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NORDIC REGIONAL REPORT

STAFF REPORT FOR THE 2013 CLUSTER CONSULTATION

September 2013

In the context of the cluster consultation with Denmark, Finland, Norway, and Sweden, the following documents have been released and are included in this package:

- **Staff Report** for the 2013 cluster consultation, prepared by a staff team of the IMF, following discussions that ended on April 29, 2013, with the officials of Denmark, Finland, Norway, and Sweden on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on July 30, 2013. The views expressed in the staff report are those of the staff team and do not necessarily reflect the views of the Executive Board of the IMF.
- **Press Release** summarizing the views of the Executive Board as expressed during its August 29, 2013 discussion of the staff report that concluded the cluster consultation.
- **Statement by the Executive Director** for Denmark, Finland, Norway and Sweden.

The document listed below has been or will be separately released.

Selected Issues Paper

The policy of publication of staff reports and other documents allows for the deletion of market-sensitive information.

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NORDIC REGIONAL REPORT

STAFF REPORT FOR THE 2013 CLUSTER CONSULTATION

July 30, 2013

KEY ISSUES

Denmark, Finland, Norway, and Sweden form a highly integrated region that is very open to the global economy. These four countries share a set of strong economic and social institutions and policies, with an emphasis on education, high income equality, high employment, low public debt, and an innovative and competitive business environment—the "Nordic model." Intraregional trade is important and a large and highly-concentrated banking sector operates across the region. At the same time, each country is tightly linked to the global economy through financial and export markets.

The recent crises have highlighted the region's strengths and challenges. Slowing trade and financial tensions brought about a deep recession. And while the recovery was quick and the strength of the "Nordic model" helped attract safe-haven flows from international investors, the four countries remain susceptible to new shocks. For example, a severe tightening of international wholesale financing conditions would hit the region's large banks hard; and another sudden slump in exports could lead to rising unemployment and a deterioration of household financial health, which could reverberate through the region via trade and banking links. At the same time, the uncomfortable mix of large, wholesale-financed and regionally-integrated banks, overly indebted households, and still-elevated property prices generate domestic risks.

Strong national financial sector policies and regional cooperation would help mitigate common challenges and shared risks. While sound public finances have helped to contain public debt and provide valuable fiscal space, financial reforms remain incomplete. National financial and macroprudential policies in both the housing and financial sector should be strengthened; and strong fiscal buffers should be maintained to guard against tail events. Cooperative regional policies, such as introducing binding macroprudential minima and clear ex ante burden-sharing arrangements, would help to limit the costs from any large bank failures.

Approved By
Mahmood Pradhan (EUR) and Ranil Salgado (SPR)

Two staff teams conducted parallel discussions with authorities in Helsinki and Oslo (April 23–24, 2013) and Copenhagen and Stockholm (April 25–26, 2013), with a joint concluding session in Stockholm (April 29, 2013). The two staff teams comprised Mr. H. Berger and Mr. T. Dorsey (heads), Mr. R. Agarwal, Mr. A. Aslam, Ms. N. Batini, Ms. A. Mordonu and Ms. K. Shirono (all EUR), and Mr. F. Vitek (SPR). Mr. A. Groenn and Ms. P. Meyersson (both OED) joined all policy meetings. Ms. L. Christiansen, Mr. T. Dowling (both EUR), Mr. E. Cerutti (RES), and Ms. F. Ohnsorge (SPR) provided support from headquarters.

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INTRODUCTION

1. **This report examines the regional strengths and challenges of the four continental Nordic countries—Denmark, Finland, Norway and Sweden** (henceforth the *Nordic-4*). The aim of this report is to identify common challenges and shared risk, and discuss the implications for national policies and benefits from further regional cooperation.[1] The *Nordic-4* are a natural candidate for regionally-focused policy discussions due to their shared history and close political and socio-economic cooperation (see Box 1). More importantly, while recognizing the important differences between the four countries, they share a common approach—the "Nordic model"—which each with its own twist has combined growth-enhancing trade and financial openness and stable public finances with cooperative labor markets and an equitable income distribution to attain high socio-economic outcomes for all.

2. **The recent global financial crisis revealed how characteristics of the Nordic model can amplify business and financial cycles.** The emphasis on trade and financial openness, which allowed the region to embrace globalization to boost productivity and income, meant that the *Nordic-4* suffered severe downturns in 2009 as the global economy faltered in the wake of the global financial crisis (see Box 2 and Figure 1). However, the region's robust institutional setup and strong fundamentals (low sovereign debt, competitiveness, and well-capitalized financial sector) meant that the region not only outperformed other advanced economies in the recovery phase but also emerged as a safe haven for investors in the recent euro area sovereign crisis (see Box 3).

3. **In spite of their strengths, the *Nordic-4* are faced with a challenging mix of large, cross-border banks and highly indebted households at a time of weak global growth.** Well-functioning capital markets and large financial sectors were instrumental in financing the region's success and growth prior to the crisis. In addition, robust fiscal frameworks and low public debt have helped create fiscal buffers to cope with shocks and downturns. However, national financial reforms continue and progress on regional cooperation and burden-sharing arrangements is at an early stage. The banking sector, while relatively well-capitalized by international standards, has grown large relative to the size of the region and is heavily reliant on domestic and foreign wholesale funding. At the same time, households have been able to borrow heavily to finance house purchases often at elevated price levels, while saving mostly through institutional schemes. Therefore, strong household net asset positions often mask a mismatch between liquid assets (nonpension and nonhousing) and overall liabilities (debt). In combination with openness and close financial integration, this means that shocks can be transmitted quickly across the region, through banks to households and on to the broader economy.

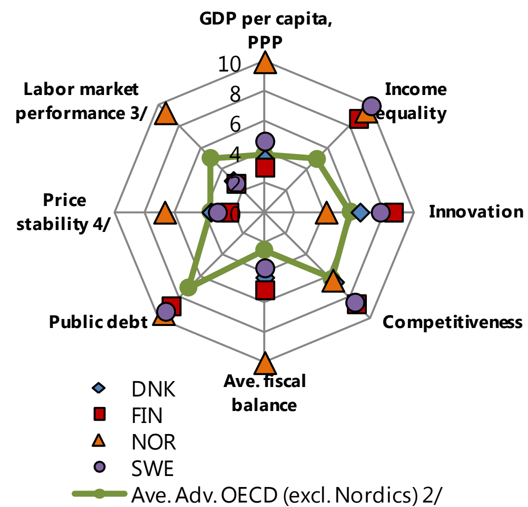
[1] The Nordic Regional Report is part of a pilot IMF project on clustering Article IV consultations. The findings of this report complement the policy recommendations from the national Article IV consultations.

4. Common vulnerabilities call for a combination of strong national policies and regional cooperation. Given the outsized regional financial sector and high household debt in each country—as well as constraints for some of the *Nordic-4* on the use of monetary policy—strong fiscal, financial, and macroprudential policies are essential at both the national and regional level to safeguard financial stability and better insulate the region from shocks.

OPENNESS AND RESILIENCE

5. The *Nordic-4* have been successful in balancing competitiveness and growth with social inclusiveness. Significant investment in R&D, education, and infrastructure, active labor market policies, and the commitment to consistent macroeconomic policy frameworks have provided a climate of macroeconomic stability and sound public finances. Against this backdrop, the Nordic model features large—but fully-funded—public sector support mechanisms trusted to compensate those who lose out from cyclical or structural change. As a result, comparative studies consistently rank the *Nordic-4* high on a range of economic and social performance measures. While the *Nordic-4* remained in the top 15 globally competitive economies, their ordering has changed somewhat over time—Denmark ranked the highest of the four up until 2008 before falling most recently to 12th place, while Finland and Sweden moved up the index.

Relative Performance of the Nordic Model 1/



Sources: OECD, IMD World Competitiveness, World Economic Forum, World Economic Outlook, and Fund staff calculations.
1/ Scores based on a normalized performance index scaled from 0 to 10 for all variables. Higher values denote better performance; 2/ Australia, Austria, Belgium, Canada, France, Germany, Italy, Japan, Korea, Netherlands, New Zealand, Switzerland, United Kingdom, United States; 3/ Unemployment rate; 4/ Inflation.

Global Competitiveness Index Rankings 1/

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Finland	6	6	6	6	7	4	3
Sweden	9	4	4	4	2	3	4
Denmark	3	3	3	5	9	8	12
Norway	17	16	15	14	14	16	15

Sources: The Global Competitiveness Report and World Economic Forum.

1/ The global competitiveness index (GCI) provides an ordinal ranking of 144 countries, where 1 is the most competitive. The GCI is a weighted average of selected components which are grouped into 12 pillars of competitiveness, e.g., institutions, infrastructure, health, education, financial market development, etc.

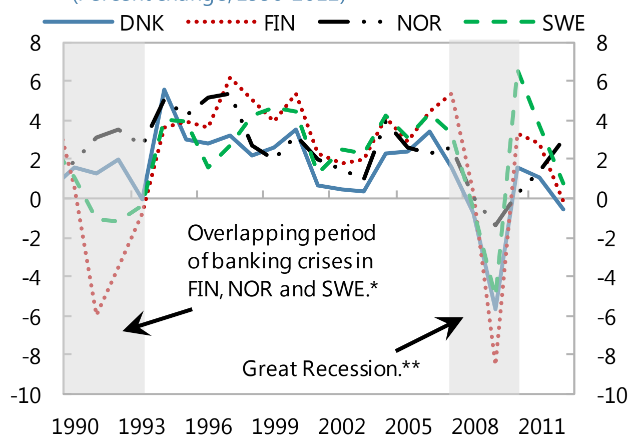
6. However, the recent global financial crisis and ensuing euro area sovereign crisis exposed not only the strengths but also the vulnerabilities of the region. Of the four countries, Finland suffered the sharpest reduction in growth, while Norway was more insulated due to buoyant oil prices and small exposure to those tradable goods sectors hardest hit by the global downturn (see Box 2). In the aftermath, most of the region recovered relatively quickly as world trade picked up and domestic demand surged, though Denmark's growth remained more anemic due to its closer links to the euro area core and large house price drop. Their relatively stronger performance since 2010, combined with a history of fiscal prudence and robust institutional frameworks, made the *Nordic-4* individually and collectively interesting to international investors seeking "safe havens" as the euro area sovereign crisis began to unfold.

A. Embracing Globalization

Openness as an engine of growth…

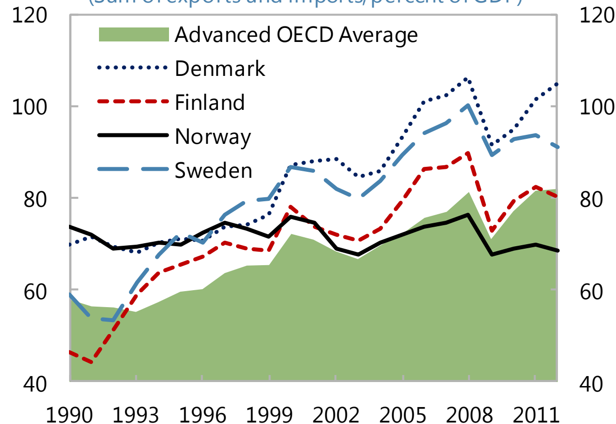
7. Trade openness and competitiveness combined with a high degree of specialization are an important part of the Nordic model. To varying degrees each of the *Nordic-4* leveraged the process of globalization and free trade to raise productivity and income. Rapid technological progress and a high degree of specialization (e.g., telecommunications or investment goods) brought strong export-led growth (see Figure 2). Total exports and imports of goods stood at over 60 percent of GDP, in 2012, of which 20 percent is intraregional. While the *Nordic-4* have significant trade amongst themselves based mostly on proximity, their main exports are raw-material based goods or highly specialized final goods sold into global

Nordic-4: Real GDP Growth
(Percent change, 1990-2012)



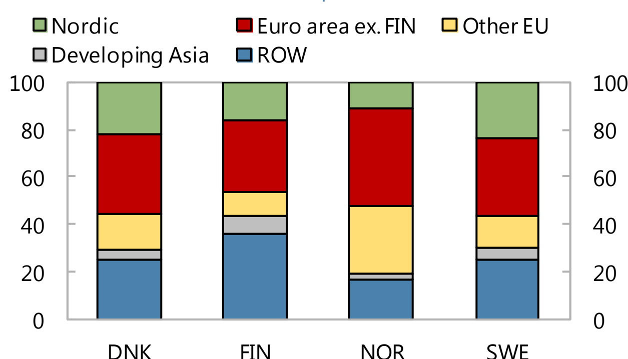
Sources: IMF World Economic Outlook and Fund staff calculations.
* Banking crises: Finland (1991-93); Norway (1988-92), and Sweden (1991-93).
** Great Recession: 2007-2009.

Trade Openness (Goods and Services)
(Sum of exports and imports, percent of GDP)



Sources: IMF World Economic Outlook and Fund staff calculations.

Merchandise Export Flows, 2012
(Percent of total world exports)

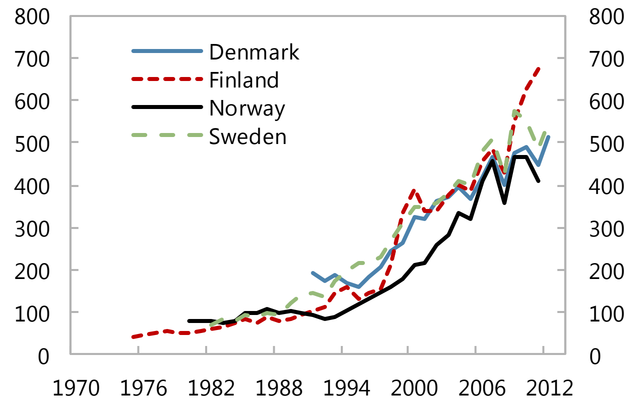


Sources: IMF Direction of Trade Statistics and Fund staff calculations.

markets.

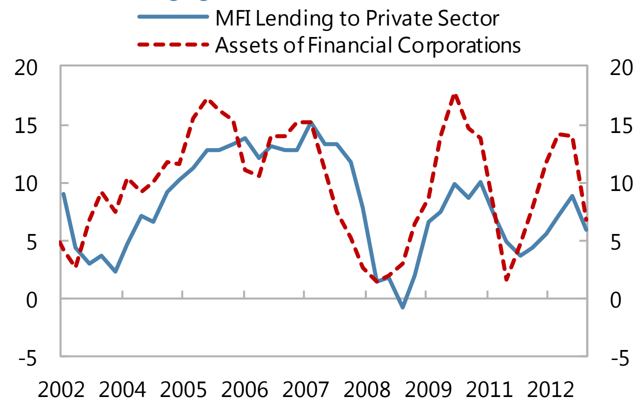
8. Financial openness helps the free flow of capital into and throughout the region. Financial openness and integration spurred foreign direct investment and equity investment, and brought high levels of bank intermediation through the development of a large, heavily concentrated, and highly integrated banking sector (see Box 4):

Financial Openness, 1970-2012
(Total financial assets plus liabilities, percent of GDP)



Sources: IMF Balance of Payments Statistics, IMF World Economic Outlook, and Fund staff calculations.

Nordic-4: Credit and Size of Financial Sector
(Percentage growth rate)



Sources: Haver Analytics and Fund staff calculations.

- The six largest banks in the *Nordic-4* comprise roughly 90 percent of the total assets of all the region's publicly-listed banks.[2]

- Operations of these six banks are also concentrated in the region through complex integrated structures. Roughly 85 percent of both the credit and deposits of these banks come from the four Nordic countries.

- Nordic banks are heavily reliant on wholesale funding, with covered bonds becoming an increasingly important source of financing.

- On the asset side, the banking sector's portfolio of private mortgages provides the counterpart to high levels of household debt.

...and as a transmitter of shocks

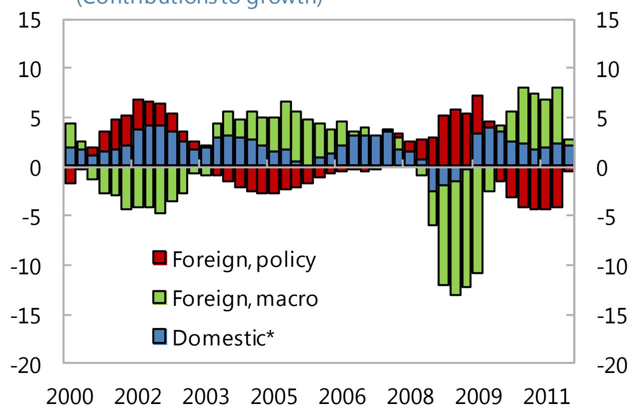
9. As the 2009 crisis proved, trade and financial openness mean that the *Nordic-4* are susceptible to both global and regional shocks. Indeed, much of the cyclical variation of the *Nordic-4* economies is driven by external shocks. This can be captured by a structural macro-econometric analysis of macro-financial linkages and policy transmission. The model estimates spillovers generated by trade channels, financial markets, and commodity prices between 35 of the

[2] The analysis discussed here and in Chapter IV of Selected Issues requires information on share prices. However, privately held and other nonlisted banks account for a substantial share of the banking system in some countries, most notably in Denmark, (e.g., mortgage banks such as Nykredit).

world's largest economies, while accounting for regional comovement across the *Nordic-4* (see Chapter IV of Selected Issues).[3]

10. Spillovers into the Nordic economies come predominantly from neighbors within the region and systemic advanced economies (see Figure 3). This primarily reflects the pattern of trade links and the fact that external shocks reverberate readily across the region. Given these links, simultaneous fiscal reactions would mitigate the impact of such shocks more so than if undertaken unilaterally. While estimated spillovers from financial shocks are largest from the U.S., Germany, and the U.K., the *Nordic-4* are important sources of spillovers to one another as well. Partly because of the large size of its economy, trade and financial shocks originating in Sweden are found to have the largest spillovers to the other Nordic countries. And as expected for such small economies, outward spillovers to the rest of the world from the *Nordic-4*, due to shocks originating from within the Nordic economies, are low, with the notable exception of potential outward spillovers to the closely-linked Baltic countries (see Box 1 in Chapter I of Selected Issues).

Historical Decomposition of *Nordic-4* Growth
(Contributions to growth)



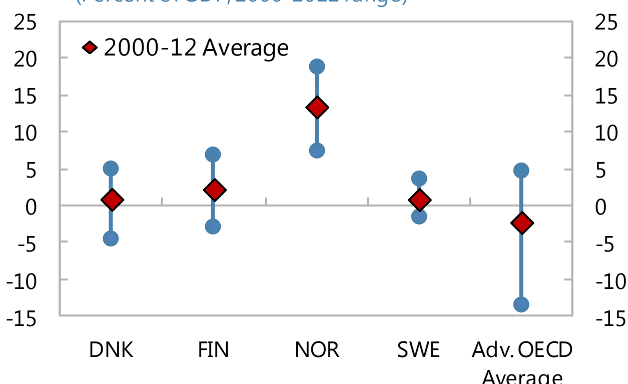
Source: Fund staff calculations.
* Includes trend and cyclical component.

B. Strong Macroeconomic Track Record

Robust institutional and structural policy frameworks…

11. Prudent public finances have been a cornerstone of the *Nordic-4*'s resilience. By adhering to fiscal rules and medium-term budget strategies that have contained gross public debt (see Table 8), the *Nordic-4* have built up fiscal buffers that can accommodate temporary shocks. In most of the region, these

General Government Net Lending/Borrowing
(Percent of GDP, 2000-2012 range)



Sources: IMF World Economic Outlook and Fund staff calculations.

[3] See Vitek, F. (2013), "Spillovers to and from the Nordic Economies: A Macroeconometric Model Based Analysis", *International Monetary Fund*, Working Paper, forthcoming. This model is also used as part of the IMF's quarterly Vulnerability Exercise for Advanced Economies (VEA) and Global Risk Assessment Matrix (G-RAM). The 35 advanced and emerging economies include Argentina, Australia, Austria, Belgium, Brazil, Canada, China, the Czech Republic, Denmark, Finland, France, Germany, Greece, India, Indonesia, Ireland, Italy, Japan, Korea, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Russia, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, Thailand, Turkey, the United Kingdom, and the United States.

buffers have allowed automatic stabilizers to operate fully during the Great Recession, preventing the violation of the 'social contract' (see below). Low levels of public debt have also signaled an ability to shoulder potential burdens from problems in the financial sector.

12. A strong "social contract" has helped moderate wage pressures while facilitating an equitable division of income. The Nordic "social contract" relies on a combination of robust social safety nets, generous entitlements for universal healthcare and education, and tax policies geared toward employment. High employment rates are essential for the viability of the tax-financed Nordic model as the funding of the social contract would be undermined if not enough workers are active in the labor market.[4]

- Wage bargaining at the local and/or industrial level between unions and employers, and at times including governments, has imbued labor markets with an understanding of "solidarity" or risk-sharing (see Table 7) and ensured moderated wage claims in line with productivity.

- Flexibility in hiring and dismissal for employers lowers the perceived cost and risk of hiring additional employees, while extensive training and retraining of unemployed workers helps to match their skills to available jobs.

- Active labor market policies, responsible wage-setting, the use of tax-transfer schemes to redistribute income, generous unemployment insurance and other elements of social protection have helped keep labor force participation rates high and unemployment below the euro area average during the recent downturn.

- The combination of the above with a comprehensive welfare state funded by high and progressive taxes, have contributed to low inequality.

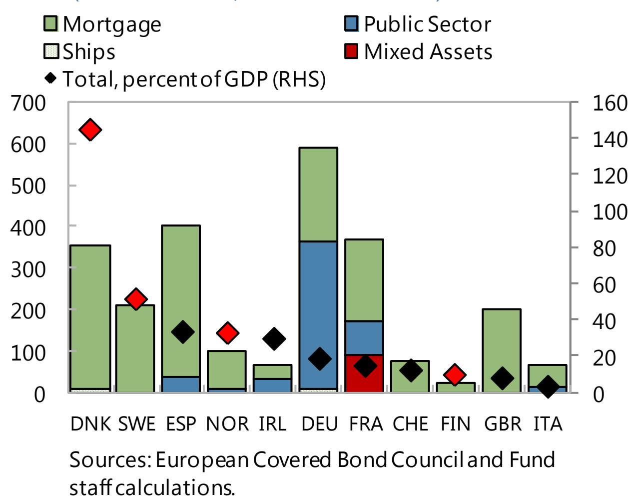
13. Monetary stability has been an important part of the Nordic success following high inflation and repeated devaluations during the 1980s. Inflation is low and stable and expectations are well-anchored, albeit through different approaches. Denmark currently pegs to the Euro, Finland is part of the euro area, and Norway and Sweden have floating exchange rates and monetary policy regimes that target 2½ and 2 percent inflation, respectively.

[4] The costs of aging, though a key issue for the financing of the Nordic model and the fiscal sustainability of all the *Nordic-4*, are not discussed in this report but covered in detail in the country-specific Article IV consultations.

...made the region attractive to investors during the crisis

14. This background of robust fundamentals made the *Nordic-4* a destination for safe-haven flows. As the euro area crisis peaked, the triple-A credit ratings of the Nordic sovereigns facilitated safe-haven flows into sovereign and private assets. For the Nordic banks, this meant continued access to wholesale financing at relatively favorable rates, helped, in part, by legislative changes in the mid-2000s in Finland, Norway, and Sweden. Therefore, banks could turn to covered bonds at a time when unsecured debt came under the threat of "bail ins" globally.[5]

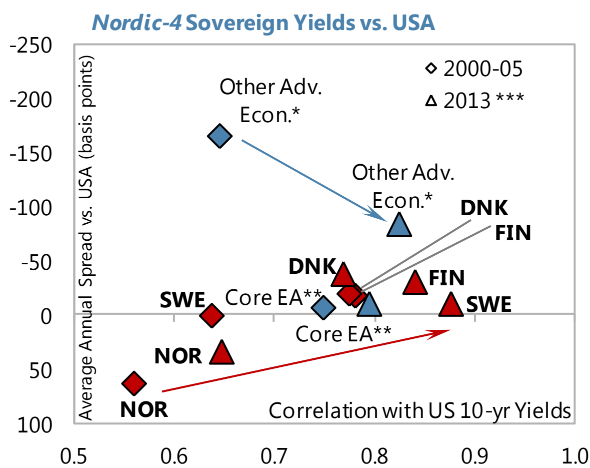
Largest Covered Bond Markets, 2011
(LHS: EUR billion; RHS: Percent of GDP)



Sources: European Covered Bond Council and Fund staff calculations.

15. While Nordic spreads have compressed more than other advanced OECD countries relative to the US, there has been some differentiation within the region. Finland and Denmark provide unique safe-haven opportunities: the former within the euro area and the latter as a hedge against convertibility risk. In Denmark, in particular, safe-haven flows have not only loosened monetary and financial conditions, but have also led the central bank to set one of its deposit rates at negative levels since July 2012. At the same time, Norway and Sweden have been managing exchange rate appreciation through much of the later part of the crisis.

***Nordic-4* Sovereign Yields vs. USA**



Sources: IFS, WEO, and Fund staff calculations. *Other advanced economies comprise Japan, Switzerland and the United Kingdom; **Core EA comprises Austria, Belgium, France, Germany and Netherlands. ***As of July 10, 2013.

16. Further developments will depend on both local and global developments. The possible "tapering" of U.S. Federal Reserve bond purchases has created some volatility in the relatively small Norwegian and Swedish currency markets. While normalization in market rates is to be expected over the medium term, the absence of a significant

[5] Danish covered bonds were first issued in 1795. Issuance of Danish covered bonds (mortgage bonds) in Denmark was done through specialist mortgage banks until 2007 when changes to the legislation allowed nonspecialist banks to issue covered bonds.

weakening of the fundamentals in the *Nordic-4* and little change in the level of global and European risk profiles suggest that a large-scale and excessive reversal of safe-haven capital flows remains a risk rather than a baseline scenario.

COMMON CHALLENGES AND SHARED RISKS

17. Against this background of strength, the *Nordic-4* face common domestic challenges while sharing regional risks.

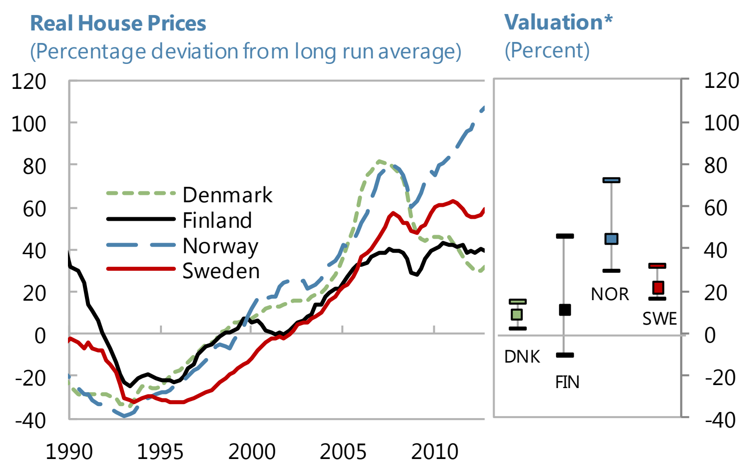
- Domestically, elevated house prices and high household debt levels leave households with modest liquid financial buffers making it more likely that house price or interest rate shocks would be passed quickly into reduced consumption or defaults. With a deeply integrated banking system and strong trade links, these shocks could be quickly transmitted to the region as a whole.

  With a large regional banking sector reliant on wholesale financing, the economic and fiscal costs from a tail event would be high and, in principle, be borne entirely by the home country for all branches and by the host country for subsidiaries. However, without regional agreements, uncertainties as to how burden-sharing would take place in practice and would question whether individual governments could sustain the costs that would ultimately fall upon them. Such uncertainties could lead to elevated risk premia and prolonged uncertainties could weigh on the rest of the financial system and the economy more generally.

A. Common Challenges from Household Debt and House Prices

While housing markets have recently diverged across the region…

18. House prices in the *Nordic-4* rose in tandem from the mid-1990s until 2007 but diverged afterwards. House prices increased by more than 120 percent on average between 1995 and 2007 but diverged subsequently (see Figure 4). While real house prices in Norway have continued to increase by more than 10 percent relative to 2007, prices fell by close to 30 percent in Denmark. In Finland and Sweden, house prices have remained broadly constant (see Chapter II of Selected Issues).



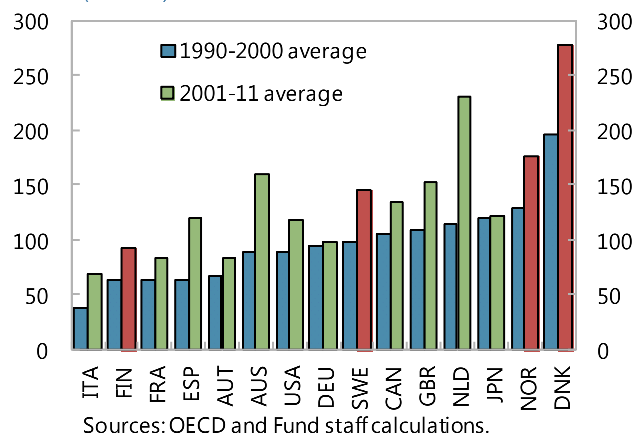
Sources: OECD and Fund staff calculations.
* Estimates for the range of house price valuations are derived from an empirical model and deviations of affordability ratios from their historical average.

19. In addition to easy access to credit and inelastic housing played a role. Unlike Denmark where a construction boom precipitated a house price correction starting in 2006–07, real estate markets in Finland, Norway,

and Sweden are characterized by supply shortages, in part due to stringent zoning restrictions and construction requirements, as well as strict rent control legislation in some countries. These structural rigidities in housing mean that demand continues to outstrip supply.

…household balance sheets are weak and susceptible to house price corrections

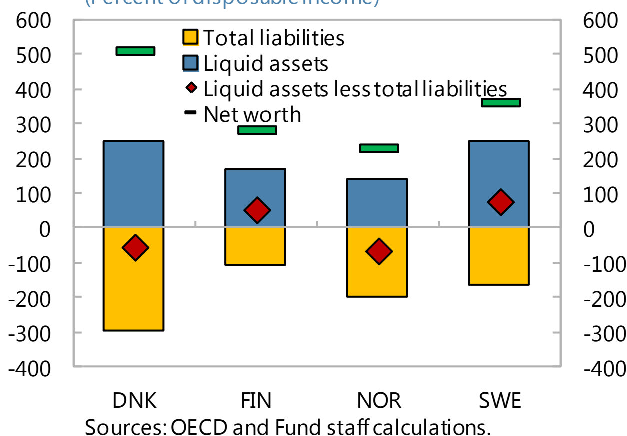
20. Household debt has reached levels well above the average of other advanced economies. With the exception of Finland, household debt has grown rapidly over the last decade, driven by rising house prices and easy and affordable access to credit, including to mortgages with deferred amortization and high loan-to-value (LTV) ratios. Denmark's household debt-to-disposable-income ratio is the highest in the OECD, while debt in the other three Nordic countries has also reached new highs. While household assets are higher than gross liabilities in the *Nordic-4*, household assets as a share of disposable income are not as high in the *Nordic-4* as in many other advanced economies.



Sources: OECD and Fund staff calculations.

21. A large share of household assets is illiquid and housing wealth is subject to price risk. Nonfinancial assets consist largely of housing—which has a diminishing value as a buffer in the event of house price declines—and a large share of financial assets are in pension accounts, which are not readily available for other uses. If housing and pension/insurance assets are excluded, net liquid assets as a share of disposable income are negative in Denmark and Norway and low in Finland and Sweden.

22. Weak household balance sheets and house price reversals could interact to damage the rest of the economy. Should a process of private sector deleveraging take hold, as has already happened in Denmark, domestic demand would weaken even further at a time when global growth is weak. Strong balance sheets of companies and households are desirable not only from the point of view of reducing the risk of financial shocks but also with a view to moderating their repercussions on the domestic demand for goods and labor. Households with ample financial buffers are less likely to cut consumption quickly and sharply as a consequence of lower incomes, and companies with strong balance sheets have less need to abolish investment plans or



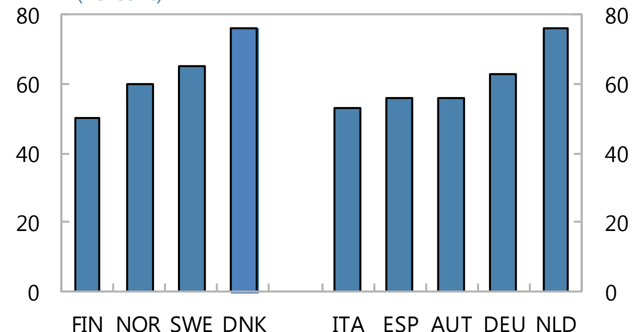
Sources: OECD and Fund staff calculations.

shed labor as the cash flow declines and the economic outlook worsens. Cross-country econometric work (see Chapter II of Selected Issues) suggests that a 10 percent decline on property prices will reduce aggregate GDP by as much as 2½ percent and private consumption and private residential investment by as much as 3½ and 28½ percent, respectively.

23. The authorities are starting to address the policies that contributed to high prices and high debt.

- Until recently, regulations on ***mortgage amortization*** and ***LTV*** ratios have been absent, and in the latter case are still not binding (see Table 6). At present, LTV ratios vary considerably across the region. Denmark has the most stringent LTV requirements. Norway and Sweden have guidelines for LTV, which, while less stringent, are generally adhered to by banks. Recommendations on LTV limits exist in Finland but have yet to make an impact.

Average Loan-to-Value Ratio for Mortgages
(Percent)



Sources: National central banks, FSAs, and Fund staff calculations.
Notes: For Finland, estimated using distribution calculated by Bank of Finland using data from 2012 survey; for Norway, data correspond to Average LTV in cover pools as of 2009; for Denmark, estimated using distribution calculated by Danmarks Nationalbank using data from 2012; for Sweden, the estimate corresponds to volume-weighted loan-to-value ratio in the Swedish mortgage stock as of 2012. For the other euro area countries, the data refer to residential mortgages from 2010 .

- Norwegian and Swedish authorities are raising ***risk weights for mortgages***.

- All four countries provide generous ***tax preferences for housing***, such as advantageous mortgage interest deductibility. Together with deferred amortization and low rates this will continue to encourage excessive household indebtedness, adding to the risk of a banking crisis should house prices correct or unemployment increase.

- ***Structural rigidities***, such as zoning regulations and rent controls, are characteristic of the *Nordic-4* housing markets. In Finland, housing supply has generally responded to demand but inevitably geographical imbalances have developed in high growth urban areas, which have also driven labor shortages as key professions have been unable to move. However, like Sweden, its municipalities enjoy a monopoly over planning and zoning, and new construction is subject to a stringent environmental approval process. In Norway, land use regulations and minimum size and quality standards for housing units have restricted supply.

24. Losses triggered by a downward house price correction could be absorbed by existing bank buffers, unless compounded by rising funding costs. Stress tests suggest that Nordic banks' capital buffers would likely be sufficient to absorb the direct impact of lower house prices on credit portfolios, assuming that historic parameters remain stable. Mortgage lending in the region has historically exhibited both low default rates and low loss-given-default rates as lenders have full recourse, and households have generous social safety nets. However, should bank funding costs increase in tandem, for example, in response to changes in global risk sentiment, additional losses

would be incurred if these costs cannot be passed through to borrowers (see the Staff Report for the 2013 Article IV Consultation with Sweden). A number of channels have been identified, including the need to increase overcollateralization in cover pools as LTV ratios rise with the decline in house prices.[6]

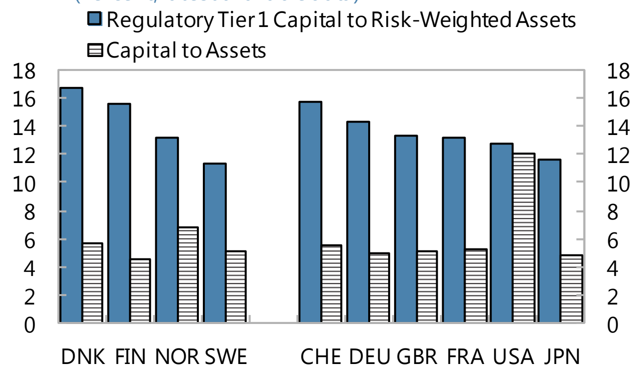
Authorities' Views

25. The Nordic authorities are aware of the risks from overheating housing markets and agree that household debt levels are high but point out that it is challenging to determine to what degree house prices deviate from fundamentals. The Norwegian authorities agree that high household debt and elevated house prices present risks. They note that divergent home country regulation may contribute reinforced growth in credit by some foreign banks operating in Norway. The Swedish authorities recognize the current equilibrium of elevated prices and high household debt and have against this background taken several measures including capital and liquidity regulation, mortgage LTVs and risk weights. The Finnish authorities do not detect a problem of valuation but are wary of the risks from not having binding legislation on LTV ratios in the presence of very loose financial conditions. With a large correction since late 2006, the Danish authorities believe that house prices are now broadly in line with fundamentals and that the segregation of housing finance into the covered-bond-financed mortgage banks should largely insulate commercial banks from any defaults on home mortgages.

B. Shared Risks from a Pan-Nordic Financial Sector

26. The banking sectors of the *Nordic-4* are well-capitalized with capital-to-asset ratios broadly in line with their peers. The latest available financial soundness indicators show that deposit-taking banks in Denmark, Finland, Norway, and Sweden have regulatory core Tier 1 capital ratios of 16.7, 15.5 (both 2013:Q1), 13.2, and 11.3 (both 2012:Q4) percent, above the 9 percent minimum set by the European Banking Authority.

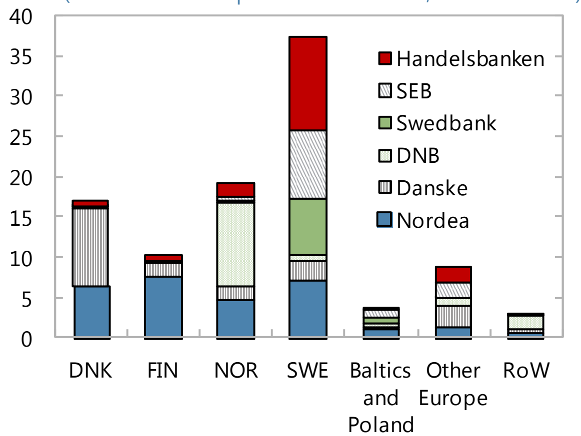
Nordic-4 **Banking Sector Capital Ratios**
(Percent, latest available data)



Sources: IMF Financial Soundness Indicators, Global Financial Stability Report, and Fund staff calculations.

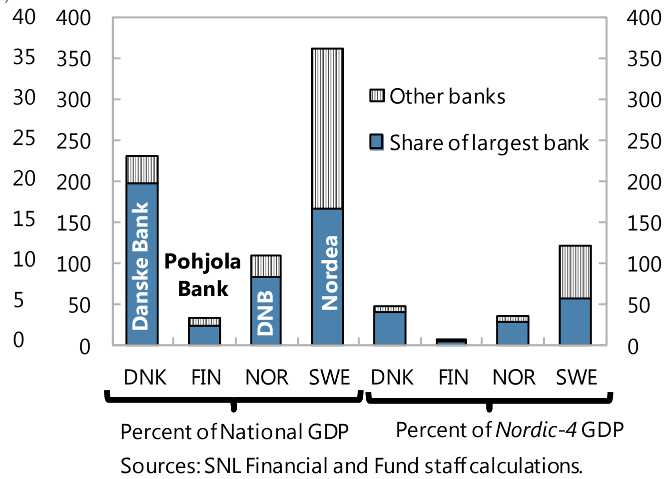
[6] The case of Denmark's falling real estate prices since 2007 supports this point. While the implied drop in household wealth led to lower consumption and growth, with some problems for commercial banks from the slump in the construction sector, banks and households continued to enjoy very low interest rates, limiting the fallout from the crisis. This reflected confidence in the existing secure system of mortgage finance, the triple-A rating of the Danish sovereign, social safety nets that provided a cushion for continued mortgage repayment, and the distribution of household debt over families with higher incomes (see Chapter II of Selected Issues).

Credit Portfolio Exposure of Six Largest Banks by Geography, 2012
(Percent of credit portfolio of 6 banks, EUR 1.7 trillion)



Sources: Annual Reports and Fund staff calculations.

Total Assets of Publicly-Listed *Nordic-4* Banks
(Percent of National GDP; and Percent of *Nordic-4* GDP)

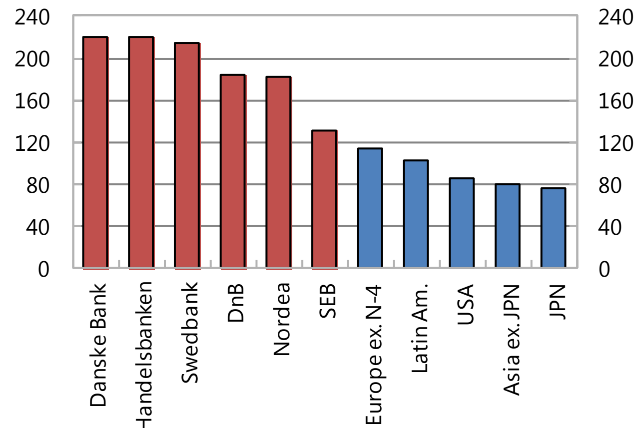


Sources: SNL Financial and Fund staff calculations.

27. However, with an economic model geared towards financial openness, spillovers from the pan-Nordic banking system are potentially large. Natural limits for domestic growth have encouraged cross-border expansion by the largest Nordic financial institutions. The pan-Nordic structures of these banks mean that a shock emanating in the subsidiary or branch of one bank can easily spread across the region via the group's cross-border operations. In the case of Nordea—the largest of the *Nordic-4* banks—the subsidiaries in Finland and Denmark are larger than the Swedish parent.[7]

28. The potential severity of a crisis has increased with the size of the Nordic banking system. While most of the *Nordic-4* have experienced larger-scale banking problems in the past, a crisis in a banking system with publicly-listed assets equivalent of up to 400 percent of GDP is materially different from one with a smaller level of assets as at the time of the banking crises of the late 1980s and early 1990s (see Box 5).[8]

Loan to Deposit Ratios: *Nordic-4* Banks vs. RoW
(Percent; Sample contains 120 largest global banks; 2011)



Sources: Annual Reports, Barclays Capital, and Fund staff calculations

29. Wholesale funding adds to risks. Loan-to-deposit (LTD) ratios are almost twice as high as the average of the largest banks elsewhere in the world. This is in part because households tend to save through pension and

[7] Branch operations in Poland and the Baltics are operated out of the Finnish subsidiary and therefore subject to supervision by the home country of the parent subsidiary (Finland).

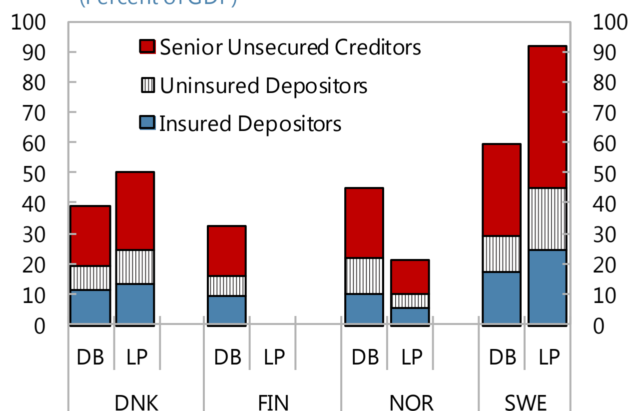
[8] The common outcome across the region was a significant reorganization of the financial sector that eventually led to the emergence of today's large pan-Nordic banks.

mutual funds rather than deposits or mortgage amortization. While households increase their leverage through mortgage borrowing, their savings are channeled back via institutional investors to the banks that extended them credit, mostly in the form of longer-term covered bonds. As a consequence, a self-reinforcing cycle between credit growth and increasing wholesale funding needs has developed. In addition, a reliance on wholesale funding means banks are vulnerable to excessive reversals in safe-haven flows beyond those associated with a normalization of market conditions.

30. The increasing use of covered bonds has raised concerns over asset encumbrance and the availability of capital for bailing in creditors during bank resolution. There are costs and benefits to the use of covered bonds. As secured assets, covered bonds provide an attractive investment opportunity to creditors. They help to provide low-cost and stable long-term funding costs for banks, while reducing the probability of default and the risk to taxpayers. That said, asset encumbrance can raise the loss-given-default as covered bonds reduce capital available to other creditors, leading them to demand higher rates of return. They also reduce assets available to deposit insurance funds, which in the case of a bank default would typically be the single biggest senior unsecured creditor, likely increasing the costs to taxpayers.

31. Overall, liquidity costs and eventual losses to the sovereign due to the failure of a regionally-systemic bank are difficult to predict but could be substantial. Staff estimates of the direct fiscal costs of a potential systemic banking failure (i.e., all six banks) vary substantially by country and depending on whether government support would cover only insured depositors or uninsured depositors and bond holders as well, and whether support would be extended based on depositor or bank location. For example, fiscal costs to Sweden range from 90 percent of GDP if all creditors were bailed out and costs were assigned to the home country, to just over 15 percent of GDP if only insured depositors were bailed out and host governments bailed out local depositors. Costs are lower for the other countries, but are still quite high and vary substantially depending upon assumptions about which creditors get bailed out and which governments backstop insured deposits (see Chapter III of Selected Issues). These examples demonstrate the significance of the downside risk, even if the risk of bank failure is thought to be low due to well-capitalized banks. They also demonstrate the wide variation in potential costs absent well defined rules, which would presumably be factored in to market assessments on downside risks to the sovereign. In addition, feedback

Potential Fiscal Costs of Bailing Out Six Largest Banks 1/
(Percent of GDP)



Sources: SNL Financial and Fund staff calculations.
1/ Bailout costs cover insured and uninsured depositors and senior unsecured creditors. Two different burden sharing rules (DB: By depositor base; LP: By location of parent) illustrate the sensitivity of these costs for the *Nordic-4*.

loops between sovereigns and banks complicate potential costs given some governments' sizeable stakes in the region's largest banks.[9]

32. Regional ex ante burden sharing rules would also provide clarity on the costs to be incurred by national authorities in the event of the failure of a regionally-systemic bank. A Memorandum of Understanding (MoU) on financial stability, crisis management, and crisis resolution has been signed by the ministries of finance, central banks, and financial supervisory authorities of the Nordic and Baltic countries in August 2010. This was an important milestone notably due to the establishment of a Nordic-Baltic cross-border cooperation structure, which facilitated information sharing through the Nordic-Baltic Stability Group (NBSG).[10]

Authorities' Views

33. The authorities agreed with the description of the specific features of the Nordic banking sector, notably the high degree of intra-Nordic linkages, high level of wholesale financing, and strong exposure to shocks in international markets. However, the covered bond market was seen as an important means of self-discipline for banks, alongside stabilizing bank funding and allowing the sector to weather the recent crises. The sensitivity to the issue of asset encumbrance, especially from the perspective of resolution, was recognized.

POLICY AGENDA FOR THE NORDIC REGION

34. The *Nordic-4* are moving forward with reforms to safeguard financial stability. Among other initiatives, Denmark is reducing Danish banks' dependency on state guarantees and is well advanced in the process of implementing additional capital requirements for systemically important banks. Finland has decided to reduce gradually incentives encouraging debt-financed house purchases by lowering the share of mortgage interest that can be deducted from taxable income. Norway is on track to implement a counter-cyclical capital buffer in mid-2014 and Sweden moved to increase capital and liquidity buffers and introduced a risk-weight floor for mortgages. Denmark and Sweden are also at the forefront of securing flexibility to impose higher capital requirements on banks in the context of the Capital Requirements Directive (CRD IV). And all four economies operate sound fiscal policies, with debt levels well below most of their advanced economy peers.

35. However, staff and authorities agreed that systemic risks remain high. For households, the size and structure of mortgage liabilities remain a cause for concern, with potential

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[9] Such links have also helped reinforce perceptions of bank strength, for example, with the credit rating uplifts attributable to Sweden's, albeit declining, government stake in Nordea, and the Norwegian Ministry of Trade and Industry's shareholdings of DNB.

[10] The NBSG convenes at least once a year, and is composed of senior representatives from the national Ministries of Finance, central banks and financial supervisory authorities. In 2011, the Nordic-Baltic Macroprudential Forum (NBMF) was also established to discuss and coordinate the development and adoption of macroprudential policy frameworks and to identify risks in the Nordic-Baltic area. The NBMF comprises central bank governors and financial supervisors.

consequences for bank balance sheets, especially if housing and credit stress coincided with difficulties in international funding markets. And the interconnected banking system with its sensitivity to global financial conditions could transmit both local and global shocks across the region, adding to the transmission channels created by the *Nordic-4*'s openness to global and regional trade.

A. Strong National Policies are a Critical First Step

36. Completing national policy toolkits and gradually putting them to work would help to preempt financial sector risks. In particular, staff pointed to the following measures:

- *Mortgages*. Phasing-in minimum amortization requirements (especially in Sweden) and binding LTV ratios (noticeably absent in Finland) will help to improve domestic mortgage portfolios, and therefore the asset quality of bank balance sheet.

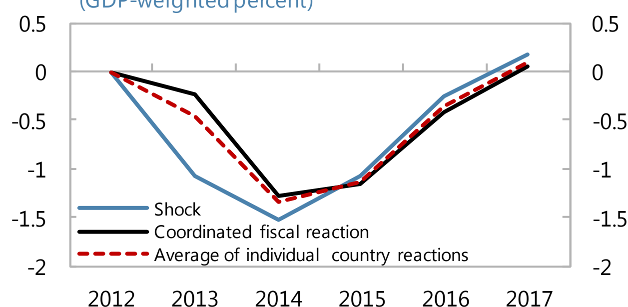
- *Taxes*. Phasing out tax advantages for home ownership—including mortgage interest deductibility, common in all of the *Nordic-4*—would help temper household mortgage borrowing and reduce debt levels over the medium term without precipitating an injurious house price correction.

- *Capital*. Adjusting mortgage risk weights to compensate for the risks associated with high household debt and elevated house prices—especially in Norway but also in Sweden—will add to the ongoing moves to strengthen capital buffers beyond the EBA 9 percent and Basel III targets.

- *Funding*. Maintaining adequate liquidity through clearly-defined steps towards the 100 percent liquidity coverage ratio (as in Sweden, where the requirement comprises all currencies totaled and also separately for euros and U.S. dollars) will further add to financial stability. Similarly, all countries would profit from establishing a clear schedule for reaching the 100 percent Net Stable Funding Ratio (NSFR) target by 2018.

37. Strong fiscal buffers can aid stability. Even with financial sector policies deployed to reduce taxpayers' contingent liabilities from systemic bank failure, it is important that the public sector have the capacity to take on additional debt if necessary in the context of a large bank resolution. Given the openness of the *Nordic-4*, fiscal buffers are also helpful to create the room for automatic stabilizers to work fully in the face of economic volatility transmitted through trade channels. Furthermore, simulations indicate that, if a large external growth shock hit the *Nordic-4*

***Nordic-4* Output response to an external growth shock under different fiscal reactions 1/**
(GDP-weighted percent)



Source: Fund staff calculations.
1/ In the coordinated fiscal reaction scenario, all four countries react simultaneously to the shock. Without coordination, reactions are independent of the positive feedback from a collective response.

collectively, there might be significant gains from fiscal coordination across all four countries given the region's strong trade and financial links.

Authorities' Views

38. The authorities agreed on the importance of prudent and strong national policies to guard against adverse shocks but also noted the influence of different monetary regimes on policy design. For example, Danish fiscal policy must be balanced to support the peg, as well as comply with the EU Fiscal Compact. All authorities agreed on the need for robust and strong liquidity reserves of Nordic banks given their dependence on wholesale financing, especially in the case of Sweden. In order to promote financial stability, some countries pointed out that macroprudential requirements should apply to all banks operating in a country, although not necessarily the same across countries.

B. Cooperation is needed on Financial Sector Policies

39. Given common challenges and shared risks, staff stressed the advantages of active regional cooperation, especially in the following areas:

- *Information*. Staff acknowledged the important coordinating work already being undertaken within the NBMF and NBSG to track developments in the macroprudential architecture. However, given the *Nordic-4's* large cross-border banking sector, active and continuous information exchange and awareness among supervisors and other authorities on the regional dimension of their work remains crucial inside and outside these fora.

- *Reciprocity.* This would ensure that all banks operating in national markets operate under conditions tailored to that market. Branches of foreign banks should adhere to local regulations.

- *Macroprudential minima.* While financial policies should reflect country-specific circumstances, significant shortfalls in the stringency of their application between countries could create incentives for banks to shift operations, capital, and liquidity across borders. Such regulatory arbitrage can lead to a concentration of risks and, ultimately, endanger financial stability across the region. Minima for macroprudential policies, jointly agreed at the regional level, could prevent this. For example, high levels of household debt across most of the *Nordic-4* might merit the gradual movement to regional risk weights on mortgage assets at the Basel III floor of 35 percent. In addition, capping and enforcing LTV ratios at 90 percent or less for all new mortgages over the medium term might help to strengthen mortgage portfolios and therefore bank balance sheets.[11]

40. Joint preemptive efforts can help minimize the fallout from a failure of regionally important banks. As noted above, strengthening capital and liquidity requirements across the *Nordic-4* will go a long way toward lowering the probability of a potential crisis in a pan-Nordic

[11] A 90 percent LTV ceiling would turn the current Finnish guidelines into a binding threshold while comfortably encompassing existing ratios (see Table 6).

banking group. However, should such an event occur, capital and liquidity would have to move where they are most needed (e.g., by using convertible capital bonds). To facilitate effective crisis solution along these lines, joint plans are required for all regionally-systemic banks—chosen on the basis of mutually-agreed characteristics—as well as agreement on the allocation of capital and liquidity among the national subsidiaries and branches in times of stress of a regionally systemic bank.

41. Against this background, recent progress at the Nordic and European levels on dealing with banks in distress is encouraging. The pending cooperation agreement between the Nordea Crisis Management Group specifies principles for managing the cross-border resolution of the Nordea group, including through development of a group resolution plan (to be updated annually) by Nordea's home authorities with the active participation of other jurisdictions in line with Financial Stability Board guidance. At the European Union (EU)/European Economic Area (EEA) level, the Bank Resolution and Recovery Directive (RRD), once adopted, should confirm the options that national authorities would have in dealing with banks in crisis—including government bail-outs or broad private sector bail-ins, with such flexibility only available after a minimum level of losses have been imposed on the failing institution's shareholders and creditors. These are important steps toward a fully-specified common approach, at both the regional and broader European level, of dealing with distressed banks that will help minimize costs to taxpayers.

42. Clear, specific, and enforceable burden sharing agreements would add strength and credibility to this emerging framework. Effective coordination between home and host countries would be easier in the presence of legally-binding ex ante agreements—however difficult to achieve—on rules for the costs each country would bear in the event of distress in the banking system. Such agreements would allow the authorities to select the most effective way forward and avoid a scramble for ex post solutions (e.g., as in the case of Dexia). Clear ex ante arrangements would also reduce the incentives for fiscal over-insurance compared to when fiscal buffers for contingent liabilities are built solely from a national perspective.

Authorities' Views

43. Views on regional coordination were more diverse than on building strong national policies.

- The authorities had different views on the relative merits of bailing-in and recapitalizing banks and on when and how to use taxpayer funds. Some stressed the flexibility associated with a bail-out approach, while others pointed to the importance of removing moral hazard through bail-ins. That said, some acknowledged that, ultimately, both private and public funds would likely be involved in a crisis solution involving a large financial institution. Specifically, the Swedish authorities highlighted the flexibility associated with an approach where mainly shareholders and junior bondholders would be bailed in since mandatory bail-in of senior claims could cause contagion.

- There was agreement that cooperation and resolution strategies for pan-Nordic banks were needed. Some authorities also pointed out why it is difficult to specify a legally-binding burden

sharing rule before a crisis event. One example, is that it would probably be impossible to secure ex ante agreement from Parliament on a country's contribution to (or share of) any bank rescue.

- In addition, home-host differences were raised. Some authorities prefer to apply macroprudential minima at the parent company, others at the country level. The Swedish authorities noted that these are important issues to be discussed further.

C. The Nordics and the Banking Union

44. The choice over appropriate financial sector and macroprudential policies is intertwined with the larger European developments. In addition to the RRD, the advent of the Banking Union (BU)—with a Single Supervisory Mechanism (SSM), Single Resolution Mechanism (SRM), and Deposit Guarantee Scheme (DGS)—will affect the *Nordic-4* individually and as a group. For example, Finland's automatic membership of the BU contrasts with Norway, which is precluded from joining by its constitution. Depending on whether Denmark and Sweden would stay outside or join, banks in the *Nordic-4* could be subject to potentially diverse supervisory regimes while, at the same time, three out of the four might fall under the same EU-based bank resolution framework. Therefore any common Nordic bank resolution framework will have to be carefully designed to take these trade-offs into account.

45. The Banking Union could be an opportunity. Staff pointed out that, in principle, BU membership for Denmark and Sweden could smooth the process of regulatory coordination, financial supervision, and cross-border bank resolution for the region. With the SSM, SRM, and DGS and a common fiscal backstop, it could help mitigate tail risks, limit potential contingent liabilities affecting sovereigns under stress, and restore the health of bank balance sheets in times of crisis.

Authorities' Views

46. Those of the *Nordic-4* inside the EU but outside of the euro area, while not precluding BU membership per se, raised concerns about adequate representation for noneuro area members—which the most recent draft proposals agreed by the European parliament seek to address—and the possible mutualization of risk, for example, through the SRM. Banking union membership is not possible for non EU member EFTA states.

STAFF APPRAISAL

47. Denmark, Finland, Norway, and Sweden are highly integrated economies with strong trade and financial links to global markets. These four countries share a set of consistent policy frameworks, notably sound public finances, which have provided a climate of stable low inflation and macroeconomic stability. A very large and highly-concentrated banking sector operates across the region and relies significantly on wholesale markets for financing.

48. The recent crises have highlighted the region's common challenges and shared risks. Another severe tightening of international wholesale financing conditions could hit the region's large

banks hard, and the resulting stress might easily translate into large fiscal costs, the burden for which would have to be allocated among the four countries. And the mix of heavily-indebted households with limited liquid assets, wholesale-financed banks, and elevated asset prices raises the probability of severe negative feedback loops from house price corrections both domestically and regionally.

49. Strong national financial sector policies and regional cooperation would help mitigate common challenges and shared risks. While sound public finances have helped to contain public debt and provide valuable fiscal space, financial reforms remain incomplete. National policies in both the housing and financial sectors should be strengthened to mitigate the negative feedback loops that could develop as a result of global and regional shocks to bank financing or adverse domestic developments. Despite variation in the policy agenda between the Nordic countries, consideration should be given to phase out gradually preferential tax treatment of housing assets and restrict the availability of interest-only mortgages, and adjust mortgage risk weights to ensure adequate capital buffers for banks while encouraging sufficient liquidity in the system. Strong fiscal buffers should be maintained to guard against costly tail events in the banking sector.

50. Cooperative regional policies would provide essential clarity on common bank resolution procedures and burden-sharing, even as the European financial architecture continues to develop. Introducing binding macroprudential minima and clear ex ante burden-sharing arrangements would help to create a level regulatory playing field, while removing uncertainty about the costs from large bank failures. Recent progress at the Nordic and European level (notably the agreement on the Bank Recovery and Resolution Directive) on dealing with banks in distress should help resolve many of the current differences in supervisory practices and resolution preferences. In this regard, the Banking Union could be a further opportunity to ease coordination. However, a common regional approach is essential regardless of the speed of progress in Europe, and clear, specific, and enforceable burden sharing agreements would add credibility to the emerging framework.

Box 1. Nordic Cooperation Since the Mid-20th Century

The Nordics have traditionally translated their natural shared cultural and geographical ties into active social, economic and political cooperation. A number of these initiatives would serve as templates for key features of the future European Union, e.g., the free mobility of labor.

Soon after the Second World War, Denmark's Prime Minister proposed the creation of a consultative body on Aug 13, 1951, in which Nordic parliamentarians would meet on a regular basis. The proposal was ratified by Denmark, Iceland, Norway and Sweden in 1952. The Nordic Council's first session was held in the Danish Parliament on Feb 13, 1953 and Finland formally joined two years later.

On Jul 2, 1954, the Nordic labor market was created and in 1958 the Nordic Passport Union was created. A Nordic Convention on Social Security was also implemented in 1955. Plans for a single market were abandoned in 1959 shortly before Denmark, Norway and Sweden joined the European Free Trade Area (EFTA). Finland became an associated member of EFTA in 1961 and Denmark and Norway applied to join the European Economic Community (EEC). This move drove the desire for a formal Nordic treaty; the Helsinki Treaty outlined the workings of the Nordic Council, coming into force on Mar 24, 1962. Further advancements on Nordic cooperation were made in the following years: a Nordic School of Public Health, a Nordic Cultural Fund and Nordic House in Reykjavík.

As a consequence, the Nordic Council of Ministers was set up in 1971 to ensure continued Nordic cooperation. Eventually, Norway turned down EEC membership in 1972 while Denmark acted as a bridge between the EEC and the Nordics. Although not opting for full membership, Finland negotiated a free trade treaty with the EEC in 1973 that in practice removed customs duties from 1977 onwards. Sweden did not apply due to its policy of neutrality. In the 1970s, the Nordic Council also founded the Nordic Industrial Fund and the Nordic Investment Bank. The Helsinki Treaty was revised in 1974 to include environmental protection given the priority of cleaning up pollution in the Baltic Sea and North Atlantic, and a Nordic Science Policy Council was set up in 1983.

Following the end of the Soviet Union in 1991, the Nordic Council began to cooperate more closely with the Baltic States. Sweden and Finland joined the European Union (EU) in 1995, and in 1999 Finland adopted the euro. Despite once again voting against membership of the EU, Norway joined the EEA.

Box 2. Recent Economic Developments

From late 2006, ***Denmark*** was hit by dual shocks: a domestic housing correction and the global recession. The correction in house prices led to a period of weak demand and strains on banks starting in mid-2008, which was compounded by rising insolvencies and unemployment as the global recession took hold. Danish banks, which were highly dependent on interbank funding, faced additional pressures in the fall of 2008 as international wholesale markets froze. From peak to trough, real GDP contracted by close to 6.5 percent, and exports of goods and services by 9.5 percent. While the duration of Denmark's output decline was around the OECD average, its size was significantly larger. Growth has remained muted since the recovery in 2010, with output falling once again in 2012. Denmark's slow growth predates the recent economic crises, and the economy has underperformed its regional peers during the past two decades.

Despite stronger household balance sheets, ***Finland*** was the worst hit in the euro area by the global crisis due to the collapse in export demand. GDP fell almost 8 percent in 2009 reflecting adverse trade and financial international spillovers. Exports fell dramatically in 2009 owing to their concentration in telecommunications and capital goods, both heavily hurt by the worldwide slump, as well as sharper-than-average output declines in major trading partners. A rapid recovery followed in 2010, as domestic demand surged, propelled by rising consumer confidence and renewed wage growth. However, exports, which had collapsed more than 20 percent in 2009, never regained their previous vigor. Growth deteriorated in 2012, spilling over into 2013, as both domestic and external demand have stalled.

Norway was less affected by the global financial crisis than its continental Nordic neighbors. After three quarters of declining output, mainland GDP already returned to growth in the second quarter of 2009. Norway's resilience has been underpinned by substantial macroeconomic stimulus, buoyant activity in the hydrocarbon sector, high public sector employment, limited dependence on the hardest-hit segments of global manufacturing, and the relative stability of the domestic financial sector. The Norwegian economy has continued to perform well with mainland GDP growing steadily at 2½–3 percent, unemployment remaining low and stable at 3–3½ percent and core inflation running well below the 2½ percent target. However, the continuing buildup of assets of the sovereign wealth fund and the increasing share of the mainland economy that is supplying goods and services to the oil sector are leading to competitiveness pressures in other industries exposed to international competition.

Sweden, together with Denmark, was the first of the *Nordic-4* to falter in the Great Recession. Output peaked at end-2007 before turning negative in 2008, falling by over 6 percent from peak to trough. Exports and gross fixed capital formation fell by 12 and 16 percent respectively in 2009; permanent and temporary employment fell by 2 and 7 percent respectively in 2009 while unemployment rose from 6 to 9½ percent by Q1:2010. Sweden led much of the rest of Europe in the recovery, but the economy decelerated in 2012 together with its main trading partners. Uncertainty about euro area developments contributes to weak investment. And while housing credit continues to expand faster than disposable income, consumers remain cautious overall. Headline inflation has turned negative, reflecting the strengthening of the krona amidst safe-haven flows, as well as the opening of a small output gap.

Box 3. The *Nordic-4* as Safe Havens

Relative macroeconomic stability and a history of fiscal prudence established the Nordics as safe havens in the eyes of financial markets during the recent crises. While it can be difficult to pinpoint safe haven pressures in capital flow data,[1] they have manifested themselves in various ways, including in appreciating exchange rates and very low interest rates (see Figure 3).

- ***Denmark***'s peg to the euro has led some investors to see it as a hedge against severe euro area stress, with international reserves increasing by 250 percent since November 2008, to over 20 percent of GDP. Price effects have materialized in tandem with a negative policy rate for certificates of deposit and 3-month uncollateralized interbank borrowing;

- As part of the euro area, ***Finland*** shared the crisis experience of other "core" euro area members. Its sovereign yields have tracked those of Germany and safe haven flows are part of the explanation for the increase in Target II balances to around 30 percent of GDP on average over 2012. These balances reflect, among other things, intra-euro area deposit shifts and current account financing provided by the official sector (e.g., via the Emergency Liquidity Assistance);

- ***Norway***, which also retains control over monetary policy, has seen its trade-weighted exchange rate appreciate by around 15 percent since end-2008. In addition, bank deposits from the rest of the world have increased by 25 percent since the summer of 2011;

- In ***Sweden***, with its floating exchange rate regime, the trade-weighted exchange rate has fallen by just over 20 percent since early 2009 as the Swedish Krona appreciated against its major trading partners. Foreign exchange reserves have also increased, though this in part also reflects an active policy choice to increase liquidity buffers.

These safe-haven effects can contribute to asset bubbles, notably in real estate, and expose these economies to a potential interest rate shock should sentiment suddenly reverse. Inexpensive access to financing could cause banks to increase their reliance on wholesale funding. Also, highly-leveraged households' increasing reliance on low-interest mortgages and other loans could expose them to excessive interest rate risk. In particular, corrections in one or more domestic housing markets could generate funding problems for banks with large mortgage exposures and severe strains on household balance sheets (see Chapter II of Selected Issues). Finally, with investors taking a regional perspective, any change in the market outlook vis-à-vis U.S. policy, the euro area or an individual Nordic country could jeopardize the entire region.[2]

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[1] Some "safe-haven positions" are taken in derivatives markets and these will typically not be reflected in capital flow data.

[2] For example, recent signals from the U.S. Federal Reserve about unwinding its quantitative easing program already precipitated a sell-off in the relatively illiquid Norwegian and Swedish currencies. However, such moves are not necessarily representative of a loss of safe haven status, which are likely to be much more determined by confidence in the sovereign.

Box 4. Introducing the Nordic Banking Sector

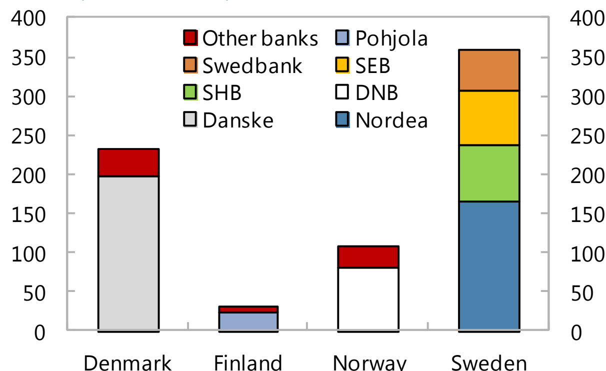
The six largest Nordic banks comprise roughly 90 percent of all publicly-listed Nordic banks. All six banks operate across the region with assets of publicly-traded banks hovering around 230 and 360 percent of GDP in Denmark and Sweden, respectively. Combined foreign assets and liabilities of the Nordic banking sector have grown to around 150 percent of Nordic GDP, pointing to extensive cross-border activity, a large portion of which takes place within the region. The large unlisted mortgage banks in Denmark, notably Nykredit Bank, Realkredit and Totalkredit (all owned by Nykredit Holding) are excluded. Their inclusion would swell the Danish banking sector's size to around 360 percent of GDP.

Operations are concentrated in a handful of banks across the region, with complex integrated structures. While asset exposures to the Baltics and European markets are considerable, the most significant exposure of the six largest Nordic banks is to the Nordic region itself (see Chapter III of Selected Issues)—about 85 percent of their credit portfolio. Likewise, 75 percent of the *Nordic-4*'s large banks sovereign bond exposure is to the region itself.

While leverage ratios are stable and not much higher than elsewhere in Europe, access to international capital markets has remained secure and at rates close to similar or even lower levels than core European banking systems. In contrast with the early phase of the financial crisis, when some of the large Nordic banks faced some difficulties accessing foreign markets, the euro area crisis has had little impact—on the contrary, Nordic banks have profited from a "safe-haven" bonus and lower CDS spreads than many other European banks.

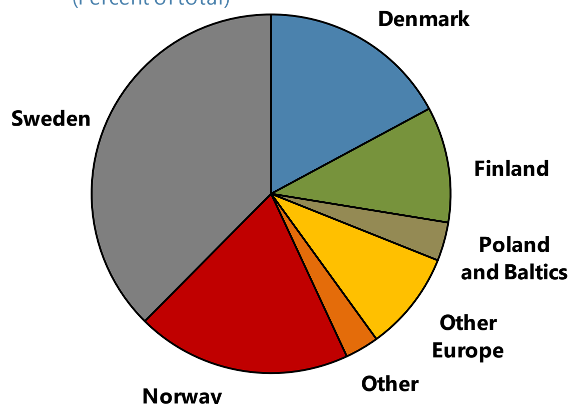
The large Nordic banks are heavily reliant on wholesale funding, including covered bonds. This reflects a structural shortage of deposits driven by households' preferences for pension and investment products in Scandinavia, and to a lesser extent in Finland. The major Nordic banks fund roughly half their assets with customer deposits and half through the domestic and international interbank and debt capital markets. These banks benefit from the recycling of retail savings which are driven by tax incentives and a culture of financial investment in domestic pension funds and insurance products.

Total Assets of Publicly-Listed *Nordic-4* Banks, 2012*
(Percent of GDP)



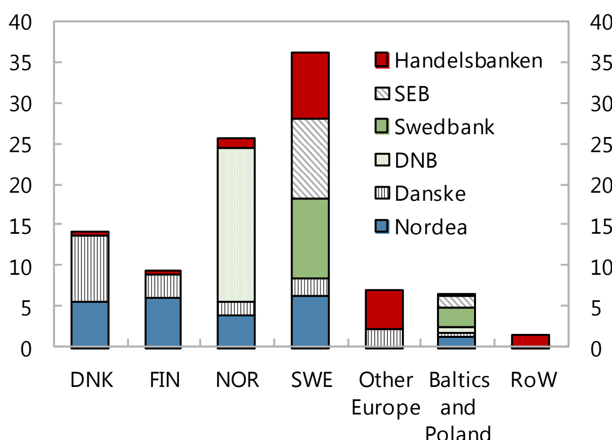
Sources: SNL Financial and Fund staff calculations.
*Data based on consolidated balance sheets.

Credit Exposures of Six Largest Nordic Banks*
(Percent of total)



Sources: 2012 Annual reports and Fund staff calculations.
* Danske Bank, DNB, Svenska Handelsbanken, Nordea, SEB, and Swedbank.

Total Deposits of Six Largest Banks, by Georgraphy 2012
(Percent of total depositsi of 6 banks, EUR 552 bln)



Sources: Annual Reports and Fund staff calculations.

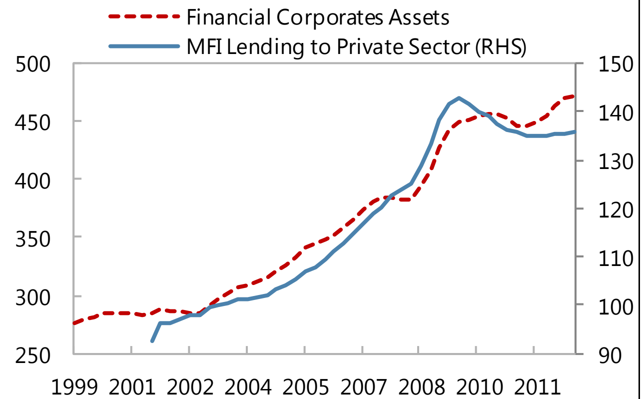
Box 4. Introducing the Nordic Banking Sector (Concluded)

These institutional investors, as well as domestic financial institutions, need to invest in local currency assets to match their liabilities. The relatively low level of government bonds in Scandinavia leaves bank paper as one of a few investment options.

Covered (secured) bonds have therefore become an important source of financing for the banking sector. The largest Nordic banks have issued close to EUR 460 billion in covered bonds as of end-2012 accounting for 70 percent of covered bonds issued across the *Nordic-4*. Overall, the four Nordic countries account for 33 percent of global outstanding covered bonds and 60 percent of global issuance in 2011, with Denmark having one of the oldest markets (together with Germany). The Danish and Swedish markets are the largest as a percent of GDP and over three quarters of outstanding bonds in the *Nordic-4* were issued in domestic (noneuro) currencies while 20 percent were issued in Euros.

The banking sector has burgeoned in size together with the level of household debt. As the financial sector has grown in size, credit has expanded and is readily available to households. As excess housing demand has fuelled and sustained changes in house prices, mortgage quantities have increased (at a time when loan-to-value rations were nonbinding in most of the *Nordic-4*) household debt has reached some of the highest levels in the OECD.

***Nordic-4*: Credit and Size of Financial Sector, Levels**
(Percent of GDP)



Sources: Haver Analytics and Fund staff calculations.

Box 5. The Nordic Banking Crises in the Early 1990s[1]

In the 1980s, operating under fixed exchange rates, the financial systems of Finland, Norway and Sweden underwent major deregulation, setting off a sustained lending boom, capital inflows, rising asset prices, rapidly increasing consumption, and investment and an overheated nontradables sector. The boom turned into a bust around 1990, with capital outflows, systemic banking crises and depression. In 1992, all three countries moved to flexible rates.

Financial liberalization and credit-fuelled boom

After decades of nonprice credit rationing, the 1980s banks found themselves free to expand lending unhampered by regulatory restrictions. Banks entered into fierce competition for market share of loans to households and firms and a lending boom started, which channeled credit to asset markets—primarily to housing, to commercial real estate and to the stock market. In turn, asset prices rose, boosting collateral values and the net wealth of households, further fuelling the credit expansion. The macroeconomic outcome of these financial developments was a strong boom, first in Norway, where deregulation started first, and later in the Finnish and Swedish economy. The boom was characterized by excess demand for labor, rising consumption, and falling savings ratios, which eventually turned negative. The current accounts worsened as export performance weakened and imports increased. Due to the pegged exchange rate, monetary policy was prevented from mitigating the boom through interest rate increases. Fiscal policies were not tightened enough to choke off the boom although national budgets displayed large surpluses due to rising tax revenues from higher consumption, wages, property values and capital gains. Financial deregulation, the key reason for the birth of the boom in all three countries, was pushed through without any serious parliamentary or public debate. Policymakers argued that financial controls had become ineffective and were largely evaded. For this reason, deregulation was not expected to have any major impact.

Rising real rates and bust

The bubble in the real economy eventually burst due to a combination of events, both exogenous as well as endogenous. Real interest rates rose internationally as a result of the contractionary design of German monetary policy following reunification. Rising German interest rates exerted strong upward pressure on the interest rates of the Nordic currencies through the pegs in place in 1990–91 as part of the Exchange Rate Mechanism. An additional real interest rate shock occurred when the Finnish and Swedish central banks raised their nominal interest rates in attempts to defend their fixed exchange rates against recurring speculative attacks in 1989–92. Other policy measures increased the real after-tax interest rate. In Finland, stepwise limitations in the tax deductibility of mortgage rates in the early 1990s increased the after-tax cost of servicing debt. The far-reaching Swedish 1990–91 tax reform, which lowered marginal taxes significantly and reduced tax deductibility of mortgage rates, raised real after-tax interest rates. In this way, borrowing became less attractive while private savings became more attractive. A rapid and unexpected decline in the rate of consumer price inflation in 1990–92 contributed to the sharp rise in real interest rates in Finland and Sweden. Within a couple of years, the real after-tax interest rates rose to levels much higher than borrowers had expected a few years earlier. The sharp increase in the real rate had a profound impact on financial markets. Asset price deflation kicked in and balance sheets weakened, while the nominal value of debts remained unchanged. Wealth losses forced portfolio adjustment, squeezing private consumption and investment and raising private savings. In particular, residential investment collapsed. With declining house prices, construction demand vanished and unemployment soared. As the Finnish and Swedish currencies were overvalued due to high wage and price inflation during the preceding boom, the export sector encountered major problems in 1990–91. In Finland, the collapse of bilateral trade with the Soviet Union contributed to the further domestic imbalances. Tax revenues declined and public expenditures rose due to the operation of automatic stabilizers. In Finland and Sweden, the government budget deficit and thus the ratio of government debt to GDP increased dramatically. Norway, however, did not experience any rise in government debt due to strong public finances stemming from revenues in the energy sector.

Box 5. The Nordic Banking Crises in the Early 1990s (Concluded)

Recovery

The floating of the currencies in the fall of 1992, with the ensuing depreciation and receding domestic interest rates, arrested the downturn in the Finnish, Norwegian and Swedish economies. The recovery commenced in all three countries in the following year and lasted for more than a decade, although unemployment remained high until the mid-1990s after which it fell steadily. The main engine behind the recovery was an impressive growth in exports. Export shares rose significantly in all three countries, most markedly in Finland and Sweden. This rise continued for more than a decade. The current accounts, previously in chronic deficit, turned to seemingly permanent large surpluses. Inflation in the Nordic region stayed at a low level, around two percent per annum, throughout the period 1995–2007. Wages and prices remained surprisingly stable given the currency depreciation. Contrary to predictions made during the recession, the large exchange rate depreciations did not have any apparent impact on domestic price and wage levels. The high rate of unemployment contributed to wage moderation. Post-crisis fiscal policies in Finland and Sweden were directed first towards reducing budget deficits and lowering national debt. The fiscal consolidation efforts were large and successful: within five years, Finland and Sweden were able to move from deep deficits to some of the biggest surpluses in Europe. Norway is a special case due to the returns from the oil and gas sector. The recovery after the boom-bust cycle turned out to be long-lasting—first until the downturn in worldwide economic activity around 2001. After a short break, rapid growth continued until 2008. The Finnish, Norwegian and Swedish growth rates have remained consistently above the EU average since the depression of the early 1990s.

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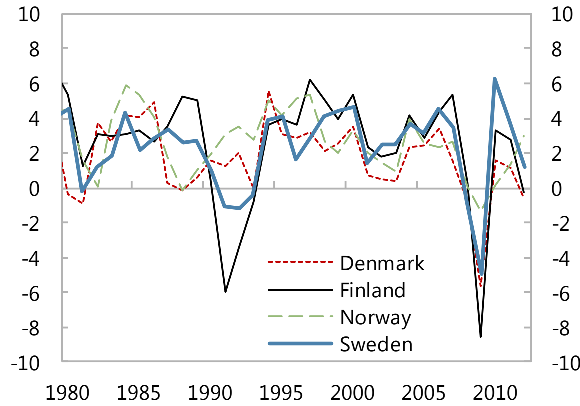
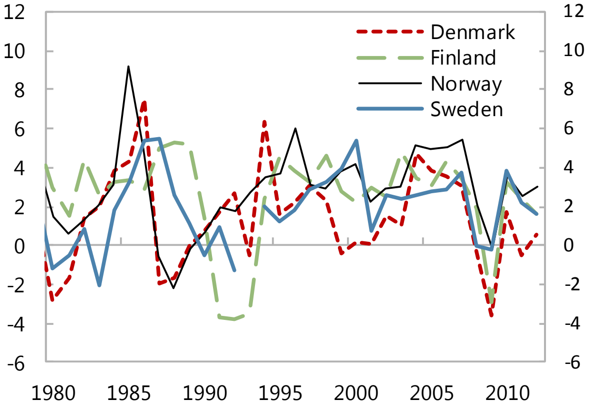
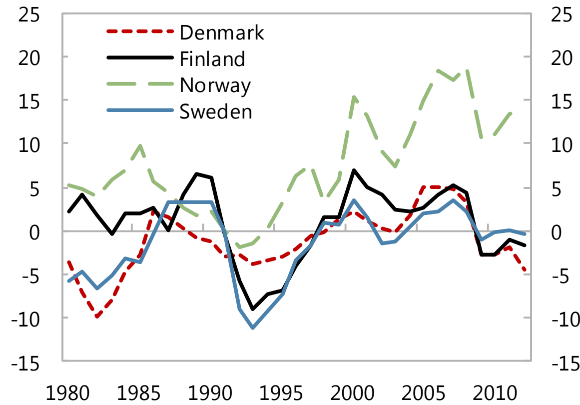
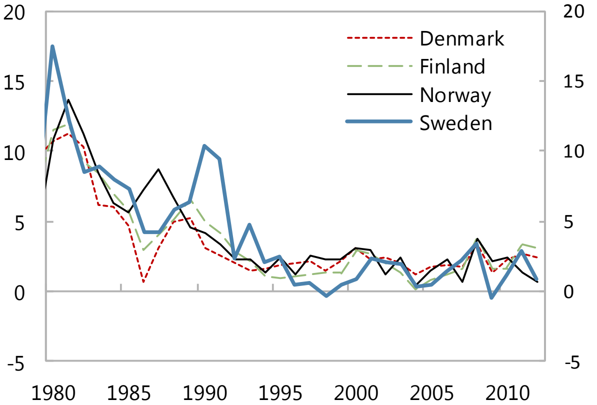
[1] Drawn from Jonung, L. (2011), "Lessons from the Nordic Financial Crisis," prepared for the AEA meeting in Denver.

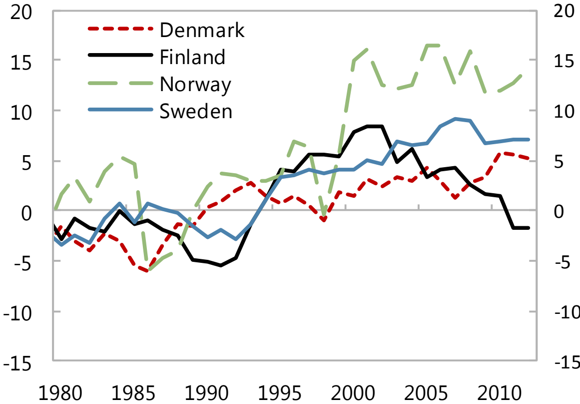
Figure 1. Macroeconomic Developments Across the *Nordic-4*

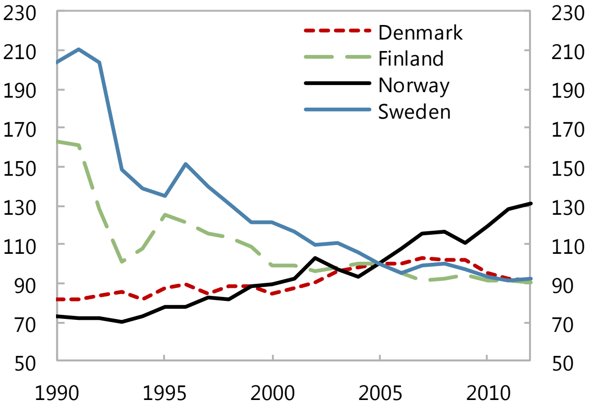






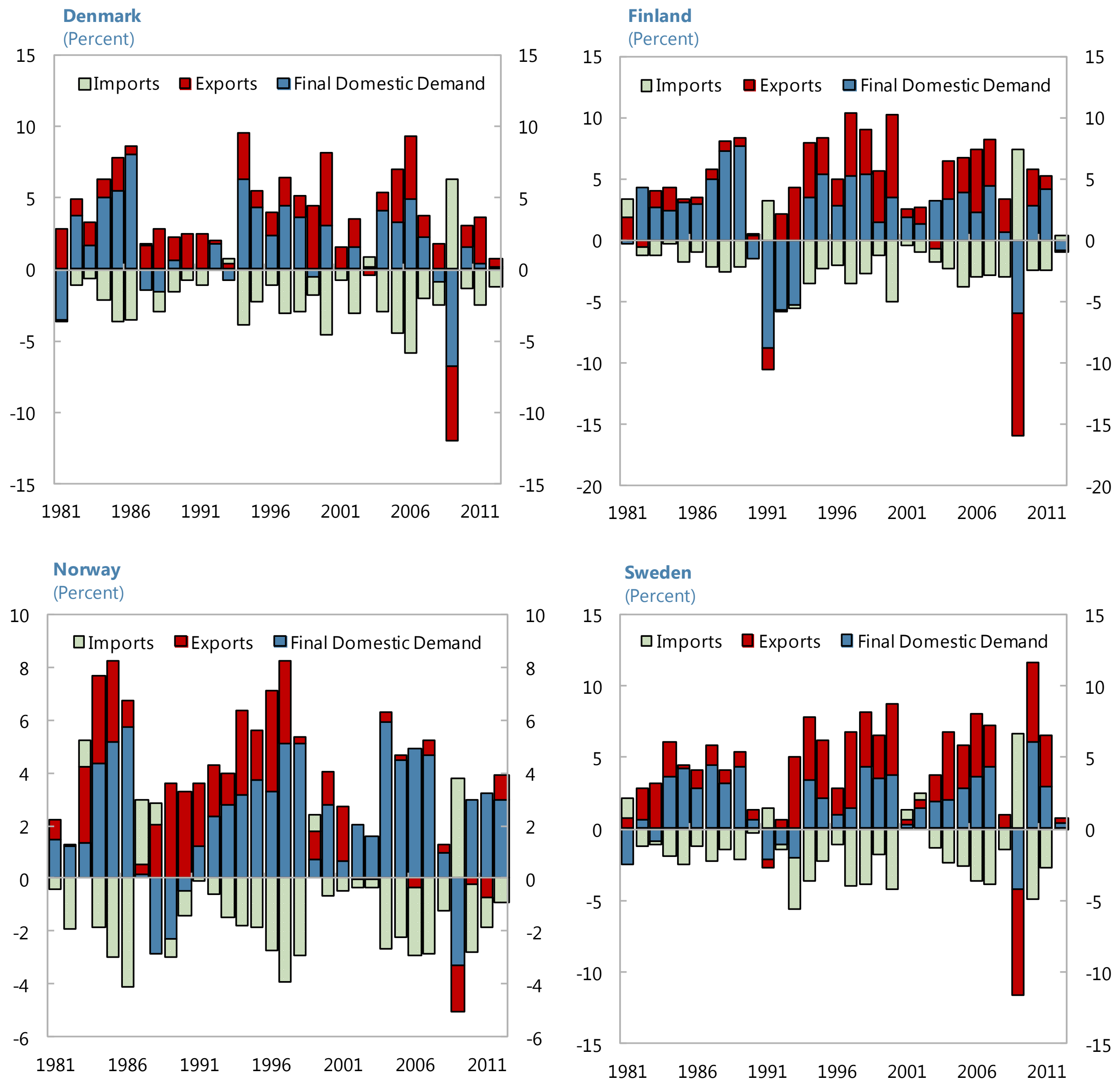






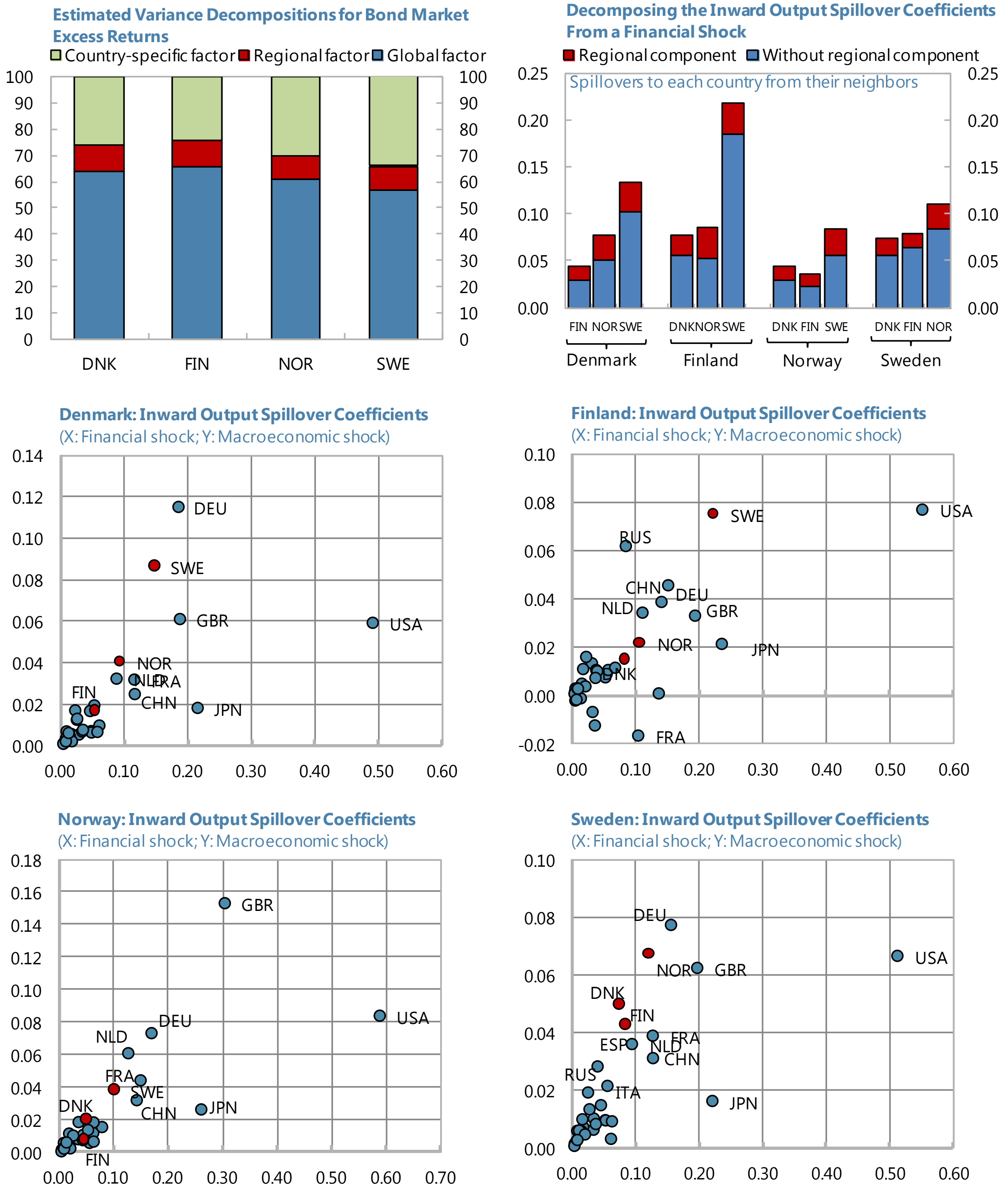
Sources: IMF World Economic Outlook and Fund staff calculations.
1/ Series break for Sweden in 1993.

Figure 2. Contributions to Growth



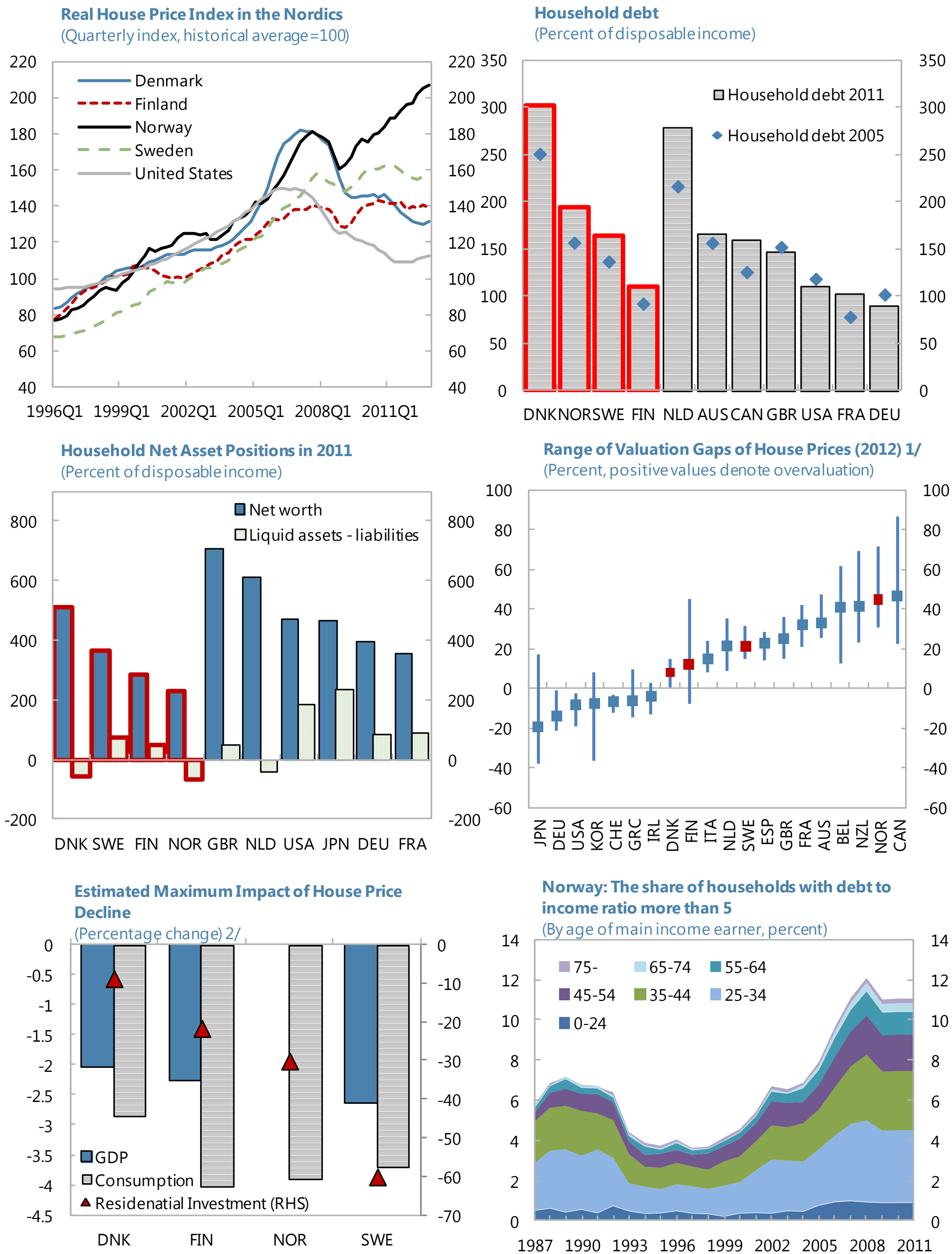
Sources: IMF World Economic Outlook, Statistics Finland, and Fund staff calculations.

Figure 3. Assessing the Propagation of Shocks Across the Nordics



Source: Fund staff calculations.

Figure 4. Housing Markets Across the *Nordic-4*

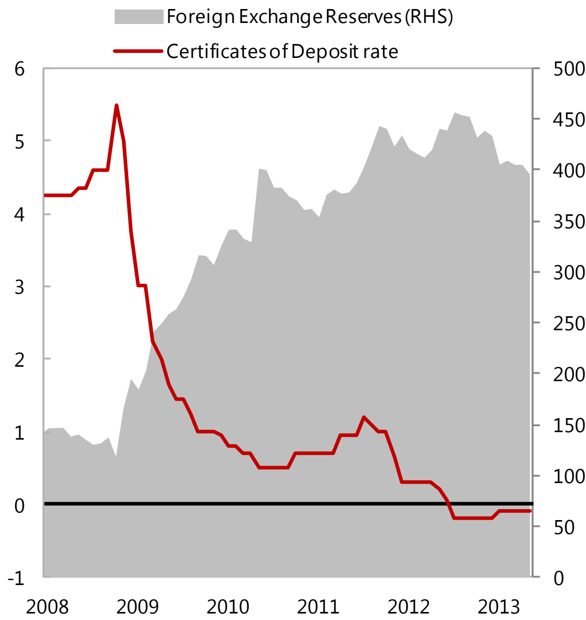


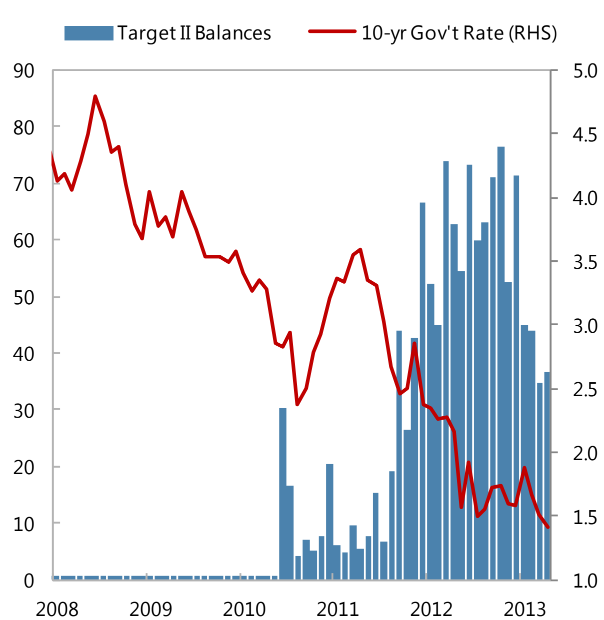
Sources: Igan and Loungani (2012), Norges Bank Financial Stability Report 2012, OECD, and Fund staff calculations.

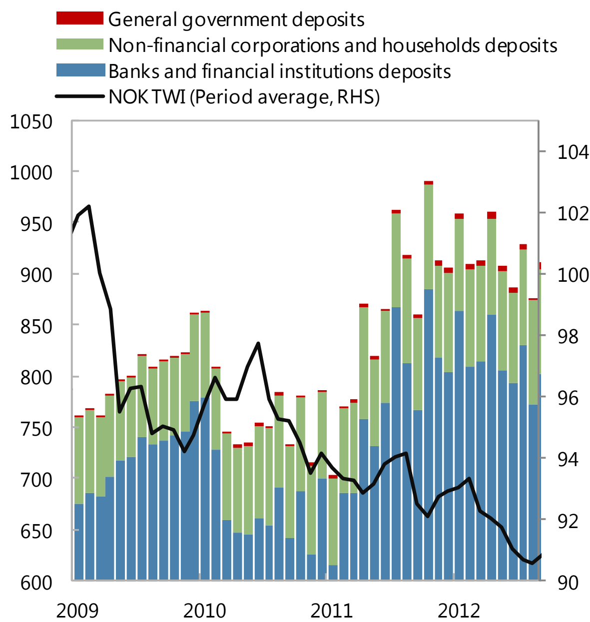
1/ The range represents the range of estimates calculated from a time series model and derived from deviations of price-to-income ratios and price-to-rent ratios from their historical averages.

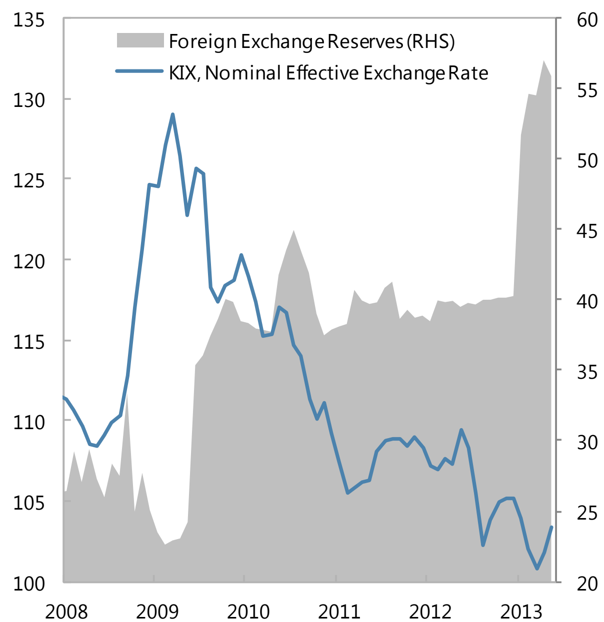
2/ Estimates are obtained using elasticities from Igan and Loungani (2012) and staff's average estimates of house price valuation gaps shown in chart 4 of this panel. No data is available for estimated impact on Norway GDP.

Figure 5. The *Nordic-4* Safe Havens









Sources: Bank of Finland, Danmarks Nationalbank, National Institute of Economic Research, Norges Bank, Statistics Norway, Sveriges Riksbank, and Fund staff calculations.
* Trade-weighted Index; ** Nonfinancial Corporations.

Table 1. Output and Demand

(Annual percent change, unless otherwise noted)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
									Projections					
GDP														
Denmark	2.4	3.4	1.6	-0.8	-5.7	1.6	1.1	-0.4	0.4	1.1	1.5	1.5	1.5	1.5
Finland	2.9	4.4	5.3	0.3	-8.5	3.3	2.8	-0.2	-0.4	1.0	1.3	2.0	2.0	2.0
Norway	2.6	2.3	2.7	0.0	-1.4	0.2	1.3	3.0	1.9	2.3	2.3	2.2	2.2	2.2
Sweden	3.2	4.3	3.3	-0.6	-5.0	6.6	3.7	0.7	1.1	2.3	2.3	2.4	2.4	2.4
Domestic Demand														
Denmark	3.5	5.2	2.3	-0.8	-6.8	1.6	0.4	0.0	1.0	1.0	1.5	1.6	1.6	1.6
Finland	4.2	2.4	4.7	0.7	-6.2	2.9	4.5	-1.8	0.1	1.2	1.6	2.0	2.1	2.0
Norway	5.2	6.0	5.7	1.1	-4.1	3.4	3.6	3.3	3.8	2.9	2.8	2.7	2.7	2.7
Sweden	3.0	3.9	4.6	0.0	-4.6	6.5	3.2	0.4	1.2	2.2	2.3	2.4	2.5	2.5
Private Consumption														
Denmark	3.8	3.6	3.0	-0.3	-3.6	1.7	-0.5	0.5	0.3	1.2	1.8	2.0	2.0	2.0
Finland	3.1	4.3	3.5	1.9	-2.9	3.3	2.3	1.6	-0.3	0.9	2.0	2.2	2.3	2.2
Norway	4.9	5.1	5.4	2.0	-0.1	3.6	2.5	3.1	3.6	3.3	3.1	2.9	2.8	2.8
Sweden	2.8	2.7	3.7	0.0	-0.3	4.0	2.1	1.5	2.2	2.1	2.1	2.1	2.4	2.4
Public Consumption														
Denmark	1.3	2.8	1.3	1.9	2.1	0.4	-1.5	0.7	0.9	0.9	0.6	0.5	0.5	0.5
Finland	2.2	0.4	1.1	1.9	1.1	-0.3	0.4	0.4	0.4	0.6	1.0	1.0	1.0	1.0
Norway	1.9	1.9	2.7	2.4	4.5	1.2	1.9	1.6	2.1	2.1	2.1	2.1	2.1	2.1
Sweden	0.2	1.7	0.7	1.0	2.2	2.1	1.1	0.7	1.0	1.3	0.9	1.0	1.0	1.0
Gross Fixed Capital Formation														
Denmark	4.7	14.2	0.4	-4.1	-15.9	-2.4	2.8	-0.1	0.8	1.5	2.0	2.0	2.0	2.0
Finland	3.6	1.9	10.7	-0.6	-13.2	1.9	7.1	-2.9	-1.8	0.8	1.4	2.8	2.7	2.8
Norway	13.6	9.9	11.5	0.1	-7.5	-8.0	7.5	8.1	6.6	3.4	3.5	3.3	3.4	3.4
Sweden	8.1	9.2	8.9	1.4	-15.5	7.2	6.4	3.2	-1.8	4.5	4.5	4.6	4.9	4.9
Change in Stocks, contribution to growth														
Denmark	0.7	0.2	-0.3	0.3	-1.8	0.7	0.3	-0.3	0.4	-0.2	0.0	0.0	0.0	0.0
Finland	0.2	1.2	-0.4	0.3	-2.0	0.9	1.5	-0.9	-0.3	0.4	0.0	0.0	0.0	0.0
Norway	1.8	-0.3	0.8	-0.2	-2.8	2.8	0.2	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
Sweden	-0.3	-0.1	0.1	0.7	-1.7	2.3	0.4	-1.1	0.1	-0.1	0.1	0.0	0.0	0.0
Exports of Goods and Services														
Denmark	8.0	9.0	2.8	3.3	-9.5	3.0	6.5	0.2	0.8	2.6	3.3	3.6	3.6	3.6
Finland	7.0	12.2	8.2	5.8	-21.3	7.5	2.8	-1.3	-0.7	1.0	1.9	3.7	3.8	3.8
Norway	0.4	-0.8	1.3	0.7	-3.7	-0.7	-1.8	1.8	-1.3	1.4	1.5	1.6	1.6	1.6
Sweden	6.6	9.0	5.7	1.7	-13.8	11.4	7.1	0.8	-1.0	4.6	6.1	6.1	6.2	6.2
Imports of Goods and Services														
Denmark	11.1	13.4	4.3	3.3	-12.3	3.2	5.6	1.0	2.2	2.5	3.4	3.8	3.8	3.8
Finland	11.4	7.9	7.0	7.5	-17.2	6.9	6.0	-3.7	0.6	1.7	2.9	3.8	3.8	3.8
Norway	7.8	9.2	10.1	4.1	-12.7	9.1	3.9	2.3	3.3	3.0	3.0	2.9	2.8	2.8
Sweden	7.0	9.0	9.0	3.5	-14.3	12.0	6.3	0.0	-1.1	4.5	6.5	6.7	7.0	7.0
Net Exports, percent of GDP														
Denmark	5.8	4.9	3.3	2.6	4.1	4.0	4.7	4.4	3.6	3.7	3.8	3.7	3.7	3.6
Finland	7.8	6.6	8.7	9.4	6.0	6.5	5.2	6.1	5.5	5.3	4.9	4.9	5.0	5.1
Norway	20.7	18.6	15.6	13.1	14.6	11.9	10.0	9.7	8.1	7.5	7.0	6.6	6.2	5.8
Sweden	7.0	7.1	7.4	6.3	5.4	5.4	5.8	6.2	6.1	6.2	6.3	6.3	6.1	6.0

Sources: IMF World Economic Outlook and Fund staff calculations.

Table 2. Structural Indicators
(Annual percent change, unless otherwise noted)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
									Projections					
CPI Inflation, period average														
Denmark	1.8	1.9	1.7	3.4	1.3	2.3	2.8	2.4	0.8	1.9	1.8	2.0	2.0	2.0
Finland	0.8	1.3	1.6	3.9	1.6	1.7	3.3	3.2	2.4	2.6	2.2	2.0	2.0	2.0
Norway	1.5	2.3	0.7	3.8	2.2	2.4	1.3	0.7	1.5	1.5	2.0	2.0	2.3	2.5
Sweden	0.5	1.4	2.2	3.4	-0.5	1.2	3.0	0.9	0.3	1.6	2.4	2.4	2.1	2.0
CPI Inflation, eop														
Denmark	2.2	1.8	2.4	2.5	1.4	2.9	2.6	2.0	0.8	1.9	1.8	2.0	2.0	2.0
Finland	1.1	1.2	1.9	3.4	1.8	2.8	2.6	3.5	2.4	2.6	2.2	2.0	2.0	2.0
Norway	1.8	2.2	2.8	2.1	2.0	2.8	0.2	1.4	1.5	1.5	2.0	2.0	2.3	2.5
Sweden	0.9	1.6	3.5	0.9	0.6	2.3	2.3	-0.1	0.9	1.9	2.4	2.4	2.1	2.0
GDP Deflator														
Denmark	2.9	2.1	2.3	4.2	0.7	4.1	0.6	2.2	0.6	1.6	1.5	1.7	1.7	1.7
Finland	0.5	0.8	3.0	2.9	1.5	0.4	3.1	2.9	2.4	2.6	2.5	2.2	2.0	2.0
Norway	8.9	8.8	3.0	11.0	-5.6	6.6	6.7	2.7	1.5	1.7	2.1	2.3	2.7	3.0
Sweden	0.9	1.9	2.8	3.1	2.1	0.8	1.1	1.0	0.5	1.7	2.4	2.4	2.1	2.0
Unit Labor Cost, manufacturing														
Denmark	2.4	2.3	5.0	6.3	5.6	-0.6	0.0	1.6	1.3	1.0	1.0	1.0	1.0	1.0
Finland	2.6	-4.2	-5.0	6.0	18.0	-9.9	1.2	1.5	1.7	0.6	0.5	0.2	0.2	0.2
Norway	2.6	10.3	4.1	2.4	3.6	-3.9	1.8	2.4	2.5	2.5	2.5	2.5	2.5	2.5
Sweden	-3.0	-5.7	3.6	6.9	11.8	-12.8	1.7	1.6	0.4	0.5	0.5	0.7	0.6	0.6
Employment														
Denmark	0.9	1.9	0.5	-2.9	-4.8	-2.6	0.3	0.4	0.7	0.3	0.4	0.5	0.5	0.5
Finland	1.5	1.8	2.0	1.6	-2.9	-0.4	1.1	0.4	-1.1	-0.5	0.0	0.1	0.2	0.2
Norway	0.6	3.2	3.4	3.3	-0.6	0.0	1.4	1.9	1.1	1.1	1.1	1.1	1.1	1.1
Sweden	1.1	2.1	2.5	1.2	-2.0	0.5	2.3	0.7	0.2	0.9	0.7	0.8	0.9	0.7
Unemployment Rate, in percent														
Denmark	4.8	3.9	3.8	3.5	6.1	7.5	7.6	7.5	7.1	7.1	7.0	6.8	6.6	6.4
Finland	8.4	7.7	6.9	6.4	8.2	8.4	7.8	7.8	8.3	8.3	7.9	7.7	7.6	7.5
Norway	4.6	3.4	2.5	2.6	3.2	3.6	3.3	3.2	3.3	3.3	3.3	3.4	3.5	3.5
Sweden	7.6	7.0	6.1	6.2	8.3	8.6	7.8	8.0	8.2	7.8	7.5	7.1	6.7	6.4
Output Gap, percent of potential														
Denmark	0.6	3.1	3.1	2.8	-3.1	-1.9	-1.1	-1.8	-1.9	-1.4	-0.9	-0.5	-0.1	0.0
Finland	1.4	3.2	6.1	4.2	-4.8	-2.0	-0.3	-1.5	-2.4	-1.9	-1.7	-0.7	0.0	0.0
Norway	-0.4	1.2	2.6	1.7	-0.9	-1.0	0.0	0.3	0.2	0.2	0.1	0.1	0.0	0.0
Sweden	1.9	3.6	4.3	1.1	-5.5	-1.0	0.8	-0.4	-1.0	-0.7	-0.3	-0.1	0.0	0.0
Potential Output														
Denmark	1.1	0.9	1.6	-0.4	0.0	0.3	0.3	0.4	0.5	0.7	1.0	1.1	1.2	1.4
Finland	2.9	2.6	2.4	2.1	0.1	0.4	1.0	1.1	0.5	0.4	1.0	1.0	1.4	2.0
Norway	1.9	0.7	1.3	0.9	1.2	0.4	0.3	2.7	2.0	2.3	2.3	2.3	2.3	2.3
Sweden	2.5	2.6	2.6	2.5	1.6	1.7	1.9	1.9	1.7	1.9	2.0	2.1	2.3	2.4

Sources: IMF World Economic Outlook and Fund staff calculations.

Table 3. General Government Sector

(Percent of GDP, unless otherwise noted)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
									Projections					
Overall Balance														
Denmark	2.4	3.4	1.6	-0.8	-2.8	-2.7	-2.0	-4.2	-1.4	-1.7	-2.9	-2.2	-1.0	-0.4
Finland	2.9	4.4	5.3	0.3	-2.7	-2.8	-1.1	-2.3	-2.7	-1.9	-1.5	-1.2	-1.0	-0.9
Norway	2.6	2.3	2.7	0.0	10.5	11.1	13.4	13.9	12.4	11.2	10.0	9.1	8.3	7.6
Sweden	3.2	4.3	3.3	-0.6	-1.0	0.0	0.0	-0.7	-1.6	-0.9	0.0	0.6	1.1	1.5
Primary Balance														
Denmark	3.5	5.2	2.3	-0.8	-2.4	-2.2	-1.5	-3.8	-1.1	-1.5	-2.4	-1.8	-0.8	-0.2
Finland	4.2	2.4	4.7	0.7	-3.3	-3.0	-1.4	-2.3	-2.7	-2.0	-1.7	-1.6	-1.4	-1.3
Norway	5.2	6.0	5.7	1.1	8.1	9.0	11.3	11.7	10.2	8.9	7.7	6.7	5.9	5.1
Sweden	3.0	3.9	4.6	0.0	-0.7	0.2	0.3	-0.7	-1.5	-0.8	0.0	0.6	1.1	1.5
Structural Balance (in percent of potential GDP)														
Denmark	3.8	3.6	3.0	-0.3	0.2	-1.7	-1.1	-1.0	-0.4	-0.5	-0.4	-0.4	-0.4	-0.3
Finland	3.1	4.3	3.5	1.9	0.1	-1.5	-0.9	-1.5	-1.2	-0.8	-0.7	-0.9	-1.0	-0.9
Norway	4.9	5.1	5.4	2.0	-4.5	-4.3	-3.7	-4.3	-4.5	-4.6	-4.6	-4.6	-4.7	-4.6
Sweden	2.8	2.7	3.7	0.0	-0.1	0.6	-0.1	-0.8	-1.4	-0.8	0.1	0.6	1.1	1.5
Structural primary balance (in percent of potential GDP)														
Denmark	1.3	2.8	1.3	1.9	2.3	0.4	1.0	1.0	1.4	1.2	1.6	1.5	1.3	1.4
Finland	2.2	0.4	1.1	1.9	1.4	-0.2	0.5	0.0	0.2	0.6	0.7	0.6	0.5	0.7
Norway	1.9	1.9	2.7	2.4	-3.1	-3.1	-2.6	-3.3	-3.4	-3.6	-3.7	-3.8	-3.8	-3.8
Sweden	0.2	1.7	0.7	1.0	1.1	1.7	1.1	0.1	-0.4	0.2	1.0	1.5	2.0	2.4
Gross Debt														
Denmark	4.7	14.2	0.4	-4.1	40.7	42.7	46.4	45.6	46.5	47.0	48.6	49.2	48.7	47.5
Finland	3.6	1.9	10.7	-0.6	43.5	48.6	49.0	53.0	57.2	58.6	59.3	58.8	58.3	58.1
Norway	13.6	9.9	11.5	0.1	49.0	49.2	34.1	34.2	34.4	34.4	34.3	34.3	34.3	34.3
Sweden	8.1	9.2	8.9	1.4	42.6	39.4	38.4	38.1	42.3	41.7	39.5	37.0	34.1	30.9
Net debt (negative of net financial worth)														
Denmark	14.8	17.9	13.1	18.3	-4.5	-1.6	3.3	3.3	4.6	6.2	8.9	10.8	11.5	11.5
Finland	1.2	3.4	2.7	3.3	-62.8	-65.5	-54.0	-50.3	-46.7	-43.1	-40.1	-37.2	-34.8	-32.5
Norway	1.8	-0.3	0.8	-0.2	-154.8	-163.8	-157.8	-166.0	-176.7	-182.4	-186.1	-188.5	-189.3	-188.9
Sweden	0.5	-1.7	1.8	23.1	-19.5	-20.7	-18.1	-21.1	-19.1	-17.5	-16.7	-16.5	-16.9	-17.7

Sources: IMF World Economic Outlook and Fund staff calculations.

Table 4. External Sector

(Percent of GDP, unless otherwise noted)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
									Projections					
Gross National Saving														
Denmark	25.2	25.7	24.7	25.2	20.3	22.7	23.2	22.8	22.5	22.3	22.3	22.4	22.4	22.5
Finland	25.1	25.4	27.1	24.8	20.3	20.0	19.4	17.7	17.4	17.7	17.7	17.9	18.0	18.1
Norway	37.9	39.4	38.3	40.4	34.0	35.2	36.9	39.2	37.6	37.5	37.8	37.8	38.1	38.2
Sweden	24.5	27.1	29.5	29.3	23.2	25.6	26.6	25.7	25.2	25.6	26.1	26.5	26.8	27.1
Gross National Investment														
Denmark	20.8	22.7	23.4	22.4	16.9	16.8	17.6	17.1	17.6	17.3	17.3	17.3	17.4	17.4
Finland	21.8	21.3	22.9	22.2	18.5	18.5	20.9	18.7	19.3	19.5	19.5	19.6	19.6	19.7
Norway	21.5	23.0	25.8	24.5	22.3	23.3	24.1	25.0	26.7	27.5	28.2	28.8	29.4	29.9
Sweden	17.7	18.7	20.3	20.2	16.5	18.7	19.6	18.7	18.3	18.5	19.0	19.5	19.9	20.3
Current Account Balance														
Denmark	4.3	3.0	1.4	2.9	3.4	5.9	5.6	5.8	4.9	5.0	5.0	5.0	5.0	5.0
Finland	3.4	4.2	4.3	2.6	1.8	1.5	-1.5	-1.9	-1.9	-1.8	-1.8	-1.7	-1.6	-1.6
Norway	16.5	16.4	12.5	16.0	11.7	11.9	12.8	14.2	10.9	10.0	9.6	8.9	8.8	8.3
Sweden	6.8	8.4	9.1	9.1	6.7	6.8	7.0	6.9	6.9	7.1	7.0	7.0	6.9	6.7
Trade Balance														
Denmark	5.3	3.7	2.5	3.2	4.1	5.8	5.4	5.1	4.2	4.3	4.3	4.4	4.4	4.4
Finland	4.3	4.6	5.3	4.0	2.0	1.6	-0.6	-0.4	-0.8	-0.8	-1.0	-0.9	-0.8	-0.8
Norway	16.2	17.2	13.7	17.3	12.3	11.9	13.3	13.2	10.9	9.9	9.0	8.3	7.7	7.3
Sweden	7.3	7.8	7.1	6.9	6.2	6.1	5.8	6.3	6.3	6.5	6.5	6.5	6.3	6.2
Net International Investment Position														
Denmark	-9.9	-10.8	-15.8	-11.1	-19.3	-11.4	-0.1	5.1	...	...	...	...	...	...
Finland	-15.3	-13.8	-27.9	-7.0	3.4	17.0	15.7	12.3	...	...	...	...	...	...
Norway	57.3	58.5	53.1	59.9	79.1	89.1	94.2	...	...	...	...	...	...	...
Sweden	-20.7	-13.1	-1.5	-11.1	-8.3	-5.7	-6.9	-14.4	...	...	...	...	...	...
Gross External Debt														
Denmark	139.0	164.1	182.7	170.1	195.1	190.8	171.2	186.6	...	...	...	...	...	...
Finland	112.3	128.1	130.1	102.4	147.1	167.3	181.5	239.4	...	...	...	...	...	...
Norway	92.4	122.2	140.7	128.3	145.7	140.3	121.4	131.9	...	...	...	...	...	...
Sweden	149.8	171.0	186.1	169.1	226.5	204.6	184.1	196.7	...	...	...	...	...	...

Sources: IMF World Economic Outlook, Joint External Debt Hub, and Fund staff calculations.

Table 5. Interest and Exchange Rates

(Percent, unless otherwise noted)

	2005	2006	2007	2008	2009	2010	2011	2012
Short-term Interbank Rate								
Denmark	2.2	3.2	4.4	5.3	2.5	1.2	1.4	0.6
Finland	2.2	3.1	4.3	4.6	1.2	0.8	1.4	0.6
Norway	2.2	3.1	5.0	6.2	2.5	2.5	2.9	2.2
Sweden	1.9	2.6	3.9	4.7	0.9	0.9	2.5	2.0
Ten-year Government Bonds Yield								
Denmark	3.4	3.8	4.3	4.3	3.6	2.9	2.7	1.3
Finland	3.4	3.8	4.3	4.3	3.7	3.0	3.0	1.9
Norway	3.7	4.1	4.8	4.5	4.0	3.5	3.1	2.1
Sweden	3.4	3.7	4.2	3.9	3.3	2.9	2.6	1.6
National Currency per US$								
Denmark	6.0	5.9	5.4	5.1	5.4	5.6	5.4	5.8
Finland	0.8	0.8	0.7	0.7	0.7	0.8	0.7	0.8
Norway	6.4	6.4	5.9	5.6	6.3	6.0	5.6	5.8
Sweden	7.5	7.4	6.8	6.6	7.7	7.2	6.5	6.8
Nominal Effective Rate, appreciation								
Denmark	-0.8	-0.1	1.8	2.2	1.9	-3.8	-0.4	-2.6
Finland	-0.7	-0.2	2.2	2.5	1.9	-4.5	0.0	-3.3
Norway	4.2	-0.5	2.3	0.0	-4.5	4.4	2.3	1.0
Sweden	-2.3	0.3	1.8	-1.7	-8.9	7.9	6.2	0.9
Real Effective Rate, appreciation								
Denmark	-1.0	-0.3	1.0	1.9	2.9	-3.4	-0.5	-2.4
Finland	-2.3	-1.1	1.7	2.2	1.1	-5.4	0.0	-2.9
Norway	3.9	-0.1	0.5	0.1	-2.6	5.0	0.6	-0.4
Sweden	-3.9	-0.5	1.4	-2.0	-9.7	7.0	6.2	-0.5

Sources: IMF Institute, IMF International Financial Statistics, IMF World Economic Outlook, and Fund staff calculations.

Table 6. Macroprudential Policies

Denmark	Finland	Norway	Sweden
Mortgage Interest Deductibility			
Tax deductibility will be gradually reduced from 33.7 percent to 25.7 percent over the period 2012-19.	30 percent tax deduction on 85 percent of mortgage interest in 2013, up from 25 percent in 1993. Tax deductibility will decrease to 75 percent of mortgage interest in 2014.	Flat 28 percent tax deduction on mortgage interest since 1992.	30 percent tax deduction on mortgage interest for loans below SEK 100,000; 21 percent for loans above SEK 100,000.
Loan Limits			
Mortgage Credit Act specifies LTV rules: 80 percent for residential properties, 70 percent for agricultural properties, 70 percent for commercial real estate, 40 percent for unbuilt sites.	Guideline: limit LTV ratio on loans to 90 percent.	Guidelines: limit LTV on mortgages to 85 percent and LTI to 300 percent; limit LTV on home equity loans. to 70 percent	Guideline: limit LTV on mortgage collateralized by homes to 85 percent.
Sources: Danish Ministry of Finance, Danmarks Nationalbank, European Trade Union Institute, Fafo Report 2012, Finansinspektionen (Sweden),			
Mortgage Credit Act under the *matching principle* imposes strict matching rules between assets (loans) and liabilities (bonds). Therefore, lender only assumes credit risk in respect of the borrower.	Based on internal models (IRB method); no standardization by FIN-FSA.	Based on internal models (IRB method); New proposal in preparation by NOR-FSA to have a mortgage risk weight floor of 35 percent.	SWE-FSA has introduced a mortgage risk weight floor of 15 percent.
Countercyclical Capital Buffer			
Plans follow the CRD IV/CRR implementation timeline (in 2016).	Plans follow the CRD IV/CRR implementation timeline (phased in during 2016-18).	To be introduced in 2013.	Plans follow the CRD IV/CRR implementation timeline.
Liquidity Coverage Ratio			
To be introduced in line with Basel III timeline on Jan 1, 2015, with the minimum requirement set initially at 60 percent and rising in equal annual steps to 100 percent by Jan 1 2019.	To be introduced in line with Basel III timeline on Jan 1, 2015, with the minimum requirement set initially at 60 percent and rising in equal annual steps to 100 percent by Jan 1 2019.	To be introduced in line with Basel III timeline on Jan 1, 2015, with the minimum requirement set initially at 60 percent and rising in equal annual steps to 100 percent by Jan 1 2019.	LCR set at 100 percent. Came into force as of Jan 1, 2013 for companies with a balance-sheet total as of 30 September of the previous year greater than SEK 100 billion. Applied at the group level.

Sources: Danish Ministry of Finance, Danmarks Nationalbank, European Trade Union Institute, Fafo Report 2012, Finansinspektionen (Sweden), Finanstilsynet (Denmark), Finanstilsynet (Norway), Finanssivalvonta (Finland), Finnish Ministry of Finance, Norges Bank, Norwegian Ministry of Finance, Riksbank, Suomen Pankki, Swedish Ministry of Finance.

Table 7. Labor Market Policies

Denmark	Finland	Norway	Sweden
Wage bargaining (Industry-level bargaining determines binding wage floor; supplements subject to enterprise-level bargaining)			
Collective agreements cover 80 percent of employees.	Collective agreements cover 90 percent of employees.	Collective agreements cover 70 percent of employees.	Collective agreements cover 90 percent of employees.
Employment Legislation, Labor Market Policies, and Social Benefits			
Pioneer of 'flexicurity' model: flexible hiring/firing rules, active labour market programs to assist with job search and high unemployment benefits.	Employment legislation stringency at OECD average; generous unemployment benefits, without intensive activation requirements compared to other Nordics.	Active labor market programs, which could to target certain groups more effectively (e.g., migrant workers); generous unemployment benefits.	Stricter employment legislation for permanent contracts; generous unemployment benefits; active labour market policies.

Sources: Danish Ministry of Finance, Danmarks Nationalbank, European Trade Union Institute, Fafo Report 2012, Finansinspektionen (Sweden), Finanstilsynet (Denmark), Finanstilsynet (Norway), Finanssivalvonta (Finland), Finnish Ministry of Finance, Norges Bank, Norwegian Ministry of Finance, Riksbank, Suomen Pankki, Swedish Ministry of Finance.

Table 8. Fiscal Frameworks

Denmark	Finland	Norway	Sweden
Budget Target			
General government structural balance deficit of below 0.5 percent of GDP in 2015, and 0 percent by 2020	Central government deficit of no more than 1 percent of GDP (by 2015)	Central government non-oil structural balance deficit of 4 percent of GPFG assets 1/	General government 1 percent surplus over the cycle
Expenditure Ceiling			
Excludes automatic stabilizers	Covers about 80 percent of CG expenditure, excludes automatic stabilizers	n.a.	Determined for the next three years by Riksdag, includes automatic stabilitzers

Sources: Danish Ministry of Finance, Danmarks Nationalbank, European Trade Union Institute, Fafo Report 2012, Finansinspektionen (Sweden), Finanstilsynet (Denmark), Finanstilsynet (Norway), Finanssivalvonta (Finland), Finnish Ministry of Finance, Norges Bank, Norwegian Ministry of Finance, Riksbank, Suomen Pankki, Swedish Ministry of Finance.

1/ GPFG denotes the Government Pension Fund Global (the sovereign wealth fund).

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International Monetary Fund
Washington, D.C. 20431 USA

IMF Executive Board Discusses Nordic Regional Report on Denmark, Finland, Norway, and Sweden

On August 29, 2013, the Executive Board of the International Monetary Fund (IMF) discussed the Nordic Regional Report on Denmark, Finland, Norway and Sweden, which complements the Article IV consultations for the countries concerned. The report is part of a pilot to cluster these consultations and assess spillovers across groups of interconnected countries, by examining the risks from common shocks, highlighting shared policy challenges, and identifying potential gains from policy coordination. This follows the recommendations of the 2011 Triennial Surveillance Review to strengthen work on interconnectedness and spillovers.

The recent crises have highlighted the strengths and weaknesses of the 'Nordic model.' Robust social institutions and sound macroeconomic fundamentals and policies helped the region emerge as a safe haven for investors and allowed it to outperform many other advanced economies during the recovery. At the same time, the development of a large and regionally integrated banking system while embracing trade and financial openness also meant that the four countries were vulnerable when global markets faltered early in the crisis.

The Nordic banking system, while well-capitalized by international standards, is highly integrated, large relative to the size of the region, concentrated, and heavily reliant on wholesale funding. National financial reforms continue and strong fiscal frameworks have helped create fiscal buffers. The Nordic countries cooperate closely on financial sector issues, but discussions on burden-sharing arrangements in the event of the failure of a systemic bank are at an early stage.

The mix of large and integrated banks, high household debt, and elevated property prices creates shared regional risks. Banks have been able to support large borrowing by households to finance house purchases, often at high price levels. This has boosted household debt in parts of the region to some of the highest levels within the OECD. At the same time, strong household net asset positions often mask a mismatch between liquid assets and outstanding liabilities. With a high degree of openness and close financial integration, shocks can diffuse

rapidly across the region, feeding back between banks and households and on to the broader economy.

Executive Board Assessment

Executive Directors welcomed the Nordic Regional Report, which usefully complements the Fund's regular bilateral consultations with Denmark, Finland, Norway, and Sweden (the *Nordic-4*). Directors commended the authorities and staff for their successful collaboration and looked forward to further discussions of country-specific policies in the relevant Article IV consultations.

Directors noted that the *Nordic-4* share strong economic and social institutions, a track record of fiscal prudence, and a high degree of regional and global openness. At the same time, they observed important variations among the four countries, notably monetary and exchange rate regimes, and the degrees of political and economic integration with the European Union. Directors also pointed to the challenges arising from a combination of large, integrated, and concentrated banking sectors, highly indebted households, and close regional trade and financial linkages, as well as with the Baltic economies, which could reverberate shocks rapidly across countries.

Directors considered that sound national macroeconomic frameworks have provided valuable fiscal space, and welcomed the progress by all four governments in strengthening financial sector and macroprudential policies. They highlighted the benefits of further reinforcing national policies on housing and banking to preempt systemic risks that could arise from house price corrections and banks' dependence on wholesale funding. In this regard, Directors supported ongoing efforts to raise risk weights for mortgages to ensure adequate capital buffers for banks while providing sufficient liquidity in the system. They stressed the importance of maintaining strong fiscal buffers to guard against costly tail events in the banking sector, restricting the availability of interest-only mortgages, and gradually phasing out preferential tax treatment of housing assets while considering alternatives in the context of broader tax reforms in individual countries.

Directors saw merit in deeper regional cooperation and greater clarity on common bank resolution procedures, even as the European financial architecture continues to evolve. In this regard, introducing binding macroprudential minima would help create a level regulatory playing field, while clear burden-sharing arrangements, with appropriate safeguards against moral hazard, would reduce uncertainty about the costs to taxpayers from large bank failures. Directors welcomed recent progress at the Nordic and European levels in setting up mechanisms to deal with distressed banks, which should help resolve many of the current differences in supervisory practices and resolution preferences. They noted that the development of a Banking Union at the European level provides a valuable opportunity for deeper regional coordination that is also in alignment with the broader European scheme.

Statement by Audun Groenn, Executive Director for Denmark, Finland, Norway and Sweden on the Nordic Regional Report
August 29, 2013

General remarks

Our constituency has advocated greater regional focus in the IMF's surveillance and my authorities warmly welcome this innovative regional surveillance exercise. The four countries covered in the report provide a good basis for such an analysis. They have close real and financial linkages, face comparable external and domestic challenges, and share similar preferences for economic and social policies. There are important differences as well, notably in their monetary arrangements. Even though the report only covers these four countries, all the eight countries in my constituency are economically and financially interlinked and can draw on the report.

Appropriately, the report puts relevant financial sector issues into a common regional context and highlights the importance of coordinated policies among the countries to reduce shared and individual risks, underpin financial stability and avoid scope for regulatory arbitrage. However, the authorities also see important differences between the countries, implying that it is essential to retain the possibility to address specific national circumstances with adequate macroeconomic policies and micro- and macro prudential regulation. Nevertheless, the above mentioned issues are important issues in the IMF's bilateral consultations with Denmark, Finland, Norway and Sweden (the *Nordic-4* and they increase in significance when seen in a regional light.

My authorities benefitted from the regional consultation process and hope that the Fund has gained valuable experience for developing the regional aspects of its surveillance.

Comments on the Report

The authorities of Denmark, Finland, Norway and Sweden (the *Nordic-4*) agree with the description of the social and economic policy frameworks in the region. As noted in the report, shared characteristics such as trade and financial openness, a prudent fiscal policy and redistributive income policies have contributed to macroeconomic stability and low inequality. The authorities also agree with the general description of the Nordic banking sector, notably the large size and high degree of concentration, the strong intra-Nordic linkages and the reliance on wholesale funding, although the latter in some countries is more specifically due to the wide use of covered bonds to finance mortgage credit. The network analysis prepared for the report documents the strong economic and financial ties between the Nordic countries, while at the same time highlighting close links to the Baltic countries and the deep integration of the *Nordic-4* into the European and global trade and financial network.

While recognizing the similarities among the *Nordic-4*, the authorities also see important differences between the countries. Differences in industrial structure, exchange rate regimes, and the degree of political and economic integration with the EU contribute to differing macroeconomic outcomes and transmission mechanisms for economic policy. The different degrees to which the countries were affected by the global financial crisis and the differing speeds of recovery since 2010 are cases in point. The size of the banking sector relative to GDP varies quite significantly between countries as do debt levels in the various sectors of the economy.

The Nordic banking crisis in the early 1990s and the recent global financial crisis remind us that banking crises can be very costly. The authorities in the *Nordic-4* share the staff's assessment that strong fiscal, financial and macroprudential policies are essential to safeguard financial stability. Public debt levels have remained low in the aftermath of the financial crisis, thus providing fiscal space should the region be hit by adverse shocks. Moreover, several measures are taken to increase the resilience of the financial system. This includes the phasing-in of higher minimum capital requirements with additional buffer requirements for systemically important financial institutions (SIFIs). Countries are also taking steps to establish legal and institutional frameworks for macroprudential policy, involving e.g., the implementation of a countercyclical capital buffer, cf. Basel III and CRR/CRD IV. Additional measures are implemented to improve banks' liquidity positions and to reduce banks' reliance on short-term market funding. Against this backdrop banks in the *Nordic-4* have increased their capital adequacy ratios and overall funding structures have become more robust since the financial crisis.

While significant progress has been made, the authorities agree with the staff's recommendation that financial sector policies should be strengthened further as intended. A thorough analysis on the interaction between different macroprudential measures is essential to find a balanced way forward. Moving forward with financial reform is high on the agenda for policymakers in all the *Nordic-4*. The authorities take note of the staff's recommendation that all countries establish clear schedules for reaching the 100 percent Liquidity Coverage Ratio (LCR) and the 100 percent Net Stable Funding Ratio (NSFR), bearing in mind that EU/EEA-rules on these two issues are yet to be finalized.

The authorities also broadly agree with the description of possible costs and benefits associated with the increasing use of covered bonds in the report. The authorities consider the covered bonds market as providing a valuable, stable source of long-term funding in both banks and specialized mortgage credit institutions, as evidenced by this market's resilience during the global financial crisis. However, the sensitivity of the issue of asset encumbrance in commercial, local and savings banks from the perspective of resolution is recognized.

The staff report points to elevated house prices and high household debt levels as one of the main challenges facing the region. The Nordic authorities are aware that overheated housing markets in some countries can be a risk, even though it is challenging to determine to what degree house prices deviate from fundamentals. High household debt levels and low household net liquid assets as a share of their disposable incomes can also be a source of concern. Although historically and during the crisis the loss to the financial sector from the households has been very low in all the Nordic countries, there might be spill-over effects from the household sector to other sectors. As recognized in the report, micro-level evidence on household balance sheets can provide additional information on the distribution of debt and liquid assets across different income and age groups.

I would also like to stress that while house prices moved in the same direction in all four countries prior to the financial crisis, the picture today is more mixed. Until recently, Denmark has experienced substantial drop in house prices, while prices have continued to increase in Norway but remained more stable in Sweden and Finland. This mixed picture can in part be explained by differences in fundamentals.

Some policies addressing the stability threats from elevated house prices and high household debt levels have already been introduced across the region. As noted in the staff report, various forms of Loan-to-Value (LTV) limits are imposed in all four countries. The legal technique used to impose LTV-ratios differ somewhat, but it is important not to overstate these differences. The authorities emphasize that the efficiency of LTV limits will depend as much on the extent to which all institutions offering credit to households are subject to the requirements, and on the financial supervisory authorities' (FSAs) monitoring of the actual lending practices within the financial institutions.

Residential mortgage loan risk weights are comparatively low in some large Nordic banks. With economic stability in mind, the authorities recognize that this is an important argument in favor of higher risk weights and thus higher capital requirements in these banks. First steps have already been taken in this direction, but there is still a way to go. In addition, the Nordic FSAs are investigating differences in both parameter estimates and resulting risk weights between the Nordic banks.

The authorities are also aware of the potential risk stemming from the preferential tax treatment of housing. While limiting the deductibility of mortgage interest could have a dampening effect on household borrowing, alternative options for housing taxation could also be explored. However, housing taxation remains a sensitive issue in the Nordic countries and changes should be evaluated in the context of the overall tax system and the stability of the housing market.

The scope for coordination is strengthened by all four countries being part of the European financial market and subject to the same financial regulatory framework, even if different

relations to the European Union, the euro-system and the future Banking Union in certain circumstances may be a challenge to coordination. Furthermore, differences in requirements between home and host authorities may create competitive distortions in the host country. The Nordic countries have several established forums for information sharing, discussion and coordination in the financial markets area, both at the ministerial, central bank and supervisory levels. The authorities agree that increased cooperation in the Nordic banking regulation is an important issue and will be discussed further in the near future.

While recognizing the need for regional coordination, the authorities emphasize that each country is ultimately responsible for ensuring its own macroeconomic and financial stability. It is therefore important that each individual country has the necessary tools to ensure effective implementation of policies at home. As a comment to the Selected Issues Report it should be noted that there is no scope for fiscal coordination within the Nordic region. Fiscal coordination is for three out of four countries done within the framework of the European Union.

The authorities note that the staff report advocates host country regulation as a means to ensuring that all banks operating in national markets are subject to rules and requirements tailored to conditions in that market.

The authorities in all four countries see a need for coordination and resolution strategies for the pan-Nordic banks. The views on ex ante burden sharing agreements as well as when and how to use public funds are more diverse. While ex-ante agreements might improve the efficiency in resolving a pan-Nordic bank in distress, they might also induce serious moral hazard.

All in all, the Nordic countries have for a long period benefitted from their close relationship and cooperation. The authorities do agree that there is still scope for strengthening the cooperation when it comes to supervision of branches in general, home and host country decisions, information exchanges in supervisory colleges, IRB calibrations and risk weights in order to promote macroeconomic and financial stability both at the national and regional level.