables

2.1. Nordic-Baltic Countries: Levels of 14
2.2. Nordic Countries: Banking System Structure, 2001-2005 15
2.3. Nordic-Baltic Countries: Number of Credit Institutions, 2001–2005 17
2.4. Nordic-Baltic Countries: Bank Concentration, 2001–2005 17
2.5. Large Nordic Financial Groups: Activity by Business Segment, 2006 19
2.6. Large Nordic Financial Groups: Portfolio and Income Composition, December 2006 20
2.7. Nordic Banking Systems: Claims on Selected Countries, 1999 and 2006 26
2.8. Liabilities of Selected Banking Systems to the Nordic Countries, 1999 and 2006 26
A2.1. Nordic Banks: Balance Sheet Composition, 2001 and 2006 28
A2.2. Baltic Banks: Balance Sheet Asset Composition, 1995–2006 28
A2.3. Baltic Banks: Liability Exposures to Foreign Banks, 1993–2006 29
A2.4. Major Nordic Groups: Foreign Exposures, 2006 29
A2.5. Nordic-Baltic Countries: Number of Foreign Credit Institutions, 2001 and 2005 30
A2.6. Nordic-Baltic Countries: Market Shares of Foreign Credit Institutions, 2001 and 2005 30
3.1. International Supervisory and Crisis Management MoUs in the Nordic Baltic Region 39
A3.2.1. Deposit Insurance in the European Union 52
A3.2.2. Deposit Insurance in the Nordic Countries 53
A3.2.3. Deposit Insurance in the Baltics 54
4.1. Nordic and Baltic Economies (GDP, at Current Prices, 2006) 56
4.2. Nordic-Baltic Capital Markets: Relative Size, End-2006 56
4.3. Equity Markets: Domestic Market Capitalization, End-2006 57
4.4. Norex Markets: Sector Repartition in Percent of Market Capitalization, 2006 57
4.5. Structure of Domestic Bond Markets (in Percent of Outstanding Amounts, 2005) 59
4.6. Evolution of Equity Foreign Ownership 60
4.7. Cross-Border Portfolio Investment Among Nordic-Baltic Countries 61
4.8. Portfolio Investment from outside the region in Nordic-Baltic securities) 62
4.9. OMX Market: Capitalization and Listed Companies, end-2006 66
4.10. Nordic-Baltic Stock Exchanges Net New Listings/Delistings (Main Markets) 66
4.11. Nordic Countries: Net Assets of Investment Funds (€ billion) 71

Figures

1.1. Financial Intermediation in the Nordic-Baltic Region 4
1.2. Nordic-Baltic Countries: Bank Concentration, 2001 and 2005 5
2.1. Assets of Large Banks with Nonbank Subsidiaries in Selected European Countries, December 2006 17
2.2. Market Shares of Nordic Financial Institutions in Nordic-Baltic Countries 21
2.3. Nordea's Legal Structure 22
2.4. Market Shares in the Baltic Countries, 2006 27
A3.1.1. The Lamfalussy Structure of Supervisory Committees in the EU 42
4.1. Outstanding Stock of Portfolio Investment in Nordic-Baltic Securities at year-end 2004 62
4.2. Trading and Post-Trading Infrastructures in the Nordic Baltic Region 68

Boxes

2.1. Nordea's Structure 22
3.1. Main Provisions in the General MoU between the Nordic Supervisors 33
3.2. Main Provisions in the Institution-Specific MoUs Regarding Cooperation in Supervision 34
3.3. The Nordic Central Banks' MoU on Crisis Management 38
A3.1.1. The Lamfalussy Structure 42
A3.1.2. The Coordinator of Financial Conglomerates 45
4.1. Contrasted Trends: Bond and Derivative Markets 59
4.2. Intra-Regional and Global Cross-Border Investment Patterns 61
4.3. Euronext Model: Preserving Local Particularities with Technical Unification 67

Glossary

APK	ArvoPaperiKeskus Oy, The Finnish Central Securities Depository
Baltics	The Baltic countries: Estonia, Latvia and Lithuania
BIS	Bank for International Settlements
CCP	Central CounterParty
CEBS	Committee of European Banking Supervisors
CEIOPS	Committee of European Insurance and Occupational Pensions Supervisors
CESR	Committee of European Securities Regulators
COREP	Common Reporting Framework (for solvency ratios)
CPIS	Coordinated Portfolio Investment Survey
CRD	Capital Requirements Directive
CSD	Central Securities Depository
CSE	Copenhagen Stock Exchange
DFSA	Danish Financial Supervisory Authority
DVP	Delivery-Versus-Payment
EBC	European Banking Committee
ECB	European Central Bank
EFAMA	European Fund and Asset Management Association
EEA	European Economic Area
EEC	European Economic Community
EFR	European Financial Services Round Table
EIOPC	European Insurance and Occupational Pensions Committee
EU	European Union
ESC	European Securities Committee
ESCB	European System of Central Banks
FCC	Financial Conglomerates Committee
FESE	Federation of European Securities Exchanges
FINREP	Financial Reporting Framework
FOP	Free-Of-Payment
FSA	Financial Supervision/Supervisory Authority
FSAP	EU Financial Services Action Plan
GDP	Gross Domestic Product

GICS	Global Industry Classification Standard
HHF	Icelandic Housing Financing Fund
ICSD	International Central Securities Depository
ICEX	Iceland Stock Exchange
IFRS	International Financial Reporting Standards
IPOs	Initial Public Offerings
IT	Information Technology
LEC	Linked Exchanges and Clearing
LSE	London Stock Exchange
MiFID	Markets in Financial Instruments Directive
MoF	Ministery of Finance / Treasury
MoU(s)	Memorandum(Memoranda) of Understanding
NCSD	Nordic Central Securities Depository
NMS	New (EU) Member States
Nordics	The Nordic countries: Denmark, Finland, Iceland, Norway and Sweden
SE	Societas Europaea / European Company Statute
SEB	Skandinaviska Enskilda Banken
SMEs	Small- and Medium-Sized Enterprises
TARGET(2)	EU-wide real-time gross settlement system
VAT	Value Added Tax
VP	VærdiPapircentralen, the Danish Central Securities Depository
VPC	VärdePappersförvarare och Clearingorganisation, the Swedish Central Securities Depository
VPS	VerdiPapirSentralen, the Norwegian Central Securities Depository
UCITS	Undertakings for the Collective Investment in Transferable Securities
WFE	World Federation of Exchanges

Executive Summary

Financial systems in the Nordic-Baltic region are increasingly being integrated. Institutions and markets throughout the region are characterized by a high level of concentration, conglomeration, and cross-border linkages—features that are also evident to varying degrees in Europe more generally. This poses a number of challenges for financial policies, including the arrangements for crisis management, mechanisms for early coordinated intervention in cross-border institutions, adequacy of deposit insurance schemes, and cooperation among securities market regulators.

Although the oversight of cross-border financial activities in the region remains anchored in the European framework, the Nordic-Baltic authorities have forged additional understandings to strengthen cooperation among their countries. These arrangements—in the form of memoranda of understanding (MoUs)—seem to be working well, but have not yet been tested in a distress situation. They are not legally binding and lack mechanisms for addressing solvency issues and for dispute resolution. In particular, they do not fully address the supervisory and oversight challenges posed by cross-border conglomerates that may be of systemic importance in both home and host countries. These issues need to be considered in the broader European context.

There appears to be scope for strengthening the current supervisory arrangements in the region. Specifically, the institution-specific MoUs could be expanded to include all larger cross-border banks and possibly more national supervisors. They could also be adapted to include a specific mechanism for resolving disagreements and to place more emphasis on a rules-based mechanism for early supervisory intervention. The supervisory colleges for conglomerates could be given a specific mandate to take financial stability in each of the signatory countries into account, and to enable the college rather than the national supervisor to take regulatory action.

The arrangements for the management of a crisis involving cross-border banking groups need to be strengthened. Within the Nordic-Baltic region, an MoU could be developed that specifies some general principles for burden sharing in the event of a crisis, and also defines the potential role of the MoFs in cases where solvency is not assured. In addition, mechanisms could be provided to resolve disagreements among national authorities, while taking into account the situation and responsibilities of small countries with currency boards or fixed exchange rate arrangements. Further tests of the adequacy of the current arrangements should be carried out.

Safety-net arrangements need to be reviewed. The current arrangements could be enhanced through further harmonization, focusing on the definition of insured deposits and the premiums levied. More fundamentally, deposit insurance issues relating to cross-border conglomerates cannot be easily separated from concerns about arrangements for crisis management and the need to develop principles for burden sharing. Over the longer term, further harmonization of the current

national arrangements for deposit insurance, or even supra-national arrangements, may need to be considered, anchored in the European Union (EU) legal framework.

The importance of effective cooperation among market regulators is also underscored by the broadening cross-border consolidation of stock exchanges. The progressive consolidation of clearing and settlement systems are likely to pose new challenges in the future for supervisory authorities' and central bank oversight. The experience gained from the supervisory college approach for specific banking groups could be useful in this regard. Consideration may also be given to expanding the scope of existing MoUs by including stock exchange regulators from the Baltic countries.

Chapter I—Overview

Introduction

This paper presents the main findings of the Nordic-Baltic Regional Financial Sector Project initiated in 2006. The project was motivated by increasing financial integration and cross-border activity and the emergence of large financial conglomerates in the region.[1] These developments pose new challenges for financial policies, including cross-border supervision and arrangements for crisis management.

Although the project was undertaken principally as a stocktaking exercise, the paper offers some suggestions for the future direction of policies in the Nordic-Baltic region, and Europe more broadly. It also offers some tentative suggestions for actions that could be taken to address national and regional vulnerabilities that have emerged. Since financial integration is also increasing in Europe as a whole, and the countries in the Nordic-Baltic region are bound by the EU regulatory framework, addressing these challenges may need to be considered in this broader European-wide context.

The paper is organized as follows: This chapter provides an overview of the findings of the project. It presents some stylized features of the financial structure and discusses the main policy concerns raised by financial integration in the region. It reviews the existing arrangements to address these concerns and offers some suggestions for their future adaptation. Chapter II discusses in greater detail the developments, trends and features of the financial system in the region. Chapter III reviews the various MoUs, identifies the gaps in them, and suggests possible improvements. The final chapter reviews the trends in the region's capital markets and points to areas where further efforts are needed for achieving greater regional integration.

[1] The Nordic-Baltic region consists of: Denmark, Finland, Iceland, Norway, and Sweden (the five Nordics); and Estonia, Latvia, and Lithuania (the three Baltics).

The Nordic-Baltic Financial Structure

Financial intermediation in the region has expanded and diversified in recent years (Figure 1.1). Total financial assets nearly doubled over the last decade in some countries in the region, with demand for financial services spurred by economic growth and relatively low interest rates. Growing interest in equity markets and other investments contributed to increased diversification of financial assets.

At the same time, financial structures differ between the Nordic and Baltic countries, reflecting their different evolution. Financial systems in the Nordic countries have matured over a long period, bank intermediation levels are high, and nonbank financial activities are well developed. The Baltic systems are relatively less advanced and concentrated in conventional banking, reflecting their recent transition to market economies. Nonetheless, concentration, conglomeration, cross-border linkages, and capital market integration are key features of financial systems and capital markets throughout the region—features that are also evident to varying degrees in Europe more generally:

Concentration. The banking systems in the region are generally dominated by a few large banks, although in the Nordic countries a large number of smaller credit institutions serve local niche markets (Figure 1.2). Concentration ratios are generally higher than EU-wide averages, and especially higher than in the larger European countries. This reflects the consolidation of the industry and the drive for economies of scale.

Conglomeration. Financial liberalization and increased demand for long-term savings products in the Nordic countries encouraged the expansion of banks into insurance, pension, asset management,

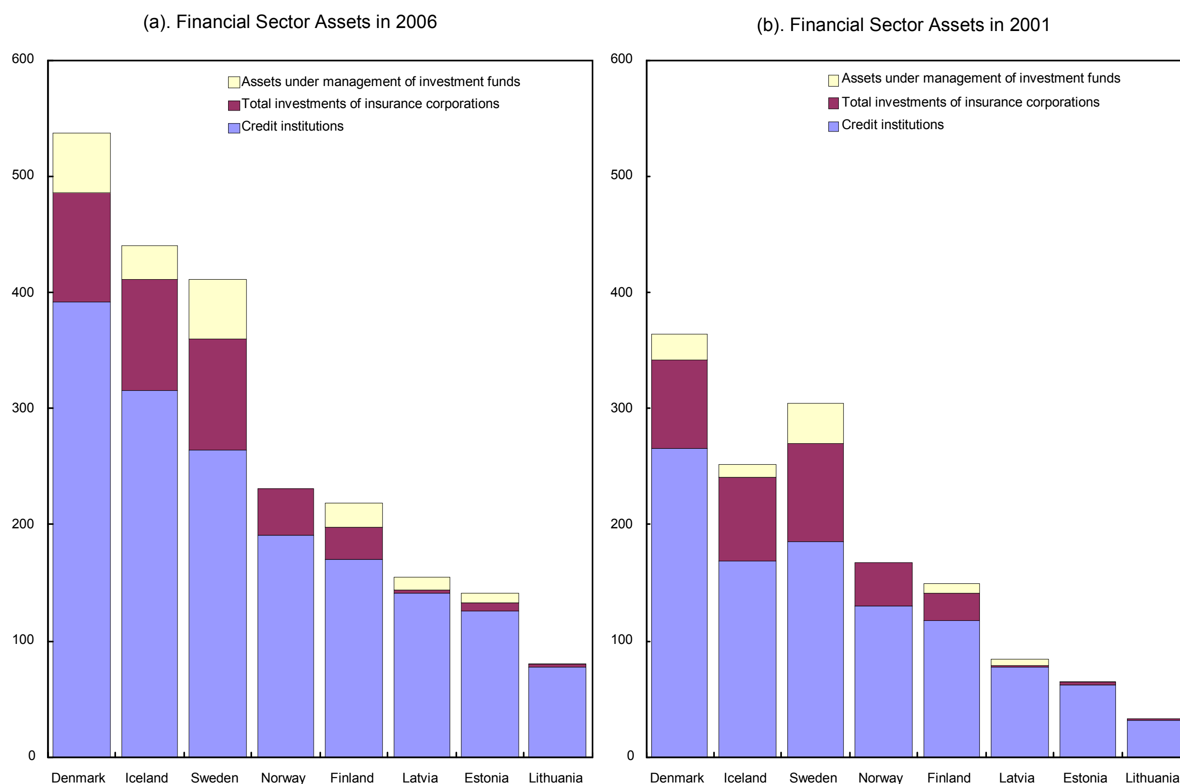
and mortgage segments. This trend is less pronounced in the Baltics, where cross-sector consolidation has been led primarily by the large banking groups that have acquired smaller insurance and mortgage subsidiaries.

Cross-border linkages. Limited opportunities for organic growth domestically have encouraged cross-border expansion by Nordic financial institutions in other Nordic countries, the Baltics, and the rest of Europe. There is now substantial cross-border ownership of financial institutions within the region, although non-Nordic bank ownership in the region remains limited. Subsidiary, rather than branch structure, currently dominates foreign operations in terms of size and importance in the financial systems, but the latter is gaining in importance as an organizational model.

Capital market integration. Capital markets in the region are becoming increasingly integrated, although this has progressed more in the Nordic countries. The Norex alliance of local stock exchanges provides a framework for increased convergence of market practices and rules. This is reinforced by common ownership of seven out of the eight local stock exchanges dealing in securities and derivatives trading. Integration efforts have been directed primarily toward exchange-traded cash equity, and equity and fixed-income derivative products.

Figure 1.1. Financial Intermediation in the Nordic-Baltic Region

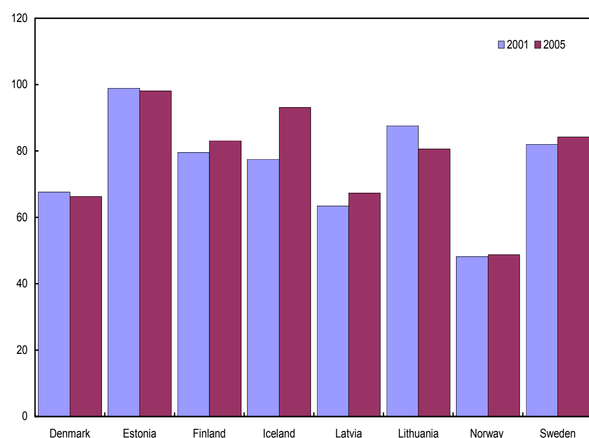
(In percent of GDP)



Sources: The European Central Bank; Statistics Sweden; Norges Bank; Statistics Norway; Financial Supervisory Authority of Iceland; Bank of Latvia; and IMF Banking Statistics.

Figure 1.2. Nordic-Baltic Countries: Bank Concentration, 2001 and 2005 1/

(In percent)



Sources: The European Central Bank and national authorities.

1/ Measured as the share of the five largest banks in total credit institutions' assets.

Challenges for Financial Policies [2]

Emergence of Cross-Border Financial Conglomerates

The structural features highlighted above raise a number of issues for financial policies. In particular, financial integration in the Nordic-Baltic region, indeed in Europe more generally, underscores the need to enhance the regulatory framework. The emergence of a few large financial institutions with sizeable market shares in various market segments across the region and the complexity of their operations with large cross-border and cross-sector exposures have brought to light gaps in the regulatory framework, especially regarding crisis management, coordinated early intervention, and safety net mechanisms. Integration has also facilitated rapid credit growth in the Baltic countries, which is partly funded by cross-border lending. This, along with the integration of securities markets and related infrastructure, underscores the need for further cooperation among regulators.

Increasing financial integration within the Nordic-Baltic region has gone hand in hand with the emergence of major cross-border financial groups. Currently, most cross-border business in host countries is conducted through locally-incorporated subsidiaries, although some cross-border operations are conducted through branches. The cross-border financial groups have sizeable business in both home and host countries, and may potentially be of systemic importance in several of these countries. Similar trends can be seen in the EU/EEA as a whole.

The centralization of some business functions at headquarters or outside the host country has blurred the distinction between subsidiaries and branches. Indeed, some subsidiaries are dependent on the group structure to function, and hence would be hard to run on a stand-alone basis. Possibly, as a consequence, some financial institutions are currently contemplating conversion of their legal status to more closely align their operational and legal structures through branch rather than subsidiary operations.

These developments are testing the limits of the existing EU/EEA cross-border framework. The framework for regulation, supervision, and crisis management is organized primarily along national lines and therefore may not be well suited to dealing with cross-border subsidiaries or branches that are of systemic importance for the host country. There is disparity across countries between the supervisory arrangements--which remain anchored on the supervised institution's legal structure—and the evolving business structure of financial institutions. This is becoming more problematic with the increasing centralization of key business functions, such as risk management and capital allocation.

Key concerns are home-host supervisory, safety net, and crisis management arrangements. The existing framework gives the home country supervisor the ultimate responsibility for the consolidated entity, while legally separate foreign subsidiaries are supervised by the host country. Deposit insurance schemes are organized along

[2] For a more detailed discussion see Chapters III and IV.

national lines, with national authorities responsible for the deposits of banks operating under their license, including any branches operating abroad. The design of such schemes varies substantially across countries. The responsibility for financial stability, and hence emergency liquidity assistance, also remains at the national level, so that the authorities of one country may end up needing to provide emergency liquidity support to branches of foreign entities that are not subject to their supervision. This may also involve substantial (and politically contentious) cross-border transfers.[3] The current arrangements imply shared responsibilities for crisis management but remain ambiguous regarding burden sharing and compatibility with national arrangements.

An added complication for the small open economies of the Baltic countries, and possibly some of the Nordics as well, is their limited size compared to that of the large banking groups. Some of these countries are facing significant macroeconomic strains, including large current account deficits and high credit growth, but have limited policy room to maneuver on both the macroeconomic and regulatory fronts. Moreover, host supervisors in small countries may not have the capacity to exercise effective risk assessments and oversight over large complex institutions. A further issue is presented by the constraints implied by the EU—for example, in cases related to model validation for the group or conglomerate, where in principle the home supervisors have the final responsibility under the EU's Capital Requirements Directive (CRD), even though host authorities have other means to address capital adequacy.

Nordic-owned institutions are the main intermediaries in the Baltic countries where private sector credit has been expanding very rapidly. Managing credit growth in these countries has been difficult due to constrained macroeconomic tools in the context of a high degree of euroization. Containing credit growth has been made more problematic by the ample liquidity available through parent banks and the apparent high profitability of lending operations in the Baltics. Moreover, in general, tightening prudential norms may induce circumvention through nonbank financing or cross-border lending. This further underscores the need for more effective mechanisms for cross-border and cross-sector collaboration between home and host country supervisors.

Ensuring Effective Supervision

Increased cooperation among supervisors within and across the Nordic-Baltic countries is essential for more effective supervision. The importance of such cooperation has arisen on account of the emergence of the large complex cross-border banking groups and the centralization of business functions within these groups. In particular, the predominance of large cross-border banks increases the vulnerability of the region to contagion and regulatory arbitrage. Moreover, the centralization by banks of key business functions such as liquidity and risk management, as well as managerial control, has made separate assessments of subsidiaries (and branches) more difficult. The present home-host supervisory arrangements may thus need to be adapted to meet these challenges.

The authorities in the Nordic-Baltic region have devoted considerable attention to reviewing home-host supervisory arrangements. The particular focus on this issue was triggered by the announcement by some major financial groups of their intention to incorporate as Societas Europaea (SE—i.e., a pan-European company).[4] However, currently, the SE legislation—which is based on companies' law—has not been coupled with the requisite supervisory, crisis management, and safety net framework needed for banks. This new legal

[3] Strictly speaking a branch is not a separate legal entity thus liquidity support can only be provided to the group.

[4] E.g., the Nordea Group, whose legal structure currently consists of subsidiaries in all Nordic countries plus Poland. In turn, Nordea Finland, the Finnish subsidiary, operates branches in Estonia, Latvia, and Lithuania.

structure facilitates the conversion by a bank of its foreign entities into branches and thus achieves better alignment of its legal and operational structures. For the supervisors outside the home country, however, this would mean a significant loss of supervisory powers, with a corresponding increase in responsibility for the home supervisor.

The presence of large foreign-owned subsidiaries or branches in various countries in the region poses important supervisory challenges. While such entities are often systemically important in the host country, they may constitute only a minor part of the group's assets. Hence, the parent group and the home supervisor may under-appreciate the potential risks that the bank's activities may pose for host countries, underscoring the need for the involvement of host country supervisors.

Some mechanisms have been devised to address these issues. In particular, the Nordic institution-specific MoUs between supervisors have set up supervisory colleges that aim to mitigate the disparity between supervisory arrangements and a group's business structure by establishing a joint overall risk assessment of the group. At the EU level, the Financial Conglomerates Directive introduces a single cross-sectoral coordinating supervisor, while the banking and capital requirements directives spell out the role for the coordinating supervisor in cross-border issues. In addition, several MoUs provide for information exchange between the different supervisors. While these arrangements improve collaboration and coordination, they do not necessarily ensure that the interests of host and home supervisors are fully aligned.

Provision of Emergency Liquidity Assistance

The main challenges regarding emergency liquidity assistance lie in the coordination of support and managing conflicts of interest between the parties involved. The increased centralization of key business functions and the blurring of the distinction between branches and subsidiaries makes it difficult to provide support to only a part (e.g., a subsidiary) of the broader banking group. In the case of branches, which are not separate legal entities, liquidity support will involve support to the parent company, against collateral from that parent. Thus, a decision by a host country to provide emergency liquidity to a branch or even subsidiary of a cross-border banking group would, in effect, be providing support to the entire group, and might require agreement and the active participation by supervisors in the home country.

The Nordic and Baltic central banks have signed an MoUs on the management of a financial crisis in banks with cross-border establishments. The 2003 MoU between the Nordic central banks (i) specifies that in order to be eligible for emergency liquidity assistance, a bank cannot be judged to be insolvent; and (ii) establishes a contact group consisting of high level representatives from each central bank. The contact group would function as a crisis management group in the event of a crisis. The MoU recognizes that in order to be effective, emergency liquidity assistance for a large cross-border bank might, in some cases, have to come from several central banks simultaneously. A similar MoU has been concluded between the three Baltic central banks and the Swedish Riksbank in December 2006.

Countries potentially providing emergency liquidity support are likely to prefer to be involved in supervising entities that could draw on such support. The establishment by the Nordic countries of a form of joint supervision for the Nordea and Sampo Groups is helpful in this regard, as are the general principles of information sharing that have been agreed to at the EU level.[5] However, a broader framework for dealing with this issue does not exist.

Effective Crisis Management

During a potential solvency crisis involving a branch or subsidiary of a foreign-owned

[5] Sampo Group's banking activities have recently been sold to Danske Bank.

institution, conflicts of interest may arise. Current practice is that branches rely on the parent for financial support, which in turn would apply for assistance from the home authorities if needed. However, home authorities would likely put greater weight on national interests over risks to financial stability in the host country, and may decline to support the parent bank. Similar issues exists in the case of subsidiaries. Host authorities are responsible for liquidity assistance to locally incorporated subsidiaries, but may be reluctant to provide such support to a foreign-owned institution and thus place the burden on the home authorities. Although the potential for these conflicts of national interest are growing with the increased prominence of cross-border entities, mechanisms for dealing with them are weak.

The responsibility for the costs of cross-border crises also has not been defined. These costs could include both the possible credit losses resulting from lender of last resort operations in cases where solvency cannot a priori be assured, as well as the possible fiscal costs of crisis resolution. Although it may not be feasible ex ante to define burden sharing arrangements, establishing in advance the broad modalities for addressing this issue could prove essential in a crisis, because it could help speed up an orderly resolution and avoid undermining investor and depositor confidence.

Adequacy of Safety Net Mechanisms

Safety net arrangements—i.e., deposit guarantee schemes—in the region differ widely in scope, coverage, funding arrangements, and operational modalities. The EU's 1994 Deposit Guarantee Schemes Directive provides a basic framework, but only sets out the minimum requirements. The coverage limit is as high as 2 million Norwegian kroner (roughly €250,000) in Norway, and as low as 200,000 Estonian krone (around €13,000) in Estonia. In the three Baltic countries, the limits are currently below the EU prescribed minimum, but are increasing towards €20,000 under transitional arrangements. Similarly, there are significant differences in funding and other arrangements. Finland and Sweden feature funded schemes with partly risk-adjusted premiums, while the other Nordic and Baltic countries have funded schemes, but premiums are not risk-adjusted. Co-insurance is only used only in Estonia and Lithuania.

While the existing safety net arrangements have worked well so far, managing problems in a large financial institution with substantial cross-border operations could be difficult. Under the home-control principle underpinning the EU's regulatory framework, home authorities are responsible for providing deposit insurance to depositors of foreign branches of banks incorporated in their jurisdiction, while host authorities are responsible for deposit insurance for locally incorporated subsidiaries. However, the host country can also cover the branches by providing for top-up coverage. The myriad ways in which the deposit insurance schemes in the region—and in Europe more broadly—are structured could result in conflicts of interest among national authorities. These conflicts could be especially difficult to resolve, and could prolong or exacerbate the consequences of a bank failure, given differing bankruptcy and other laws, and the fact that the systemic importance of internationally active banks varies across countries.

Deposit insurance is of particular importance against the background of the adoption of Societas Europaea and the situation concerning the possible change in the legal status of Nordea—a large regional financial conglomerate. Since Nordea's foreign establishments in the Nordic countries are in the form of subsidiaries, its depositors are insured by the host authorities. Should it convert its subsidiaries to branches under the provisions of Societas Europaea, this would mean that all deposits would be insured by the home authorities (Sweden), which could create difficult transitional and other problems. For example, arrangements might have to be made for the transfer of funds (i.e., premiums that may have been paid in the past) from one country's scheme to another's. In addition, the differences between the safety nets covering local

banks and branches of foreign banks such as Nordea's (e.g., with regard to coverage limits, premiums, and supervisory responsibility) could affect depositor preferences in tranquil times, and encourage deposit flight in a crisis.

The EU Directive on deposit-guarantee schemes has provided a basis for some harmonization in deposit insurance arrangements, and the European Commission has undertaken a wide-ranging review of this issue. In its consultation paper (2005), the European Commission provided a threefold rationale for further harmonization of deposit guarantee schemes. It cited: (i) the need to avoid possible competitive distortions; (ii) the need to avoid possible (dis)incentives for banks to elect to change the location of their corporate seat; and (iii) the possibility that harmonization and the concomitant improvements in information exchange arrangements would ease crisis management. However, a recent communication from the Commission concerning the review of the 1994 deposit guarantee directive did not propose any changes to the directive (European Commission, 2006).

Integration of Capital Markets

The evolution of the Nordic-Baltic region into an integrated, medium-size marketplace raises important strategic challenges going forward. In light of the progressive Europe-wide integration of financial markets, a question arises whether the deeper integration at the regional level is viable, or whether increased emphasis should be placed on greater and more rapid integration at the European level.

A key consideration in this context will be the corporate strategy of the OMX group. The OMX structure today incorporates seven out of the eight local markets and covers both securities and derivatives markets (Chapter IV). In addition, it combines elements of horizontal and vertical integration—ownership of marketplaces and clearing and settlement systems. Whether this duality should be maintained going forward remains an open issue. Some insights may be gained from the Euronext experience, and the recent attention to this issue by the European Commission.

The integration of trading structures has not been matched by that of clearing and settlement systems, which remain domestically entrenched. The challenge in this regard is that existing systems use different technologies and have been initially designed to suit the needs of the particular domestic markets. Upgrading existing systems or creating a new system capable of meeting the needs of all participants may be costly and/or result in inadequate services.

Divergent interests among the various stakeholders in the systems complicates further integration. Banks are also often shareholders of Central Securities Depositories (CSDs). These large banking groups are frequently members of stock exchanges and providers of brokerage services, asset management, and custodian and trading services to investors. These different business lines often have conflicting interests and some activities would benefit from further integration, while others would lose.

Arrangements for Cross-border Collaboration

Countries in the Nordic-Baltic region have sought to address some of the emerging gaps in the EU framework. Their efforts are anchored in several directives and MoUs that specify a general framework for cross-border supervision and principles for cooperation and information sharing (Chapter III). Some of the key arrangements are:

(i) *The General MoU between the supervisors of all five Nordic countries.* The general MoU establishes the principles of information sharing between the supervisors.

(ii) *Institution-specific MoUs between various national supervisors.* These MoUs the aim to guarantee the effective and comprehensive supervision of specific large cross-border groups by setting up supervisory colleges. The parties undertake to work in close

cooperation in order to minimize the potential for regulatory and supervisory arbitrage and perform joint risk assessments, resulting in a joint supervision plan.

(iii) *The MoUs among the region's central banks*. The Nordic central banks and the central banks of the Baltic countries and Sweden have signed MoUs on the management of a financial crisis in banks with cross-border establishments. These MoUs aim to facilitate prompt cooperation between the central banks in the event of a financial crisis.

In addition, several other bilateral MoUs play a role in cross-border supervision. These include MoUs between supervisory authorities from the Baltics and the individual Nordic supervisors. They exist in both general form, as well as in institution-specific form, i.e., for the Nordea and Sampo Groups. Bilateral MoUs also exist between some of the Baltic central banks. In addition, specific MoUs within the Nordic countries have been signed on the supervision of stock exchanges (the OMX Group), and the oversight of payment and settlement systems (including central securities depositories).

These MoUs constitute a useful mechanism for cooperation and have thus far worked well in normal circumstances. Both the supervisors, as well as the banks, rate the current mode of supervision, based on the Nordic institution-specific MoUs and supervisory colleges, as good. Moreover, given the legal framework, they do not see much scope for further integration of supervision, which might involve yielding some sovereignty.

Still, the MoUs are limited in several aspects. The MoUs are not legally binding documents. They are a form of "soft-regulation" (Mayes 2006), and where conflicts arise, an appeal to an MoU does not have any legal status and cannot be enforced in court. The absence of some sort of tie-breaking rule in the MoUs to resolve conflicts is a potential weakness, which might be exacerbated in times of financial system stress. This concern is alleviated somewhat by the fact that there is a nonbinding obligation among the signatories of any MoU to cooperate under the principles of the MoU, and that failing to honor the obligations under an MoU may have adverse consequences on other aspects of bilateral and multilateral relations. With respect to the institution-specific MoUs between the supervisors, they do not provide the supervisory colleges themselves with a mandate to pursue (enforcement) actions. Rather, the mandate still resides with the national authorities.

The MoUs between central banks on crisis management are limited in scope and can not be expected to address solvency problems and burden sharing. The MoUs state that in cases where the solvency of a bank is deemed uncertain, and the authorities hence run a credit risk, the respective Ministries of Finance (MoFs) would have to be involved. However, currently, no arrangements for cooperation among the ministries on this issue have been made. In addition, the solvency assessment that the MoUs require in the event of a crisis would be very difficult without establishing ex-ante the modalities for how supervisors would conduct such an assessment. In addition, the MoUs remain untested in a real crisis—although the authorities have performed several crisis exercises.

Overlapping responsibilities remain. This increases the regulatory burden for the financial industry unnecessarily, the more so at a time when the industry already faces challenges from the implementation of Basel II and IFRS.[6] In addition, from the perspective of the regulators, the overlapping responsibilities imply a heavy effort on coordination (De Nicoló et. al., 2005) and possibly scope for regulatory inconsistencies or arbitrage. Further cross-sectoral integration of supervision could be a small step to reduce the number of supervisors the large financial conglomerates have to deal with.

An additional limitation is the multitude of MoUs. Although the different MoUs discussed above cover different issues and are concluded

[6] See, e.g., Centre for the Study of Financial Innovation, 2005 or European Financial Services Round Table, 2004.

between different parties, they are clearly related. Hence, the proliferation of MoUs has created an increasingly complex landscape that could be difficult to navigate in a crisis. In some instances, the number of MoUs could be reduced by folding several MoUs into more broadly applicable MoUs. In other cases, clearer lead responsibility could play a role in mitigating the complexity.

Regarding capital market infrastructure, ambitious projects to create a unified Nordic clearing and settlement system have not succeeded in the past, and new ways are now being explored. The merger of the Swedish (VPC) and Finnish (APK) Central Security Depositories, in 2004, into a new structure, the Nordic Central Securities Depository (NCSD) still has to prove its usefulness: both domestic entities still operate separate systems, but are at the planning stage in developing a joint platform. Significant synergies are unlikely to be obtained until a common settlement system is adopted. Nonetheless, the NCSD project could facilitate harmonization of rules and clearing processes and development of a common technological platform. The Nordic Connect project launched in 2005 represents a different approach, favoring the interconnection of existing CSDs through a network of bilateral links between CSDs.

Conclusion

Increasing financial integration within the Nordic-Baltic region has pointed to a number of gaps in the present regulatory framework. Primary challenges lie in the arrangements for crisis management, mechanisms for early coordinated intervention in cross-border institutions, adequacy of deposit insurance schemes, and cooperation among securities market regulators.

The MoUs concluded by the national authorities in the Nordic-Baltic region have sought to address some of the gaps in the regulatory framework. While these seem to work well in normal times, they have not been tested in a distress situation. The MoUs are not legally binding, do not contain mechanisms for dispute resolution, and do not spell out the role for MoFs in addressing solvency issues; such issues could become particularly salient during periods of financial turbulence when national and regional interests may diverge. Furthermore, the MoUs do not fully address the supervisory and oversight challenges posed by cross-border conglomerates that may be of systemic importance in both home and host countries, especially in a crisis. Also, since cross-border arrangements in the region remain anchored in the EU framework, these issues may need to be considered in this broader context.

There would, nevertheless, seem to be scope for strengthening the current arrangements in the region. The detailed institution-specific MoUs could be expanded to include all larger cross-border banks and possibly more national supervisors and could be adapted to include a specific mechanism for resolving disagreements. More emphasis could be placed on developing a rules-based mechanism for early supervisory intervention. In addition, the supervisory colleges for conglomerates could be given a specific mandate to take financial stability in each of the signatory countries into account, and the college rather than the national supervisor could be enabled to take regulatory action. Over the longer term, the broader European regulatory framework may also need to be reviewed to address the challenges posed by cross-border conglomerates, possibly building on the supervisory college arrangements.[7]

The arrangements for the management of a crisis concerning cross-border banking groups need to be strengthened. Within the Nordic-Baltic region, an MoU could be developed that specifies

[7] This issue is of wider importance to the EU, and was referred to in the recent chairman's summing up of the Euro Area policies IMF executive board meeting (BUFF/06/131 of July 26, 2006). It was noted that "Directors welcomed the latest initiatives to strengthen cross-border collaboration among prudential supervisors but thought that further integration of supervision over complex groups would be necessary to improve the effectiveness of area-wide prudential policies and crisis management."

some general principles for burden sharing in the event of a crisis, and also defines the potential role of the MoFs in cases where solvency is not assured. In addition, mechanisms could be provided to resolve disagreements among national authorities, while taking into account the situation and responsibilities of small countries with currency boards or fixed exchange rate arrangements. Further tests of the adequacy of the current arrangements should be carried out.

Safety-net arrangements need to be reviewed, although their role in crisis management seems somewhat limited. One option is to consider some further harmonization, which could focus on the definition of insured deposits and the premiums levied for the insurance. More fundamentally, however, deposit insurance issues relating to cross-border conglomerates can not be easily separated from concerns about arrangements for crisis management and the need to develop principles for burden sharing. Over the longer term, further harmonization of the current national arrangements for deposit insurance, or even supra-national arrangements, may need to be considered, anchored in the EU legal framework.

The importance of effective cooperation among market regulators is also underscored by the broadening cross-border consolidation of stock exchanges, in particular equity-trading infrastructures. In this context, extended cooperation between the relevant regulators may be needed. The progressive consolidation of clearing and settlement systems in the future is likely to pose new challenges for supervisory authorities' and central bank oversight. The experience gained from the Nordic supervisory college approach for specific banking groups could be useful in this regard. Consideration may also be given to expanding the scope of existing MoUs by including regulators from the Baltic countries.

Chapter II—Financial Structure in the Nordic-Baltic Region

Financial systems in the Nordic-Baltic countries have undergone major changes over the last decade. In addition to longstanding economic and cultural links, this reflects financial liberalization across the region and initiatives toward a single market for financial services in Europe more broadly. Financial sectors in the region have thus become more closely integrated and diversified, with tighter cross-border and cross-sector linkages and the emergence of large and complex financial institutions. This chapter takes stock of these developments.

Financial Intermediation

The Nordic countries are characterized by high levels of bank intermediation and developed nonbank sectors. They have experienced robust growth in recent years in banking, insurance, pension and securities markets as well as in other nonbank financial intermediation. Levels of financial intermediation are particularly high relative to GDP in Iceland, Denmark, and Sweden (Table 2.1), with insurance, pension, and securities products now representing an important part of total financial assets in these countries. Commercial banks are the most important players in most Nordic countries and their share in total banking system assets has increased (Table 2.2). The Nordic stock exchanges have seen rapid increases in their market capitalization ratios over the last several years.

Financial systems in the Baltic countries are centered on conventional banking activities and nonbank financial products account for only a small share of total financial sector assets. They have relatively lower, albeit rapidly increasing, levels of financial intermediation. In recent years, the Baltic countries have experienced above-average growth in credit, driven by high consumer demand. Estonia and Latvia, in particular, have rapidly narrowed the difference with the Nordic countries regarding levels of bank intermediation. Insurance and pension assets have also grown rapidly, but from a very low base and their levels relative to GDP are still modest.

There are notable differences between the banking structures in the Nordic countries. Savings banks are particularly significant in the Norwegian banking system, while cooperative banks account for a large part of the banking sector in Finland. Mortgage banks play a prominent role in Denmark, Sweden, and to some extent Norway.[8] The structural characteristics of the Nordic banking systems to a large extent reflect historical and regulatory differences. Differences in the legal form of establishment do not, however, have a major impact on their business and on the services and products offered to the general public. Some of the banking institutions in the Nordic countries form parts of larger banking groups or conglomerates.

The structural differences in the Nordic-Baltic financial sectors can be discerned from the credit institutions' balance sheet composition. Robust lending growth in Iceland has gradually shifted the asset mix toward a

[8] In Iceland the largest player in the mortgage market is the Housing Financing Fund (HFF), an independent government institution, which grants mortgage loans to individuals, municipalities, companies and organizations to finance housing purchases and construction. HFF has 50 percent market share in mortgage lending in Iceland.

greater share of lending to the public, while the opposite trend is present in Sweden, Finland and Denmark (Annex Table A2.1). The share of lending in total assets is the largest in Iceland and Norway. These balance sheet differences reflect to a large extent structural differences. The large holdings of securities (mortgage bonds) in Denmark is explained by the importance of mortgage credit institutions in the Danish financial sector. Asset growth throughout the region has been increasingly financed by market-based funding, obtained in the international capital markets. As a result, the share of deposits in total funding has declined.

In the Baltic countries, credit institutions' asset composition has shifted toward a larger share of loans to households in total bank assets. Household lending now accounts for 25–30 percent of total assets, a dramatic increase from its 4–5 percent level in 1995 (Annex Table A2.2). Household lending—mortgages and consumer loans—is relatively new in these countries.[9] The corporate sector also receives a considerable part of financing. By comparison, household lending accounts for a larger share of total bank assets than lending to corporates in the Nordic countries. To the extent that household lending helps spread credit risk over a larger number of borrowers with smaller exposures, its increasing share in the Baltics may contribute to reduced risk concentration.

Bank consolidation in the Baltics has led to increased cross-border balance sheet linkages among financial institutions. Claims on foreign banks represent a large part of the Baltic banks' total assets. While some of the foreign assets are held to meet reserve requirements, some represent funds on banks' correspondent accounts with foreign banks held to serve clients settlements. Others are funds that the Baltic banks have intermediated to their foreign subsidiaries in other Baltic countries and Russia. Parts of the intermediated funds are channeled to the banks' leasing subsidiaries in other Baltic countries and represent de facto lending to the private sector. Leasing exposures are more significant in Estonia, although they show a declining trend. Available figures for Estonia and Latvia indicate that leasing represented around 20 percent and 11 percent of credit to the private sector respectively at end-2005.[10] Leasing exposures have decreased from their peak levels, particularly in Estonia, where they stood at approximately 34 percent of private sector credit in 2002.

Table 2.1. Nordic-Baltic Countries: Levels of Financial Intermediation, 2001 and 2006 1/

	Credit Institutions Assets		Investments of Insurance Corporations and Assets Under Management by Pension		Assets Under Management by Investment Funds	
	(In percent of GDP)					
	2001	2006	2001	2005	2001	2005
Denmark	265.0	391.6	77.2	94.9	21.2	51.1
Estonia	62.2	125.2	2.3	7.4	0.9	8.0
Finland	117.2	169.6	23.1	28.0	8.8	21.2
Iceland	169.3	315.4	71.1	97.6	11.7	33.3
Latvia	76.8	141.2	2.2	2.5	5.6	10.6
Lithuania	31.6	76.7	1.6	3.2	...	0.5
Norway	129.8	191.6	37.0	39.0	...	...
Sweden	185.1	264.5	84.3	95.6	35.3	50.5

Sources: The European Central Bank; Statistics Sweden; Norges Bank and Statistics Norway; Financial Supervisory Authority of Iceland; and Bank of Latvia.

1/ Data for credit institutions for Norway refer to March 2007. Data for Norway and Finland excludes pension funds, not strictly comparable with the rest of the figures. For Norway, insurance data are as of September 2003 and March 2006 respectively. For Iceland end-2006 data for insurance corporations, pension and investment funds.

[9] Approximately 80 percent of household lending represents mortgage loans.

[10] The figure for Latvia includes in addition to leasing also lending to the private sector by insurance companies and other financial institutions. The ratios are calculated in percent of total credit to the private sector by banks and other financial institutions.

Table 2.2. Nordic Countries: Banking System Structure, 2001-2005
(In percent of banking system assets)

	2001	2002	2003	2004	2005
Commercial banks					
Denmark	54.2	56.2	55.0	54.3	58.9
Finland	73.7	70.1	72.4	73.7	75.8
Iceland	61.9	71.6	79.2	80.3	81.3
Norway	41.9	41.6	41.8	24.3	25.8
Sweden	63.5	63.4	61.5	63.6	65.0
Savings banks					
Denmark	0.0	0.0	0.0	0.0	0.0
Finland	4.5	4.7	4.5	4.4	4.3
Iceland	16.5	16.8	13.1	10.3	8.2
Norway	31.4	31.9	31.8	48.8	48.9
Sweden	1.8	1.9	1.9	1.7	1.6
Cooperative banks					
Denmark	0.0	0.0	0.0	0.0	0.0
Finland	15.4	16.4	15.9	14.9	14.3
Iceland	0.0	0.0	0.0	0.0	0.0
Norway	0.0	0.0	0.0	0.0	0.0
Sweden	0.0	0.0	0.0	0.0	0.0
Mortgage banks					
Denmark	45.8	43.8	45.0	45.7	41.1
Finland	0.3	0.4	0.5	0.5	1.1
Iceland	0.0	0.0	0.0	0.0	0.0
Norway	12.7	13.1	13.7	14.6	14.0
Sweden	25.1	25.3	26.6	25.3	23.9
Other credit institutions					
Denmark	0.0	0.0	0.0	0.0	0.0
Finland	6.0	8.4	6.7	6.4	5.0
Iceland	21.7	11.6	7.7	9.4	10.5
Norway	14.0	13.5	12.6	12.3	11.3
Sweden	9.6	9.4	10.0	9.3	9.5

Source: National authorities.

The Baltic banks have improved access to foreign funding, facilitated by the entry of foreign banks. Liabilities to foreign banks increased significantly in the late 1990s, with a noticeable increase in the last few years (Annex Table A2.3). The return of confidence in the domestic banking sectors has also contributed to greater deposit mobilization and the banks' strengthened funding base created opportunities for credit expansion. Foreign borrowing involves roll-over risk, which may depend on the banks' credit ratings. Such risks are however lower when exposures are to foreign parent banks.[11]

Concentration and Conglomeration

Banking Concentration

The banking sectors in the Nordic-Baltic region are highly concentrated. Although the Nordic countries have a large number of credit institutions, their banking sectors consist of a few large universal banks and a large number of small and medium-sized banks (Table 2.3). The latter have a local scope of activity or offer a more limited product range. The number of niche players is relatively small in the Baltics, although this has recently increased to some extent.

Bank concentration is high even by EU standards. Among the Nordics, bank concentration is the highest in Iceland and the lowest in Norway (Table 2.4). Concentration ratios are even higher in some of the Baltic countries, particularly in Estonia, where a few large banks dominate the system. This compares with an EU-wide concentration ratio of approximately 42 percent. This average is, however, dominated by the large EU members, which have lower bank concentration, and conceals to some extent smaller countries, such as the Benelux countries, Portugal, and the new Central and Eastern European EU members, which have high bank concentrations. It is noteworthy that although the Nordic financial groups are large by national standards, they are mostly small to medium sized compared with their international peers.

Some of the high concentration of the Nordic-Baltic banking sectors is a result of consolidation triggered by banking problems. In the Nordic countries, financial difficulties in the late 1980s and early 1990s encouraged banks to seek opportunities for cost savings and growth through new acquisitions. Similarly, the consolidation process in the Baltics was a consequence of the banking problems in these countries in the mid-1990s and in the aftermath of the Russian crisis of 1998. The opening up of the Baltic countries following their transition to a market-based economy created opportunities for foreign bank penetration. Concentration has increased in Iceland and to a lesser degree in Finland and Latvia, while it has remained broadly stable in Denmark, Estonia, Norway and Sweden (see Figure 1.2).[12]

Financial Conglomeration

The range of products and services offered by financial institutions has become increasingly diversified as a result of conglomeration in the Nordic countries. The process was triggered by the financial liberalization of the 1980s and early 1990s, when banks were given the right to offer nonbank financial services via subsidiaries. The associated legislative changes created opportunities for cross-sector mergers and acquisitions and led to the emergence of large financial conglomerates—including Nordea, Danske

[11] Data on the share of exposures to parent banks in total foreign exposures is not readily available, although it is expected that the foreign exposures are mainly to parent banks (see for example ECB Monthly Bulletin, November 2006, p. 94)

[12] Concentration has decreased in Sweden if measured by the concentration ratio of the four largest institutions (excluding the share of the Denmark-based Danske Bank).

Bank, SEB, Svenska Handelsbanken, Swedbank, DnB Nor, and OP Bank Group—operating in several business areas. As a result of cross-sector consolidation, a small number of universal financial institutions acquired large market shares in various financial services and now offer a one-stop shop for banking, life and nonlife insurance, asset management, and capital market activities. Among the Nordic countries, financial conglomeration (as measured by the ratio of conglomerates' assets to GDP) is highest in Iceland, Sweden, and Denmark. A comparison with the levels of financial conglomeration in other EU members is presented in Figure 2.1.

Table 2.3. Nordic-Baltic Countries: Number of Credit Institutions, 2001-2005

	2001	2002	2003	2004	2005
Denmark	203	208	203	202	197
Estonia	7	7	7	9	11
Finland	369	369	366	363	363
Iceland	40	38	37	37	38
Latvia	39	23	23	23	23
Lithuania 1/	54	68	71	74	78
Norway	220	219	215	211	209
Sweden	149	216	222	212	200

Sources: European Central Bank; and national authorities.

1/ The larger numbers for Lithuania relative to Estonia and Latvia reflect the inclusion of small credit cooperatives (41 in 2001, 54 in 2002, 58 in 2003, 62 in 2004 and 66 in 2005)

Table 2.4. Nordic-Baltic Countries: Bank Concentration, 2001–2005 1/
(In percent of total credit institutions' assets)

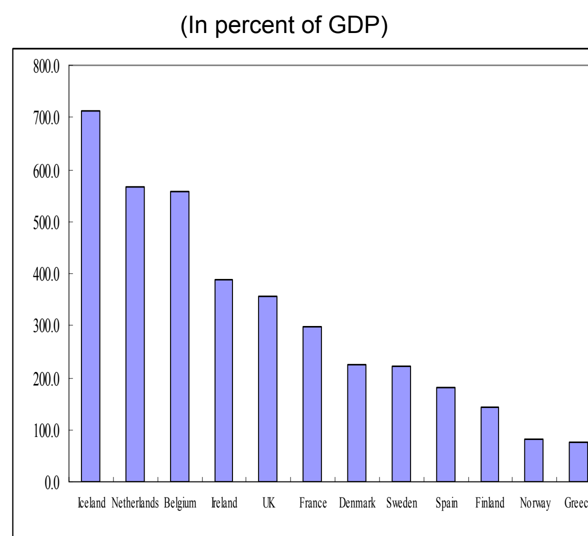
	2001	2002	2003	2004	2005
Denmark	67.6	68.0	66.6	67.0	66.3
Estonia	98.9	99.1	99.2	98.6	98.1
Finland	79.5	78.6	81.2	82.7	83.1
Iceland	77.5	79.7	86.3	90.7	93.1
Latvia	63.4	65.3	63.1	62.4	67.3
Lithuania	87.6	83.9	81.0	78.9	80.6
Norway	48.2	47.4	48	49.7	48.7
Sweden	82.0	84.5	83.7	84.2	84.2

Sources: European Central Bank; and national authorities.

1/ Measured as the share of the five largest credit institutions in total credit institutions' assets.

Figure 2.1. Assets of Large Banks with Nonbank Subsidiaries in Selected European Countries, December 2006 1/

(In percent of GDP)



Source: Bankscope.

1/ On a consolidated basis, International Financial Reporting Standards.

Financial conglomeration was helped by the strong demand for long-term savings products in the Nordic countries. Growth opportunities in insurance, pension and mortgage lending led to increased orientation of the large banking groups toward these product areas. Notwithstanding, life insurance and pension products and asset management activities represent a smaller share of operating income than the more conventional banking segment (Table 2.5). This can also be attributed to the fact that a larger number of Nordic

conglomerates are dominated by a leading bank, instead of an insurance company. The groups are engaged in various market-related activities such as money market, foreign exchange, securities trading and derivatives, which is evident also from the shares of the markets segment in total operating income.

Growth in demand for insurance, pension and mortgage products led insurance companies and mortgage credit institutions to seek more access to bank distribution channels. The large banking groups on their part were increasingly under pressure to leverage the high fixed cost of their branch networks and sought opportunities for cost-cutting and revenue growth after the banking problems of the early 1990s. The highly concentrated banking sectors of the Nordic countries offered limited opportunities for further expansion. The banking groups accordingly pursued growth through cross-sector acquisitions, resulting in financial conglomerates with significant market shares in several business areas. By contrast, some insurance and mortgage credit institutions, for example Skandia in Sweden, Storebrand in Norway, Almbrand, and Nykredit in Denmark, chose to grow their noncore banking business organically by creating small banking subsidiaries.

While the Nordic banking groups have acquired a large share of the life insurance market, where bank distribution channels proved to be particularly effective, penetration in nonlife insurance on average appears less pronounced. Some of the Nordic groups disposed of their nonlife insurance subsidiaries after the stock market decline in 2001 owing to more limited opportunities for economies of scale in this area (e.g., Nordea, SEB). Cooperation with insurance companies in the cross-selling of products and services also takes the form of strategic alliances. The latter preserve the opportunities for joint use of distribution networks without requiring significant direct investment and operational control. In February 2007 Sampo Group sold its banking subsidiary Sampo Bank to Danske Bank and refocused on its core insurance business. The group however signed a cooperation agreement to distribute life and pension insurance products through Sampo Bank's branch network.

Cross-sector linkages are strong in the areas of banking and mortgage finance. Mortgage lending in the Nordic countries is primarily financed by specialized mortgage credit institutions which raise a significant part of their funds by bond issuance. Such mortgage credit institutions are often part of conglomerate structures. The combination of banking and mortgage finance activities in one institution is driven by sound operational synergies. Having a large distribution network is important in mortgage finance, where the banking arm usually originates the loan, and the mortgage credit institution subsequently refinances it with bonds and other debt instruments. The mortgage institution lends the secured part of the loan while the parent bank generally provides the remaining part of the funding and frequently in addition provides a loss guarantee for a part of the mortgage loan. The mortgage bonds are placed with institutional investors. Nevertheless part of the mortgage credit institutions' funding represents short-term interbank loans, often made by the parent bank.

A comparison with other large EU conglomerates indicates that the Nordic institutions are invested more heavily in conventional bank lending. The share of bank loans in total assets is larger for the Nordic conglomerates than for the average EU conglomerate (Table 2.6). Notwithstanding their sectoral diversification, the majority of the Nordic conglomerates are dominated by a leading bank. Nordic banks appear to be more heavily engaged in conventional lending than in investment banking and other related activities. Therefore, credit risk from bank-related products remains one of the most significant sources of risk for the large Nordic financial groups. Market risk is also present, through the investment portfolio of the insurance subsidiaries and the groups' capital market activities.

Financial conglomeration is also present in the Baltics, but it is less pronounced. Demand for savings products is relatively weaker compared with the demand for credit-related products due to a lower saving rate, which is a characteristic of transition economies. Therefore the development of savings products started at a later stage and nonbank markets are less advanced. In the Baltics, like in the rest of Europe, there are no legal obstacles to offering banking, insurance and securities services under the same parent company. Therefore, the Baltic banks are universal and have a large market share in various business areas--banking, leasing, insurance, pension funds and securities. Although nonbank markets are small compared to conventional banking, the Baltic banks are rapidly expanding the range of financial services they offer. The Baltic banks can draw upon their foreign parents' expertise in offering diversified financial services. In this respect it is important that the Baltic banks are becoming well-integrated in their foreign parents' operational and risk-management structures. The parent banks have also benefited from the subsidiaries expertise in offering innovated products such as e-banking in the local markets.

Table 2.5. Large Nordic Financial Groups: Activity by Business Segment, 2006 1/

(In percent of operating income)

	Banking Activities	Market-Related Activities	Life Insurance & Pension Activities	Asset Management	Nonlife Insurance
Danske Bank (Denmark) 2/ 4/	68.1	23.1	8.7	...	...
Nordea (Sweden)	91.3	...	3.4	5.3	...
Swedbank (Sweden) 3/	83.0	9.2	7.9	...	...
Handelsbanken (Sweden)	71.4	7.9	15.7	4.9	...
DNB Nor (Norway)	72.0	15.5	9.3	3.2	...
Sampo Group (Finland) 4/	25.7	...	21.4	...	52.9

Source: Thomson Financial.

1/ The figures in the table exclude other items and eliminations. Due to institutional differences in classifications the categories are not strictly comparable.
2/ The figures exclude mortgage finance and Danske capital.
3/ Insurance figures include asset management.
4/ In February 2007 Danske Bank acquired the banking activities of Sampo Group.

Table 2.6. Large Nordic Financial Groups: Portfolio and Income Composition, December 2006 1/

(In percent)

	Loans to Total Assets	Other Earning Assets to Total Assets	Securities to Total Assets 2/	Share of Interest Income 3/	Share of Commission Income 3/
Danske Bank	60.5	29.1	18.8	91.7	8.3
Nordea Bank	61.7	33.3	19.4	78.9	21.1
SEB	48.9	41.0	31.4	76.7	23.3
Svenska Handelsbanken	61.5	31.9	17.1	82.7	17.3
Swedbank	69.9	21.6	9.7	77.5	22.5
DnB Nor	62.7	33.5	26.0	82.5	17.5
OP Bank Group	66.5	12.9	10.2	83.5	16.5
Kaupthing Bank	62.9	29.0	14.1	82.5	17.5
Sampo Bank	79.2	18.4	3.4	72.6	27.4
Nordic average	61.0	30.9	19.6	82.6	17.4
Peer group average 4/	42.5	49.4	36.5	85.3	14.7

Source: Bankscope.

1/ International Financial Reporting Standards.
2/ Securities are included in other earning assets.
3/ Interest and commission income (gross of interest and commission expenses) in percent of total gross interest and commission income. Commission income excludes fee and trading income.
4/ Based on a peer group of 40 large European financial conglomerates

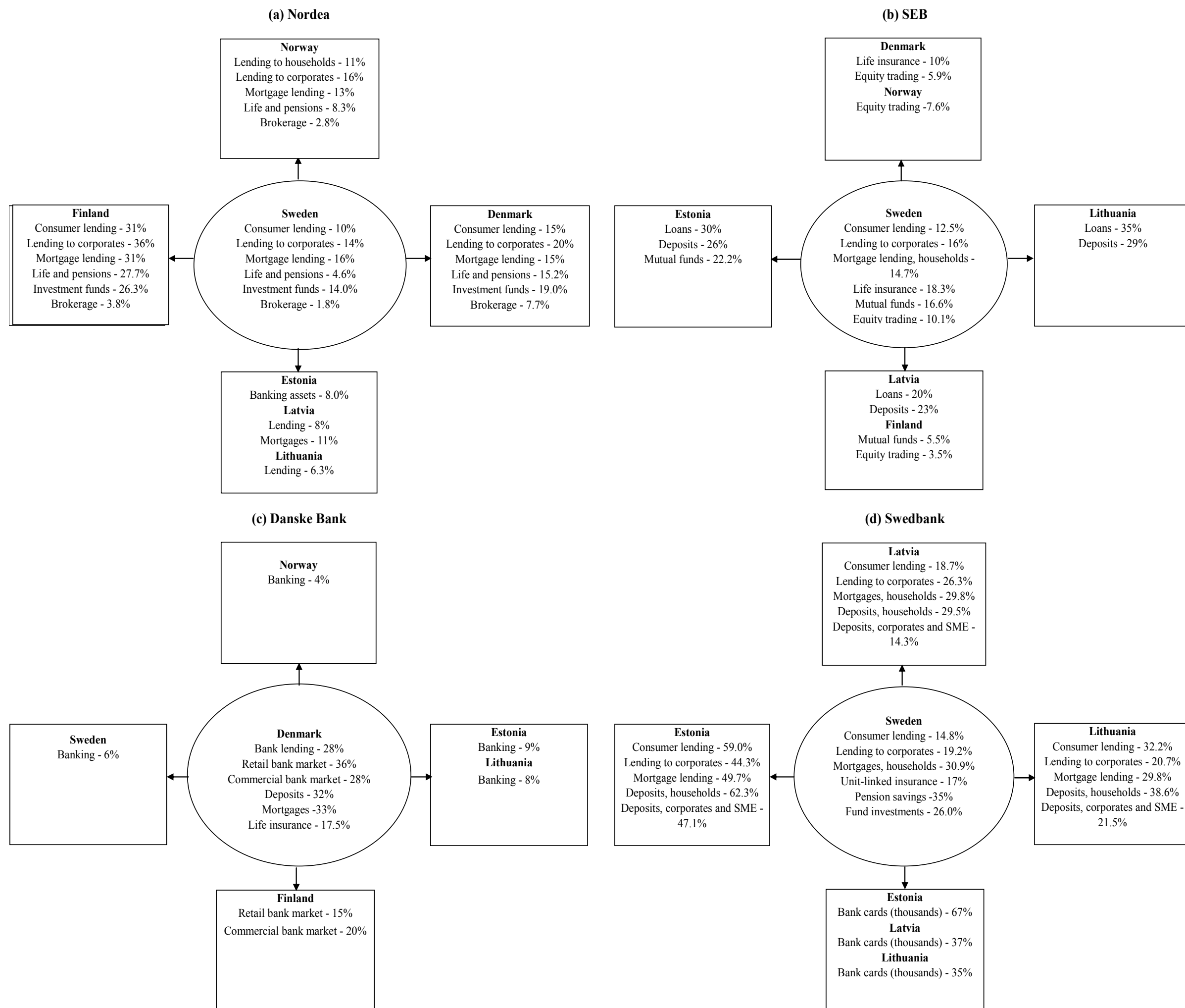
Regional Expansion by Financial Groups

Besides sectoral diversification, the Nordic financial groups have increasingly exploited opportunities for cross-border expansion of their operations. In the 1990s they adopted a strategy that viewed the entire Nordic region as their home market.[13] This strategy was driven by the need for revenue growth and economies of scale in the aftermath of the banking crises in some of the Nordic countries. Regional expansion was facilitated by a range of conducive factors, among others cultural similarities, a growing customer base in other Nordic countries, and high levels of domestic bank concentration.

The regional expansion was primarily accomplished via cross-border mergers and acquisitions. A series of foreign acquisitions changed the institutional landscape of the region and deepened financial sector integration. Their consolidation strategy allowed some of the financial groups to quickly capture significant market shares in various Nordic-Baltic markets. This created opportunities for further sectoral diversification, especially since some of the acquired institutions already offered diversified financial services. Foreign penetration was thus not limited to the banking area, but took place in other sectors as well (Figure 2.2).

[13] See for example the Program for the Danish Presidency of Nordic Council of Ministers 2005, pp.7-8.

Figure 2.2. Market Shares of Nordic Financial Institutions in Nordic-Baltic Countries



Sources: The banks' annual reports and national authorities.

Expansion in the Nordic Region

An important feature of the financial sector integration in the Nordic region is the unique place of Nordea as a truly pan-Nordic financial institution (Box 2.1). Nordea was formed in a series of cross-border mergers involving four banks of approximately the same size, namely Merita Bank (Finland), Nordbanken (Sweden), Unibank (Denmark) and Christiana Bank og Kreditkasse (Norway).

Merita Bank (Finland) merged with Nordbanken (Sweden) to form MeritaNordbanken in 1997. MeritaNordbanken subsequently merged with Unidanmark (Denmark) in 2000 and acquired Christiania Bank og Kreditkasse (Norway) in late 2000. The group further expanded by acquiring Postgirot Bank (Sweden) in 2001. Since 2001, the group has been operating under the Nordea brand. Nordea has a strong position in the core domestic retail banking and life insurance markets of the Nordic countries.

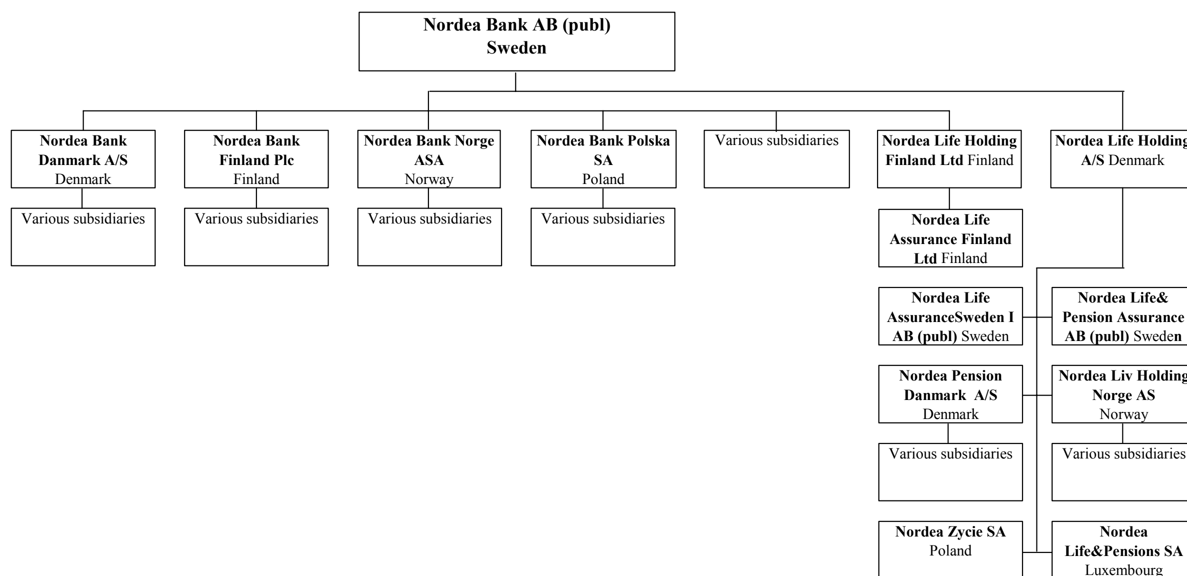
Box 2.1. Nordea's Structure

Nordea is the largest financial group in the Nordic-Baltic region. The group has banking, life insurance and asset management operations. The banking operations are conducted through four large national banking groups with large market shares in Denmark, Finland, Norway and Sweden. The parent company, Nordea Bank, is supervised by the Swedish Financial Supervisory Authority. The Swedish authorities are also responsible for the consolidated supervision of the group, while the foreign subsidiaries are supervised by the respective host country supervisors. Nordea operates in the Baltic countries in a branch structure under Nordea Bank Finland. Nordea's insurance operations are conducted through two holding companies, registered in Finland and Denmark, which have various life insurance subsidiaries in different countries.

Nordea has an expanded cross-border reach. The group was formed in a series of cross-border mergers involving Merita Bank (Finland), Nordbanken (Sweden), Unibank (Denmark) and Christiana Bank og Kreditkasse (Norway). Nordea's complex legal structure complicates its supervision and, according to its management, does not support adequately its business activities. The various legal entities of the group cut across operational areas and are subject to different national regulations. On the other hand, the group is managed operationally in accordance with its business lines, and key functional responsibilities such as risk management, treasury operations, and internal audit are centralized. Therefore, a large part of the decisions concerning individual business units are centralized, while the responsibility for the actions of the various legal entities vis-à-vis the national supervisors rests with the local management.

Nordea announced in 2003 its intentions to simplify its legal structure by reorganizing as a European company in accordance with the European Company Statute. This would involve converting the legally independent subsidiaries of the group into branches of one legal entity that would be regulated and supervised by the home country (Sweden) and covered by the Swedish deposit guarantee scheme. However, Nordea's plans to adopt a branch structure have thus far not been implemented.

Figure 2.3. Nordea's Legal Structure



Source: Nordea's website.

The cross-border expansion of the Nordic financial institutions is not limited to Nordea. Other Nordic groups have also penetrated selected foreign markets, although in many of them they remain to some extent niche players. Danske Bank expanded beyond its domestic market in Denmark by acquiring the fifth-largest bank in Sweden, and Fokus Bank of Norway, as well as two large commercial banks in Ireland and Northern Ireland. Most recently Danske Bank acquired the shares of Sampo Bank (the third largest bank in Finland) and established a solid foothold in Finland and in the Baltic region.[14] The other large Swedish groups Handelsbanken, SEB and Swedbank have not made significant banking acquisitions in other Nordic countries, where they have been focusing primarily on corporate customers. SEB, however, has a larger regional presence in insurance, asset management and other capital markets-related activities, as well as banking operations in Germany. Other large Nordic financial institutions such as Tryg-Vesta and the Sampo Group have cross-border insurance operations.

The Icelandic financial institutions made significant foreign acquisitions after their privatization in 2003. Kaupthing Bank acquired a medium-sized commercial bank in Denmark and Glitnir acquired a bank subsidiary in Norway. The Nordic and other European acquisitions of the Icelandic banks accounted for about one third of the rapid growth of their assets in 2005. As a result, foreign subsidiaries now account for nearly 50 percent of the total assets of the three largest Icelandic groups. Therefore, the Icelandic banks have one of the largest foreign exposures in the Nordic region in relation to total assets and they derive a significant part of their income from foreign sources.

[14] With effect as of February 2007

Expansion to the Baltics

The cross-border expansion of the Nordic financial institutions in the Baltics was led by the Swedish groups Swedbank and SEB. Although the Baltic region offers good growth opportunities, the domestic markets are small and competitive. Swedbank and SEB were able to capture large market shares via acquisitions. Their expansion in the Baltics took place in the late 1990s, in the aftermath of the banking crises of the mid-1990s and following an initial period of domestic bank consolidation. Swedbank acquired the largest Estonian bank, which already controlled more than 50 percent of the Estonian market and a significant share of the Latvian market. SEB on its part acquired the second-largest banks in Estonia, Latvia and Lithuania. The two financial groups consolidated their bank holdings in the region through further acquisitions. Currently the two groups control jointly between 50 and 75 percent of the bank lending market in each Baltic country and have a significant presence in insurance and other financial services.

In addition to the two Swedish groups, other Nordic financial institutions have successfully penetrated the Baltic markets. As a result of its acquisition of Sampo Bank Danske Bank has subsidiary banks in Estonia, Latvia and Lithuania. Nordea has also operations in all three Baltic countries. In 2005, the Norwegian group DNB Nor also established a presence in the region.

The majority Nordic ownership of Baltic banks has helped reestablish confidence in the Baltic banking systems after earlier crises. The potential support that the Baltic banks can receive from their foreign parents has contributed to improved ratings. Nordic ownership also helped expand the funding base of the Baltic banks by providing access to liquidity lines from the parent and improving domestic deposit mobilization. It also facilitated investment in new technology and expansion into new financial products. Nonetheless, there is increasing awareness that high concentration

of the Baltic banking systems coupled with large foreign ownership may pose a greater risk of contagion and a sudden withdrawal of banks from the region, particularly of the two large Swedish financial groups.

Nordic-Baltic Cross-Border Integration

There is a significant foreign (Nordic) presence in the Nordic-Baltic financial systems, while the presence of non-Nordic financial institutions is limited. In the Nordic countries this primarily reflects operations of Nordea, Danske Bank, and to some extent SEB, Kaupthing Bank, Sampo Group, TrygVesta, and Handelsbanken. Swedbank, SEB and Danske Bank have significant exposures to the Baltic countries. At the institutional level the foreign exposures are significant in the case of Nordea, the Icelandic banks, Danske Bank, SEB and to some extent Swedbank (Annex Table A2.4). At the country level Nordea, Danske Bank, Swedbank and SEB have successfully penetrated the core domestic retail banking markets in other Nordic countries or in the Baltics, and may in certain circumstances be of systemic importance. The systemic importance of individual banks may vary over time due to changing counterparty, settlement and liquidity exposures.[15] The foreign subsidiaries dominate the foreign branches in both regions in terms of size and importance in the host financial systems (Annex Tables A2.5 and A2.6).[16]

Finland, Norway and to some extent Denmark have large parts of their banking sectors under foreign (Nordic) control. Conversely, the Icelandic banking sector is predominantly domestically-owned. Although the Swedish financial groups have a large presence in other Nordic-Baltic countries, the presence of other Nordic groups in Sweden is less significant. The Nordic financial institutions have a leading position in the Baltic banking sectors. Nordic ownership is particularly high in Estonia and Lithuania, and slightly less pronounced in Latvia.

The Nordic-Baltic cross-border financial sector linkages are reflected in the BIS reported foreign claims in the region. The foreign claims of Nordic banks show increasing exposure to other Nordic countries. This trend is driven by the cross-border integration of the Nordic financial sectors and the expansion of Nordea. The BIS data indicate that the Nordic-Baltic cross-border cluster has become more pronounced in recent years (Table 2.7). Approximately 44 percent of the total foreign exposures of all Nordic banks in the third quarter of 2006 represented claims on other Nordic countries and 7 percent of the claims were on the Baltics. The Nordic claims increased from 27 to 44 percent during the period 1999-2006, while the claims on other developed European countries and the rest of the world decreased.

Nordic claims on the Baltics have also grown rapidly. The Nordic banks' exposures to the Baltics are small relative to their Nordic exposures but significant in comparison with the Baltic countries' other foreign liabilities (Table 2.8). In 2006 liabilities to the Nordic countries represented approximately 82 percent of total foreign liabilities of the Baltic banks, 71 percent of foreign liabilities were to Sweden and 11 percent to Finland. The strategic refocusing of the Nordic countries toward their core Nordic market and the Baltics was accompanied by a reduced exposure to some of the major financial centers. The Nordic countries cut back exposures to the United States and the United Kingdom, but increased exposures to Germany.

---

[15] For a further discussion please see Sveriges Riksbank, Financial Stability 1/2003, pp.75-92.

[16] Except for Sweden.

The Swedish financial groups have played an important role in the process of regional financial sector integration. The direction of foreign claims and liabilities in the region underscores the importance of Swedish groups in the Nordic-Baltic financial sectors. Sweden is the Nordic country with the largest share of claims on other Nordic countries in total banking system assets and has emerged as the common lender of the region. The same trend is evident in the Baltics, where more than 70 percent of foreign borrowing is due to Sweden. The Swedish financial groups hold dominant market shares in the Baltic financial sectors (Figure 2.4).

Conclusion

Financial sector developments in the Nordic-Baltic countries over the last decade indicate increased regional integration of institutions and markets. Institutional integration has taken the form of closer ownership linkages between the Nordic financial institutions and their expansion in the Baltics. Market integration has been furthered by the consolidation of the individual stock exchanges. The foreign financial sector presence in the region is predominantly from other Nordic countries. The regional expansion of the large Nordic banking groups has been accompanied by sectoral diversification. The Nordic banking groups have broadened the range of financial services they offer and have evolved into universal financial institutions which operate in various financial sector areas, including banking, mortgage finance, insurance, and asset management. The Baltics have experienced rapid growth in the credit-related bank segment, while nonbank markets are relatively underdeveloped due to a more moderate demand for savings products.

Financial conglomeration and the cross-border expansion of the large Nordic financial groups in the Nordic-Baltic region have created financial institutions that may in certain circumstances be of systemic importance in different countries and sectors. Nordea stands out as the largest cross-border financial institution in the region with large market shares in Denmark, Finland, Norway, and Sweden. The financial sectors of the Nordic-Baltic countries have become less vulnerable to domestic shocks as a result of their international diversification but at the same time they are now more interdependent and exposed to an increased variety of financial risks which may come from any of their various business areas and countries of operation.

Financial conglomeration has increased the concentration of the financial sectors as a whole. At present, a few large financial institutions control significant market shares not only in banking but also in insurance, asset management, mortgage finance and capital markets. The large Nordic financial institutions have increased their reliance on market-based funding, and capital market operations presently represent an important part of their overall activity. The institutional complexity and the expanded international reach of the large Nordic financial groups underscores the importance of a unified approach to their supervision as well as the need for cooperation and coordination among supervisors both at the sectoral and at the regional level.

Table 2.7. Nordic Banking Systems: Claims on Selected Countries, 1999 and 2006 1/

(In percent of total foreign claims)

	Denmark		Finland		Norway		Sweden		All Nordic	
	Q4 1999	Q3 2006	Q4 1999	Q3 2006	Q4 1999	Q1 2004 2/	Q4 1999	Q3 2006	Q4 1999	Q3 2006
Developed Europe	75.4	85.8	67.7	73.6	12.3	65.4	69.1	77.1	69.5	78.6
Nordic countries	19.9	35.6	30.3	59.5	4.8	25.1	30.4	45.9	26.8	44.3
Denmark	...	...	2.7	21.3	0.4	8.1	7.6	15.9	4.4	12.5
Finland	2.7	1.4	...	...	...	0.6	10.4	16.4	6.1	11.0
Iceland	0.2	...	0.1	0.0	4.3	0.7	0.2	0.0	0.3	0.0
Norway	4.0	12.0	2.9	12.1	...	...	12.2	13.6	7.9	12.8
Sweden	13.1	22.1	24.6	26.2	...	15.7	...	...	8.1	8.0
Other	55.5	50.3	37.4	14.1	7.5	40.3	38.7	31.1	42.7	34.3
Germany	9.7	6.0	10.7	4.4	...	4.2	4.2	14.7	6.9	11.5
UK	16.1	29.2	11.3	4.6	1.0	9.3	22.6	9.8	18.3	13.9
Emerging Europe	0.7	1.1	2.2	10.8	10.8	2.0	3.0	10.0	2.4	7.8
Baltic countries	0.0	0.0	1.3	10.0	0.0	0.0	2.1	9.1	1.3	6.8
Estonia	...	...	0.8	4.2	...	...	1.5	3.5	0.9	2.7
Latvia	...	...	0.3	2.7	...	...	0.5	2.9	0.3	2.2
Lithuania	...	...	0.2	3.2	...	...	0.1	2.6	0.1	2.0
Other	0.7	1.1	1.0	0.8	10.8	2.0	0.9	0.9	1.0	1.0
Poland	...	...	0.2	0.1	...	...	0.2	0.5	0.1	0.3
Russia	...	...	0.2	0.3	...	...	0.2	0.2	0.1	0.2
Rest of the World	24.0	13.1	30.1	15.6	76.9	32.6	27.9	12.9	28.1	13.6
United States	6.3	7.6	13.2	7.6	...	7.3	19.4	7.8	14.1	7.8

Source: BIS Consolidated Banking Statistics.

1/ On immediate borrowers basis.
2/ Data for Norway after March 2004 are not publicly available.

Table 2.8. Liabilities of Selected Banking Systems to the Nordic Countries, 1999 and 2006 1/

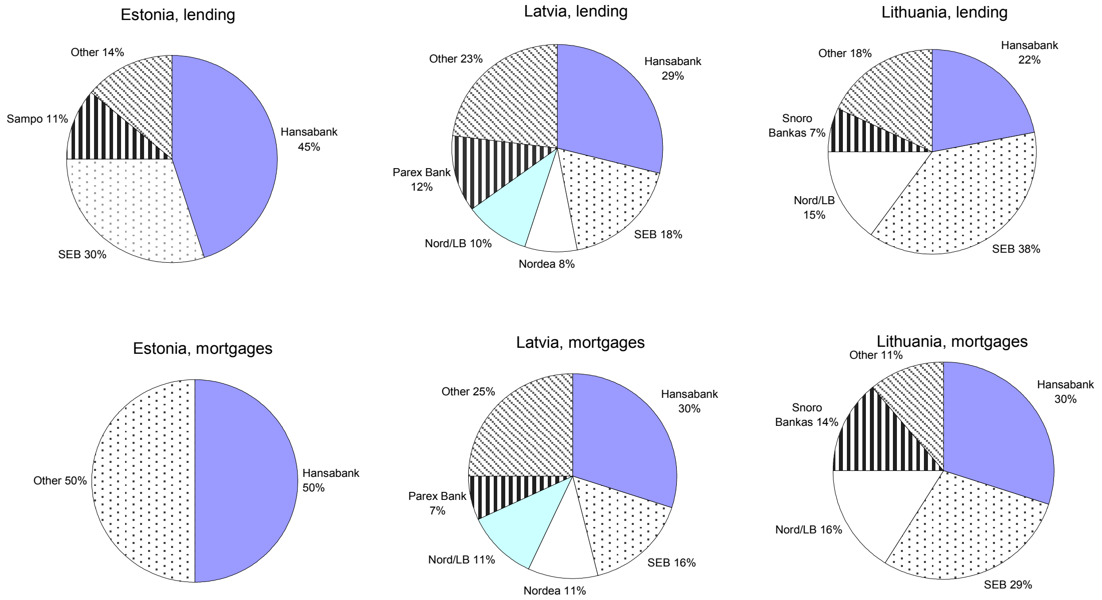
(In percent of total foreign liabilities)

	Liabilities to Denmark		Liabilities to Finland		Liabilities to Norway		Liabilities to Sweden		Liabilities to All Nordic	
	Q4 1999	Q3 2006	Q4 1999	Q3 2006	Q4 1999	Q1 2004 2/	Q4 1999	Q3 2006	Q4 1999	Q3 2006
Developed Europe	0.8	1.3	0.4	0.4	0.0	0.1	1.3	3.3	2.6	5.2
Nordic countries	3.9	7.9	3.7	5.2	0.1	0.5	10.8	27.9	18.5	41.4
Denmark	...	...	1.2	6.4	0.0	0.5	9.9	33.5	11.1	40.5
Finland	3.3	1.8	...	...	...	0.1	23.3	60.2	26.6	62.1
Iceland	1.5	...	0.8	0.1	3.0	0.4	3.5	0.8	8.8	1.3
Norway	4.2	10.4	2.0	4.1	...	...	23.6	31.9	29.8	46.3
Sweden	7.0	19.3	8.3	8.9	...	1.1	...	...	15.3	29.3
Other	0.6	0.8	0.3	0.1	0.0	0.1	0.8	1.4	1.7	2.4
Germany	0.7	0.8	0.5	0.2	...	0.0	0.5	5.0	1.7	6.1
UK	0.6	1.7	0.3	0.1	0.0	0.0	1.6	1.6	2.6	3.5
Emerging Europe	0.2	0.2	0.3	0.9	0.2	0.0	1.3	6.2	2.0	7.4
Baltic countries	0.0	0.0	8.7	11.1	0.0	0.0	42.6	70.9	51.3	82.1
Estonia	...	...	10.9	13.2	...	...	59.8	78.8	70.6	92.0
Latvia	...	...	9.6	8.8	...	...	45.0	67.9	54.5	76.7
Lithuania	...	...	4.2	11.3	...	...	10.3	65.5	14.5	76.7
Other	0.2	0.3	0.2	0.1	0.2	0.0	0.4	0.6	0.9	1.0
Poland	...	...	0.2	0.1	...	...	0.6	1.8	0.8	1.9
Russia	...	...	0.1	0.2	...	...	0.3	1.2	0.5	1.4
Rest of the World	0.2	0.2	0.2	0.1	0.1	0.1	0.5	0.6	1.0	1.1
United States	0.2	0.3	0.2	0.1	...	0.0	0.9	0.8	1.2	1.2

Source: BIS Consolidated Banking Statistics.

1/ On immediate borrowers basis.
2/ Data for Norway not publicly available after March 2004.

Figure 2.4. Bank Market Shares in the Baltic Countries, 2006 1/



Source: Swedbank.

1/ The parent banks of Hansabank and Sampo Bank are Swedbank and Danske Bank respectively.

Annex 2.1—Statistical Annex

Table A2.1. Nordic Banks: Balance Sheet Composition, 2001 and 2006 1/

(In percent of total assets)

	Denmark		Finland		Iceland		Norway		Sweden	
	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006
Loans to the public	57.4	55.3	58.2	54.5	69.3	71.3	72.7	72.0	64.4	57.9
Securities	20.9	21.0	12.7	11.2	20.6	24.8	21.6	22.6	9.6	9.6
Other assets	21.6	23.7	29.1	34.3	10.1	3.9	5.7	5.4	26.0	32.5
Total assets	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Deposits by the public	25.8	26.0	49.5	39.8	26.9	20.7	37.4	34.3	38.3	33.1
Debt securities 1/	45.7	43.7	12.9	16.2	59.6	65.2	46.1	55.0	18.5	24.0
Other liabilities	22.6	24.4	27.4	35.3	6.0	4.7	9.8	5.2	36.7	37.5
Total equity	**5.9**	**5.8**	**10.2**	**8.6**	**7.5**	**9.3**	**6.6**	**5.5**	**6.5**	**5.4**
Total liabilities and equity	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: National authorities.

1/ End-2005 figures for Iceland and Norway.

Table A2.2. Baltic Banks: Balance Sheet Asset Composition, 1995–2006 1/

(In percent of total assets)

	1995	2001	2002	2003	2004	2005	2006
Estonia							
Claims on foreign banks	17.6	17.6	16.5	15.3	18.0	20.4	13.1
Claims on foreign non-banks	4.4	4.1	3.2	1.6	2.2	2.9	4.0
Claims on central government	2.2	0.6	0.6	0.5	0.4	0.3	0.2
Claims on public enterprises	2.1	0.2	0.3	0.2	0.5	0.4	0.3
Claims on private sector	38.4	38.0	38.2	42.0	44.6	53.2	66.6
of which: Claims on corporates	33.7	24.8	22.6	22.9	23.2	27.3	34.1
Claims on individuals	4.7	13.2	15.6	19.2	21.4	25.9	32.5
Other claims	35.3	39.4	41.2	40.3	34.4	22.7	15.8
Latvia							
Claims on foreign banks	31.6	27.2	27.2	26.6	26.7	20.2	14.1
Claims on foreign non-banks	6.6	14.5	13.1	11.6	11.4	10.3	8.5
Claims on central government	14.5	4.9	4.1	4.8	3.1	2.1	1.6
Claims on public enterprises	3.0	2.3	2.5	1.5	1.1	1.0	0.7
Claims on private sector	22.0	31.8	34.1	38.3	41.8	48.8	55.3
of which: Claims on corporates	18.7	24.9	24.3	25.0	24.9	26.4	28.2
Claims on individuals	3.4	7.0	9.8	13.3	16.9	22.4	27.1
Other claims	22.3	19.3	19.0	17.2	15.9	17.6	19.7
Lithuania 2/							
Claims on foreign banks	6.0	15.3	10.7	9.5	13.4	12.7	10.2
Claims on foreign non-banks	1.4	4.4	3.4	2.3	2.8	3.9	5.0
Claims on central government	...	12.4	13.3	9.8	7.2	4.7	4.1
Claims on public enterprises	3.5	1.7	1.2	0.7	0.3	0.4	0.2
Claims on private sector	52.9	36.1	42.4	52.5	55.4	56.1	65.3
of which: Claims on corporates	49.1	31.3	34.9	41.0	39.5	36.3	40.0
Claims on individuals	3.7	4.8	7.4	11.6	15.9	19.8	25.3
Other claims	36.3	30.1	29.0	25.3	20.8	22.2	15.0

Source: IMF Monetary and Financial Statistics.

1/ Unconsolidated; deposit money banks.

2/ September 2006 data for Lithuania, because this reporting format was discontinued in October 2006. The reporting format is used for comparability with the other Baltic countries.

Table A2.3. Baltic Banks: Liability Exposures to Foreign Banks, 1993–2006 1/

(In percent)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Bank Liabilities to Foreign Banks as a Percentage of Domestic Credit														
Estonia 2/	1.9	6.5	14.2	20.2	55.4	47.0	42.4	33.9	31.5	47.3	57.1	83.6	66.4	49.7
Latvia	10.6	24.1	17.5	31.3	38.2	37.2	36.0	34.0	38.2	32.7	39.8	43.0	56.2	61.4
Lithuania 4/	0.2	2.9	3.6	11.3	15.1	27.8	23.3	21.9	31.9	27.9	35.1	33.2	47.5	40.5
Liabilities to Foreign Banks as a Percentage of Total Liabilities 3/														
Estonia 2/	0.8	2.8	6.2	9.9	26.3	25.6	21.4	15.0	14.1	21.0	27.4	41.6	39.1	37.4
Latvia	2.7	8.1	4.3	6.2	8.4	12.2	11.4	11.1	13.4	12.2	16.7	19.6	29.8	36.9
Lithuania 4/	0.1	1.9	2.3	6.7	8.0	14.7	13.0	10.3	13.4	13.7	20.9	20.6	29.1	29.5
Liabilities to Foreign Banks as a Percentage of Bank Capital														
Estonia 2/	5.8	27.5	46.8	81.3	174.8	111.3	99.6	90.3	79.4	132.7	195.7	365.3	375.9	286.7
Latvia	36.8	83.7	41.5	53.6	111.8	319.8	549.4	118.7	133.7	126.3	176.7	218.0	346.2	422.0
Lithuania 4/	0.6	9.3	13.1	27.3	31.1	50.3	45.3	39.0	88.8	90.6	162.1	178.8	324.1	270.1

Source: IMF Monetary and Financial Statistics.

1/ Data on the share of liabilities to foreign parent banks in the total liabilities to foreign banks is unavailable.
2/ Approximately 40 percent of the foreign bank liabilities of the Estonian banks in 2005 were intermediated to their Latvian, Lithuanian, and Russian subsidiaries.
3/ Total liabilities exclude capital and reserves.
4/ September 2006 data for Lithuania, because this reporting format was discontinued in October 2006. The reporting format is used for comparability with the other Baltic countries.

Table A2.4. Major Nordic Groups: Foreign Exposures, 2006 1/

(In percent of total assets)

	Sweden	Denmark	Finland	Norway	Total Nordic excluding domestic market	Baltics	Other
Danske Bank 2/	9.4	58.3	0.3	3.8	13.5	...	28.1
DNB Nor 3/ 5/	...	...	...	97.0	...	3.0	...
Nordea 4/	28.9	27.8	31.6	11.2	70.6	...	0.4
Svenska Handelsbanken	67.5	...	...	...	11.3	...	21.2
Sampo Group 2/	11.3	1.2	75.7	5.4	17.9	6.4	...

Source: Thomson Financial.

1/ Due to institutional differences in classifications the figures are not strictly comparable.
2/ In 2007 Danske Bank acquired the banking activities of the Finish group Sampo, expanding significantly its exposure to Finland and establishing presence in the Baltics.
3/ Exposure to the Baltics includes also Poland.
4/ Exposures to the Baltics are not reported separately.
5/ Figures for Norway include also smaller other exposures.

Table A2.5. Nordic-Baltic Countries: Number of Foreign Credit Institutions, 2001 and 2005

	Number of Credit Institutions From EU Countries				Number of Credit Institutions From Non-EU Countries				Total Number of Credit Institutions 1/	
	Subsidiaries		Branches		Subsidiaries		Branches			
	2001	2005	2001	2005	2001	2005	2001	2005	2001	2005
Denmark	9	7	9	17	1	3	1	1	203	197
Estonia	3	4	1	6	0	0	0	0	7	11
Finland	3	5	18	19	0	1	0	0	369	363
Iceland	0	0	0	0	0	0	0	0	40	38
Latvia	3	6	1	1	3	3	0	0	39	23
Lithuania	2	5	3	2	2	0	1	0	54	78
Norway	14	17	20	22	3	5	4	4	220	209
Sweden	7	11	17	18	3	3	...	...	149	200

Sources: European Central Bank; and national authorities.

1/ Domestic and foreign.

Table A2.6. Nordic-Baltic Countries: Market Shares of Foreign Credit Institutions, 2001 and 2005
(In percent of total credit institutions assets)

	Credit Institutions From EU Countries 1/				Credit Institutions From Non-EU Countries				Total Foreign Credit Institutions	
	Subsidiaries		Branches		Subsidiaries		Branches			
	2001	2005	2001	2005	2001	2005	2001	2005	2001	2005
Denmark	18.8	14.3	4.4	4.8	...	1.6	...	...	23.2	20.7
Estonia	91.1	89.4	...	9.8	0.0	0.0	0.0	0.0	91.1	99.2
Finland 2/	0.4	52.9	6.4	5.4	0.0	0.1	0.0	0.0	6.8	58.4
Iceland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Latvia	19.2	49.6	...	5.5	14.6	3.1	0.0	0.0	33.8	58.2
Lithuania	...	74.8	4.9	...	...	0.0	...	0.0	...	74.8
Norway	18.0	17.5	7.1	9.2	0.1	0.2	0.2	0.3	25.4	27.2
Sweden	0.2	0.3	5.0	8.4	0.1	0.3	0.4	...	5.8	9.0

Sources: European Central Bank; and national authorities.

1/ Includes mainly institutions from Nordic countries.
2/ The increase in foreign ownership in Finland in 2005 is due to reorganization within Nordea resulting in moving the group's headquarters from Finland to Sweden.

Chapter III—Arrangements to Address Cross-Border Financial Sector Risks and Safety Nets

The importance of large cross-border, cross-sector, financial groups—such as the Nordea Group, SEB, Swedbank, and Danske Bank—continues to increase. These institutions are potentially of systemic importance in both home and host countries in the Nordic-Baltic region. This raises concerns about their proper regulation and supervision. This chapter discusses the arrangements to address these concerns, specifically MoUs and safety nets. As all of the Nordic and Baltic countries are part of the EU/EEA, these arrangements are anchored in the EU framework (Annex 3.1), but the arrangements in many instances are more specific and detailed than the EU framework. It discusses some of the main features of these instruments and describes some of their drawbacks and points to areas for further cross-border cooperation.

Cross-Border MoUs

MoUs have become a common device for collaboration and information exchange among various regulators. This reflects the fact that different, but closely linked, business activities of regulated entities, fall under the jurisdiction of different regulators, both within a country and across countries. Changes in the financial landscape, with a growing tendency toward financial conglomeration and intra-enterprise linkages, necessitate such mechanisms in order to achieve a more comprehensive perspective on the operations and related risks in a financial institution. MoUs have thus been developed to facilitate information exchange and help clarify roles and responsibilities between various regulators/supervisors.

Cross-border MoUs in the Nordic-Baltic region, like the broader supervisory framework, are based on the EU directives, but have been extended to cover operational arrangements.[17] At the EU level several directives and MoUs have been concluded, which specify a general framework for cross-border supervision and general principles for cooperation and information sharing. However, the rapid emergence of major cross-border banks with consequential systemic implications and related concerns has led the Nordic countries to go beyond the EU framework, by providing greater operational content to cross-border supervisory and crisis management arrangements.

The discussion below covers three principal forms of cross-border MoUs within the Nordic-Baltic states:

(a) The general MoU between the supervisors of all five Nordic countries;

(b) The institution-specific MoUs between various national supervisors; and

(c) The MoUs on crisis management.

The General Memorandum of Understanding Between the Nordic Supervisors

This MoU establishes the principles of information sharing between the Nordic supervisors and goes beyond the similar EU version (Box 3.1). The MoU details the course of action to be taken by both host and home supervisors when a branch of a foreign financial

[17] A description of the EU framework is provided in the Annex 3.1.

institution is established in a country. It establishes explicitly who informs whom, when, and what information will be provided at a minimum. In addition, it lays out the principles for cooperation in the supervision of those branches, including on-site inspections. These principles are relatively detailed and discuss responsibilities, information exchange, and special fields of supervision such as market risk and liquidity. Similar arrangements are laid out for the (consolidated) supervision of subsidiaries.

Institution-Specific Memoranda of Understanding

Currently, two institution-specific MoUs on supervision have been signed covering the Nordea and Sampo Groups (Box 3.2).[18] The Nordea MoU was originally signed in 2000 and has since been revised due to structural changes within the Nordea Group. The signatories are the supervisory authorities in Norway, Sweden, Finland (both the FSA and the insurance supervisor), and Denmark. The Sampo MoU was concluded in 2004 and features the same main provisions as those in the one for Nordea.[19] Its signatories are the supervisors in Finland (both the FSA and the insurance supervisor), Sweden, and Norway.

The MoUs establish detailed requirements for the supervision of the groups. The signatories are required to work in close cooperation in order to minimize the potential for regulatory and supervisory arbitrage; to perform joint risk assessments of the groups; and to formulate joint supervision plans based on these risk assessments. To put these commitments into effect, the MoUs provide for the creation of a supervisory college for each group, consisting of representatives of the respective supervisory authorities, with the consolidated supervisor—the Swedish FSA in the case of Nordea, the Finnish FSA in the case of Sampo—as its chair. The supervisory colleges undertake regular risk assessment of the group, coordinate joint investigations, and are responsible for contacts with foreign supervisory authorities which are not parties to the MoU in connection with the supervisory colleges' work. Sub-groups of the supervisory colleges have been established to address specific issues, with the main sub-groups dealing with credit risk, operational risk, and capital adequacy.

The MoUs also establish crisis management procedures. In particular, the MoUs require that the authorities shall immediately notify the other parties of any knowledge of significant developments, such as (the threat of) an incipient crisis. In addition, the supervisory colleges are to draw up contingency plans for dealing with significant problems in the groups. And the authorities are to inform the other parties of any intention to impose sanctions or significant measures against an institution in the groups.

These institution-specific MoUs appear to have been implemented effectively. Each year, the joint risk assessments are performed, and the joint supervision plan and joint inspections are agreed upon. The supervisory colleges also regularly discuss the most important issues that have to be dealt with in order to be prepared to handle a crisis, such as liquidity risk management, including analyses of the possibilities to transfer intra-group liquidity. The signatories to the MoUs appear to be satisfied with how these arrangements have worked and the groups seem to be of the view that the supervisory colleges has helped ease regulatory burdens.

[18] In addition, several institution-specific MoUs have been signed by the Icelandic FSA and its Nordic counterparts relating to the supervision of Kaupthing and Glitnir. Furthermore, institution-specific MoUs exist on supervision of OMX and the NCSD (see Table 3.1)

[19] The Sampo Group's banking activities have recently been acquired by Danske Bank. The implications of this for the Sampo-specific MoU are not fully clear.

Box 3.1. Main Provisions in the General MoU Between the Nordic Supervisors

This MoU is based on the relevant EU directives.[1] The following are its main headings:

General provisions
This chapter contains general provisions related to confidentiality and definitions concerning individual supervisory agencies.

Establishment of branches
This chapter provides detailed guidelines on the establishment of branches in any of the member countries, information required for registration, and cross-border cooperation. There are frequent references to the EU directives governing the cross-border establishments within the EU, as well as suggestions on how to deal with applications from financial institutions outside the EU/EEA.

Cooperation within the supervisory region
This chapter deals with home and host country responsibilities, information sharing, and cooperation on certain defined risk areas such as market risk and liquidity risk. There are also provisions on how to address violations of laws and regulations in the host country and information sharing between the host and home supervisory authorities under such circumstances.

Cooperation on conducting on-site examinations
Home supervisory authorities are free to conduct on-site supervision according to their own procedures at any time. The host supervisory authority's concurrence is implicitly provided for in the MoU. However, notification by the home supervisory authority of plans to conduct an on-site examination is required. The host authority may participate in the examination. The results of the examination are shared with the host authority, whether or not there was a joint examination. Other important cooperation issues are also addressed in the chapter.

Cooperation related to consolidated supervision and cross-border financial services
This chapter stipulates that there must be cooperation on consolidated supervision and in cases where financial institutions own a qualified interest in another institution. Cooperation is also required when financial services are provided cross-border without firm establishment in the country where the service is provided.

Cooperation related to the establishment of affiliate companies
According to the provisions in this chapter, close consultation is required between the home and host supervisory authorities when affiliate companies and cross-sectoral entities are established and cross-border activities are expanded. The respective authorities shall provide information to the extent possible according to national legislation.

How to deal with crisis situations
The MoU requires that the supervisory agencies promptly report any indications of an imminent threat of a crisis situation — which could lead to insolvency of the parent company, the conglomerate or its affiliates—involving any of the supervised entities or their affiliates.

Technical issues
This chapter includes a number of technical issues and emphasizes the need for regular meetings between the supervisory authorities.

Sources: General MoU; Majaha-Jartby and Olafsson (2005).

1/ Separate institution-specific MoUs have been signed to guide the supervision of the Nordea and Sampo Groups.

Box 3.2. Main Provisions in the Institution-Specific MoUs Regarding Cooperation in Supervision

Currently, there are two institution-specific MoUs, regarding cooperation in the supervision of the Nordea and Sampo Groups ("the groups"). They are concluded between Kredittilsynet (the Banking, Insurance, and Securities Commission) in Norway; Finansinspektionen (the Financial Supervisory Authority) in Sweden; Rahoitustarkastus (the Financial Supervision Authority) in Finland; Vakuutusvalvontavrastu (the Insurance Supervision Authority) in Finland; and, in the case of the Nordea MoU, but not the Sampo MoU, Finanstilsynet (the Financial Supervisory Authority) in Denmark. Both MoUs are organized along the same lines and contain the same main provisions.

The MoUs contain a definition of the groups and subgroups, that is, holding companies and their subsidiaries. The responsibilities of each of the supervisory agencies with respect to supervising the groups and the various mother companies, subsidiaries, and branches are clearly spelled out in the MoUs.

The most detailed content of the MoUs is under the heading "Conduct of Supervision." This provides the following:

- For each of the groups, a supervisory college is established, comprising members from each supervisory authority. The college shall convene regularly and at least quarterly. The establishment of the college does not override the authority of the national supervisory authorities.

- The main responsibility of the supervisory colleges is to coordinate the supervisory activities of the various national supervisory authorities. The colleges' main tasks will be to: (i) conduct a regular overall risk appraisal of the entire group; (ii) draw up a joint supervisory plan; (iii) ensure appropriate exchange of information between the supervisory authorities; (iv) conduct joint examinations; (v) ensure proper coordination and notifications of inspections carried out by individual national supervisory authorities in order to avoid, as far as possible, unnecessary duplication of work for the authorities and the groups; and (vi) meet with representatives of the groups. The colleges will also be responsible for the maintenance of contacts with foreign supervisory agencies outside of the MoU concerning matters reviewed by the colleges.

- The supervisory colleges shall present an annual overall risk assessment of the groups, which shall include an analysis of all significant risks. Based on this risk assessment, the supervisory colleges shall put forward a proposal for an annual supervision plan. The plan shall contain scheduled supervisory measures on a group level, as well as on a company level, as well as an inspection plan worked out jointly by respective authorities, listing the planned on-site examinations conducted both on a group and institution level. There are special provisions in the MoUs on the responsibilities of each national supervisory authority and the form and frequency of exchange of information between the authorities on a regular basis and during supervisory actions. It is also stated that wherever possible group-level inspections shall be carried out jointly by the supervisory authorities concerned.

- Each supervisory agency shall inform the other agencies of any material events affecting the groups in any way that they become aware of, such as imminent crises. A contingency plan shall be drawn up for the groups. The plan shall contain necessary contacts with the ministries of finance and central banks in the respective countries. Each of the agencies shall maintain contacts with the respective national MoF and central bank. Any sanctions or any substantial actions planned against any of the institutions in the groups must be mentioned to the other supervisory authorities. The Swedish FSA acts as a secretariat for the supervisory group for the Nordea Group, while the Finnish FSA fulfills this function for the Sampo Group.

Regular staff exchanges among agencies are facilitated to promote information sharing, cross-fertilization of supervisory experiences, and synergizing of the shared responsibilities. The MoUs are subject to modification or total revision whenever deemed necessary.

Sources: Nordea and Sampo MoUs; Majaha-Jartby and Olafsson (2005).

The Memoranda of Understanding on Crisis Management

The five Nordic central banks have signed an MoU on the Management of a Financial Crisis in Banks with Cross-Border Establishments (Box 3.3). This MoU aims to facilitate cooperation in the event of a financial crisis and is based on the ESCB MoUs on crisis management and payment systems, but is more detailed in some respects. In particular, the MoU specifies the conditions for support regarding solvency and liquidity. The MoU requires the central banks to immediately contact their respective MoF in cases where solvency cannot a priori be assured.

The MoU establishes organizational procedures for crisis management. In the event of a crisis, the pre-defined contact group becomes the crisis management group with broad responsibilities. The group's first responsibility in the event of a crisis is to assess the liquidity and solvency situation of the problem institution, by among other things, requesting a solvency assessment from the supervisor. The group also coordinates information management vis-à-vis the troubled institution, the media, and the supervisors and has the authority to contact other persons within or outside the central banks, to obtain information and analyze the situation at hand.

A similar MoU on crisis management has been concluded between the central banks of the Baltic states and Sweden. The MoU for the most part follows the provisions in the Nordic crisis management MoU discussed above. Compared to the Nordic MoU, the Baltic-Swedish MoU is somewhat less detailed on the responsibilities of the crisis management group vis-à-vis the supervisors, but features additional provisions on data-sharing. It specifies that for each of the banking groups a fact book containing all public information about the group is established and updated regularly. The purpose of the fact book is to give the central banks involved a common body of knowledge about the group's structure and balance sheet. The MoU reflects the dominance of Swedish-owned banking groups in the Baltics and recognizes that in case of a liquidity problem, a coordinated response by the Baltic and Swedish central banks would enhance effective crisis management.

In addition to MoUs, an important role in crisis management is played by safety net arrangements. These arrangements differ widely in the region, increasing difficulties in managing problems in large cross-border financial institutions. While the existing arrangements have worked well so far, they are not designed to deal with the large cross-border conglomerates. The possible transfer of subsidiaries into branches would pose further issues related to competition, compatibility, the possible transfer of built-up funds, and issues related to lower public confidence in foreign deposit insurance schemes (for details and policy conclusions on safety net issues, see Annex 3.2)

Other Cross-Border Memoranda of Understanding

Bilateral MoUs between Baltic and Nordic supervisors have been established to address broader issues of cooperation. The MoUs generally specify standards of professional secrecy, and define the preconditions for the establishment of a branch, subsidiary or representative office. On supervision, the main modes of cooperation are specified, both in general, and in special fields of supervision (market risk, liquidity, capital adequacy), while referring to the secondary aim of avoiding the duplication of work. Furthermore, the MoUs generally contain provisions on the prevention of

money laundering, the handling of bank customer complaints, information provision in case of crises, and notices of changes. The agreements also specify arrangements for on-site inspections, and provisions for consultation in the event of potential changes in ownership or control. Furthermore, the MoUs establish basic procedures for the exchange of information, the language of communication, the exchange of staff and regular meetings.

Bilateral, institution-specific MoUs have also been established between Baltic and Nordic supervisors. These tend to follow the same basic principles established in the more general bilateral MoUs but contain somewhat greater detail. For example, the MoU between the Estonian and Finnish FSAs specifies the goal of ensuring the effective and comprehensive supervision of the banking groups—Nordea and Sampo—and lays out specific forms of cooperation and arrangements for inspections in Estonia.[20] In addition, these bilateral, institution specific MoUs include the obligation to immediately inform counterparts of any (potential) crisis.

In the Nordic countries, cross-border MoUs on the supervision of stock exchanges and oversight of payment and settlement systems have been concluded. As the responsible parties for financial stability, the central banks have an interest in the oversight of clearing and settlement systems. As these systems become more integrated, and cross-border CSD groups have emerged, central banks have drafted MoUs stating the principles of cooperation in order to increase the effectiveness of oversight of the CSDs. An example is the MoU between the Swedish and Finnish central banks on the oversight of their respective domestic CSD systems (Riksbank, 2006). The MoU was prompted by the purchase in 2004 of the Finnish CSD by the Swedish CSD.

[20] The Estonian operations of Nordea are legally a branch of Nordea Finland, while the Sampo operates in Estonia as a subsidiary under the Finnish parent.

Strengths and Challenges for the Future

Cooperation based on MoUs in the Nordic-Baltic region goes beyond the EU framework in a number of ways. While the EU MoUs are primarily based around information sharing (see Annex 3.1), the Nordic-Baltic MoUs provide more operational content, in addition to detailed procedures for information sharing. Specifically, the establishment of supervisory colleges in the institution-specific MoUs that are responsible for joint group-wide risk assessments and supervisory plans integrates supervision significantly beyond what is envisaged at the EU level. On crisis management, the explicit recognition by the region's central banks that a liquidity crisis in a large conglomerate will require a coordinated response is likely to contribute to quick and efficient cooperation in such a situation. In contrast, at the EU level, crisis management cooperation currently consists of MoUs that specify principles for the sharing of information, while the implementation of these principles and procedures remains under discussion in CEBS.

The MoUs within the Nordic-Baltic region have worked well thus far in normal circumstances and represent an important model for other regions. In particular, they appear to have been effective in facilitating information sharing and in helping to avoid cross-border regulatory arbitrage. Moreover, these arrangements also seem to have helped ease the regulatory burden that is placed on institutions that operate in multiple jurisdictions. In particular, they have facilitated joint risk assessments and

on-site examinations addressing specific risks—e.g., credit and market risk—and facilitated cooperation on crisis management simulation.

At the same time, the MoU framework within the region has a number of limitations that will pose challenges for the future. These include:

Enforcement. The MoUs are not legally binding and there are no mechanisms in place for resolving disputes between signatories.[21] Thus there is no legal obligation on the part of a signatory to address the concerns of another—e.g., if risk management is centralized in an institution at headquarters and judged to be inadequate by the host but not the home supervisor. Also, the institution-specific MoUs between the supervisors do not provide the supervisory colleges with the legal powers to pursue enforcement actions, which still reside with the national authorities.

Exceptions and other specific issues. For example, the general MoU between the Nordic supervisors contains exceptions with respect to the Danish Financial Supervisory Authority (DFSA).[22]

Burden sharing during crises. As noted above, the MoUs between the Nordic central banks and between the central banks of the Baltic states and Sweden on crisis management are not designed to address cases of insolvent institutions, deferring that to the respective supervisory agencies and ministries of finance. This raises two concerns. First, it may be difficult in a crisis to gauge solvency quickly enough to allow central banks to decide whether to support an institution or not. Second, there would appear to be the need to establish ex ante modalities of cooperation among the respective ministries.

Testing the crisis management framework. The crisis management MoUs have not been tested in a real crisis, and while the authorities have performed simulations/crisis exercises, these have not led to additional provisions in MoUs. The rapid pace of financial market integration in the region suggests that crisis simulation exercises may need to be undertaken more regularly.

Multiple MoUs. The multitude of MoUs risks creating complexity and competing responsibilities, and consideration could be given to consolidating MoUs and/or defining clearer lead responsibilities, along the lines set out in the EU directives on capital requirements, consolidated supervision, and financial conglomerates.

[21] See also the recent Financial Services Committee Report on Financial Supervision (FSC, 2006).

[22] According to Danish legislation, the DFSA does not monitor financial institutions which do not receive deposits from the general public. Moreover, the DFSA is not authorized to verify conditions on several organizational issues with respect to the relationship between foreign subsidiary and the parent bank. These are the conditions stated in the first subparagraph of Article 18(2) of the Second Banking Coordination Directive.

Box 3.3. The Nordic Central Banks' MoU on Crisis Management

The Nordic central banks state, as their main principles in the MoU entered into in June 2003, the swift and efficient cooperation in dealing with a financial crisis among the affected central banks; and that a non-legally binding MoU is an appropriate instrument for facilitating cooperation between the central banks without curtailing their flexibility as independent institutions. The MoU provides for cross-border cooperation in two or more Nordic countries and is based on the following guidelines:

- The responsibility for managing a financial crisis rests primarily with the bank' owners and management (extending to banking groups or group of companies), and emergency liquidity will only be provided in exceptional circumstances. In order to receive emergency liquidity support, the bank cannot be judged to be insolvent. In the case of insolvency or uncertainty about solvency, the MoF must be informed immediately.

- The central banks will be responsible for the establishment of a contact group which, in the event of a crisis shall become a crisis management group. The group should consist of one high-level representative from each of the concerned central banks and an alternate representative.

- The crisis management group is responsible for producing background material to facilitate potential decisions of the central banks' executive boards with regard to emergency liquidity assistance or other measures. The activation of the crisis management group shall be by the central bank which first identifies the potential crisis.

- The crisis management group shall also be responsible for (i) providing background material for an understanding of the systemic importance of the crisis; and (ii) ascertaining the bank's liquidity and solvency position through direct communication with the management of the banking group to enable the respective central banks to make appropriate decisions under established procedures.

- The crisis management group shall be the main information solicitor within and outside the Nordic central banks and shall, as requested, produce background material for communications with other international bodies. The group shall also be the focal group for information dissemination to the media.

- Communications with a supervisory group, where it has been established, shall be by the crisis management group; but individual central banks shall handle communication with the respective country's supervisory authority and MoF. The group shall only communicate with banking group management and not individual banks in the group.

- Bilateral MoUs require the creation of fact books for Nordic cross-central bank information sharing.

Sources: Nordic Central Banks (2003); Majaha-Jartby and Olafsson (2005).

Table 3.1. International Supervisory and Crisis Management MoUs in the Nordic Baltic Region

Type	Public	Parties
Supervisory, General	yes	Norway, Financial Supervisory Authority
		Sweden, Financial Supervisory Authority
		Finland, Financial Supervisory Authoritiy
		Finland, Insurance Supervisory Authoritiy
		Iceland, Financial Supervisory Authority
		Denmark, Financial Supervisory Authority
Supervisory, Institution-Specific, Nordea	yes	Norway, Financial Supervisory Authority
		Sweden, Financial Supervisory Authority
		Finland, Financial Supervisory Authoritiy
		Finland, Insurance Supervisory Authoritiy
		Denmark, Financial Supervisory Authority
Supervisory, Institution-Specific, Sampo	yes	Norway, Financial Supervisory Authority
		Sweden, Financial Supervisory Authority
		Finland, Financial Supervisory Authoritiy
		Finland, Insurance Supervisory Authoritiy
Supervision, Institution-Specific, OMX group	yes	Sweden, Financial Supervisory Authority
		Finland, Financial Supervisory Authoritiy
		Denmark, Financial Supervisory Authority
Supervisory, Institution-Specific, CSDs	yes	Sweden, Central Bank
		Finland, Central Bank
Supervisory, Institution-Specific, Nordea	yes	Finland, Financial Supervisory Authority
		Estonia, Financial Supervisory Authority
Supervisory, Institution-Specific, Sampo	yes	Finland, Financial Supervisory Authority
		Estonia, Financial Supervisory Authority
Supervision, Institution-Specific, Kaupthing	no	Iceland, Financial Supervisory Authority
		Sweden, Financial Supervisory Authority
Supervision, Institution-Specific, Kaupthing	no	Iceland, Financial Supervisory Authority
		Finland, Financial Supervisory Authority
Supervision, Institution-Specific, Glitnir	no	Iceland, Financial Supervisory Authority
		Norway, Financial Supervisory Authority
Supervision, General, Insurance	yes	Finland, Insurance Supervisory Authority
		Estonia, Financial Supervisory Authority
Supervision, General	yes	Estonia, Financial Supervisory Authority
		Sweden, Financial Supervisory Authority
Supervision, General	yes	Latvia, Central Bank
		Estonia, Central Bank
Supervision, General	yes	Estonia, Central Bank
		Lithuania, Central Bank
Supervision, General	yes	Estonia, Central Bank
		Lithuania, Insurance Supervisory Authority
Crisis management	yes	Denmark, Central Bank
		Finland, Central Bank
		Iceland, Central Bank
		Norway, Central Bank
		Sweden, Central Bank
Crisis management	yes	Estonia, Central Bank
		Latvia, Central Bank
		Lithuania, Central Bank
		Sweden, Central Bank
Crisis management, EU	no	EU Banking Supervisors
		EU Central Banks
Crisis management, EU	no	EU Banking Supervisors
		EU Central Banks
		EU Finance Ministries

Source: National Authorities.

Annex 3.1—The European Union Framework

The arrangements in the Nordic-Baltic region are anchored in the EU framework consisting of a broad range of financial services directives. Unlike the MoUs discussed above, these directives are binding legislation. This annex describes the evolution of the EU cross-border supervisory framework and the current supervisory arrangements. Two directives stand out: (i) the new Capital Requirements Directives (CRD, 2006/48/EC and 2006/49/EC, incorporating the Basel II framework into European legislation) has important provisions on cross-border cooperation between supervisors for the approval and review of banks' internal models; and (ii) responding to the emergence of financial conglomerates, the Financial Conglomerates Directive reflects the need for cross-sector supervision.

Evolution of the cross-border framework

The transformation of the European banking system from fragmentation to integration has been facilitated by an evolving legal framework. The first step toward harmonization of prudential standards for supervision of banks was set with the First Banking Directive (77/780/EEC). However, the national approaches to basic prudential standards, including capital requirements, continued to diverge.

The European Commission's 1985 White Paper on the Single Market provided a major breakthrough for market integration in Europe. The goal was to complete the single market by the end of 1992. As part of the Single Market Program, the Second Banking Directive (89/646/EEC) was adopted. The way forward was harmonization of minimum standards and mutual recognition of authorization procedures and regulatory standards of member states. The basic elements of prudential supervision (solvency, liquidity, internal controls and fit and proper rules) were harmonized. Regulatory approximation ensured that banks of all member states could compete on equal terms in the single market.

Importantly, the Second Banking Directive introduced the principle of home country control in supervision of branches with few limited exceptions, notably the supervision of branch liquidity. A single banking license from the home supervisor is necessary and sufficient for cross-border provision of banking services and the establishment of branches in other member states. The single banking license has significantly contributed to stimulating cross-border banking in Europe. Nevertheless, the main limitation of the Second Banking Directive is that the single license does not extend to subsidiaries in host member states. A striking feature of the process of cross-border European banking is that it more often takes place via subsidiaries than via branches, especially when the cross-border operations involve major banking operations (Dermine, 2003).

The European legal framework incorporates the international banking standards of the Basel Committee on Banking Supervision. A cornerstone in banking regulation is the capital adequacy requirements. The Solvency and Own Funds Directives (89/647/EEC and 89/299/EEC), for example, laid down the solvency rules for banks and built on the 1988 Basel Capital Accord. Similarly, the revised framework for the consolidated supervision of banks was codified in the Consolidated Supervision Directive (92/30/EEC). Risks to a banking group can arise in any of the entities of the group as well as in any of the countries in which an international banking group operates. Consolidated supervision, conducted by the home supervisor, is aimed at making a group-wide assessment of the risk profile and the required capital adequacy of banking groups. The different EU Banking Directives were merged into the

Codified Banking Directive (2000/12/EC). The recent CRD is discussed below.

Description of the EU cross-border supervisory framework

A committee of wise men, chaired by Mr. Lamfalussy, proposed a new structure to enhance coordination between national securities supervisors in 2001. This committee structure has subsequently been extended to banking, insurance and financial conglomerates. Although a committee to deal with financial conglomerates has been added, the primarily sectoral orientation has been preserved. The goal of these new regulatory and supervisory committees is to streamline the preparation of regulation and to foster supervisory convergence. Box. A3.1.1 presents the three-level-approach of the Lamfalussy structure. It is no surprise that this framework was first implemented in the dynamic field of fast changing stock markets. The reform of prudential regulation of banking (Basel II) and the upcoming reform of prudential regulation insurance (Solvency II) also make it necessary to adopt faster procedures for making and changing rules and to enhance convergence of supervisory practices in these fields.

Starting with the EU banking directives (level 1), a key distinction for supervision is whether a bank operates cross-border through branches or subsidiaries. The home or consolidating supervisor has its responsibility to oversee the whole banking group, including its foreign branches and subsidiaries, while the host supervisors remain responsible for the supervision of the group's foreign subsidiaries. In turn, for banking groups that have a structure consisting of locally incorporated subgroups, host supervisors act as home supervisors for foreign branches and subsidiaries of the locally incorporated subgroup. Good cooperation between consolidating and host supervisors can reduce, but not eliminate, duplication of supervisory efforts in the case of subsidiaries. To facilitate effective supervision, the consolidating and host supervisors must have written coordination and cooperation arrangements in place. Examples of such a written arrangement for the Nordea and Sampo Groups were analyzed above.

The organizational structure of international banking groups is progressively moving from the traditional country model to a business line model with integration of key management functions. The growing integration and centralization of management functions, such as risk management, internal controls, treasury operations (including liquidity management and funding), compliance, and auditing, greatly affects the scope of control of supervisory authorities. One of the most notable advances in risk management is the growing emphasis on developing a firm-wide assessment of risk. The potential capital reductions that can be achieved by using advanced internal models, which is a key feature of the new Basel II framework, further encourage banking groups to organize their risk management more centrally. The CRD implements the Basel II capital rules into European legislation.

Box A3.1.1. The Lamfalussy Structure

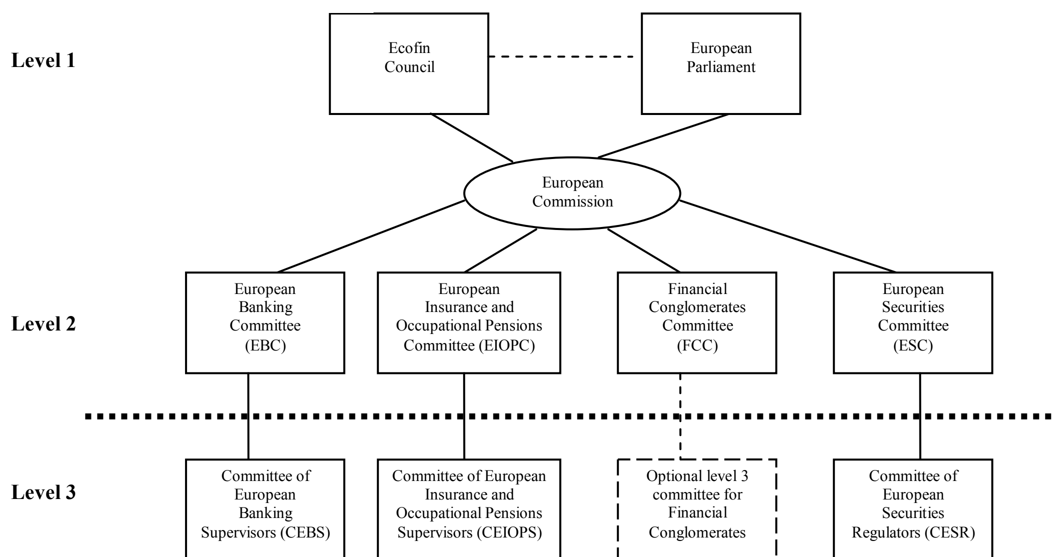
The Lamfalussy group proposed a new structure to enhance co-ordination between national securities supervisors in 2001. This committee structure has recently been extended to banking, insurance and financial conglomerates. The goal of these new regulatory and supervisory committees is to streamline the preparation of regulations and to foster supervisory convergence. Key elements are clearly defined mandates and targeted membership for the different committees. This enhances both the effectiveness of supervision and the efficiency for EU-wide operating financial institutions. As illustrated in figure A3.1.1, the new approach based on the Lamfalussy framework consists of three levels:

Level 1: The Ecofin Council and European Parliament decide on broad framework principles in Directives and Regulations.

Level 2: Regulatory committees (comprising high-level representatives from MoFs) vote on proposals of the European Commission for technical implementing measures (often contained in annexes to Directives).

Level 3: Supervisory committees (comprising high-level representatives from the relevant supervisory authorities) have a dual role. They advise the European Commission on level 2 measures and promote a consistent implementation of EU-directives and convergence of supervisory practices.

Figure A3.1.1. The Lamfalussy Structure of Supervisory Committees in the EU



While some larger banking groups are thus centralizing their key management functions, they continue to use local subsidiaries as the preferred method of entry into foreign markets. Although organizing cross-border activities through branches lessens the number of supervisory authorities that financial institutions have to deal with,[23] many firms nevertheless choose to operate through subsidiaries. The motivation to keep a subsidiary structure can be driven by temporary factors such as protection of the original brand, shareholder approval in the host country, and appeasement of nationalistic feelings, especially after a cross-border acquisition. More permanent factors are related to the fact that national arrangements for corporate tax, VAT, and deposit insurance are still different within the EU/EEA. A final important argument is that banks may wish to ring-fence the risk in foreign operations (Dermine 2003). As a result, the legal structure and the operational structure of the banking groups start to diverge.[24] In consequence, it becomes harder to attribute activities to the legal entities on which the division of supervisory responsibilities is based.

In response to centralization, article 129 of the CRD introduces a central role for the consolidating or home supervisor in the model approval process. This is a major innovation. The consolidating supervisor should, together with the host supervisors, aim at reaching a joint decision on the approval of a bank's internal model. If and when a joint decision cannot be reached within six months, the consolidating supervisor can decide. The CRD also strengthens and clarifies the requirements for information sharing and cooperation between all authorities responsible for the supervision of group entities. This improved framework should promote and facilitate effective supervisory cooperation between the consolidating and host supervisors, especially for large groups that are active in several countries.

Notwithstanding these recent advances, the European Financial Services Round Table (EFR, 2004 and 2005)[25] argues for a broader role of the lead supervisor (that is the consolidating supervisor) for the prudential supervision of cross-border financial institutions. Such a lead supervisor approach could be an important step toward a more coherent and efficient supervisory framework in the EU. For prudential supervision, the EFR argues that the lead supervisor should in particular be the single point of contact for all reporting schemes, validate and authorize internal models, approve capital and liquidity allocation, approve cross-border set-up of specific functions, and decide about on-site inspections. The EFR agrees that host countries should be involved in the supervisory process, as local supervisors have generally a better understanding of the local market conditions. It suggests forming colleges of supervisors (one for each specific financial group) that advise the lead supervisor. The lead supervisor model is thus aimed at conducting effective supervision, while avoiding an undue burden on internationally operating financial groups.

Current European legislation offers some, albeit limited, scope to reduce duplication. Article 69 of the CRD allows the supervisor to grant a waiver for applying the capital rules to a subsidiary if the parent bank is adequately capitalized (the so-called solo waiver). It should be noted that this waiver is only available in the domestic setting and not in the cross-border setting. More broadly, the Consolidated Banking Directive and the CRD provide for the possibility

[23] Large banking groups such as Deutsche Bank or ABN Amro have to deal with at least 20 different supervisory authorities in the EU.

[24] See for example CEBS (2006) and Schoenmaker and Oosterloo (2006) on the divergence between the legal and the operational structures.

[25] The EFR consists of the chief executives of the 20 leading European banks and insurance companies. The objective of the EFR is to provide a strong industry voice on European policy issues relating to financial services and to support the completion of the single market in financial services.

for a host supervisor to delegate full responsibility for the supervision of a subsidiary to the consolidating supervisor. However, this delegation has never yet been put in practice (CEBS, 2006).

The top priority for the newly created level 3 committee, the Committee of European Banking Supervisors (CEBS), is to adopt a common approach for the implementation of the CRD. An example in point is a common approach for the supervisory review process under pillar 2. The supervisory review process is designed to enhance the link between the risks taken on by banks, their management of those risks, and the capital they hold. The regulations for the supervisory review process leave considerable scope for supervisory judgment and thus discretion. CEBS has developed guidance to enhance the consistency of the supervisory assessments throughout the whole banking group. Other major examples are the development of a common financial reporting framework (FINREP) and a common reporting framework for solvency ratios (COREP).

Finally, CEBS has adopted guidelines for the co-operation between the consolidating supervisor and host supervisors. Reflecting the legislative framework, a 'two scenarios' approach is applied with separate guidelines for supervising groups organized through branches and groups organized through subsidiaries. These guidelines for cooperation are very useful for ensuring effective and efficient supervision of European banking groups. In particular, the provisions of article 129 of the CRD allow for an efficient process of model approval reflecting the reality that large banking groups manage their internal models across the whole banking group (including all subsidiaries) from the headquarters. For the remaining supervisory tasks, the guidelines are helpful for enhancing convergence of supervisory practices, but the consolidating supervisor and the host supervisor(s) each keep their own responsibilities vis-à-vis a bank's subsidiaries, leaving scope for duplication.

The cross-sectoral supervisory framework / supervision of conglomerates

The centralization trend at international banking groups is mirrored in international financial conglomerates. Kuritzkes, Schuermann, and Weiner (2003) provide evidence that internationally active financial conglomerates are putting in place centralized risk and capital management units. The dominant approach is to adopt a so-called 'hub and spoke' organizational model. In such a model, the central risk management hub is responsible for the balance sheet and centralized oversight of the liquidity and capital at the group level and the allocation of liquidity and capital over the business units. Within this capital allocation, the business units (spokes) manage their own risks (e.g. the credit function within a bank, or the actuarial function within an insurance subsidiary or group), within a methodological framework agreed with the hub. Centralization of managerial control is usually done along similar lines, with headquarters setting the group wide strategy and the business units implementing this strategy in their fields of operation.

There is thus a clear trend to centralize key management functions that previously belonged with the separate banking and insurance entities of a financial conglomerate. Centralization implies that strategic decision-making is transferred from the functional or sectoral entities of the group to the level of the group as a whole (that is, the holding level). The centralization of activities (such as asset management) and key management functions results from the drive of financial groups to reap the benefits of synergy.

The Financial Conglomerates Directive (2002/87/EC) faces this new business reality and introduces a single coordinating supervisor. A key provision is Article 10 which introduces a coordinator overseeing the capital adequacy and risk management at group level. Box A3.1.2 presents the tasks of the coordinator of a financial conglomerate. There has been discussion whether one supervisor or two supervisors (the

banking and insurance supervisors) should act as coordinator. But to act swiftly and decisively, a single coordinator is chosen in the Financial Conglomerates Directive. The challenge for this single supervisor is to adopt an integrated (that is banking and insurance) perspective at group level instead of a sector perspective.

Box A3.1.2. The Coordinator of Financial Conglomerates

Article 11(1) of the Financial Conglomerates Directives defines the tasks of the coordinator of a financial conglomerate. The coordinator is responsible for the supervision at group level. As financial groups often take key decisions at group level and also centralize key management functions, this is an important responsibility.

The tasks of the coordinator are: (i) gathering and exchanging information on a financial conglomerate in going concern and emergency situations; (ii) maintaining an overview and assessment of the financial situation of a financial conglomerate; (iii) assessing compliance with rules on capital adequacy, risk concentrations and intra-group transactions; (iv) assessing the group structure and internal controls, including risk management, of a financial conglomerate; and (iv) planning and coordinating supervisory activities in going concern and emergency situations.
The coordinator conducts these tasks at group level and cooperates with the relevant supervisors involved.

The introduction of a single coordinator does not necessarily reduce the supervisory burden on financial conglomerates. Article 11(3) specifies that the presence of a coordinator does not affect the tasks and the responsibilities of the supervisors of the sector entities of a financial conglomerate. While the Financial Conglomerates Directive improves the effectiveness of supervision by appointing a single coordinator with an overall view of the conglomerate, it continues the duplication of supervisory efforts of the consolidating supervisor and the (host) supervisors of subsidiaries in the banking directives, as discussed above.

Furthermore, lines of responsibility may not always be fully clear. While Article 11(1)(e) provides the coordinating supervisor with the authority to plan and coordinate supervisory activities with regard to the financial conglomerates, Article 12(2) confirms the authority of national sector supervisors to take certain actions with regard to their supervised entities, although consultation with the other involved supervisors is required unless the situation is considered urgent.

While the procedures envisaged in the Financial Conglomerates Directive work under routine conditions, their effectiveness could be challenged in a crisis. The procedures rely on good, collegial cooperation and the responsibilities of the coordinator involve a very considerable up-front investment in supervisory capacity, which will require time and effort to build. Moreover, crisis management is not explicitly covered by the Directive, except possibly in cases of "adverse developments which could seriously affect regulated entities" (Article 12 (1)(g)). Even then, the authority of the coordinating supervisor will not go beyond collecting and disseminating information. The question also arises as to whether, in a crisis situation, the coordinator is best placed to do this, rather than the supervisor closest to the crisis. Crisis management will in any case place cooperation and coordination processes under a considerable amount of stress.[26]

As a positive response to potential supervisory coordination problems, various member states have negotiated bilateral or multilateral MoUs. Examples are the MoUs between the Nordic supervisors for Nordea and Sampo and the MoU between the Belgian and Dutch

[26] The recent Winding-Up Directive does partially address the issue of crisis management, as it includes provisions for handling a crisis in a branch structure.

supervisors for Fortis. However, no such agreement exists covering the entire EU or the Nordic-Baltic region. The MoUs go beyond the requirements in the Directives by further clarifying responsibilities and actions in the supervision of large financial institutions whose activities could have stability implications in multiple countries. Obviously, such MoUs, as any form of cross-border supervision and intervention, raise issues of responsibility and accountability at a national level.

Nonetheless, better alignment of the incentives of supervisors in different countries remains a fundamental challenge. For example, the home supervisor of a large conglomerate may be less concerned than the host supervisor about the activities of a small foreign branch or subsidiary, even though the branch or subsidiary may have systemic importance in the host market. Moreover, a home supervisor could be influenced by national interests that could deter timely intervention in a bank operating in another country: reputational issues could be at stake for a marquee financial institution or tax payer funds could be at risk if solvency became a problem.

To develop a common approach among supervisors, an Interim Working Committee on Financial Conglomerates has been established by CEBS and CEIOPS (the level 3 committees for insurance and pensions). This Interim Working Committee will develop common guidelines for the application of the provisions of the Financial Conglomerates Directive, such as common methods for calculating capital adequacy and assessing risk at the group level. Furthermore, the working group may contribute to a common understanding and approach of sector supervisors, which remain responsible for the entities within a conglomerate. The entities of a financial conglomerate are still subject to sector rules (EU Banking Directives and EU Insurance Directives).

Supplementary arrangements at the EU Level

Recognizing potential gaps in the general framework described above, supervisors, central banks, and ministries of finance have concluded several MoUs at the European level aimed at facilitating informational exchange. These MoUs were drafted after the two Brouwer reports on financial stability and crisis management (Economic and Financial Committee, 2000, and 2001) highlighted the need for additional arrangements. The MoUs sketch a general framework for informational exchange and hence are less detailed than the Nordic MoUs discussed above, but nevertheless mark an important step forward in EU coordination.

The EU member states have concluded two MoUs to deal with cross-border issues in crisis management. The increasing integration of markets and market infrastructures in the EU's single financial market on the one hand supports financial stability since a larger and more diversified financial system will be better able to absorb potential financial shocks, and possibly to prevent them through wider risk management resources. On the other hand, financial market integration and the growing number of cross-border financial institutions may also increase the scope for cross-border contagion and thus the potential magnitude of a systemic crisis affecting more than one Member State. To face these issues, the EU member states have concluded two specific MoUs on crisis management situations: (i) the 2003 MoU on high-level principles of cooperation between banking supervisors and central banks; and (ii) the 2005 MoU on cooperation between banking supervisors, central banks and finance ministries.

The 2003 EU MoU between the supervisors and central banks

In 2003, the banking supervisors and central banks of the EU member states signed an MoU on high-level principles of cooperation in crisis management situations. The objective of the MoU is to support cooperation through

appropriate information-sharing procedures. As such, the MoU focuses on information sharing and logistical arrangements for crisis management. However, the MoU remains at the level of high-level principles and is not very specific as to actual implementation of these principles. The implementation is currently under discussion in CEBS and in the Banking Supervision Committee of the European System of Central Banks.

Besides principles for information sharing and the logistical infrastructure, the MoU specifies principles on the scope of cross-border cooperation, the responsibilities of the different parties, and the activation of the procedures. The memorandum spells out various limitations to the scope and does not aim to present an all encompassing crisis management framework. However, it is seen as an appropriate instrument for setting forth arrangements aimed at promoting cooperation without overriding institutional responsibilities of the respective authorities.

The 2005 EU MoU between the supervisors, central banks, and the finance ministries

The banking supervisors, central banks, and finance ministries of the EU agreed on an MoU on cooperation in financial crisis situations in 2005. Building on the existing EU and national legislation and arrangements, the MoU aims at supporting and promoting cooperation in crisis situations between banking supervisors, central banks, and MoFs.

The MoU consists of a set of principles and procedures for sharing information, views, and assessments. These principles aspire to facilitate the pursuance by the authorities of their respective policy functions and preserve the overall stability of the financial system of individual member states and of the EU as a whole. In particular, the authorities should be in a position, if needed, to engage in informed discussions amongst themselves at the cross-border level—on the basis of existing networks and committees—in the case of crisis situations affecting the financial system of more than one member state or the EU as a whole. In cases where EU-wide multilateral cooperation among authorities might be needed, the existing EU committees may, within the scope of their role and tasks, be utilized for facilitating the process of exchange of information, views and assessments.

Conclusion

However, even with these supplementary arrangements in place, the current EU supervisory framework is not fully able to deal with the increasing cross-border integrated financial institutions. While the framework of EU directives and MoUs has done much to facilitate cross-border integration, it is currently not fully able to cope with the externalities stemming from sizeable cross-border operations. Specifically, for financial institutions with potentially systemically important operations in one or more host countries, the EU framework falls short on resolving the tension created by home country lead responsibility for supervision and host country responsibility for financial stability. The unresolved issues center around two questions. First, what is the responsibility of the consolidating supervisor from the home country vis-à-vis the host countries? Second, how can host countries manage the financial stability of their financial systems if a large part of their system is made up of foreign banks?

Annex 3.2—Deposit Guarantee Schemes

In the European Union, the EU Directive on deposit guarantee schemes has provided a basis for some harmonization in deposit insurance arrangements. The Directive (European Commission, 1994) prescribes that EU members have an explicit deposit insurance scheme, with a minimum coverage limit of € 20,000. All EU countries have now adopted an explicit deposit insurance scheme with compulsory participation, but the minimum coverage limit currently falls short in some jurisdictions that are under transitional arrangements following their recent accession.

However, practical arrangements with respect to coverage limits, funding, and co-insurance differ substantially across EU members. While the coverage limit in some of the new member states (NMS) thus far is below the EU minimum, the U.K. deposit insurance scheme covers up to £ 35,000 and Italy features the EU's highest coverage limit, at some € 103,000 (Table A3.2.1, see also Demirguc-Kunt et. al., 2005). EU-25 member states feature both unfunded (7 countries, also labeled ex-post funded) and funded (18 countries, also labeled ex-ante funded) schemes. Among the funded schemes the premiums are risk-based in five countries, while a flat rate premium is levied in the other countries. In some EU countries, deposit insurance schemes also feature co-insurance, which imposes a haircut on deposits when the scheme is drawn upon. The co-insurance percentage does not exceed 10 percent for any EU country. The schemes also differ regarding the definition of deposits, source of funding --private, government or joint--[27], the premium basis, and the coverage of foreign currency deposits (which are not covered in Cyprus and Malta).

The Nordic and Baltic countries' deposit guarantee arrangements span the spectrum sketched above (Tables A3.2.2 and A3.2.3).[28] However, the differences are more limited than those within the EU at large. The maximum coverage limit is highest in Norway, at 2 million Norwegian kroner, or some € 250,000, and lowest in Estonia at 200,000 krone, around € 13,000. In the three Baltic countries, the limits are currently below the European minimum, but are increasing towards € 20,000 under transitional arrangements. Co-insurance is only used in Estonia and Lithuania, where the haircut percentage stands at 10 percent. Finland and Sweden feature a funded scheme with partly risk-adjusted premiums, while the other Nordic and Baltic countries also have a funded scheme, but premiums are not risk-adjusted.

The wide variations led the European Commission to undertake a wide-ranging review of deposit insurance arrangements. In a consultation paper, the Commission provides a threefold rationale for further harmonization of deposit guarantee schemes. It cites, first, the need to avoid possible competitive distortions; second, the need to avoid possible (dis)incentives for banks to elect to change the location of their corporate seat; and, third, the possibility that harmonization and the concomitant improvements in information exchange arrangements will facilitate crisis management. The Commission makes the case that although deposit guarantee schemes may not be the determining factors in any of these three issues, the example of Nordea's proposed conversion to the European Company Statute suggests that deposit insurance arrangements are a factor in the decision making process.

[27] Although the EU Directive does specify that the cost of financing the insurance scheme should in principle be borne by the credit institutions themselves, in some EU countries (limited) government funding is used.

[28] As members of the European Economic Area (EEA), Norway and Iceland comply with the relevant EU directives.

The current deposit insurance arrangements raise some issues beyond those considered by the Commission. In particular, the connection between responsibility for deposit insurance and for financial stability may be unclear. While host authorities are not responsible for the deposit insurance of a foreign-owned branch, they may need to support such a branch in order to preserve financial stability, possibly by providing emergency liquidity assistance or, in some cases, even solvency support. Such support will by definition benefit the foreign group as a whole, rather than just the branch. In addition, in cases where the branch is relatively large, such support may involve substantial cross-border transfers.

The European Commission's review concluded that the Deposit Guarantee Directive does not need to be altered. In a communication from the Commission in fall 2006, it concluded that while the current Directive suffices for the time being, a number of self-regulatory steps could be taken to improve how schemes work cross-border within the EU. It considers a more fundamental overhaul to be premature at this stage, and ties any decision about further convergence of national rules and practices to broader discussions on crisis management.[29]

Challenges

The main challenge regarding safety nets is in the disparity among national arrangements. The current setup has thus far worked well. National authorities are responsible for deposit insurance for locally-incorporated subsidiaries, while deposits in branches are covered by the home authorities, with a possible top-up provided by the host authorities. However, the setup was not designed to deal with large foreign-owned branches.

This issue is of particular importance against the background of the possible transfer of the legal status of Nordea. Currently, in the Nordic countries, deposits are insured by the host authorities, as Nordea's foreign establishments in the Nordic countries are in the form of subsidiaries. As Nordea's main motivation for the transfer is to bring its legal structure more closely in line with its organizational structure, the bank is likely to use the adoption of the Societas Europaea to transfer the legal status of these establishments to branches. Under the current EU framework, this would mean that all deposits would be insured by the home authorities.

Concretely, the transfer of subsidiaries into branches would pose several problems with respect to deposit insurance. First, there are issues related to competition and the details of the different insurance funds, including the definition of insured deposits, the premiums levied, and coverage limits, as well as differences in the laws governing depositor claims. Second, no arrangements for transfer of funds from one scheme to another are in place. Third, even though discrimination based on nationality or residency is prohibited by community (EU) law, depositors may place less trust in deposit insurance provided by foreign parties, which indeed may be less inclined to protect depositors in large foreign branches.

Competition and fund differences

Differences such as the definition of insured deposits, the premiums levied, the coverage limits, and the laws governing depositor claims, can distort competition. The definition of insured deposits differs considerably across the Nordic-Baltic region. For example, time deposits are included in most countries, but not in Sweden, while in Denmark pension claims are included (to an unlimited extent). The deposit insurance funds also differ with respect to premiums levied. Some funds

[29] See http://ec.europa.eu/internal_market/bank/guarantee/index_en.htm

are not pre-funded. Of the pre-funded funds, some levy a risk-adjusted premium, while others levy a flat rate. Still other funds have declared a premium holiday as their reserves are judged to be sufficient. A third important difference lies in the difference in coverage limits. As noted by the European Commission in its consultation paper, this might lead to competitive distortions.[30] Further competitive distortions might arise from the differences in national laws governing claims in bankruptcy across the different countries, as they might result in different treatment of depositors' claims if those claims are held at a branch or at a subsidiary. The different legal structures in general and different legal approaches for resolving banks in particular may complicate things further.

For banking establishments in some countries, the transfer from subsidiaries to branches would mean a lowering of the deposit insurance coverage limits. The Swedish deposit insurance scheme covers deposits up to SEK 250,000, which is lower than the limit in Denmark, and much lower than the limit in Norway (Table A3.2.2). A bank can choose to top up the coverage provided by the home authorities to the level of the host country, but can not lower the coverage limit in countries with a lower insurance limit.

Transfers

Currently there are no arrangements in place for the transfer of funds from a deposit insurance scheme in one country to that in another when a bank decides to participate in the latter's scheme. As the sums contributed in the past in many cases are substantial, some in the industry argue that transferability of past contributions should be possible.[31] Others, however, argue that as deposit insurance arrangements are based on insurance principles, no refunds of premiums should be allowed. The lack of such transfer arrangements could severely limit the incentives to change a subsidiary's legal status.

Foreign deposit insurance

Concerns about confidence in the deposit insurance system may also arise. Depositors may put less trust in a foreign deposit guarantee than in a domestic one. Even though foreign deposit insurers have a legal obligation to pay out, as discrimination based on nationality or residency is prohibited by community law, such fears may be justified to the extent that a foreign deposit insurer will face less political pressure and backing--in the form of an implicit government guarantee behind the deposit insurer--to pay depositors in the event of bank failure. In addition, guarantees from a (foreign or domestic) fund which has issued large unfunded guarantees may rationally be thought of as being less credible. And from a practical point of view, coordinating payments to depositors through many different deposit guarantee schemes is no trivial matter. Just sorting out who would be responsible for what claims would be a daunting task, especially when it comes to the top-up coverage claims for cross-border branches. Such consideration may hamper the promotion of stability and prevention of bank runs, the ultimate goal of deposit insurance.

Policy options

Addressing these issues requires a vision as to what the safety net framework should look like. Such a vision would need to specify clearly who is responsible for which costs (as the current framework does). A step towards

[30] An example of such a distortion is present in the branch of Danske bank operating in Sweden, which, given the current Danish premium holiday, does not have to pay the 10bps insurance premium its Swedish competitors pay.

[31] Currently, transferability is only arranged for banks participating in the Danish deposit insurance scheme.

harmonization could be taken by smoothing out of some of the differences between the different national systems, such as the definition of deposits and the premiums levied. In addition, it would need to address the concerns posed by the transfer of legal status from subsidiaries to branches, possibly by devising transitional arrangements.

Such a vision could go in different directions. A first option would be to keep the deposit insurance schemes nationally-based, even for branches. A second option would be to enhance the current arrangements with some further harmonization. A third option would be to develop cross-border arrangements for deposit insurance.

Keeping deposit insurance nationally-based, even for the branches, goes against the current EU Directive on deposit insurance and presents some problems. The problems presented by this framework in a situation in which many large banks operate cross-border are well-known. First, the authorities guaranteeing the deposits will want to be able to exert some supervisory oversight. A possible cross-border supervisory framework involving both home and host authorities could help to address this problem. Second, the issue of whether and how the deposit insurance fund would be able to take over a branch in trouble, since such a branch would be part of a foreign legal entity. Third, possibilities for arbitrage among different deposit insurance schemes may arise, where a bank may seek to attract deposits on the strength of its home country deposit insurance scheme.

In the short to medium-term, the current framework could be enhanced by pursuing further harmonization. First, a common basic definition of insured deposits could be proposed, consisting, e.g., of direct and term deposits. Countries could then choose to add additional insurance to other forms of deposits (like the Danish insurance for pension deposits), i.e., a national 'top-up' of the definition. Second, the premiums for the deposits under the basic definition could be harmonized. A harmonized premium should be risk-based, while premium holidays might need to be reconsidered. Consideration may also be given to further harmonization of arrangements for the transferability of paid-in contributions to deposit insurance funds.

Such harmonization would require changes in national legislation and regulation, but would not go against the 1994 EU Directive. The Directive sets minimum requirements, but does not prohibit national authorities from going further than these minimum requirements. It thus does not pose any legal obstacles to further harmonization.

Developing cross-border arrangements for deposit insurance could be taken up over the longer run. The most obvious challenge would be what such arrangements should look like. They could be rooted in the national arrangements, topped up with transitional arrangements for banks that choose to change legal status or switch their business seat. In devising such arrangements, consideration may need to be given to whether transferability of deposit insurance funds is warranted. On the one hand, transfer of paid insurance premiums should not be allowed. On the other hand, deposit insurance funds in several countries do not follow a pure insurance principle and the authorities have granted premium holidays to participants based on the size of the funds. The issue of transferability of funds comes down to the purpose of the fund and how it is funded. Cross-border arrangements could include measures for additional harmonization of national deposit guarantee schemes, by, e.g., requiring that all schemes be funded and premiums be risk-based.

Since no separate legal framework for deposit insurance in the Nordic-Baltic region exists, such cross-border arrangements should be rooted in EU legislation. At present, reaching agreement on such upgraded arrangements in the EU context seems unlikely even in the medium-term.

Nevertheless, consideration could be given to the possibility at the EU level of establishing cross-border deposit guarantee arrangements for EEA countries willing to go down this route.

Conclusion

Safety net arrangements differ widely in the region, increasing difficulties in managing problems in large cross-border financial institutions. While the existing arrangements have worked well so far, they are not designed to deal with the large cross-border conglomerates. The possible transfer of subsidiaries into branches would pose further issues related to competition, compatibility, the possible transfer of built-up funds, and issues related to lower public confidence in foreign deposit insurance schemes.

Table A.3.2.1: Deposit Insurance in the European Union

Country	Coverage limits as of 2003 (in domestic currency)	Coverage limits as of 2003 (in euros)	Permanent fund funded=1 unfunded=0	Risk-adjusted premiums yes=1 no=0	Co-insurance yes=1 no=0	Co-insurance percentage	Source of funding public=2 private=0 joint=1	Foreign currency yes=1 no=0	Premium or assessment base
Austria	EUR 20,000	20,000	0	0	1	10	1	1	insured deposits
Belgium	EUR 20,000	20,000	1	0	1	10	1	1	insured liabilities
Cyprus	EUR 20,000	20,000	1	0	1	10	0	0	n.a.
Czech Republic 1/	EUR 25,000	25,000	1	0	1	10	1	1	insured deposits
Denmark	DKK 300,000	31,905	1	0	0	0	1	1	insured deposits
Estonia	EKK 200,000 7/	12,760	1	0	1	10	1	1	insured deposits
Finland	FIM 150,000	25,228	1	1	0	0	1	1	insured deposits
France	EUR 70,000	70,000	0	0	0	0	0	1	n.a.
Germany 2/ 6/	EUR 20,000	20,000	1	0	1	10	0	1	insured deposits
Greece	EUR 20,000	20,000	1	0	0	0	0	1	deposits
Hungary	HUF 3,222,222	11,424	1	1	0	0	1	1	insured deposits
Ireland 3/	EUR 20,000	20,000	1	0	1	10	0	1	insured deposits
Italy	EUR 103,291	103,291	0	1	0	0	1	1	protected funds adjusted for size and risk
Latvia	EUR 15,000 7/	15,000	1	0	0	0	1	1	insured deposits
Lithuania	LTL 45,000 7/	12,900	1	0	1	10	1	1	insured deposits
Luxembourg	EUR 20,000	20,000	0	0	1	10	0	1	insured deposits
Malta	MTL 8,600	20,000	1	0	0	0	0	0	deposits
Netherlands	EUR 20,000	20,000	0	0	0	0	1	1	case by case
Poland 4/	EUR 22,500	22,500	1	0	1	10	1	1	deposits and risk-adjusted assets
Portugal	EUR 25,000	25,000	1	1	0	0	1	1	insured deposits
Slovak Republic	EUR 20,000	20,000	1	0	1	10	1	1	insured deposits
Slovenia	SIT 5,100,000	21,323	0	0	0	0	0	1	insured deposits
Spain	EUR 20,000	20,000	1	0	0	0	1	1	insured deposits
Sweden	SEK 250,000	27,208	1	1	0	0	0	1	insured deposits
United Kingdom 5/	£35,000	50,750	0	0	1	10	0	1	EEA deposits i.e. insured deposits

Source: Demirgüç-Kunt et al., 2005.

1/ Coverage limits are 90% of EUR 25,000.
2/ Coverage limits are private: 30% of bank's equity capital; official coinsurance 90% to EUR 20,000.
3/ Coverage limits are 90% of EUR 20,000.
4/ Coverage limits are 100% of up to EUR 1,000; 90% of EUR 1,000 to EUR 22,500.
5/ Coverage limits are 100% of first £2000 and 90% of next £33,000
6/ Premium base is insured deposits for commercial bank schemes and risk assets for other schemes.
7/ Amounts in 2006. Transitional arrangements are in place to reach a coverage limit of EUR 20,000 by 2008.

Table A3.2.2. Deposit Insurance in the Nordic Countries

	Denmark	Norway	Sweden	Finland	Iceland	EU Directive
Type of scheme	Explicit	Explicit	Explicit	Explicit	Explicit	--
Established	1987	1923	1996	1970	2000	Issued May, 1994
Administration	Government legislated and privately administered	Government legislated and privately administered	Government legislated and administered	Government legislated and privately administered	Government legislated and privately administered	--
Mandatory	Yes	Yes	Yes	Yes	Yes	Yes
Types of institutions covered	Banks, mortgage banks, investment companies	Saving banks	Banks with Swedish charter or incorporated in other EEA states	All banks	Commercial and saving banks, investment and securities houses	All credit institutions
Member institutions	127	131	125	336	40	--
Foreign bank branches	Included	Included	Banks incorporated in other EEA states or outside the EEA may join the scheme	EU banks only	Banks incorporated in other EEA states or outside the EEA may join the scheme	Foreign branches of EU banks operating in the country should have adequate coverage from their home country scheme or otherwise should join the host country scheme
Types of deposits eligible for coverage	Saving and checking accounts, registered deposits	Saving and checking accounts, annuities, securities of deposit	Saving and checking accounts, foreign currency deposits, interbank deposits	Saving and checking accounts, foreign currency deposits	Saving and checking accounts, certificates of deposits, travellers cheques, money orders, certified drafts of cheques, foreign currency deposits	Excluded are deposits of financial institutions, central and local government, insurance companies, pension and retirement funds, collective investment schemes, intra-group deposits, related parties deposits and foreign currency deposits
Types of depositors eligible for coverage	Foreign (non-residents), domestic and foreign corporations	Foreign (non-residents), domestic and foreign corporations	A depositor can be a natural or a legal person (domestic or foreign) except institutions which are part of the scheme.	Foreign (non-residents), domestic and foreign corporations	A depositor can be a natural or a legal person (domestic or foreign) except institutions which are part of the scheme.	--
Amount of insured deposits (dom. currency)	DKK 358 billion	NOR 300 billion	SEK 400 billion	EUR 33 billion	ISK 315 billions	--
Amount of insured deposits (in euro) 1/	EUR 48.0 billion	EUR 37.9 billion	EUR 42.4 billion	EUR 33 billion	EUR 4.1 billion	--
Coverage characteristics	Per depositor per institution	Per depositor per institution	Per depositor per institution	Per depositor per institution	Per deposit account	Per depositor per institution
Coverage limit (in dom. currency)	DKK 300,000	NOK 2,000,000	SEK 250,000	EUR 25,000	ISK 2,091,000	--
Coverage limit (in euro) 1/	40,260	252,525	26,523	25,000	22,052	20,000 minimun
Coverage indexed	No	No	No	No	Indexed to the euro	--
Percent coverage of insured deposits by the deposit insurance scheme resources	90.0%	150.0%	300.0%	30.0%	...	--
Co-insurance	No	No	No	No	No	--
Source of funding	Public and private	Public and private	Private	Public and private	Private	
Deposit insurance scheme funded through:	Premium assessment	...	...	Premium assessment	...	--
Type of premium	Flat rate	Flat rate	Risk-adjusted	Risk-adjusted	Flat rate	--
Premium base	Insured deposits	Risk-weighted assets and total deposits	Insured deposits	Insured deposits	Insured deposits	--
Premium rate (% of base)	Currently 0 as reserves sufficient. 0.2% maximum	0.005% of assets and 0.01% of total deposits	risk based, 0.5% now, 0.1% later (future date is not available)	0.05 % (the fixed part) + max 0.25 % (based on solvency of the member bank)	0.15%	--

Source: Demirgüç-Kunt et al., 2005; the Canada Deposit Insurance Corporation International Deposit Insurance Survey, 2002-2003.

1/ Converted from domestic currency at the end-June 2005 exchange rate.

Table A3.2.3. Deposit Insurance in the Baltics

	Estonia	Latvia	Lithuania	EU Directive
Type of scheme	Explicit	Explicit	Explicit	--
Established	1998	1998	1996	Issued May, 1994
Administration	Privately administered	Government administered	Government administered	--
Mandatory	Yes	Yes	Yes	Yes
Types of institutions covered	Estonian and foreign credit institutions	Credit institutions and credit unions	Commercial banks, foreign bank branches, credit unions	All credit institutions
Member institutions	7	55	53	--
Foreign bank branches	Included	Included if they have no coverage or lower coverage in home country	Included if they have no coverage or lower coverage in home country	Foreign branches of EU banks operating in the country should have adequate coverage from their home country scheme or otherwise should join the host country scheme
Types of deposits eligible for coverage	Excluded are deposits of financial institutions, central and local government, insurance, intra-group deposits, related parties deposits	Excluded are deposits by professional market participants, government and municipal authorities and related persons	Savings account, certificates of deposit, money orders, foreign currency deposits	Excluded are deposits of financial institutions, central and local government, insurance companies, pension and retirement funds, collective investment schemes, intra-group deposits, related parties deposits and foreign currency deposits
Types of depositors eligible for coverage	Residents and non-residents	Residents and non-residents	Residents and non-residents	--
Amount of insured deposits (dom. currency)	EEK 67 billion	...	LTL 9.7 billion	--
Amount of insured deposits (in euro) 1/	5.8 billion	...	2.8 billion	--
Coverage characteristics	Per depositor per institution	Per depositor per institution	Per depositor per institution	Per depositor per institution
Coverage limit (in dom. currency)	EKK 200,000 2/	EUR 15,000 2/	LTL 45,000 2/	--
Coverage limit (in euro) 1/	12,770	15,000	12,976	20,000 minimum
Coverage indexed	...	No	No	--
Percentage of deposit value covered	...	18.7%	44.0%	--
Co-insurance	10%	No	10%	--
Source of funding	Public and private	Public and private	Public and private	--
Deposit insurance scheme funded through:	...	A single payment from the government and Bank of Latvia and payments of deposits holders	Premium assessment	--
Type of premium	Flat rate	Flat rate	Flat rate	--
Premium base	Deposits until 2002	Insured deposits	Insured deposits	--
Premium rate	0.5% (maximum) (0.28% at present)	0.05% of the average balance of the guaranteed deposit with the deposit taker in the previous quarter	0.45%	--

Source: Demirgüç-Kunt et al., 2005; the Canada Deposit Insurance Corporation International Deposit Insurance Survey, 2002-2003, national deposit insurance

1/ Converted from domestic currency at the end-June 2005 exchange rate.

2/ Amounts in 2006. Transitional arrangements are in place to reach a coverage limit of EUR 20,000 by 2008.

Chapter IV—Capital Market Integration in the Nordic-Baltic Region

Nordic capital markets have been integrating since the mid-1990s, and the Baltic region has recently joined this process. This integration reflects the response of long-standing trade and other linkages between the Nordic and Baltic economies, as well as a natural tendency for small and relatively open economies to look for economies of scale in face of external competition.

The financial market integration process in the Nordic-Baltic region is taking place in the context of significant heterogeneity in terms of size and structure among the constituent economies. Of the eight countries, the four largest economies—Denmark, Finland, Norway, and Sweden—represent over 90 percent of the region's GDP (Table 4.1). Moreover, economic and corporate structures vary widely within the region, and six countries, representing more than three-quarters of the region's GDP, are members of the European Union (EU), with one of them—Finland—belonging to the euro area. While Norway and Iceland are not members of the EU, they belong to the European Economic Area, a situation which binds them to EU's economic and financial policy decisions. This situation facilitates integration efforts as it entails significant harmonization, including in financial regulation and the provision of financial services.

This chapter reviews capital market integration in the Nordic-Baltic region and the challenges this poses. It assesses the prospects for further integration in the region, focusing in particular on the related requirements for clearing and settlement systems. It also addresses growing ownership and cross-sectoral linkages among the stock exchanges in the region and the need for cross-border coordination and information sharing in the oversight and supervision of capital markets.

Nordic-Baltic Capital Markets

Capital markets in the Nordic-Baltic region differ widely in terms of size (Table 4.2). For example, bond and equity markets (in terms of size of outstanding amounts relative to GDP) appear considerably deeper in the Nordic countries, especially in the case of equity markets in Sweden and Finland, and the mortgage bond-dominated bond market in Denmark. Nonetheless, at end-2006, the combined market capitalization of equity markets in the Nordic-Baltic countries was $1.5 trillion, much smaller than the main European equity markets but still sizable relative to many other markets (Table 4.3).

Equity markets across the region reflect the diversity of economic activity. The Norwegian, Lithuanian, and Latvian stock markets are dominated by the energy sector. In Iceland, the financial sector accounts for two-third of stock market capitalization, whereas in Finland more than 40 percent of market capitalization is concentrated in the information technology (IT) and telecom sectors.

Table 4.1. Nordic and Baltic Economies (GDP, at Current Prices, 2006)1/

	Sweden	Norway	Denmark	Finland	Lithuania	Iceland	Latvia	Estonia	**Total**
€, billion	306.7	261.0	219.4	167.9	23.7	13.0	16.2	13.1	**1,020.6**
In percent	30.1	25.6	21.5	16.5	2.3	1.2	1.6	1.3	**100.0**

Source: Eurostat.

[1]Memorandum item: GDP EU25, 2006: €11,385.2 billion; GDP (EU25, EFTA, Turkey, Bulgaria and Romania): €12,118.1 billion.

Table 4.2. Nordic-Baltic Capital Markets: Relative Size, End-2006

	Bond Markets			Stock Markets		
	Outstanding Stock in Millions of €	In Percent of Total	In Percent of GDP	Capitalization in Millions of €	In Percent of Total	In Percent of GDP
Sweden	207,631	26.6	67.7	467,072.0	40.3	152.3
Norway	89,053	11.4	33.4	232,556.4	20.1	87.1
Denmark	413,202	52.9	188.3	181,606.3	15.7	82.8
Finland	55,864	7.1	33.3	234,690.7	20.3	139.8
Lithuania	1,170	0.1	4.9	7,724.4	0.7	32.5
Iceland	13,371	1.7	106.9	27,374.5	2.4	218.8
Latvia	649	0.1	4.0	2,038.5	0.2	12.6
Estonia	392	0.05	3.0	4,520.9	0.4	34.6
Total	**781,333**	**100.0**	**76.6**	**1,157,583.7**	**100.0**	**112.8**

Sources: European Federation of Stock exchanges; Eurostat; Norex Statistics; and IMF staff estimates.

In Denmark and Sweden, with the latter presenting the most "balanced" stock market structure, industrial and financial firms still account for more than 50 percent of market capitalization (Table 4.4).[32]

[32] State ownership of listed equity also differs from one country to another. A distinctive feature of the Norwegian stock market is the high share of the equity market in the hands of the government. Following listing of companies, such as Statoil and Telenor, government ownership has increased from 23 percent to 34 percent of stock market capitalization between 2000 and 2001.

Capital Market Integration

Regulatory and other factors have supported capital market integration in the Nordic countries beginning in the early 1990s. The Norex alliance—an agreement to promote cooperation among the Nordics—established a framework for local stock exchanges to achieve a convergence of market practices and rules. Integration of the Nordic securities markets received renewed impetus with the development of the OMX Group, which now owns seven out of the eight local exchanges and covers both securities and derivative markets. (In practice, the focus has been primarily on exchange-traded cash equity, and equity and fixed-income derivative products.) Box 4.1 provides

an overview of fixed-income and exchange-traded derivatives in the Nordic-Baltic region.

Integration has also been fostered by increased liberalization of cross border flows. Until the early 1990s, Nordic countries maintained regulations limiting cross-border capital flows, and in particular cross-border equity transactions and foreign ownership. On most local exchanges, foreign ownership of individual companies was limited, often to 20 percent, and restricted shares were common in all Nordic countries. In the context of EU integration, however, most barriers to cross-border equity transactions were removed by 1999.

Table 4.3. Equity Markets: Domestic Market Capitalization, End-2006

(In millions of U.S. dollars)

	Market Capitalization		Market Capitalization
Americas		**Europe**	
NYSE	15,421,167.9	London SE	3,794,310.3
NASDAQ	3,865,003.6	Euronext Markets	3,708,150.1
Toronto SE	1,700,708.1	Deutsche Börse	1,637,609.8
Mexican Exchange	348,345.1		
		Nordic-Baltic markets	
Asia-Pacific		Stockholm	615,865.0
Tokyo SE	4,614,068.8	Helsinki	309,455.0
Hong Kong SE	1,714,953.3	Oslo	306,640.8
Australian SE	1,095,858.0	Copenhagen	239,459.8
Korea SE	834,404.3	Reykjavik	36,095.1
		Vilnius	10,185.1
		Tallinn	5,961.1
		Riga	2,687.9
		Spanish SE	1,322,915.3
		Swiss SE	1,212,308.4
		Borsa Italiana	1,026,504.2

Sources: Norex, FESE; and WFE.

Table 4.4. Norex Markets: Sector Repartition in Percent of Market Capitalization, 2006

	Sweden	Norway	Denmark	Finland	Iceland	Lithuania	Latvia	Estonia	Norex
Energy	1.5	53.4	1.0	2.5	0.3	35.1	61.33	–	12.8
Materials	5.8	3.9	2.5	15.4	–	2.1	2.93	–	6.8
Industrials	25.9	9.3	30.9	13.5	12.2	4.2	4.98	31.9	21.1
Consumer discretionary	11.3	2.5	2.4	4.9	1.7	3.7	–	32.5	6.9
Consumer staples	2.3	2.5	6.1	2.2	7.5	5.5	2.34	3.2	3.2
Health care	5.5	0.3	20.6	1.2	10.1	1.6	7.13	0.1	6.3
Financials	27.3	9.8	32.4	9.5	66.9	12.8	–	–	21.5
Information technology	12.7	5.8	0.9	29.2	0.2	0.2	2.56	–	12.6
Telecom. services	7.7	10.3	3.1	13.5	1.2	8.4	–	25.6	6.4
Utilities	–	1.4	0.1	8.2	–	26.3	–	6.6	2.2
Not sectorized	–	0.9	–	–	–	–	18.73	–	0.2

Source: Norex Statistics.

These changes have helped spur a sharp rise in foreign ownership of listed companies in the Nordic region during the 1990s (Table 4.6).[33] As a result, foreign ownership of listed securities is high in the Nordic and Baltic countries (24-60 percent), generally higher than the average in the rest of in Europe (33 percent in 2003 according to the Federation of European Securities Exchanges (FESE) estimates).[34] However, there does not appear to have been a concomitantly rapid increase in intra-regional portfolio investment, nor have nonresident portfolio inflows been markedly greater in aggregate in the region as a whole than in many other regions of the world (Box 4.2).

Nonetheless, regulations, corporate governance, and market practices still differ across stock markets.[35] For instance, although declining, dual classes of shares, carrying different voting rights, are common in the various Nordic countries, and remain a controversial regulatory issue at the EU level. In Finland, there are no restrictions on the maximum amount of votes shares can carry. In Norway, B shares, although increasingly marginal, may have no voting rights attached. Although also on a declining path since the end of the 1990s, the use of foundations as a controlling structure of listed companies remains frequent in some Nordic countries.

The Norex alliance—an agreement between the Nordic and Baltic stock exchanges—is a significant step toward an integrated regional equity market. Initially, the Norex was established as an agreement between the Danish and Swedish stock exchanges to promote a common market place. The alliance now brings together all the Nordic and Baltic stock exchanges with harmonized membership requirements and trading rules. Common exchange membership has not yet been established, but cross-membership has been facilitated by the harmonization of membership criteria. As a result, listed issuers receive greater exposure, with lower listing costs and enhanced liquidity, and market participants are also able to access and trade on all Nordic and Baltic markets through a single entry point. This increase in market breadth and depth is believed to have made the region's equity markets more attractive to global investors, although strong evidence remains scarce.

---

[33] In Finland, foreign ownership is particularly prominent in a few listed companies, notably Nokia, which also contributes significantly to the aggregate capitalization of the Finnish equity market.

[34] Overall, foreign ownership of shares has changed little across European markets in recent years, according to FESE. However, some markets have experienced marked changes. For instance, foreign investors held an estimated 22.7 percent of the Belgian equity market in 1996. Their share has regularly increased since, in particular in the wake of the integration of the domestic market in the Euronext group, to reach a peak of 53.2 percent in 2005. Over the same period (1996–2005), the share of foreign investors in the French market, the largest Euronext market, grew from 28.4 percent to 39.5 percent.

[35] Differences in tax systems may also contribute, indirectly, to market segmentation and distort cross-border securities flows (see for instance the double taxation of corporate dividends in Sweden). Similarly, tax regulations can contribute to the hampering of the development of specific capital market activities in some countries (this has traditionally been the case for example in the tax regime of securities lending and borrowing facilities in Denmark and Finland). Tax systems are not considered in the rest of the analysis.

Box 4.1. Contrasted Trends: Bond and Derivative Markets 1/

Although trading in Nordic derivative instruments is limited and largely concentrated in equity-based products (i.e., share and index options and futures), markets in derivatives have integrated faster and more extensively than cash markets. Trading in listed derivatives is concentrated on Stockholmsbörsen and the Norwegian stock exchange. On OMX exchanges, following the absorption by the OMX group of the Finnish stock market (2003) and the Copenhagen Stock Market (2005), derivative activities have been integrated into a single structure (OMX Derivatives Markets) operated by Stockholmsbörsen. Stockholmsbörsen hosts the derivative trading system, manages the common order book, and offers clearing and settlement services. Another major difference with cash equity markets is that Stockholmsbörsen and VPS Clearing act as central counterparties (CCPs) for all security derivatives transactions conducted on OMX Derivatives markets and the Oslo Stock Exchange, respectively.

In order to extend the reach of the derivative contracts developed on OMX markets to a broader range of market participants, an electronic link has been developed with the London-based EDX market, and the Oslo Børs. Through Linked Exchanges and Clearing (LEC), all derivative members of Stockholmsbörsen , Oslo Børs, and EDX (jointly owned by OMX and LSE) can therefore trade the full range of Nordic equity-related derivatives as well as fixed income derivatives in a joint order book, using a common trading and clearing platform developed by OMX (Options on some of the main Finnish stocks as well as options and futures on OMXH25 index are not traded on OMX exchanges, but are offered by Eurex AG). Activity in equity derivatives remains largely concentrated in the Swedish market. In 2005, the Swedish market represented 94 percent of all listed contracts traded on the Swedish, Danish and Norwegian markets, with Oslo and Copenhagen accounting for 5 percent and 1 percent respectively. All derivative products traded settle through local clearing organizations (Stockholmsbörsen, VPS/NOS Clearing and LCH. Clearnet). The LEC approach is an illustration of how operability among post-trading infrastructures can be implemented.

Government and mortgage institutions are the main issuers on most Nordic and Baltic bond markets. Except in Denmark and Iceland, where mortgage bonds dominate, and Estonia, where corporate and financial issuers dominate, governments are the main issuers on local bond markets in the region (Table 4.5). In Denmark and Sweden, the improved fiscal situation over the last five to six years has resulted in a decline in government issuance. Government bond issues accounted for 20.9 percent and 44.4 percent of outstanding fixed income securities in 2005 in Denmark and Sweden respectively, down from 33.2 percent and 50.6 percent in 2000. The contraction of the government segment has benefited mortgage bonds issuers in these two countries, in particular in Denmark where mortgage bonds rose from 60 percent to 73.6 percent of out standings between 2000 and 2005. A common feature among these bond markets is the lack of development of the corporate segment, and, as a corollary, the strong dependency of corporates on bank credit and on equity markets. In addition, in order to more easily reach a broad base of investors, the largest corporations tend to issue on international markets rather than on their domestic market.

Table 4.5. Structure of Domestic Bond Markets (in Percent of Outstanding Amounts, 2005)

Issuer	Sweden	Norway	Denmark	Finland	Iceland	Lithuania	Latvia	Estonia
Gen. Government	44.4	39.7	20.9	84.4	12.6	91.6	79.8	0.1
Mortgage Banks	38.8	10.1	73.6	-	47.4	n.a	-	-
Financial Sector	5.1	36.9	n.a	6.8	16	n.a	19.7	45
Corporate Sector	8.2	8.5	n.a	8.8	19.9	8.4	0.5	48.1
Others	3.5	4.7	5.5	-	4.2	n.a	-	6.8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Box 4.1. Contrasted Trends: Bond and Derivative Markets *concluded*

Initiatives to promote integration of fixed-income markets have been sporadic. Although bonds are usually listed on local stock exchanges, fixed-income markets are primarily over-the-counter and wholesale-oriented. Integration is progressing primarily through the development of electronic trading platforms. Various countries (Latvia, Norway, and Sweden) use the Saxess platform to issue government debt. In 2001, Sweden launched an electronic marketplace for trading in government bonds through the Saxess platform. However, only a limited number of benchmark bonds are available through the system, which is restricted to primary dealers. Overall, secondary market trading on the exchanges remains marginal compared to OTC volumes: in 2005, bond turnover on Norex markets amounted to €2,595 billion, of which only 3.4 percent was conducted through the electronic order book. Danish mortgage bonds and Swedish government bonds represent the bulk of bond turnover, accounting respectively for 30 percent and 41 percent of total turnover. Denmark and Finland are part of the MTS network, an illustration of their involvement into Euro area debt markets.

1/ An increasingly integrated commodity derivative market has developed in the Nordic region, in relation to the inter-Nordic electricity market (NordPool). These developments are not examined here.

Table 4.6. Evolution of Equity Foreign Ownership

(In percent of total market value)

	1993	1996	1999	2000	2001	2003	2005
Sweden	21.3	31.6	39.0	39.0	34.6	33.1	35.3
Denmark	8.0	20.0	25.3	25.8	28.3	27.3	24.1
Norway	28.3	33.6	31.5	34.1	28.0	27.8	37.1
Finland	19.0	36.6	65.2	73.6	71.1	53.7	50.9
Iceland[1]	...	...	...	...	7.8	7.0	27.7
Lithuania	...	34.1	44.3	54.9	46.4	51.8	38.9
Estonia[1]	...	...	...	...	80.6	65.0	61.0

Sources: Federation of European Exchanges; and national sources.

1/ In column for 2001, data refer to 2002.

Box 4.2. Intra-Regional and Global Cross-Border Investment Patterns

Capital market integration can be expected to influence cross-border investment patterns and capital flows, within the Nordic-Baltic region and between the region and the rest of the world. All other things remaining equal, lower investment costs and increased visibility to investors are expected to result in increased cross-border investment flows, among the Nordic and Baltic countries and from investors outside the region. These influences can be expected to be more pronounced at the global than at the regional level, as increased regional economic integration can contribute to reducing the need for cross-border portfolio investment flows within the region.

In the absence of comprehensive data allowing for an in-depth analysis of the evolution of securities flows within the Nordic-Baltic region and between the region and the rest of the world over a sufficient period of time, a less ambitious assessment has been conducted using data from the IMF's Coordinated Portfolio Investment Survey (CPIS). 1/ The CPIS data allows the capture of outstanding cross-border investment positions within the region (i.e., cross-border investment in equity and fixed-income securities among the Nordic-Baltic countries) and outstanding cross-border investment positions from outside the region (i.e., investment in securities issued by residents in Nordic-Baltic countries and held by non residents to the region).

(i) Within the region, cross-border investment in equity and fixed-income securities has progressed over recent years. The stock of outstanding portfolio investments reached $ 99 billion at year end 2004 ($ 57.8 billion in fixed-income securities, $ 41.3 billion in equity securities). It stood at $ 18.3 billion at year end 1997 ($ 9.7 billion in equity securities and $ 8.3 billion in debt instruments), when the first CPIS was conducted. However, when measured as a percentage of total cross-border portfolio investment held by Nordic-Baltic investors, the share of regional cross-border portfolio has fluctuated only marginally over the period, without exhibiting a clear trend. Based on this partial measure, financial market integration does not seem to have resulted in increased regional securities flows.

(ii) Similarly, the evolution of outstanding portfolio investment by non residents to the region in securities issued by Nordic and Baltic residents shows that the increase of outstanding amounts (from $ 400 billion in 2001 to $ 677 billion in 2004) has been associated with a declining/stable share of these investments in the global stock of cross-border portfolio investment. However, a country by country analysis over the period shows a significantly diverging "performance" among countries in the region in attracting portfolio investment, with the largest financial markets (particularly Finland, and Sweden to a lesser extent) underperforming, and the smallest and most underdeveloped markets over performing.

Table 4.7. Cross-Border Portfolio Investment Among Nordic-Baltic Countries

(outstanding amounts at year-end, $ million)

	Sweden	Denmark	Norway	Finland	Iceland	Estonia	Total	*As a % of total cross-border investment by N-B countries*
1997	3,871	7,828	5,925	727	12	0	18363	*11.38*
2001	12,453	13,046	9,417	7,438	81	295	42730	*10.95*
2002	11,401	9,662	23,100	10,984	112	858	56117	*12.12*
2003	16,290	13,325	26,701	16,857	160	1521	74854	*11.72*
2004	22935	17717	33230	22542	539	2202	99165	*11.74*

Source: Coordinated Portfolio Investment Survey (Latvia and Lithuania do not participate in the CPIS).

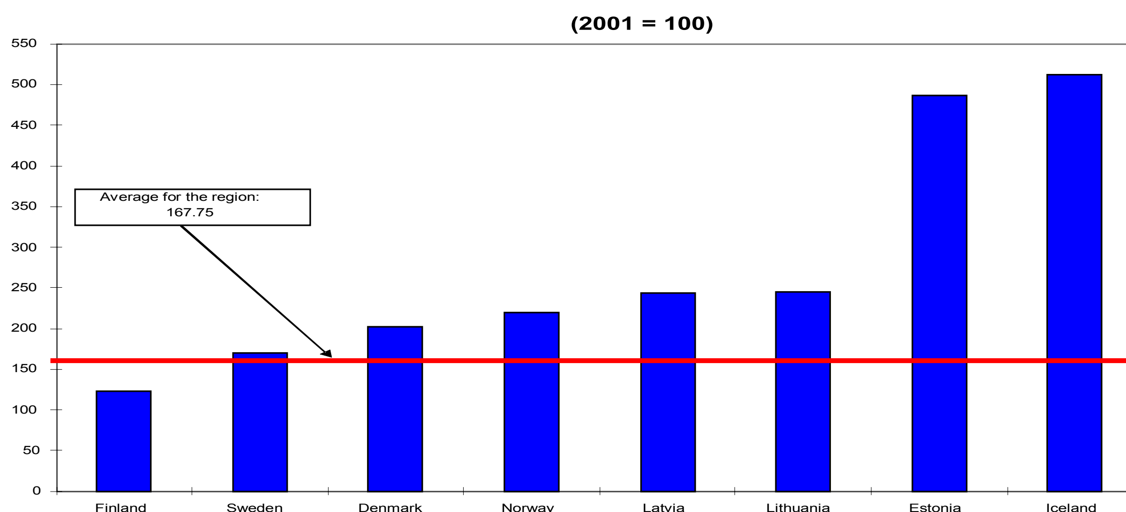
1/ The purpose of the CPIS is to improve statistics of holdings of portfolio investment securities (equity and debt). It relies—since 2001—on annual national surveys of portfolios of securities issued by non residents and owned by domestic residents. For a comprehensive description of the CPIS and its methodology and limits see *Coordinated Portfolio Investment Survey guide, Second Edition*, International Monetary Fund, 2002.

Table 4.8. Portfolio Investment From Outside the Region in Nordic-Baltic Securities ($ million)

	Sweden	Denmark	Norway	Finland	Iceland	Estonia	Lithuania	Latvia	Total	as a % of total portfolio investment abroad
2001	151,579	61,505	45,206	140,022	3,408	627	929	373	403,649	3.62
2002	151,747	54,206	46,013	125,747	3,783	687	1,034	357	383,574	3.10
2003	208,960	106,046	77,441	152,074	9,759	1,470	1,678	470	557,898	3.32
2004	257,736	124,701	99,487	171,528	17,430	3,050	2,273	908	677,113	3.28

Source: Coordinated Portfolio Investment Survey.

Figure 4.1 Outstanding Stock of Portfolio Investment in Nordic-Baltic Securities at year-end 2004



Source: Coordinated Portfolio Investment Survey.

The Swedish OMX Group's recent acquisitions of stock exchanges have lent further impetus to the integration of local capital markets. With the acquisition of the Copenhagen Stock Exchange (CSE) in 2005, and the Iceland Stock Exchange in 2006, the OMX Group now owns seven out of eight stock markets in the Nordic-Baltic region. Furthermore, in October 2006, the OMX group announced the purchase of a 10 percent stake in Oslo Børs Holding ASA, the owner of Norwegian stock exchange, increasing the dominance of the market operator throughout the region.[36] At end-2006, 724 companies were listed on OMX markets representing a capitalization of € 925 billion (80 percent of the Norex alliance, Table 4.9).

The use of common trading platforms has further facilitated access to OMX exchanges. The Saxess trading system, developed by the OMX Group's OMX

[36] OMX was created in 2003 as a result of the merger of HEX, the owner of the Finnish, Estonian, and Latvian Stock Exchanges, and OM, the owner of the Stockholm Stock exchange. Its shareholding structure is a-typical, and characterized by a significant public-sector ownership. As of end-2006, the Swedish government directly owned 6.6% of OMX. Its has announced its intention to start reducing its ownership of companies engaged in competitive activities, including OMX.

Technology, supports trading in a wide range of instruments (from equities and fixed-income instruments, to exchange traded funds).[37] With the launch of Saxess on the Vilnius Stock Exchange in May 2005, all OMX stock exchanges now use the same trading system. Since Oslo Børs also uses Saxess, the trading system encompasses all Norex participating markets.

Recent initiatives targeting investors, issuers, and exchange members have been introduced to provide further impetus to the integration of Nordic equity markets. Harmonized suites of share indices, based on the Global Industry Classification Standard (GICS), have been developed and adopted on all OMX markets.[38] To further facilitate industry comparisons across markets, a common "Nordic List" organized by market capitalization and industry, has been launched in October 2006 and will complement and to some extent replace current domestic equity lists.[39] Icelandic companies were included in the Nordic List in April 2007. New corporate governance codes applicable to issuers of listed shares have been introduced in 2003, 2005 and 2006 on the Norwegian, Danish, Finnish, and Swedish markets and were to be complemented in the course of 2006 by largely harmonized listing requirements. In early 2006, OMX also introduced a single Nordic exchange membership with the possibility of operating on the OMX Nordic markets with only one membership fee. Similar steps toward the creation of a Baltic market are expected on the Baltic stock exchanges in 2007.[40]

Brokerage and similar services have also become more regional. Providers, such as Nordea, SEB, Swedbank, and Danske Bank, typically provide a full range of services, including brokerage, asset and fund management, and settlement and custody services. Differences in the organization and practices of local markets, including the lack of integration of post-trading infrastructures (see below), often requires securities service providers to either maintain physical presence in the different local markets they serve, or conclude alliances.[41] The 10 most active brokers on Norex markets account for about 42 percent of equity turnover in the region. Of these, nine are members of at least three of the eight stock exchanges in the alliance, including Helsinki and Stockholm, the most active markets in the region. Also, six of them belong to global investment bank groups, very often operating on a remote basis from London, an illustration of the increased local market links to the international marketplace.

Remote membership has developed markedly and represents a growing proportion of stock exchanges turnover. On

[37] The trading system is designed on the principle that there is one order book for each security. For an order-driven market, bids and offers are entered into the relevant order book and automatically matched to trade when price, volume, and other order conditions are met. Any trade made outside the order book must be reported to Saxess. In price-driven markets, a member enters its interest in the particular security in the relevant order book. The transaction is negotiated manually when a potential counterpart is identified and the transaction reported into the system upon completion.

[38] The GICS methodology, developed by MSCI and S&P, classifies stocks by sectors, industry groups, industries, and sub-industries.

[39] The Nordic large capitalization segment is a joint segment for the largest companies (market capitalization of not less than €1 billion) on the four exchanges. The mid and small capitalization segments (market capitalization between €150 million and €1 billion and market capitalization below €150 million, respectively), are the joint segments.

[40] For example, in Estonia, new Corporate Governance Recommendations, approved by the Financial Supervision Authority, are applicable since the beginning of 2006.

[41] The Nordic Custody Alliance, for example has been set up in 2002 between banking groups from Denmark (Amagerbanken), Sweden (Swedbank), Norway (DnNor) and Finland (OKO Bank) to offer a full range of securities services, including settlement and custody, to international and domestic customers.

many Nordic exchanges, remote members (i.e., members accessing the exchange through an electronic link without a physical presence in the country of the exchange) constitute more than 50 percent of total exchange participants, and represent a significant and growing share of market turnover.[42] The role of remote members appears less important on the Baltic markets, with less than 25 percent of members of the local stock exchanges operating from outside the Baltic countries, most of them from a Nordic country. To some extent, the small size of the Baltic markets and the limited liquidity of the securities listed on these markets have deterred remote membership, and helps explain the strong concentration of activity among a small number of exchange members.[43]

Less encouraging has been the increase in delisting among Nordic stock markets. A number of factors have contributed to this trend, including the importance of the small- and medium-sized enterprise (SME) sector and private equity, the bursting of the IT "bubble," and an increase in mergers and acquisitions. Moreover, regional integration may also have reduced the need for cross-listings, especially among issuers on Euronext markets in Continental Europe and in the Nordic markets. Among this group, only Oslo has seen a net increase in the number of listed companies in recent years, mainly in the energy sector (Table 4.10).

In order to avoid deterring SMEs from listing, some exchanges have launched new markets, allowing issuers with less stringent listing requirements. These alternative markets are deemed organized and exchange-regulated, but not EU-Regulated markets in the sense of EU legislation. One such alternative market, First North, was launched in December 2005 by the CSE, and opened on the Stockholm Stock Exchange in June 2006.[44] Iceland introduced an Alternative Market segment, now integrated in First North, in early 2006, and a First North market for Finnish companies opened in June 2007. Norway also recently launched an alternative market (May 2007), and the Baltic stock exchanges are planning to do so in the course of the year. Similar experiments in other European countries—e.g., the Alternative Investment Market in the U.K., Alternext in Paris and Brussels, among others—illustrate that such systems can be attractive to smaller companies and start-ups.[45] For example, in 2005, two thirds of the initial public offerings (IPOs) launched on the main European stock exchanges took place on such exchange-regulated markets, for an offering value of €6.9 billion (representing 14 percent of the global offering value of IPOs).

Capital market integration among the Nordic-Baltic countries has occurred in tandem with greater integration with the EU. For example, OMX and Euronext have implemented very similar market organizations, combining technical integration and liquidity pooling while preserving local particularities and

[42] Foreign investors, the primary users of remote members, have occasionally accounted for up to 70 percent of daily trading volumes in the Norwegian stock market in recent years

[43] As of December 2006, 3 members (out of 33) accounted for 62 percent of turnover on the Baltic markets. For OMX markets as a whole, the three largest exchange members accounted for 20 percent of equity turnover.

[44] In contrast with requirements to be listed on the regulated market, companies are not required to have a minimum of three years of operations, nor to report under IFRS, and are not subject to specific corporate governance rules.

[45] At end 2006, 81 companies had joined First North marketplace, representing a combined capitalization of € 4.3 billion. 75 companies were listed on Alternext, representing a combined capitalization of around € 3.5 billion. In London, the Alternative Investment Market was launched in 1995, and listed at end 2006 more than 1,600 companies, including 306 non-UK companies, representing a market value of GBP 90.6 billion.

franchises (Box 4.3).[46] In both cases, the presence of a bigger domestic securities market (i.e., France, Sweden) has contributed to shielding smaller markets from marginalization, by facilitating liquidity pooling and providing listed companies with increased exposure to international investors.

There remain important impediments to further capital market integration in both the Nordic-Baltic region and the rest of Europe. For example, post-market infrastructures and the investment industry remain largely organized along national lines, which results in higher costs and increased risks in cross-border securities transactions. These remaining gaps underscore the importance of cross-border regulatory and supervisory cooperation.

Integration of Clearing and Settlement Infrastructures

Clearing and settlement systems remain domestically oriented. This is illustrated in Figure 4.2, and reflects the fact that (i) existing systems often focus on different asset markets, and use different technologies; and (ii) creating a new system capable of meeting the needs of all participants would be costly.[47] This fragmentation has reduced market liquidity, increased counterparty and operational risks, and contributes to higher costs for cross-border securities transactions, particularly since domestic systems are connected through free-of-payment (FOP) links rather than safer and more efficient delivery-versus-payment (DVP) links. [48] The variety of currencies used in Nordic and Baltic countries does not represent a technical impediment to cross-border securities transactions, and some exchanges offer the possibility to trade in currencies others than their domestic currency. However, it does increase costs and complexity, possibly contributing ultimately to a bias in investment decisions toward domestic markets.[49]

The increased costs associated with this fragmentation of clearing and settlement systems are difficult to gauge but could be significant. Post-trading operations involve a variety of tasks (including instruction matching, netting and settlement operations, and custody services), and a variety of institutions and fee structures.[50] However, clearing and settlement costs in Nordic countries appear to be above the average for Europe, with wide disparities across countries in the region, reflecting in part differences in CSD structures and the range of services they offer.

---

[46] Euronext unites the Amsterdam, Brussels, Lisbon, and Paris Stock Exchanges, and owns LIFFE.

[47] The Danish capital markets for example are dominated by bond trading—trading in mortgage bonds in particular—whereas equity trading dominates in other Nordic markets, Sweden and Finland in particular.

[48] In a DVP settlement, the cash and security legs of a transaction are completed simultaneously and the completion of each leg depends on the completion of the other. In a FOP system, the two legs of the transaction are processed separately and independently.

[49] This is the case of Denmark, Sweden, Iceland, and Norway. In Estonia, the euro is the stock exchange trading currency.

[50] Numerous analyses of clearing and settlement costs have been conducted in recent years, according to different methodologies. While they usually point to the same conclusions (clearing and settlement costs are higher in Europe than in the United States, mostly due to a size effect; cross-border transactions, and in particular retail transactions, are significantly more costly than domestic transactions and both vary strongly from one system to another), the magnitude of the cost estimates they suggest differ often significantly.

Table 4.9. OMX Market: Capitalization and Listed Companies, end-2006

	Market Capitalization		Listed Companies	
	In billions of €	In percent of total	Number	In percent of total
Sweden	467.1	50.5	276	38.1
Finland	234.7	25.4	136	18.8
Denmark	181.6	19.6	190	26.2
Iceland	27.4	3.0	24	3.3
Lithuania	7.7	0.8	42	5.8
Latvia	2.0	0.2	40	5.5
Estonia	4.5	0.5	16	2.2
Total	**925.0**	**100.0**	**724**	**100.0**
Norex markets 1/	1,157.6	...	953	...

Source: The Nordic Exchange.

1/ Memorandum item for comparison.

Table 4.10. Nordic-Baltic Stock Exchanges Net New Listings/Delistings (Main Markets)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Stockholm	6	32	15	24	-19	-6	-8	-15	-5	-5
Copenhagen	-3	0	5		-7	-18	-16	-7	-9	-9
Helsinki	-2	10	5	20	8	-3	-6	-4	-8	0
Oslo	5	48	27	-22	-4	-5	-9	-23	7	29
Reykjavik					0	-3	-7	-15	-14	-9
Baltic markets								-6	0	8
Euronext markets										
Paris		2	-2	-9	-28	-21	-46	-25	-14	-42
Bruxelles		0	-5	1	-16	-8	-15	-7	-17	-14
Amsterdam									-12	-20
Lisbon									-1	-4

Sources: Domestic Stock exchanges; WFE; Norex; OMX Group; and author's calculations.

Although there is a widespread consensus that a single, integrated clearing and settlement system would lower the cost of cross-border transactions, the magnitude of the savings (for some, by as much as 40–45 percent) remains open to debate.[51]

[51] Based on the analysis of operating income of CSDs, the 2002 LSE/Oxera study estimated clearing and settlement costs to be €2.78 per transaction on average in Europe, with costs in Denmark, Sweden, and Norway spread between €3.98, €2.94 and €1.98 respectively. In its 2004 study of *the European Post-trade Market,* Eurex also found that, because of the lower volumes of transactions they process, Scandinavian CSDs had higher transaction cost than their European peers. Although its estimates varied from those put forward by the LSE, the relative ranking was identical. However, other estimates by market participants and focusing on cross-border transactions only, reach very different conclusions when ranking Nordic CSDs according to the cost of cross-border transactions.

Box 4.3. Euronext Model: Preserving Local Particularities with Technical Unification

The processing of a security order involves three successive phases: (i) the trading phase, resulting in the execution of the order; (ii) the clearing phase, allowing for the netting of transaction flows in order to reduce the associated risks; and (iii) the settlement phase, resulting in the effective exchange of securities and cash. In the Euronext model, only the trading phase is conducted by Euronext. The clearing and the settlement phases are handled by separate but closely associated entities.

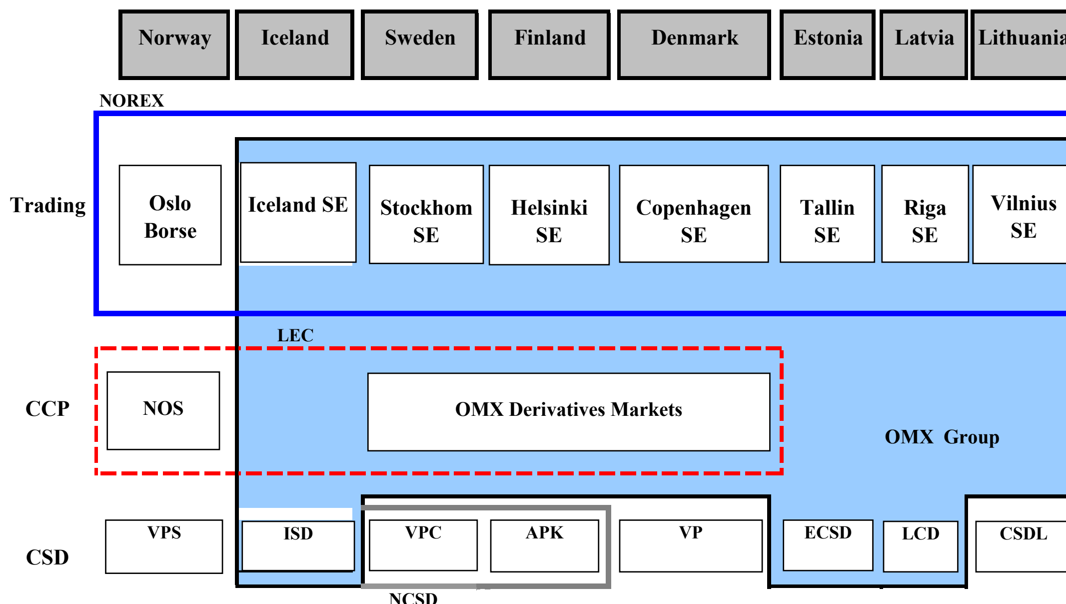
The trading phase: a unified order-driven trading platform is used for cash (NSC) and derivative products (LiffeConnect), across all Euronext markets, under a single set of market rules.

The clearing phase: a CCP for all trades executed on the exchange. Following the creation of Euronext, the Clearing 21 system used on the French market has been extended to the other Euronext markets. Initially a subsidiary of Euronext, Clearnet SA, a French credit institution, merged with the London Clearing House in December 2003 to form the LCH.Clearnet. On the occasion of this merger, Euronext sold its stakes in Clearnet and LCH in exchange for a 49.1 percent share in LCH.Clearnet Group, with voting rights limited to 24.9 percent. Following the merger, Clearnet has been deconsolidated from Euronext's balance sheet. Euronext further reduced its share to 5 percent of LCH.Clearnet ordinary shares. For all Euronext exchanged-traded products LCH. Clearnet is the only available CCP. However, for off-exchange transactions, the use of the CCP is not mandatory.

The settlement phase: a partnership with Euroclear group. In the Euronext infrastructure, the settlement process is still partially fragmented. Trades concluded on Euronext markets and cleared through LCH. Clearnet SA can settle on the books of members of the Euroclear group (Euroclear bank, Euroclear France, Euroclear Netherlands) or on the books of InterBolsa and CIK, the Portuguese and Belgian CSDs, both owned by Euronext. Participants may choose to settle their transactions either in the local CSDs, and have access to central bank money, or in Euroclear Bank, the ICSD, in commercial money.

A notable characteristic of the Euronext structure is that local markets have been maintained as domestic regulated markets (and subsidiaries of Euronext NV, the holding company), with the objective of preserving the specific value represented by their local franchise. They represent, for market participants and issuers, "entry points" from which the integrated Euronext market can be accessed. While trading rules have been largely harmonized, under the responsibility of the exchange, each local market remains subject to its domestic regulation (public law rules), under the supervision of the local authorities. Hence, for issuers, intermediaries, and investors, the "local entry point" determines the relevant set of applicable regulation.

Figure 4.2. Trading and Post-Trading Infrastructures in the Nordic Baltic Region



*OMX Group owns 40 percent of CSDL

There are limitations in the risk mitigation mechanisms for cash securities transactions within the Nordic-Baltic region, particularly for cross-border transactions. For example, in contrast with derivative markets, no central counterparties (CCPs) exist for cash transactions, which could dissuade participation by large foreign market participants.[52] Although CCPs are not the only possible solution to mitigate risks inherent to cash securities transactions, they are increasingly viewed as among the most effective and comprehensive options.

Integration of risk mitigation mechanisms has been impeded by competing interests among the various stakeholders in local settlement systems. Banks are often shareholders of central securities depositories, while at the same time they are members of stock exchanges, asset managers, and providers of custodian and brokerage services to investors. As providers of brokerage services and asset managers, these institutions would benefit from more integration in post-trading infrastructures, but might see adverse effects on

[52] A central counterparty (CCP) is an entity that interposes itself between transacting counterparties—a seller vis-à-vis the original buyer and a buyer vis-à-vis the original seller—to guarantee the execution of the transaction. By substituting itself to original transacting and guaranteeing the execution of the transaction, the interposition of the CCP is expected to increase market efficiency and stability, resulting in particular in increased and less costly liquidity, and reduced counterparty and operational risks. While all market participants can be expected to benefit from CCPs facilities, the most active ones and those with a presence in a range of markets are likely to benefit the most.

their custodian and correspondent banking activities.[53]

Moreover, ownership structures may not be conducive to integration of settlement systems. In Denmark, the domestic settlement system (VP) offers its participants a direct DVP link to Euroclear and Clearstream, but has only bilateral free of payment links with its Nordic counterparts, reflecting the de facto deep integration of the Danish bond market with Euro bond markets, rather than with other, more equity-oriented, markets in the Nordic-Baltic region. A majority of VP's share is owned by mortgage banks, banks, and stockbrokers. In the absence of manifest synergies, mortgage banks have presumably little interest in joining a potentially costly integration project (e.g., the implementation of a common platform based on a different technology), which, it is feared, could also result in degrading the services provided for the issuance, clearing, and settlement of their bonds. Similarly, in some countries, central banks are also shareholders of CSDs, which may also be averse to greater integration for stability and other policy reasons.[54]

Earlier attempts to unify Nordic clearing and settlement systems have failed, and new approaches are now being explored. Among the Norex markets, the S4/Nordiclear project was abandoned, in part due to cost considerations. The merger of the Swedish (VPC) and Finnish (APK) CSDs, in 2004, into a new structure (NCSD) represents a more manageable approach, and while both entities still operate separate systems, they are planning to develop a joint platform. The NCSD project could facilitate harmonization of rules and clearing processes and development of a common technological platform, and would yield significant synergies if a common settlement system were adopted.[55]

There are also significant differences between the approaches taken in the Nordic and Baltic countries. The structure of the OMX group today combines elements of horizontal and vertical integration—ownership of marketplaces and clearing and settlement systems. In the Nordic region, with the creation of NCSD outside OMX and OMX's sale of its participation in NCSD and the acquisition of ICEX and the Icelandic Securities Depository, the group seems to be moving toward a horizontal model. In contrast, in the Baltic countries, the vertical/silo approach remains prevalent, as CSDs in Estonia and Latvia are owned by the local stock exchanges. Whether this duality should be maintained going forward remains an open issue. Furthermore, the silo/vertical model of integration has also recently come under scrutiny from the European Commission, for potential competition distortions.

Investment Fund Industry

The investment fund industry remains underdeveloped and fragmented along national lines.[56] Overall, net assets of investment funds in the Nordic region amounted to €295 billion, representing less than 5 percent of the total net assets of the European investment fund industry at the end of 2005

[53] In Sweden, the largest Swedish market participants are shareholders of the new Nordic Central Securities Depository (NCSD), formed in 2004 by the merger of the Swedish (VPC) and Finnish (APK) CSDs. In Norway, banking groups, including non-Norwegian groups, providers of financial services and pension funds are among the main shareholders of the domestic CSD (VPS).

[54] The Central Bank of Lithuania owns 60 percent of the domestic CSD. In Denmark, the Central Bank owns 24.2 percent of VP.

[55] The Nordic Connect project launched in 2005 represented a different less ambitious and possibly less costly aproach aiming at the interconnection of CSDs through a network of bilateral DVP links.

[56] The developments below concentrate on the mutual fund industry and do not analyze other institutional investors such as pension funds.

(€6,413.5 billion for EU-15 countries plus Iceland, Norway, and Switzerland) (Table 4.11). Undertakings for the Collective Investment in Transferable Securities (UCITS), represent more than 81 percent of the assets managed by Nordic investment funds. The Nordic investment fund industry remains to a large extent fragmented along national lines, and dominated by domestic participants.

Mutual funds domiciled abroad represent a limited, if not marginal, share of total industry assets in the various countries under review.[57] In the absence of detailed data, it is not possible to assess the extent to which such funds follow a regional or global investment strategy rather than mostly a domestically focused one. The evolution of net assets by category of funds over the last decade does not show significant shift over time in investment patterns (e.g., in "fixed-income" ("equity") countries such as Denmark (Sweden), bond (equity) funds remain the dominant investment), which indirectly suggests that little cross-border diversification is taking place. The 10 largest financial groups in the region account for about 50 percent of assets under management and of sales of investment funds. However, among them, only Nordea can be seen as a truly regional asset manager, thanks to its extensive presence and strong market share in most local markets.[58]

As in the rest of Europe, regulatory and tax barriers hamper the development of cross-border investment products and open distribution networks in the Nordic region. A number of issues have been identified at the European level as important for increasing the efficiency of the investment fund industry and reducing distribution costs, including simplifying notification procedures for "passporting" funds, facilitating cross-border fund mergers and simplifying the tax treatment of such mergers, recognition of asset pooling techniques, and increased flexibility in the choice of depository and fund administrators. These issues also appear salient for the Nordic investment fund market.

Cross-Border Regulation of Securities Markets

Given the cross-border consolidation of stock exchanges, effective cooperation among market regulators is particularly critical. The key challenge remains to ensure that MoUs between regulators are regularly revisited and updated, and lead to effective day-to-day cooperation between supervisors. Progress on this front has been made. Following the acquisition of the CSE by OMX, the Danish, Finnish, and Swedish market regulators have concluded a MoU on cooperation in the supervision of the OMX group (November 2005), which provides for the establishment of a joint supervision team as the main vehicle for coordination. MoUs covering securities market issues have been put in place between market supervisors in the Baltic countries, and in some cases with Nordic countries. With regard to post-trading infrastructures, the acquisition of the Finnish CSD (APK) by its Swedish counterpart (VPC AB) in 2004 has led Suomen Pankki and the Sveriges Riksbank to sign an MoU for the oversight of the new CSD group. Securities regulators in these countries have also recently concluded a MoU for the supervision of NSCD, in September 2006.

[57] In Sweden, where UCITS domiciled abroad represent around 26 percent of assets managed by UCITS, by far the largest proportion in the region, the large majority of these funds are in fact funds sold by domestic investment companies, from outside Sweden, for tax reasons ('round trip" funds).

[58] Nordea's market share in investment funds amounts to 26 percent in Finland, 20 percent in Denmark, 14 percent in Sweden, and 8 percent in Norway. At year-end 2005, Nordea had €148 billion in assets under management.

Table 4.11. Nordic Countries: Net Assets of Investment Funds (€ billion)

	2000	2001	2002	2003	2004	2005	2006	2006 as Percent of GDP
Sweden	100.3	92.1	75.1	95.7	110.7	139.9	137.8	44.9
Denmark	34.6	37.9	38.3	48.9	77.3	106.4	72.6	33.1
Norway	17.3	18.7	16.4	19.3	23.5	37.0	41.1	15.4
Finland	13.5	15.0	15.7	22.1	31.1	44.7	51.5	30.7
Iceland	1.0	1.1	1.6	2.2	3.3	4.7	...	...
Estonia	0.1	0.2	0.3	0.4	0.5	0.8	1.2.	9.2

Sources: EFAMA; Iceland Financial Supervisory Authority; and Bank of Estonia.

Cross-border cooperation could be further enhanced by expanding the scope of existing frameworks based on the experience of other regulators. For example, while the OMX MoU is rather detailed on the organization of coordinated supervision, it does not explicitly discuss "ex-ante" cooperation with regard to regulatory issues such as the creation of new trading facilities and the surveillance of members' activities. In contrast, Euronext regulators emphasize the need for a "coherent regulatory framework that will foster the efficiency of the overall regulatory system.[59] Such an approach may usefully complement the existing framework for the supervision of the OMX group, sending a positive signal to market participants and facilitating the conduct of supervisory activities. In a similar vein, expanding the reach of the existing MoU to supervisors from the Baltic countries, and developing a more formal cooperation with the remaining non-OMX market in the region, should be considered.

Consolidation of clearing and settlement systems will represent new challenges for the supervisory authorities and central banks. Integration of settlement systems will likely also involve centralized activities within a few institutions serving a large number of markets and participants, such as CCP. This will mean greater risk of local shocks (i.e., involving counterparty, liquidity, and operational risks) to spread throughout the system. This implies greater need for high supervisory and oversight standards, and effective cooperation, to ensure that appropriate risk management frameworks are in place. The experience gained from the supervisory college approach adopted by authorities in Denmark, Finland, Norway, and Sweden for the supervision of specific banking groups may be a useful example in this area.

Conclusion

The forgoing discussion suggests there remains considerable scope for, and benefits from, further capital market integration in the Nordic-Baltic region. Even as a group, securities markets in this region are small and competitively disadvantaged compared with other European markets, which themselves are progressively integrating. The challenges the Nordic-Baltic region faces as a group today appear very similar to the challenge individual countries in the region faced 10 to 15 years ago when the integration process started. Competition today still comes from within Europe, as a single market for financial services progressively emerges and the integration of

[59] The Euronext MoU sets up a high-level committee composed of the chairmen of the national regulatory bodies to implement a common regulatory approach.

European markets deepens.[60] But competition, with the expansion of a borderless marketplace, beyond national and regional boundaries would attract intermediaries, investors, and issuers on an increasingly global scale. Acquiring the critical size to participate in and benefiting from this evolving environment is a major issue.[61] For policy makers, the challenge will thus be to develop an infrastructure and regulatory environment that supports both regional integration while at the same time facilitating closer integration with the rest of Europe and the global market.

A particular concern in the Nordic-Baltic region is that small- and medium-sized corporations retain adequate access to capital markets and capital market techniques. This may become more difficult as exchanges become internationalized, suggesting the need for alternative securities markets and improved access to sophisticated capital market techniques, including covered bonds (i.e., bonds collateralized by a pool of identified and segregated collateral assets such as mortgage and public sector loans) and securitization, including in the context of the implementation of the Basel II framework and UCITS regulations.[62]

The way forward for the Baltic markets remains unclear. Although the Baltic stock exchanges belong to the same group as their Nordic counterparts, they are developing as an integrated and separate Baltic grouping.[63] Differences in economic size, in the degree of market development and in corporate structures may technically justify these different paths. However, the resulting segmentation may not allow the Baltic markets to take full advantage of their proximity to the more developed and sophisticated Nordic markets. Furthermore, it is an open question whether the combined Estonian, Latvian, and Lithuanian markets will represent a critical enough mass to develop outside a larger group. The risk that successful companies are rapidly acquired by foreigners and delist, or opt to list in other more vibrant markets, thereby hollowing out this region's capital market, also fuels doubts about the viability of a separate exchange route. Thus, even more than in the rest of the region, alternative approaches targeting small and developing corporations need to be considered.

The discussion above also suggests that priority needs to be placed on developing more efficient cross-border securities clearing and settlement solutions. A difficulty in this area is to combine the short-term need to upgrade existing systems with the medium-term goal of a seamless securities chain throughout the emerging European securities market. It is therefore important that the analysis of the different possible options (NCSD, Nordic Connect) effectively takes this

[60] For example, the implementation of the Directive on Markets in Financial Instruments (MiFID) will introduce new trading venues and additional sources of competition for organized stock exchanges. More generally, the Financial Services Action Plan (FSAP) will also facilitate the migration of issuers in the region may increasingly find it more efficient to list directly on the major international exchanges in order to secure access to international investors and to broader pools of liquidity.

[61] Following the recent NYSE-Euronext merger, and the acquisition of the U.S.-based options exchange International Securities Exchange by Deutsche-Boerse, the proposed combination of Nasdaq and OMX , illustrates how the emergence of such a global and borderless marketplace shapes the industrial strategy of stock exchange operators.

[62] Recent European Directives are important steps toward the creation of a more homogenous covered bond market in Europe and can be expected to fuel increased use of these instruments. The revised UCITS Directive and the Capital Requirement Directive provide, for the first time, a clear definition of covered bonds and list the classes of assets that can be eligible as collateral for covered bonds.

[63] The NCSD project for instance does not encompass the Baltic exchanges.

European dimension into consideration, including possible developments related to TARGET2-Securities. Simultaneously, the authorities collectively will need to develop the appropriate regulatory and supervisory framework to address the risks inherent in centralized clearing and settlement facilities, notwithstanding the absence of an EU regulatory framework for post-trading activities.

The implementation of the European Financial Services Action Plan (FSAP) is an opportunity for the Nordic-Baltic authorities to deepen regulatory and supervisory cooperation. Increased coordination among the Nordic and Baltic regulatory bodies at an early stage could provide greater leverage in the influence of the region on the definition and implementation of EU financial regulation. Furthermore, the authorities in the region can play an important role in spearheading "best coordination and cooperation practices" among EU supervisors. Over the medium term, as convergence increases at the European level, the role of regional regulatory and supervisory coordination may become less important. However, in the short-term, regional and bilateral MoUs are the instruments of choice to propose such best practices and promote, through day-to-day practice, an effective regulatory and supervisory common culture.

References

Adahl, Martin, 2002, "Banking in the Baltics-The Development of the Banking Systems of Estonia, Latvia and Lithuania since Independence. The Internationalization of Baltic Banking (1998-2002)." Oesterreichische Nationalbank, Focus on Trasition, http://www.oenb.at/de/img/adahl_ftr_202_tcm14-10384.pdf, (Vienna: Oesterreichische Nationalbank).

Bank of Estonia, 2001, *The Structure and Functioning of the Financial Sector in Estonia*, Workshop on Financial Sector Issues in Accession Countries, http://www.eestipank.info/pub/en/dokumendid/publikatsioonid/seeriad/konverentsid/_20011217.pdf, (Tallin: Bank of Estonia).

Bank of Finland, April 2006, *Financial Market Report*, http://www.bof.fi/eng/3_rahoitusmarkkinat/3.6_Raportit/Fmr/FM_report_2006_1.pdf, (Helsinki: Bank of Finland).

Barisitz, Stephan, 2002, "Banking in the Baltics-The Development of the Banking Systems of Estonia, Latvia and Lithuania since Independence. The Emergence of Market-Oriented Banking Systems in Estonia, Latvia and Lithuania (1988-1997)." Oesterreichische Nationalbank, Focus on Transition, http://salzburg.oenb.at/en/img/barisitz1_ftr_202_tcm16-10383.pdf, (Vienna: Oesterreichische Nationalbank).

Borchgrevink, Henrik and Moe, Thorvald Grung, 2004, "Management of Financial Crises in Cross-border Banks," Norges Bank Economic Bulletin, Q4 2004, http://www.norgesbank.no/english/publications/economic_bulletin/200404/borchgrevinkpdf, (Oslo: Norges Bank).

Böcker, Magnus, 2005, *Address to the Annual General Meeting of OMX,* http://www.omxgroup.com/digitalAssets/975_CEO_address_AGM_2006.pdf

Central Bank of Iceland, *Financial Stability Report 2006,* http://www.sedlabanki.is/?PageID=596, (Reykjavik: Central Bank of Iceland)

Committee of European Banking Supervisors, 2006, *Guidelines for Co-operation Between Consolidating Supervisors and Host Supervisors* (London).

Danmarks Nationalbank, March 2006, *Monetary Review 2006, 1st Quarter,* http://www.nationalbanken.dk/DNUK/Publications.nsf/side/Our_publications!OpenDocument, (Copenhagen: Danmarks Nationalbank).

Danmarks Nationalbank, Suomen Pankki, Seðlabanki Íslands, Norges Bank,Sveriges Riksbank, Nordic Banking Structures Report, August 2006, http://www.bof.fi/fin/3_rahoitusmarkkinat/Nordic_banking_structures.pdf#search=%22Nordic%20banking%20structures%20report%22

Demirguc-Kunt, Asli, Baybars Karacaovali, and Luc Laeven, 2005, "Deposit Insurance around the World: A Comprehensive Database," *Policy Research Working Paper no. 3628*, World Bank: Washington, D.C.

De Nicoló, Gianni; Bartholomew, Philip; Zaman, Jahanara; Zephirin, Mary, 2003, "Bank

Consolidation, Internationalization, and Conglomeration: Trends and Implications for Financial Risk," IMF Working Paper, WP/03/158, http://www.imf.org/external/pubs/ft/wp/2003/wp03158.pdf, (Washington: International Monetary Fund).

———, Robert Corker, Alexander F. Tieman, and Jan-Willem van der Vossen, 2005, "European Financial Integration, Stability and Supervision," in IMF Country Report # 05/266, August, pp. 113–146.

Dermine, Jean, 2003, "Banking in Europe: Past, Present and Future," in: Vitor Gaspar, Philipp Hartmann and Olaf Sleijpen (eds), *The Transformation of the European Financial System*, Frankfurt: European Central Bank.

Dierick, Frank, August 2004 "The Supervision of Mixed Financial Services Groups in Europe," The European Central Bank, Occasional Paper No. 20, http://www.ecb.int/pub/pdf/scpops/ecbocp20.pdf, (Frankfurt: European Central Bank).

Economic and Financial Committee, 2000, "Report on Financial Stability," *EFC/ECFIN/240/00*, Economic Paper No. 143, European Commission.

———, 2001, "Report on Financial Crisis Management," *EFC/ECFIN/251/01*, Economic Paper No. 156, European Commission.

European Central Bank, October 2005, *EU Banking Structures,* www.ecb.int/pub/pdf/other/eubankingstructure102005en.pdf, (Frankfurt: European Central Bank).

European Commission, 1994, "Directive 94/19/EC of the European Parliament and the Council on 30 May 1994 on Deposit-Guarantee Schemes," *Official Journal*, L 135, pp. 5-14.

———, 2005, "Review of the Deposit Guarantee Schemes Directive 94/19/EC," Consultative Paper, European Commission, DG Internal Market: Brussels.

———, 2006, "Communication From the Commission to the European Parliament and the Council Concerning the Review of Directive 94/19/EC on Deposit Guarantee Schemes," European Commission: Brussels.

European Financial Services Round Table, 2004, *Toward a Lead Supervisor for Cross Border Financial Institutions in the European Union* (Brussels).

———, 2005, *On the Lead Supervisor Model and the Future of Financial Supervision in the EU* (Brussels).

Financial Services Committee, 2006, "FSC Report on Financial Supervision," FSC 4159/06, European Union: Brussels.

Governor Gjedrem, Svein, *Speech at the Annual Meeting of the Norwegian Savings Banks' Association,* Bergen, October 2005, http://www.norges-bank.no/front/pakke/en/foredrag/2005/2005-10-27/, (Oslo: Norges Bank).

Group of Ten, January 2001, *Report on the Consolidation in the Financial Sector,* http://www.bis.org/publ/gten05.htm, (Basel: Bank for International Settlements).

International Monetary Fund, 2006, Republic of Lithuania-Staff Report for the 2006 Article IV Consultations," IMF Country Report, 06/162, http://www.imf.org/external/pubs/ft/sc

r/2006/cr06162.pdf, (Washington: International Monetary Fund).

———, 2005a, "Republic of Latvia—Staff Report for the 2005 Article IV Consultation," IMF Country Report, 05/282, http://www.imf.org/external/pubs/ft/scr/2005/cr05282.pdf, (Washington: International Monetary Fund).

———, 2005b, "Republic of Estonia—Staff Report for the 2005 Article IV Consultation," IMF Country Report, 05/394, http://www.imf.org/external/pubs/ft/scr/2005/cr05394.pdf , (Washington: International Monetary Fund).

———, 2003a, "Norway—Financial System stability Assessment," IMF Country Report, 05/200, http://www.imf.org/external/pubs/ft/scr/2005/cr05200.pdf, (Washington: International Monetary Fund).

———, 2003b, "Iceland—Financial System stability Assessment Update," IMF Country Report, 03/271, http://www.imf.org/external/pubs/ft/scr/2003/cr03271.pdf, (Washington: International Monetary Fund).

———, 2002a, "Iceland: 2002 Article IV Consultation," IMF Country Report, 02/130, www.imf.org/external/pubs/ft/scr/2002/cr02130.pdf , (Washington: International Monetary Fund).

———, 2002b, "Sweden—Financial System Stability Assessment," IMF Country Report, 02/161,http://www.imf.org/external/pubs/ft/scr/2002/cr02161.pdf, (Washington: International Monetary Fund).

———, 2002b, "Republic of Lithuania—Financial System stability Assessment," (Washington: International Monetary Fund).

———, 2001a, "Finland—Financial System Stability Assessment," IMF Country Report, 01/214, http://www.imf.org/external/pubs/ft/scr/2001/cr01214.pdf, (Washington: International Monetary Fund).

———, 2001b, "Republic of Latvia—Financial System stability Assessment," (Washington: International Monetary Fund).

———, 2000, "Republic of Estonia—Financial System stability Assessment," (Washington: International Monetary Fund).

———, 2005, Euro Area Policies, Selected Issues, IMF Country Report No. 05/266, http://www.imf.org/external/pubs/ft/scr/2005/cr05266.pdf, (Washington: International Monetary Fund).

Johnston, R. Barry; Horváth, Balázs; Errico, Luca; Chai Jingqing, 2003, "Large and Complex Financial Institutions: Challenges and Policy Responses-Lessons from Sweden," IMF Policy Discussion Paper, PDP/03/01, http://www.imf.org/external/pubs/ft/pdp/2003/pdp01.pdf, (Washington: International Monetary Fund).

Kaminsky, Graciela L. and Reinhart, Carmen M., 2000, "On Crises, Contagion and Confusion," Journal of International Economics, June 2000, Volume 51, Issue 1; p. 145, http://ideas.repec.org/a/eee/inecon/v51y2000i1p145-168.html, (Amsterdam: Journal of International Economics).

Koivu, Tuuli, 2002, "Banking and Finance in the Baltic Countries", Bank of Finland, Institute for Economies in Transition BOFIT, No 11, http://www.bof.fi/bofit/eng/7online/abs/pdf/bon1102.pdf, (Helsinki: Bank of Finland).

Kuritzkes, Andrew, Til Schuermann, and Scott Weiner, 2003, "Risk Measurement, Risk Management, and Capital Adequacy in Financial Conglomerates", in: Richard Herring and Robert Litan (eds), *Brookings-Wharton Papers on Financial Services: 2003*, Washington D.C.: Brookings Institution.

Majaha-Jartby, Julia, and Thordur Olafsson, 2005, "Regional Financial Conglomerates: A Case for Improved Supervision," IMF Working Paper 05/124 (Washington: International Monetary Fund).

Mayes, David G., 2006, "Cross-Border Financial Supervision in Europe: Goals and Transition Paths," Swedish Riksbank Economic Review, Vol. 2/2006, pp. 58-89, (Riksbank: Stockholm).

Moe, Grung Thorvald, 2006, "Market Discipline Issues in Cross-border Banking. A Nordic Perspective," Norges Bank Staff Memo, No 2006/1, http://www.norgesbank.no/publikasjoner/staff_memo/memo-2006-01.pdf, (Oslo: Norges Bank).

Nordic Central Banks, 2003, "Management of a Financial Crisis in Banks with Cross-Border Establishments," available at http://www.riksbank.com/upload/Dokument_riksbank/Kat_AFS/nordisk_mou_generell_eng0602.pdf .

Nordman, Niklas, 2005, *Swedish Country Note*, Sveriges Riksbank, http://www.bis.org/publ/wgpapers/cgfs26nordman.pdf, (Stockholm: Sveriges Riksbank).

Riksbank, 2005, "Memorandum of Understanding between the Government Offices (Ministry of Finance), Sveriges Riksbank and Finansinspektionen Regarding Cooperation in the Fields of Financial Stability and Crisis Management," Swedish Riksbank: Stockholm. Available at http://www.riksbank.com/upload/Dokument_riksbank/Kat_AFS/samradsdok_kris_eng_0602.pdf

———, 2006, "Memorandum of Understanding between the Central Banks of Sweden and Finland on Co-operation in the Oversight of the Central Securities Depositories VPC AB and Suomen Arvopaperikeskus Oy," Swedish Riksbank: Stockholm. Available at http://www.riksbank.com/upload/Dokument_riksbank/Kat_AFS/memorandum_understandning_2005.pdf

Schipke, Alfred; Beddies, Christian H.; George, Susan Mary; Sheridan, Niamh, January 2004, "Capital Markets and Financial Intermediation in The Baltics," Occasional Paper No. 228, http://www.imf.org/external/pubs/nft/op/228/index.htm, (Washington: International Monetary Fund).

Schoenmaker, Dirk and Sander Oosterloo, 2006, "Financial Supervision in Europe: Do We Need a New Architecture?", *Cahier Comte Boël*, No. 12, European League for Economic Co-operation, Brussels.

Sveriges Riksbank, September 2005, *The Swedish Financial Market 2005*, http://www.riksbank.com/templates/ItemList.aspx?id=14449, (Stockholm: Sveriges Riksbank).

Sveriges Riksbank, Financial Stability Report 1/2003, (Stockholm: Sveriges Riksbank).

Swedish Bankers' Association, May 2005, *Bank and Finance Statistics 2004*, http://www.bankforeningen.se/upload/bank-o_financestatistics2004_003.pdf, (Stockholm: Swedish Bankers' Association).

Taylor, Michael and Flemming, Alex, 1999, "Integrated Financial Supervision. Lessons of Scandinavian Experience," Finance & Development, December 1999, Volume 36, No 4, http://www.imf.org/external/pubs/ft/fandd/1999/12/taylor.htm, (Washington: International Monetary Fund).

The European Central Bank, Financial Development in Central, Eastern and South-Eastern Europe, ECB Monthly Bulletin Article, November 2006, p.93-104. http://www.ecb.int/pub/pub/prud/html/index.en.html, (Frankfurt: European Central Bank).

The European Commission, 2005, *Financial Integration Monitor,* http://ec.europa.eu/internal_market/finances/fim/index_en.htm, (Brussels: The European Commission).

The Financial Supervisory Authority of Norway, *The Financial Market in Norway 2005: Risk Outlook,* http://www.kredittilsynet.no/wbch3.exe?ce=16573, (Oslo: The Financial Supervisory Authority of Norway).

The Ministry for Foreign Affairs, Denmark and the Nordic Council of Ministers, Copenhagen, The Nordic Region in a New Era, knowledge, dynamism and co-operation (Programme for the Danish Presidency of Nordic Council of Ministers 2005), 2004 http://www.norden.com (Copenhagen: the Ministry for Foreign Affairs, Denmark and the Nordic Council of Ministers)