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Lessons from Financial Integration and Financial Crises in Scandinavia

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Abstract:

The purpose of this study is to examine the causes and consequences of the financial crises of that hit the Scandinavian countries in the early 1990s and to extract the major lessons from this episode. The focus is on the macroeconomic record of Finland, Norway and Sweden as these three economies were hit by a uniquely deep recession. The case of Denmark serves as a benchmark illustrating that financial integration across borders can be achieved without a subsequent systemic financial crisis. About a dozen lessons from the Nordic experience are drawn. The post-crisis performance of the Nordic countries has been impressive. This is partly due to processes unleashed by financial integration. The long-run effects of financial integration may prove to be more important over time than the short-run effects, although not as dramatic as the boom-bust cycle that followed immediately upon financial deregulation.

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The views and opinions expressed here are those of the author.

Lessons from financial integration and financial crises in Scandinavia

1. Introduction¹

The macroeconomic record of Denmark, Finland, Norway and Sweden – the Nordic or Scandinavian countries – used to be regarded as a successful one during the post-World-War-II period. Stable growth and above all low unemployment characterized these countries. This picture was shattered when pronounced boom-bust cycles appeared roughly at the same time in Finland, Norway and Sweden. The cycle started in the mid-1980s with 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 in the early 1990s, with falling employment, negative GDP growth, capital outflows, widespread bankruptcies, systemic banking crises, and depression.

The boom-bust cycle was closely related to financial market developments, particularly to financial integration. It was triggered by a policy of financial liberalization or deregulation in all three countries. Financial events continued to fuel the boom as well as the ensuing bust. For this reason the crisis is commonly characterized as a financial crisis. In fact, it displayed the characteristics of a twin crisis, defined as the simultaneous occurrence of a banking crisis and a currency crisis. In Finland and Sweden the twin crisis turned into a "triple" crisis when huge budget deficits emerged as a consequence of the sharp decline in economic activity.

The purpose of this study is to examine the causes and consequences of the financial crises of the Scandinavian countries and to extract the major lessons from this experience. The focus is on the macroeconomic record of Finland, Norway and Sweden. The case of Denmark serves as a benchmark, illustrating that financial integration across borders can be achieved without a subsequent deep financial crisis.

The Scandinavian experience is of interest for several reasons. First of all, the Nordic cases of

¹ I have received valuable comments and support from many, among others Sigbjörn Berg, Sophie Bland, Yves Bouquiaux, Philippe Derveaux, Thomas Hagberg, Jarmo Kontulainen, Daniel Waldenström and Clara Zverina. I owe a special debt to Clara Zverina for assembling background data.

financial deregulation, boom-bust and financial crisis should be viewed as four simultaneous laboratory experiments carried out in a very similar environment as the four countries have much in common. When the aim is to distil relevant policy lessons, as in this study, a comparative perspective is more promising than a focus on the experience of only one country.

Second, the Nordics were pioneers in financial liberalization in the sense that they engineered financial market crises in the early 1990s, well ahead of the emerging market crises in the late 1990s. By now, these later episodes, in particular the events in East Asia, dominate current research as well as policy views on financial liberalization and crises. Unfortunately, the crises in the Nordic countries tend to be ignored in the literature although they deserve a more prominent position.

Third, the tradition of openness, transparency and frank public debate in the solidly democratic Nordic countries offers a wealth of data and evidence concerning financial liberalization and crisis. Policy-makers, politicians and bankers have published their memoirs from this period, providing us with insights generally not available for other countries.

Fourth and finally, the four Nordic countries are all modern welfare states with large public sectors, some of the most generous public support schemes and some of the highest GDP per capita figures in the world. The lessons from boom-bust episodes in such societies may be different from boom-bust cases in emerging market economies with smaller public sectors, lower GDP per capita, less developed democratic traditions and institutions and weaker social safety nets. For this reason, the Nordic record warrants an examination in itself.

This paper is organized as follows. First, we describe the macroeconomic record of the Nordics. Next, we give an account of the process of financial liberalization and the ensuing boom-bust cycle. This account forms the base for extracting lessons from the Nordic experience. We draw lessons from the crisis episode as well as from the financial integration process that was started by the financial deregulation and that has been going on since then. We briefly compare our lessons with those condensed from other countries than the Nordics. A fourth section concludes.²

² The Nordic experience of financial integration and crisis has been covered in a number of studies. For earlier studies on the Finnish crisis, see Bordes, Currie and Söderström (1993), Åkerholm (1995), Kiander and Vartia (1996a and b) and Honkapohja and Koskela (1999). For studies of the Swedish crisis, see Jonung and Stymne

2. The empirical picture

As mentioned initially, the Nordic crisis of the 1990s was a devastating one. This is demonstrated in Table 1 where the real costs of the major crises hitting the Nordics since the 1870s are calculated using an approach developed by IMF (1998) and extended by Bordo et al. (2001). The loss in real income growth – as defined by the IMF approach – is calculated by summing the differences between the trend growth rate and the actual growth rate from the start of the crisis until the growth rate returns to trend rate. This is also done for industrial production.

Table 1 demonstrates that the crisis of the 1990s, measured as the output loss in per cent of GDP, was deepest in Finland (26.4 per cent), followed by Sweden (13.0 per cent) and Norway (12.4 per cent), while Denmark did not experience any crisis in the 1990s judging from the calculations underlying Table 1. The same picture emerges when the cost of crises is estimated in terms of loss of industrial production with two modifications. The crises in Finland and Sweden are close in size (21.4 and 17.0 per cent, respectively) while the cost of the crisis is very small in Norway (2.7 per cent). As above, there is no evidence of any crisis in Denmark in the 1990s. Table 1 also indicates that the crisis in Norway started earlier than in Finland and Sweden but lasted longer. Thus, the annual loss in Norway is considerably smaller than in Finland and Sweden.

The loss in output and industrial production in the early 1990s is large compared to the outcome of previous major crises among the Nordics. There is no event in the entire post-World-War-II period of a similar magnitude. In terms of loss to society, it matches the depression of the 1930s, commonly regarded as the most severe crisis of the 20th century. Indeed, the financial crisis of the early 1990s is a unique one – it represents a sharp break with the business cycle pattern after World War II, in particular in Finland and Sweden.

In sum, Table 1 presents the following picture: the experiences of Finland, Norway and Sweden were similar in that they were all hit by a significant downturn. Denmark is the

(1997) and Englund (1999). Jonung, Stymne and Söderström (1996) cover both the Finnish and Swedish record of boom and bust. Englund and Vihriälä (2006) examine the financial crisis in Finland and Sweden in a comparative perspective. Fregert and Pekhonen (2006) apply a similar perspective to unemployment. The Norwegian record is well covered in the contributions of Moe, Solheim and Vale (2004).

exception, not displaying a deep crisis. Furthermore, Finland and Sweden are similar in the sense that the crisis started and ended at the same time in the two countries.

The cost of crisis may be calculated in alternative ways. Estimates by Schwierz (2004) show that the result is sensitive to the exact method applied and to the dating of the start and end of the crisis. Still, the loss ranking between Finland, Norway and Sweden remains the same. Finland is hardest hit with a cumulative output loss ranging between 28.8 and 44.5 per cent of GDP. The corresponding numbers are 20.6 and 31.4 for Norway-Mainland, and 12.5 and 21.0 for Sweden. Taking account of the output gains from the boom preceding the bust, the net output loss drops sharply. For Finland it becomes 9.9 per cent, for Norway-Mainland 12.0 and for Sweden only 3.8.³

The boom-bust patterns in the Nordic economies were substantial in international comparison as demonstrated in Table 2, which displays the size distribution of boom-bust phases in real aggregate prices for industrialized countries 1970-2000. Sweden and Finland as well as Denmark are found at the top of the rankings.⁴

When the growth rate in real GDP is examined (Chart 1), the following pattern surfaces for the period 1980-2000. Finland and Sweden went through a major depression in 1990-93 with negative growth rates. Denmark and Norway had a recession in 1988 and a weak recovery in 1989-92 with a decline in the growth rate in 1993 before a major recovery set in. In Finland and Sweden the turnaround occurred in 1993 as well. Unemployment in the four countries shows a sharp rise in the early 1990s, most pronounced in Finland and in Sweden, peaking in 1993, then gradually tapering off. Sweden remains an exception with a new peak in unemployment in 1997 (Chart 2).

To sum up, the evolution of the economies of Finland, Norway and Sweden during the last decades of the 20th century is similar in many respects. As we will see, the causes and consequences of the boom-bust cycle in these three countries are the same. The similarities are most striking between Finland and Sweden. They may be described as economic twins.

³ See Table 4 in Schwierz (2004).

⁴ Norway is not included in the sample of countries covered by Table 2, being regarded as atypical.

3. Financial liberalization and financial crises

As there is no commonly accepted theory of financial crisis, there is no standard approach towards the empirical analysis of financial crisis.⁵ The following summary of the Nordic boom-bust episode is based on a joint study of financial deregulation and crisis in the Nordic countries.⁶ The approach is a narrative one, tracing the behaviour of relevant events and economic variables during the period 1980-2000.

We first deal with the record of Finland, Norway and Sweden as much suggests that we can analyze these countries roughly in the same way. We later turn to the exceptional case of Denmark, the outlier among the Nordics.

3.1. The case of Finland, Norway and Sweden

The policy framework prior to financial liberalization

The policy framework and the macroeconomic policies that evolved in Finland, Norway and Sweden after World War II crucially influenced developments during the years 1980-2000. All countries became early members of the Bretton Woods system, pegging their exchange rates to the US dollar. Norway joined the IMF in 1946, Finland in 1948, and Sweden in 1951.⁷ As part of the Bretton Woods system, all three countries maintained far-reaching capital or exchange controls. The control of the external flow of capital was a major pillar for post-war stabilization policies since it isolated Finland, Norway and Sweden from international financial developments, thus allowing for far-reaching domestic interventionist and selective monetary and fiscal policies. The capital controls served as the wall behind which the central banks determined the rate of interest as well as the distribution and size of capital flows within the domestic economies according to political priorities.

⁵ By now the literature on financial crises in the 1990s is immense. For surveys see for example Bordo (1998) and Eichengreen (2003).

⁶ This project involves collaborators from all Nordic countries. See Vastrup (2006) on Denmark, Steigum (2007) on Norway and Englund and Vihriälä (2006), Hagberg and Jonung (2005) and Jonung, Kiander and Vartia (2007) on Finland and Sweden.

⁷ The exchange rate for the Norwegian *krone* was set at 4.03 to the dollar, the Swedish *krona* at 5.17. The Norwegian rate was devalued in 1949 to the dollar. From then on the Norwegian rate was kept constant until the breakdown of the Bretton Woods system in the early 1970s. The Swedish rate remained unchanged during the 1950s and 1960s as well. Finland on the other hand devalued the *markka* in 1957 and in 1967.

Monetary policy was used to subsidize those sectors of the economy that the government wanted to support with low interest rates and an ample supply of credit. Banking was rendered an almost risk-free enterprise in this system. Since interest rates were kept low and the tax system allowed large deductions for the cost of borrowing (tax deductions for the payment of interest rates on loans), demand for credit always remained greater than available supply. The private sector remained in a permanent state of liquidity rationing.

International financial integration contributed to the downfall of the Bretton Woods system. Yet still, after its demise, capital controls as well as internal financial controls remained in force in Finland, Norway and Sweden while many other European countries reduced or abolished them.

In the 1970s, full employment emerged as the main policy goal, one reason being the strong political position of labour unions and of labour parties, another the dominance of Keynesian policy thinking. The goal of full employment in the face of the two oil crises (OPEC I and II) contributed to expansionary fiscal and monetary policies to maintain aggregate demand. This policy of accommodation led to low rates of unemployment, high rates of inflation and several devaluations during the period 1976-82. Sweden took a leading role here. When Sweden devalued, its Nordic neighbours felt forced to follow suit to stay competitive. The devaluations created the necessary adjustment of real wages required to maintain full employment during the 1970s and early 1980s.

The devaluation policy reached a crescendo during the second oil crisis (OPEC II). The centre-right government in Sweden devalued the *krona* by 10 percent in September 1981. Immediately after the election 1982, when the Social Democrats regained power, an “offensive” 16 percent devaluation (originally intended to be 20 percent) was carried out. The idea was that Sweden in this way would gain a competitive advantage for several years. The devaluation option would then be closed forever, according to the political rhetoric. Denmark, Finland and Norway also devalued in 1982. Finland considered itself forced to follow the Swedish devaluation in order to protect its important forestry sector, a close competitor to its Swedish counterpart.

As a result of accommodation, high inflation and high inflationary expectations became deeply rooted in the 1970s and early 1980s which, combined with regulated nominal interest rates,

established low after-tax real rates for those companies and private individuals that were able to obtain loans through the financial system. Large portfolio imbalances emerged because of the prevailing system of nominal interest rates, inflation and tax rates.

To sum up, prior to the crisis of the 1990s, Finland, Norway and Sweden appeared to be small, rich welfare states immune to the high unemployment that plagued large parts of Western Europe. To many, they appeared to be successful models for economic policy. Few understood that the macroeconomic policy regimes of the three countries rested on a system of far-reaching regulations which isolated them financially from the rest of the world.

Financial liberalization and boom

In the early 1980s, starting in Norway, the financial systems of all three countries underwent major deregulation. It is difficult to get a comprehensive measure or indicator of the liberalization process. Chart 3 displays one indicator, namely the extent of capital account liberalization. Judging from this, Denmark was the most open economy in the 1970s and 1980s. The three other Nordic countries opened their capital accounts at the end of the 1980s. The abolishment of domestic controls was a gradual process, taking place over several years.⁸

The financial liberalization affected the incentives of lenders and borrowers in a fundamental way. Bank lending could now be expanded without any binding regulatory restrictions. Banks entered into a fierce competition for market shares. A lending boom started, channelling credit to the asset markets, mainly to the real estate and stock markets, causing rising asset prices. Asset prices grew more rapidly than consumer prices. Rising asset prices formed the basis for rising collateral values and strong credit expansion (Chart 4).

The private sector, previously strongly rationed in the credit market, used the growth of asset prices as collateral for absorbing more debt. As lending from banks and other financial institutions in national and foreign currencies, in particular for property purchases, increased, the volume of bank loans as a percentage of GDP rose markedly (Chart 5).

In this process, the rate of inflation and inflation expectations increased. Real after-tax rates

⁸ It has proved impossible to find an adequate indicator of the extent of domestic financial controls in the four Nordic countries.

adjusted for inflation expectations were negative or close to zero for companies and households, which bolstered their demand for loans. The financial system experienced a period of extreme expansion. The result of the new incentive structure was a financial bubble in the Finnish, Norwegian and Swedish economies built, as later became apparent, on a gigantic over-indebtedness and a corresponding over-lending within the financial system.

The macroeconomic outcome was a strong boom first in the Norwegian economy, and later in the Finnish and Swedish economy in 1988-89, as Norway started its financial deregulation roughly two years earlier than Finland and Sweden. The boom was characterized by overfull employment, rising consumption, and falling savings ratios. The current account worsened as export performance weakened, sharply in Norway primarily as a result of falling oil prices around 1986, more slowly in Finland and Sweden (Chart 6). The national budgets turned into surplus during the peak on back of property- and capital-based taxes as well as revenues from booming consumption and high nominal wage growth. Public consumption and public expenditures grew rapidly during the boom as well. The strong international expansion in the second half of the 1980s contributed to the overheating of the Nordic – in particular the Finnish and Swedish – economies.

At this point in time, policy-makers were not able to perceive the risks inherent in the process of financial integration. Initially they were unwilling to change either monetary or fiscal policy. Monetary policy was confined to defending the fixed exchange rate with the exception of a devaluation of the Norwegian currency in 1986 following the decline in the price of oil (OPEC III). Finland made a failed attempt to dampen the boom in 1989 by revaluing the *markka*. Fiscal policy remained expansionary at this stage.

To sum up, financial deregulation was the key to the birth of the boom in all three countries. The deregulation was pushed through without any profound public debate. It was not presented as part of a larger policy program, but rather as a series of small technical changes. There was no common knowledge of the consequences of financial integration, though a few voices warned of the dangers.

Rising real rates and bust

The boom in the real economy was eventually halted and turned into a bust by a combination

of factors. Real interest rates rose internationally as a result of Germany reorienting its monetary policy due to the financing of German reunification, putting strong upward pressure on Nordic interest rates. In addition, monetary policy was rendered more restrictive by the pegging of the Finnish, Norwegian and Swedish currencies to the ecu in 1990-91. Previously the exchange rates had been linked to a basket of currencies. Finnish and Swedish interest rates increased when attempts were made to defend the fixed exchange rate against recurring speculative attacks in 1989-92. As the Finnish and Swedish currencies became overvalued because of the boom, the export sector increasingly encountered problems. For Finland the collapse of trade with the Soviet Union contributed to domestic imbalances.

Other policy measures increased the real after-tax 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 Swedish 1990-91 tax reform made borrowing less attractive and stimulated private savings, effectively raising real after-tax rates. A rapid and less than fully expected decline in the rate of consumer price inflation and inflation expectations in 1990-92 contributed to a strong rise in real interest rates in Finland and Sweden.

The sharp increase in the real rate had a profound impact on financial markets. Asset price deflation surfaced when the value of real assets was reduced by rising real interest rates. Balance sheets turned fragile when asset values, primarily property prices, fell below collateral values. At the same time, the nominal values of debts remained unchanged. The losses of wealth became enormous, forcing an adjustment of portfolios leading to lower private consumption and investments and an increase in private savings. The harder households and companies tried to improve their wealth position by selling assets, the deeper the crisis became. The number of bankruptcies increased at a dramatic rate. Asset price deflation showed a cumulative tendency. The sell-out of property forced down property prices which, in turn, triggered new sales. Stock market prices tumbled, in particular those of firms engaged in the financial sector, in real estate and in construction.

Investments plummeted, in particular within the construction sector. Unemployment soared. Tax revenues fell and public expenditures rose. In Finland and Sweden, the government budget deficit and thus the ratio of government debt to GDP increased dramatically, particularly in Finland. However, Norway did not experience any rise in government debt (Chart 7).

In 1992 the financial system of all the three countries was rocked when the *markka*, the *krona* and the *krona* were exposed to major speculative attacks. An international currency crisis erupted in September 1992. The Finnish *markka* was floated in September 1992, and the Swedish *krona* followed suit two months later, in November 1992. The Norwegian currency was devalued in December 1992.

Recovery

The floating of the domestic currencies in the fall of 1992 checked the downturn of the Finnish, Norwegian and Swedish economies as domestic interest rates were reduced. An upturn commenced in all three countries in the following year and lasted for several years, although unemployment remained high for a long time. It did not start to decline until the mid-1990s, from which point 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 (Chart 8).

The rate of inflation was kept at a low level, around two percent per annum throughout the period 1995-2000. Wages and prices remained surprisingly stable given the size of the depreciation of the currencies. High unemployment contributed to low wage increases. Fiscal policy was directed towards lowering the budget deficits. The budgetary position of the three countries emerged among the strongest in Europe. The Norwegian case is a special one due to the returns from the energy sector.

The recovery after the boom-bust cycle turned out to be a lengthy one – it lasted at least until the downturn in worldwide economic activity around 2001. Still, Finnish, Norwegian and Swedish growth rates in the early 2000s have remained above the EU average.

Beyond recovery

Financial integration has profoundly changed the economic landscape in the Nordic countries. These long-run effects have been overshadowed by the short-run impact of the financial opening, in other words by the dramatic events during the boom-bust cycle. But once financial markets were opened up, this impacted on a large number of sectors inside as well as outside the financial system. The stock markets of Finland and Sweden expanded as part of the process

of financial opening and integration (Chart 9). Foreign holdings of domestic stocks increased rapidly. Corporate governance changed profoundly once foreign ownership was admitted.⁹ Taxation was adjusted to international tax competition. The rules for monetary and fiscal policy making were reformed and adjusted. Inflation targets were introduced. Finland entered the euro area as part of the process of international financial integration.

In short, financial integration has pushed the process of globalization of the Nordic economies far ahead, affecting the characteristics of the Nordic or Scandinavian model. Much suggests that this pattern is to a large extent due to the adjustment dynamics created by the financial crisis. However, why the Scandinavian countries stand out as having made such a successful recovery after the financial crisis is still not clear.¹⁰

2.2. The case of Denmark¹¹

Denmark avoided the economy-wide systemic financial crisis that hit Finland, Norway and Sweden. A combination of macroeconomic and microeconomic factors contributed to Denmark being spared the Nordic boom-bust pattern although substantial problems emerged in the Danish banking sector as well. Let us look at macroeconomic developments first.

In the early 1980s, Denmark was facing severe economic problems. Unemployment (Chart 2), inflation and interest rates were high; large budget deficits prevailed and deficits on the current account were large (Chart 5). In addition, policy-makers faced a credibility problem as the Danish *kroner* had been devalued several times in the 1970s. At this stage Denmark ventured on a policy of restraint. Fiscal policy was tightened and a fixed exchange rate policy was announced. The credibility of the Danish currency peg returned gradually from 1982-83 onwards.

The new policy of basically shadowing the German currency faced major challenges in the 1980s. The deficit on the current account, which had been a permanent feature for more than

⁹ For example, financial liberalization impacted deeply on corporate governance in Finland and Sweden. See Ylö-Antilla, Ali-Yrkkö and Nyberg (2005) on the Finnish case and Henrekson and Jakobsson (2005) on the Swedish case.

¹⁰ For a critical evaluation of the Scandinavian model, see Calmfors (2007).

¹¹ This section is based on Vastrup (2006). See also Berg (1998), Drees and Pazarbasioglu (1998) and Chapter 2 in Mayes et al (2005).

20 years, increased to 5½ per cent of GDP in 1986. In response, fiscal policy was tightened and kept tight in the following years with the aim of reducing the current account deficit. This policy eliminated gradually the deficit by 1990, turning the deficit into a surplus of 3 per cent of GDP in 1993 (Chart 5).

During the period of the strengthening of the current account, economic growth was low, but positive and stable. Unemployment increased steadily from 1987 and reached above 9 per cent when the international economic conditions deteriorated in 1992-93 (Chart 2). Fiscal policy turned expansionary in 1993-94. Due to the surplus on the current account, the credibility of the *kroner* prevailed. Following gradual reforms of the labour market and cautious demand management in the second half of the 1990s, unemployment fell to a level below that of most other European countries. The fiscal expansion of 1993-94 ended a period of distress in the banking sector.

There is no indication that the European currency crises in 1992-93 and the short-term Danish deviation from the fixed exchange rate regime during this episode affected the stability of either the Danish economy or its banking sector. In the long-run perspective, the external orientation of fiscal policy and the strict adherence to a fixed exchange rate were crucial in bringing about macroeconomic stability in Denmark after the precarious situation in the early 1980s. In contrast to its Nordic neighbours, Denmark managed to create a macroeconomic policy that did not foster a boom-bust cycle, in this way contributing to stable financial conditions.

Still, there were risks. The low rate of economic growth and the deflation of property prices in the late 1980s and early 1990s were major macroeconomic threats to the stability of the banking system. The rate of economic growth, although low, was essentially stable in the period 1987-93 (Chart 1). The recession of the early 1990s in Denmark was much milder than in Finland and Sweden. In addition, nominal property prices declined more slowly, and by much less in Denmark than in the other Nordic countries, especially in Finland and Sweden. One reason for this was that changes in taxation related to owner-occupied housing were more cautious in Denmark than in the other Nordic countries.

Denmark carried out financial deregulation in the 1980s as well. But it started from a different position than the other Nordic countries in the sense that Danish financial markets were more

integrated with the international market already in the 1970s (Chart 3). The termination of quantitative and other restrictions on the banking sector (internal liberalization) took place already in 1980-81, several years prior to domestic deregulation in Finland and Sweden. The deregulation was made in the midst of a recession. All in all, financial liberalization in Denmark implied less of a change in prevailing conditions than in the other Nordic countries. Thus, the financial deregulation of the early 1980s did not have any major impact on the stability of the banking sector at the end of this decade.

The financial position of commercial banks in Denmark deteriorated in the late 1980s. The problems peaked in 1991-93 when the total losses and loss provisions reached more than 5 per cent of GDP. Table 3 demonstrates that in 1991-93 the losses and loss provisions relative to GDP of Danish banks were at the same level as in Norway, but smaller than in Finland and Sweden. However, the problems of Danish banks never developed into a systemic banking crisis. Government support for commercial banks in Denmark stayed at 0.4 per cent of GDP while it was 8.1 per cent for Finland, 3.6 per cent for Norway and 4.1 per cent for Sweden. The Danish banking system was able to absorb the losses and the loss provisions by itself because Danish banks were well capitalized, better than the banks of the other Nordic countries.

2.3. The stylized pattern of Nordic financial integration and boom-bust

Our account above of the Nordic experience of financial integration and boom-bust, in this case the record of Finland, Norway and Sweden, is summarized in Chart 10 and 11 in the following stylized way. The starting point in Chart 10 is a country with a pegged and highly credible exchange rate and extensive financial regulation of domestic and international credit and capital flows as well as of the domestic interest rate, which is below the level that would be determined by a “free” market outcome. The process starts with a substantial deregulation of financial markets or financial liberalization, leading to a rapid inflow of capital to finance domestic investments and consumption. The domestic volume of credit begins to grow dramatically, boosted by an increasing demand for and supply of credit. The capital inflow remains positive as long as the rise in growth, investment and consumption appears to be sustainable.

The combination of domestic and external financial deregulation and a pegged exchange rate creates a financial or speculative bubble. At this stage, the real rate of interest is negative, which further spurs asset price inflation. This process creates positive wealth effects which in turn lead

to a further strengthening of aggregate demand. During this expansionary phase, the fixed exchange rate is perceived as irrevocably pegged by investors. The expectation of a stable peg is the central prerequisite for the growth of financial imbalances that will later fuel the crisis.

Eventually, an unexpected negative impulse changes the economic and financial outlook (Chart 11). The credibility of the pegged exchange rate is put into question. Speculation against the peg starts. The capital inflow is reversed into an outflow. The loan expansion and thus the lending boom come to a halt, turning into a contraction. The central bank tries to arrest the capital outflow and attract foreign capital by raising domestic interest rates, which exacerbates the domestic economic situation. The real rate of interest rises, undermining balance sheets and thus the stability of the domestic financial system by creating credit losses. Emerging financial or banking problems further spur speculative attacks against the currency peg. The harder the central bank tries to defend the fixed exchange rate by raising interest rates, the deeper the domestic crisis becomes and the less likely the defence is to succeed. The financial bubble, once created by a rising volume of credit, bursts. It turns into a bust with a sharp increase in the number of bankruptcies, a banking crisis, unemployment and economic stagnation.

Sooner or later the defence of the pegged rate fails. The central bank is forced by speculation and a failing domestic economic performance to abandon the peg and allow the currency to float. The decision to float is followed by a sharp fall in the foreign value of the currency. Domestic interest rates are lowered. The first step to recovery is taken. These sequences of events display strong, cumulative self-reinforcing mechanisms, indicated by the arrows between the different sections in Chart 10 and 11.

Denmark is the exception to this pattern. By tying itself closer to German monetary policy, by being more financially open from the start, by carrying out financial liberalization in the midst of a recession, by having better capitalized banks and by conducting a more restrictive fiscal policy, Denmark avoided a boom-bust pattern similar to that of its Nordic neighbours.

4. Lessons from the Nordic experience of financial integration

By now there is a substantial literature on lesson-drawing from recent episodes of financial integration and financial crises, it is an intellectual growth industry in itself. This literature is focused on the experience of East Asia and Latin America. To our knowledge, there is no study

of the lessons from financial liberalization and boom-bust in Scandinavia. Still, the Nordic record suggests a number of lessons for policy-making.

Of course, lesson-drawing always contains a large subjective element. With this caveat, we suggest the following fourteen lessons from Scandinavia. They are categorized under three rough heading: first, lessons on how to liberalize while preventing the emergence of a financial crisis, second, lessons on how to deal with a financial crisis, and third, lessons concerning the long-run effects of financial integration.

4.1. Lessons on how to liberalize without creating a financial crisis

Lesson no 1: The power of financial markets (of the real rate of interest)

First of all, the boom-bust episode 1985-93 in Finland, Norway and Sweden demonstrates the central role that financial factors, more precisely the real rate of interest, may play in driving macroeconomic developments during the opening of financially closed economies with pegged but adjustable exchange rates. The key economic variable in the boom-bust story is the real rate of interest, or more correctly the after-tax real rate.

Prior to financial liberalization, the real rate in all three countries was negative, often in the range of 2-4 percent as a consequence of prevailing internal and external financial controls. The negative rate gave an extremely strong incentive for individuals and firms to accept more debt when controls were abolished, thus driving the loan expansion. Banks and other financial intermediaries responded by increasing the supply of loans. Eventually after a few years, real rates turned positive, breaking the boom phase, reaching a peak during the end of the bust. At this stage the real rate had reached uniquely high levels.

The sharp and unexpected rise in the real rate created huge negative balance sheet or wealth effects, sharply reducing investments and consumption and raising savings as the private sector tried to rebalance the composition of their portfolios. These balance sheet effects undermined the entire financial system, the wealth position of the private sector and the budget of the public sector.

This is not to ignore that other factors were at work as well, influencing the boom-bust pattern.

However, these factors were of secondary importance compared to the role of financial market developments. Without financial deregulation, the business cycle in Finland, Norway and Sweden during the period 1985-93 would have remained less volatile and closer to the traditional cyclical pattern.

The policy lesson is straightforward. If boom-bust episodes are to be prevented in the future, monetary and fiscal authorities should keep the after-tax real rate at an adequate level, avoiding sharp and unexpected swings. Just as the boom-bust was created by domestic policy measures, others can also be prevented by domestic policies.

Lesson no 2: The dangers of financial ignorance

Second of all, the Nordic episodes illustrate the dangers of a lack of knowledge about the processes unleashed by financial liberalization and integration. If such knowledge is not at hand, the proper policy response before, during and after financial liberalization will not be forthcoming. When financial deregulation started in Finland, Norway and Sweden, decision-makers were trapped in a pattern of thinking that made no allowance for financially driven booms, busts and crises. The general attitude was “it could not happen here”. They projected the lessons from the many decades of financial repression into the future without understanding that they were entering a new and more risky world.

Decision-makers in charge of monetary and fiscal policies commonly viewed steps towards financial deregulation in the mid-1980s as minor technical adjustments of no major consequence for economic performance. The first impact of the liberalization was a lending boom with rising consumption and wealth which was initially appreciated by the parties in political power. Thus, no major counteracting stabilization policy measures were taken.

The economics profession was caught in a Keynesian world of flow variables, ignoring wealth, portfolio and balance sheet effects created by financial liberalization and changes in real interest rates. As a rule, economists were in favour of financial liberalization without understanding the imbalances and dangers that financial deregulation could bring about if not combined with counter-measures. Hardly any warnings thus emerged from the economics profession when such advice would have been most appropriate.

Bankers and other actors on financial markets were ignorant about the change in the rules of the game. They lacked an understanding of the workings of unregulated financial markets because they had only experienced a financially closed and strongly regulated economy where financial risks were exceptionally limited.

The policy lesson is simple. A thorough analytical and factual understanding of the move towards financial integration and the workings of unfettered financial markets is crucial to make financial integration successful. Financial knowledge should be as widely dispersed as possible: among domestic policy-makers, economists, financial sector participants and, most importantly, among the public at large.^{12 13}

Lesson no 3: The dangers of backward-looking policy behavior

In the three crisis-ridden countries, policy-makers defended the pegged exchange rate as long as possible. The political establishment as well as the economics profession supported the fixed rate policy right up to the bitter end. In hindsight, it seems as if policy-makers – central bankers as well as ministers of finance – did not care about the costs of the hard currency policy as they drove their economies into deep crisis.¹⁴

This pattern is to a large extent due to the backward-looking learning process of policy-makers and economists alike.¹⁵ In short, policy-makers, when confronted with new crisis-like developments, looked backwards on the most recent past crisis experience to draw lessons from. As they had just learnt from the 1970s and early 1980s that devaluations (or soft-currency policies) and high rates of inflation could and should be avoided by sticking to a hard currency policy, they tried to peg the exchange rate. They were convinced that the devaluations of the

¹² Furthermore, international organizations like the IMF should also be financially literate. As argued in lesson 10, this was not the case in the 1980s.

¹³ Major steps towards financial enlightenment have actually been taken since the 1980s. Financial economics or finance has entered the curriculum of universities and institutions of higher learning in Scandinavia on an impressive scale in the 1990s. Indeed finance has become one of the most attractive fields of university studies as salaries and pecuniary rewards in the rapidly expanding financial systems in the Nordic countries have caught students' attention.

¹⁴ Economists sometimes argue that politicians are inclined to adopt short-term expansionary policies that turn out to be inflationary in the long run. However, in Finland and Sweden the opposite pattern held in the early 1990s. Policy-makers carried out a contractionary policy in the short run in order to avoid inflation in the long run – while bringing about a deep crisis.

¹⁵ See Jonung (1999) for an analysis of the learning process of policy-makers and economists in Sweden during the 1970s, 1980s and 1990s.

past had not solved the economic problems in the long run, only masked them in the short run. A strictly fixed exchange rate policy or hard-currency policy was therefore viewed as a more promising strategy – as a method of breaking away from the devaluation cycles of the soft-currency regime of the past. The plan was that the credible pegged rate should act as the anchor for a monetary policy to achieve low inflation and thus create a proper climate for growth and employment. Policy-makers as well as the economics profession were not able to understand that this lesson from the past was a recipe for disaster when moving into a financially integrated world. In this new open world, arresting or dampening a financial crisis requires a flexible exchange rate.

The lesson is that policy-making should be forward-looking. They should not regard the next future crisis as identical to the most recent one. This lesson is extremely difficult to follow. The economics profession in Scandinavia was not able to do so. Why should we expect policy-makers, who listen to the advice of economists, to do better?

Lesson no 4: The dangers of procyclical monetary policy

The Nordic episodes illustrate the importance of the exchange rate regime during a process of financial liberalization. Keeping a fixed exchange rate during a process of financial liberalization increases the risk of making monetary policy procyclical and thus creating a conflict between internal and external stability.

Policy-makers in Finland, Norway and Sweden were determined to maintain a fixed exchange rate for their currencies due to their history of frequent devaluations and high and volatile inflation. By maintaining and defending the fixed exchange rate of their currencies, the Nordic countries created a strongly procyclical monetary policy during and after financial liberalization. During the boom phase, interest rates could not be raised to counter the boom, because that would contribute to capital inflows and thus strengthen the credit boom. Once the cycle started to turn downwards, the fixed exchange rate had to be defended by raising the domestic rates, contributing to the downturn. Eventually, the defence of the fixed rate made the domestic crisis so deep that the fixed rate had to be abandoned. This happened in the fall of 1992: in September in Finland, in November in Sweden and in December in Norway.

Lesson no 5: The dangers of procyclical fiscal policy

Fiscal policy, that is the design of taxes and government expenditures, played a key role during the process of financial liberalization. During the boom phase, it was as a rule procyclical. However, the authorities apparently believed that fiscal policy was contractionary as budget surpluses were registered, but these surpluses were too small to counterbalance the boom. During the bust phase, due to the workings of automatic stabilizers, budget deficits expanded extremely rapidly. However, the rise in deficits induced far-reaching attempts to reduce government expenditures and raise taxes. Much suggests that this was a case of over-shooting, making fiscal policy contractionary during the depression phase.¹⁶

The policy lesson is that in the event of a threatening boom-bust, fiscal policy should be based on a tax-smoothing strategy. It should be countercyclical, restraining growth in demand during upturns and supporting growth in the downturn. Following the bursting of a financial bubble, budget deficits should be allowed to expand, reflecting a policy of socializing losses incurred by the private sector. In short, fiscal policy as well as other types of policies should strengthen the balance sheets of the private sector during the bust.

Lesson no 6: The sequencing of financial reforms

The Nordic record of financial liberalization demonstrates that the sequencing of financial reforms, internally and externally, on the route to financial liberalization is of the uttermost importance in determining macroeconomic performance. It is the key to the disastrous record of Finland and Sweden. Financial markets were first deregulated internally in the mid-1980s, which set off a sharp lending boom, fuelled by an inflow of capital while outflows were prevented by capital controls. Later financial markets were externally deregulated, allowing for an outflow of capital, when the central banks had to defend the pegged exchange rate with high interest rates. The pegged exchange rate was then abandoned when the crisis reached its peak. An earlier floating or adjustment of the peg could have dampened the boom-bust pattern – or even eliminated it if financial liberalization had been combined simultaneously with a floating rate.

¹⁶ This interpretation may be contested as the rise in the government deficit during the crisis was regarded by many as unsustainable, fuelling expectations of an explosive development of government debt with sharply rising interest rates. Thus to reduce these expectations and keep interest rates at bay, policy-makers were forced to reduce the growing deficit by tightening fiscal policy.

The process of sequencing also includes how the payment of interest rates on loans is treated by taxation. In the three crisis-ridden Nordic countries, real after-tax interest rates were initially kept at a very low level through favourable taxation of interest payments on loans. At a later stage, taxation was changed, raising real after-tax interest rates significantly. Tax rules thus made a procyclical contribution, fuelling the boom and exacerbating the bust. A proper sequencing should have reformed taxation at a very early stage of the financial liberalization process.

Lesson no 7: The inadequacy of micro-prudential financial supervision

The system of financial supervision was well developed in Finland, Norway and Sweden, given the conditions that existed prior to financial deregulation. The banking system was in a strong position, judging from prevailing standards. There were no weak banks, banks dependent on state subsidies or state support, and no crony banking. Instead, the banking system was made weak and financially vulnerable through the incentives created by the sequencing of the deregulation process.

The Nordic experience demonstrates that conventional micro-prudential financial supervision is inadequate to prevent the development of boom-bust cycles. The forces unleashed were simply too strong to be handled by micro-based financial supervision.¹⁷ Of course, it is important to modernize financial supervision as part of the process of financial liberalization to create a climate of good corporate governance when the financial system moves from a regulated to an internationally open system. However, no financial supervision, even the most efficient, can prevent a financial crisis of the type that hit the Nordic countries.

4.2. Lesson on how to deal with a financial crisis

¹⁷ The same lesson holds for deposit insurance. Finland and Norway had such a system. Sweden got one as a result of the crisis. The crisis proved that it was insufficient. Instead, the government served as an implicit guarantor of the stability of the banking system.

Lesson no 8: The importance of resolution policies

The process of financial liberalization set off a chain of events that threatened to make the whole banking system collapse during the bust phase. It wiped out the equity base of many banks, thus making banks bankrupt. At this stage, the government of Sweden offered a blanket insurance that no banks were going to fail and set up a bank to take over the bad assets of commercial banks. Norway chose a different route. The three biggest banks were nationalized by the Government, eliminating private ownership completely. Finland took far-reaching steps to support its banking system.

The Swedish policy approach has been praised. It was swift and resolute. It maintained the commercial banks in private ownership and allowed banks to continue financial intermediation. Eventually, the “bad bank” turned out to be a financial success once the economy had recovered. This was the case in Norway as well. The government made a profit from its socialization of banks, once the economy had moved away from the crisis.

In all three countries, the determined actions by governments to prevent banks from closing their business and to take over bad debt in various ways, reduced the impact of the financial crisis, avoided a credit crunch and allowed for a rapid recovery of the financial system and thus of the real economy.

Lesson no 9: The inadequacy of the lender-of-last-resort function of central banks

Traditionally, central banks are assumed to serve as lender of last resort to the banking system in case of an emergency. The Finnish and Swedish central banks did not perform this function during the financial crisis. During the bust phase, the foreign reserves of the central banks were being depleted at the same time as the banking system wanted to borrow from the central banks. The central banks were squeezed financially by the currency and banking crises.

The resources of the central banks were simply insufficient to safeguard the stability of the banking systems once a systemic crisis broke out. They were not able to mobilize the funds required to prop up the banks. Instead the rescue of the banking system was financed through fiscal measures. In short, the taxpayer – not the central bank – served as the lender of last resort as governments stepped in and took control of failing financial institutions.

Lesson no 10: The inadequacy of the advice from the IMF

As stated at the start of this paper, Finland, Norway and Sweden have been members of the IMF almost from its inception. One of the IMF's tasks is to monitor the financial and monetary developments of its member countries and give advice and policy guidance. The Nordic record of the 1980s and 1990s indicates that the IMF failed to perform these tasks in a satisfactory way.

The role of IMF in this crisis is not a glorious one judging from the Article IV consultations and other type of advice given by IMF representatives. They gave no early warnings of an impending financial crisis. The boom-bust cycle came as a surprise to it. Once the financial crisis broke out, the focus was on defending the fixed exchange rate by making fiscal policy more contractionary while the economy was sliding into depression. There was no advice to abolish the fixed exchange rate. In hindsight, the recommendations of the IMF during the Nordic crisis were not constructive, often misguided, and of negative value.¹⁸

4.3. Lessons on the long run effects of financial integration

Lesson no 11: Financial liberalization changes the monetary and fiscal regime

Financial integration had a major impact on the stabilization policy regime in the Nordic countries. First of all, the fixed exchange rates of the three countries were abolished as the basis for monetary policy and replaced by inflation targeting. Such a monetary policy founded on openness, accountability and transparency and communication through changes in the short-term interest rate set by the central bank requires the existence of well-functioning financial markets. Thus, financial integration created the prerequisites for a new type of monetary policy regime that could not have existed in the previous financially closed and heavily regulated economy, in particular with strong administrative controls of short and long interest rates.¹⁹

¹⁸ The role of the IMF during the East Asian crisis and the Latin American crises has been the subject of a harsh critique. However, the views and advice of the IMF during the Nordic financial crisis remains to be thoroughly analyzed.

¹⁹ Financial liberalization was the impulse that produced a boom-bust pattern. In Sweden the crisis created a window of opportunity to carry out reforms in a number of areas not necessarily connected with the crisis. The

Second, following the experience of large budget deficits, the framework for fiscal policy making were changed, in particular in Sweden, towards a rule-based policy. The basic idea was to reduce the scope for short-term discretionary fiscal policies by tying the hands of policy-makers. The policy has so far been successful. The Nordic countries display some of the strongest public finances in Europe.

Lesson no 12: Financial liberalization has far-reaching effects outside the financial system

Most of the discussion of the effects of financial liberalization and financial integration is focused on the banking system and the financial sector. However, once the cross-border barriers of financial flows are eliminated, a pressure for policy changes emerges in other areas than the financial system. They concern rules and regulations concerning foreign ownership of domestic real and financial assets, the taxation of income and wealth in a financially open economy, and the design of corporate governance laws to take some examples. In all these fields, fundamental changes followed as a result of financial integration. These developments were not as dramatic in the short run as the boom-bust cycle, but still dramatic in their own right.

Lesson no 13: Financial liberalization may be costly in the short run and beneficial in the long run

The Nordic record shows that financial crises triggered by a process of financial liberalization and integration can be extremely costly in many dimensions; costly to society, to tax-payers, to owners of stocks and equities, and to politicians in power.

The loss in terms of output, industrial production and employment due to the crisis was remarkable, in particular in Finland and Sweden. The financial crisis of the 1990s was the deepest one in the post-World-War-II period. The same holds for Norway. The fiscal cost of the crisis was enormous as budget deficits and public debt soared, when tax revenues declined and government expenditures increased, largely due to the workings of automatic stabilizers. Government support of the financial system became large in the short run. The private sector

crisis inspired a re-thinking that would not have occurred otherwise.

was hit by huge wealth losses, in particular holders of stocks in banks and other financial institutions.

The political costs were significant as well. Governments in power during the outbreak of the crisis lost popularity and were replaced in subsequent elections. Even if the policy-makers in power had not designed the policies that led to the crisis, they were held responsible by the voters.

Looking at the long-run consequences of the financial crisis of the early 1990s, a more positive picture emerges. Much suggests that it brought about a transformation of the Nordic economies, making them more dynamic, releasing Schumpeterian processes and raising their growth potential. Their growth rates have been high compared to the EU average since 1993. Thus, the long-run effects of the Nordic crises may be quite beneficial. This is an open question that remains to be settled in future research.²⁰

Lesson no 14: Financial liberalization does not necessarily lead to deep crisis

Finland, Norway and Sweden ended up in a deep crisis following financial liberalization. However, the Nordic experience shows that this outcome is not a foregone conclusion. Financial liberalization can be carried out successfully without creating a sharp boom-bust pattern as the record of Denmark demonstrates. This requires proper timing of the deregulation, a monetary and fiscal policy geared towards macroeconomic and financial stability and a well-capitalized banking system.

4.4. Lessons from other financial crises

Are these Nordic lessons the same as the lessons from other financial crises? Judging from the vast literature on lesson-drawing from financial crises, the answer is both yes and no, but predominantly yes.²¹ The Nordic lessons are very similar to those from other countries. Financial liberalization and subsequent credit expansion are the main driving force behind boom-bust cycles given a pegged exchange rate. The abolishment of controls on cross-border capital flows and the sequencing of reform are major factors behind subsequent developments,

²⁰ This argument is made by Tornell and Westermann (2005).

²¹ See for example Allen (2001), Stiglitz (2003) and Kokko and Suzuki (2006).

similar to the experience of almost all other countries hit by financial crisis. The introduction of a floating rate and the ensuing depreciation marks the end of the crisis and signals recovery. As a general pattern exists, there are general lessons to be drawn across all countries.

Some studies stress country-specific factors, however. Financial crises in emerging markets are often viewed as an argument for changes in the international financial architecture, in particular in the policies of the IMF. As the Scandinavian countries never received any financial assistance from the IMF, global financial arrangements never surfaced in the Scandinavian debate. Nepotism and corruption in the financial system are sometimes taken as causes of financial distress in emerging markets. On this account, the Nordic experience has no lessons to teach either as crony capitalism was not an issue in Scandinavia.

4. Summary

The Nordic experience of financial integration and financial crisis in the 1990s adds to our understanding about the causes and consequences of financial crises. In short, it demonstrates a general pattern that holds for the three countries displaying a boom-bust pattern. There should be no doubt that the financial opening of Finland, Norway and Sweden was the main impulse that initiated a sequence of events that brought these economies into depression. Eventually, the crisis led to major changes and restructuring that transformed the crisis-ridden Nordics into some of the fastest-growing economies in Europe. The long-run effects of financial integration are not as dramatic as the short-run effects, but they may prove to be of greater importance over time.

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Table 1. The costs of major crises in Scandinavia 1877-2000 in terms of foregone growth in real income and industrial production relative to trend (percentage points).

Crisis of:	1877-78	1886	1900	1907	1920s	1930s	1990s
1. Loss of real income							
Denmark	5,1	No crisis	No crisis	No loss	No loss	6,5	No crisis
<i>Period below trend</i>	1877	-	-	-	-	1932	-
Finland	24,2	No crisis	10,4	No crisis	No crisis	24,3	26,4
<i>Period below trend</i>	1877-81	-	1900-01	-	-	1929-32	1990-93
Norway	No crisis	0,7	1,4	No crisis	21,5*	13,3	12,4
<i>Period below trend</i>	-	1885-86	1900	-	1921	1931	1988-93
Sweden	11,3	No crisis	No crisis	11,2	9,6*	17,7	13,0
<i>Period below trend</i>	1877-78	-	-	1908-09	1921	1931-33	1990-93
2. Loss of industrial production							
Denmark	10,6	No crisis	No crisis	No loss	No crisis	18,4	No crisis
<i>Period below trend</i>	1877-78	-	-	-	-	1931-32	-
Finland	72,2	No crisis	21,0	No crisis	No crisis	46,4	21,4
<i>Period below trend</i>	1876-79	-	1901-02	-	-	1930-33	1990-92
Norway	No crisis	no data	no data	No crisis	36,9*	26,3**	2,7
<i>Period below trend</i>	-	-	-	-	1921	1931	1988
Sweden	14,7	No crisis	No crisis	17,3	19,8*	30,9	17,0
<i>Period below trend</i>	1877-78	-	-	1908-09	1921	1930-33	1990-93

Comments: * two-year trend used, ** four-year trend used. See Hagberg and Jonung (2005) for the method of calculation.

Table 2. Size distribution of identified boom-bust phases in real aggregate asset prices for industrialized countries, 1970-2002. (Denmark, Finland and Sweden marked in bold.)

Boom Phases			Bust Phases		
Country	Years	Cumulative price change ¹⁾	Country	Years	Cumulative price change ¹⁾
Japan	1979-1990	358.0	Japan	1991-2002	-364.1
Sweden	1994-2000	329.6	Sweden	1977-1985	-185.1
Finland	1994-2000	293.1	Ireland	1979-1985	-173.3
Ireland	1994-2001	289.1	Italy	1991-1997	-173.1
Spain	1985-1990	249.4	Netherlands	1979-1983	-163.0
Netherlands	1993-2000	237.2	Finland	1974-1979	-155.1
United States	1995-2000	157.8	Finland	1990-1993	-135.4
United Kingdom	1983-1989	152.1	Spain	1991-1995	-124.6
Switzerland	1983-1989	110.9	Belgium	1980-1985	-115.2
Finland	1986-1989	92.2	Denmark	1977-1982	-113.5
Denmark	1996-2000	90.6	Australia	1973-1978	-113.4
United Kingdom	1995-2000	90.4	Spain	1979-1982	-111.3
Australia	1996-2002	89.2	France	1991-1996	-108.6
Sweden	1986-1989	88.1	Sweden	1990-1993	-108.0
Australia	1984-1989	87.7	United Kingdom	1974-1977	-106.3
Denmark	1983-1986	85.9	Switzerland	1990-1996	-104.0
Finland	1980-1984	84.9	Japan	1974-1978	-88.1
Spain	1996-2000	84.0	United Kingdom	1990-1994	-86.1
France	1986-1990	74.6	Italy	1981-1985	-80.7
Canada	1985-1989	74.3	Canada	1990-1995	-80.2

Source: Jaeger and Schuknecht (2004).

Comments: 1) Based on triangular approximation. Norway is not included in the sample.

Table 3. Losses, loss provisions and public support for commercial banks in the Nordic countries, 1991-93.

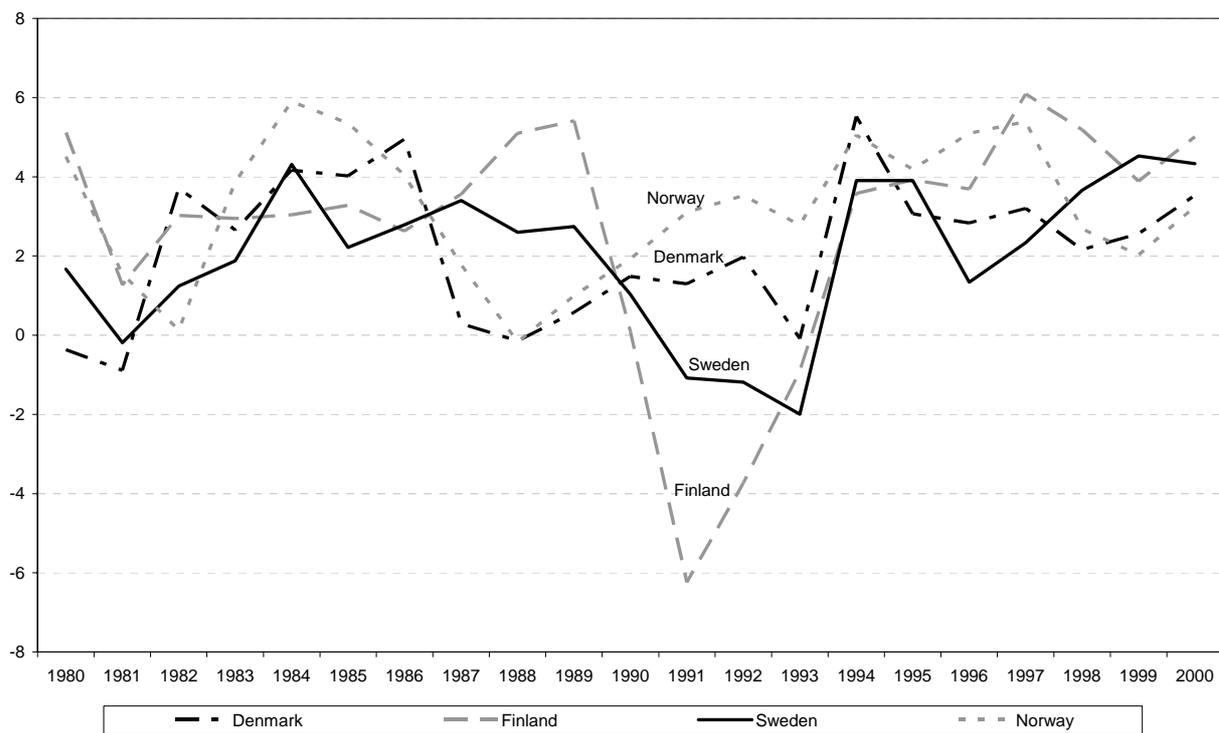
	Losses and loss provisions 1991-93				Public support 1991-93 ¹⁾	
	In billion, national currency units	In percent of lending	In percent of GDP	In percent of balances	In billion, national currency units	In percent of GDP
Denmark ²⁾	44.5	9.1	5.2	4.5	3.9	0.4
Finland	46.4	13.1	9.8	6.2	38.6	8.1
Norway	39.2	8.4	5.6	6.6	25.0	3.6
Sweden	151.6	17.9	10.5	10.1	65.0	4.1

Accumulated figures.

- 1) Actual support paid out; for Sweden and Denmark until end of September 1994, for Denmark repayments excluded.
- 2) Excluding the Faroe Islands.

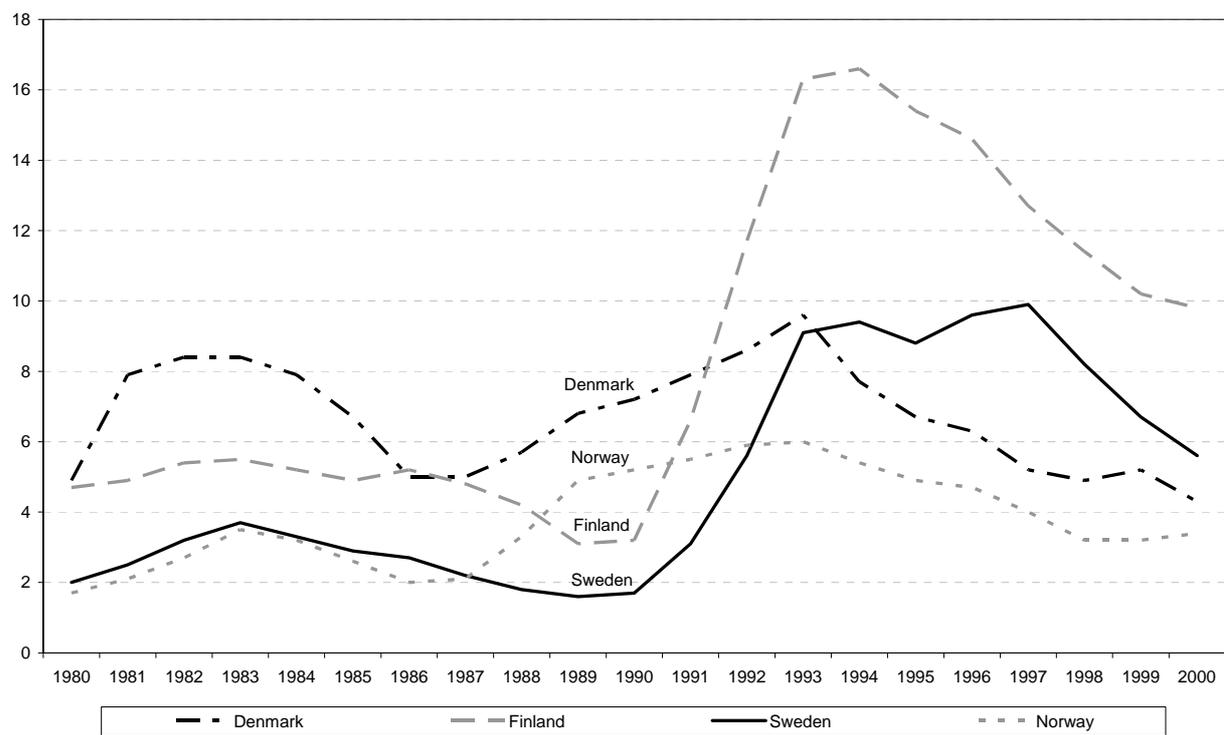
Source: Vastrup (2006).

Chart 1. Real income growth in the Nordic countries, 1980-2000, per cent.



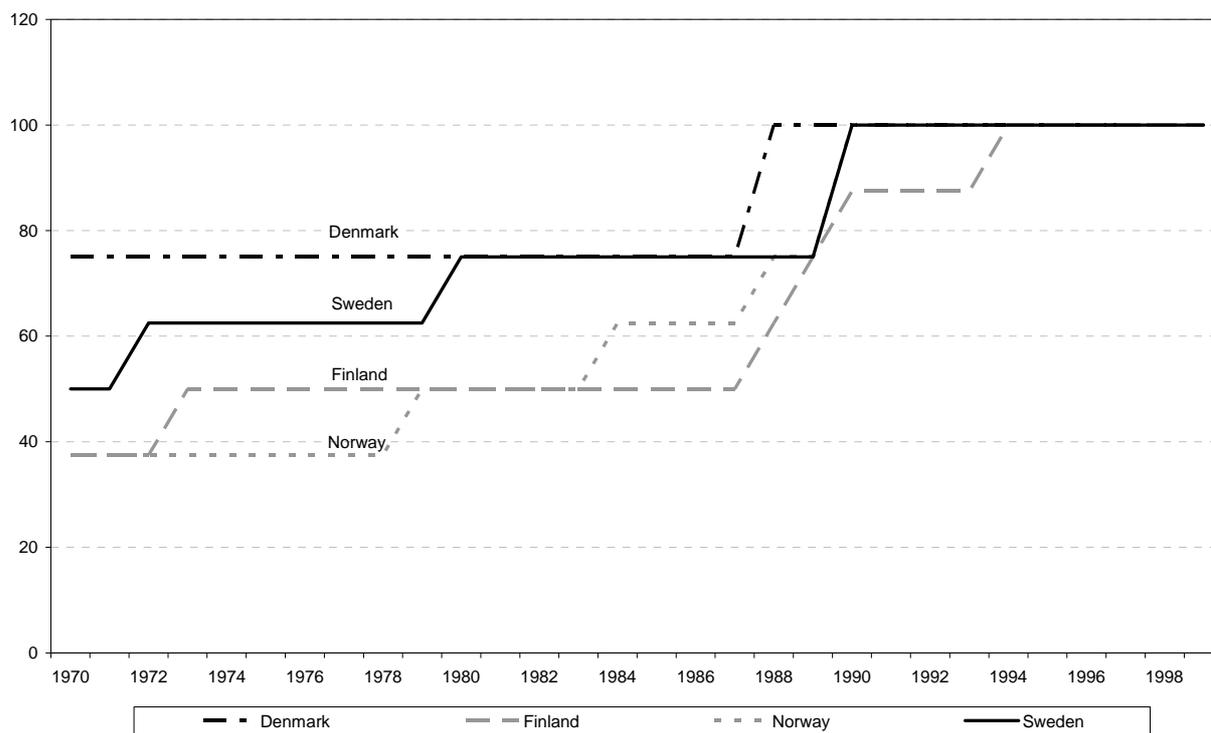
Source: Ameco.

Chart 2. Unemployment in the Nordic countries, 1980-2000, per cent.



Source: Ameco.

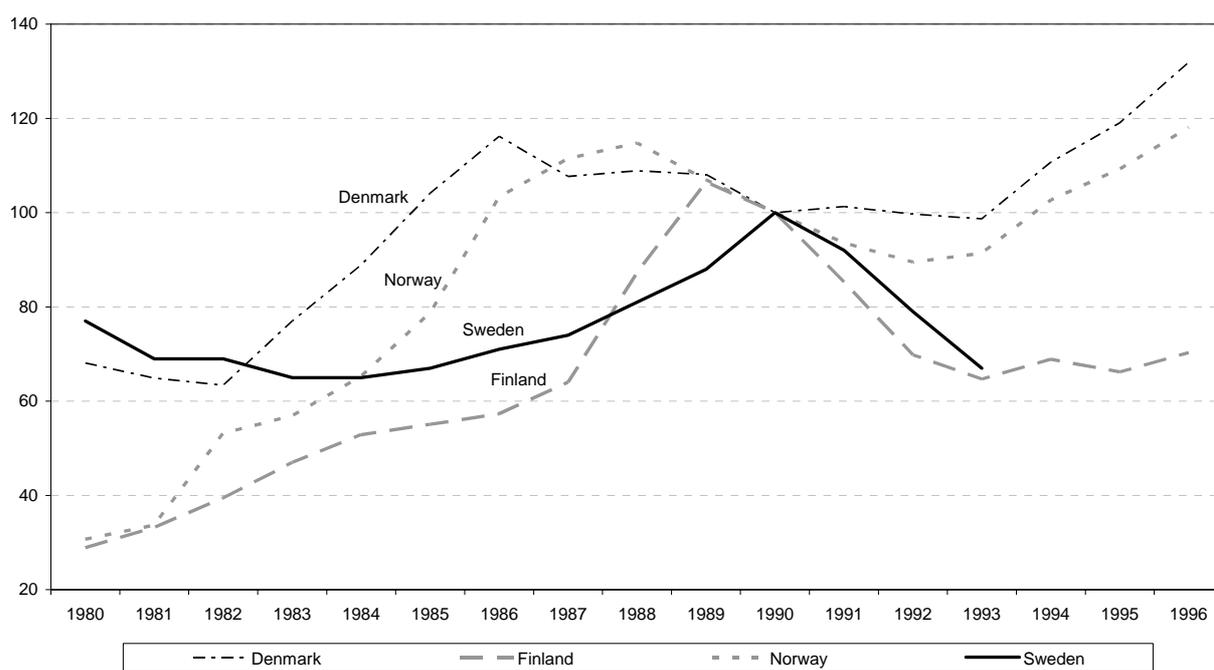
Chart 3. Capital account openness in the Nordic countries, 1970-2000, per cent.



Source: Data kindly provided by D. Quinn. See Quinn and Toyoda (2007).

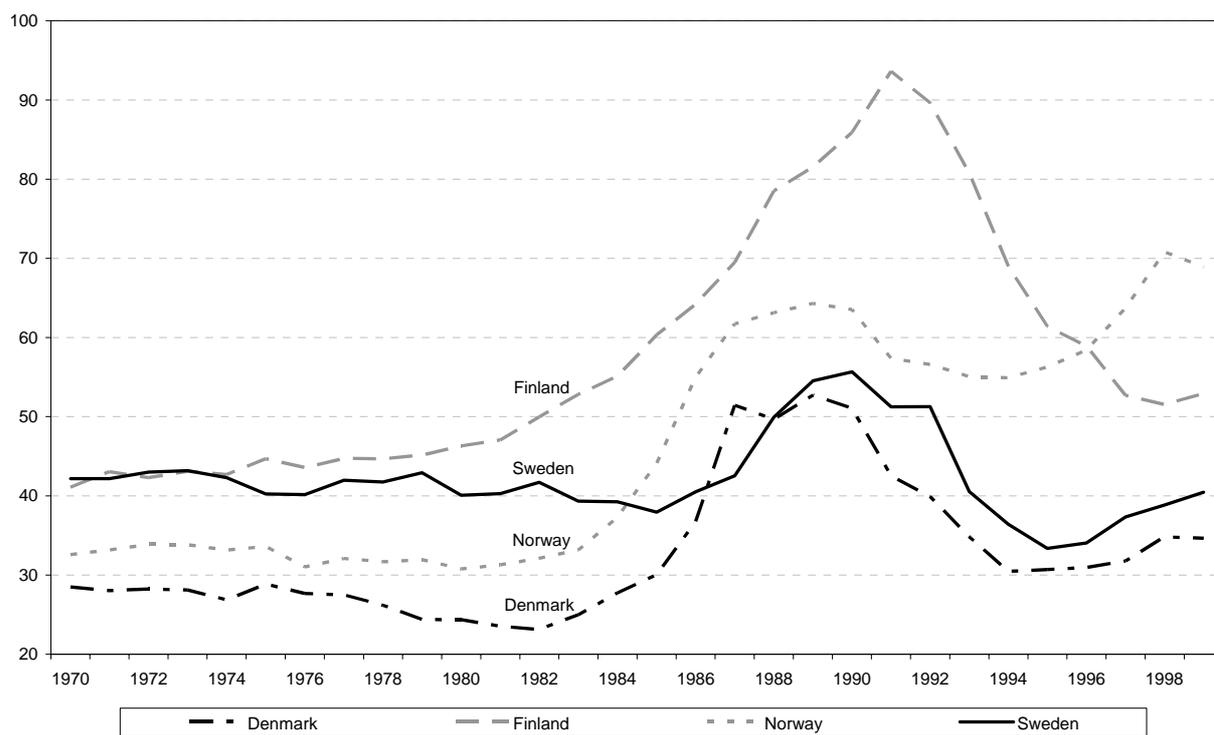
Comments: The original data set has been adjusted for Sweden. Following the capital account liberalization in 1989, the index for Sweden has been set at 100 percent starting in 1990. This indicator is a measure of de jure extent of capital restrictions.

Chart 4. Real estate price indices in the Nordic countries, 1980-1996. 1990 = 100.



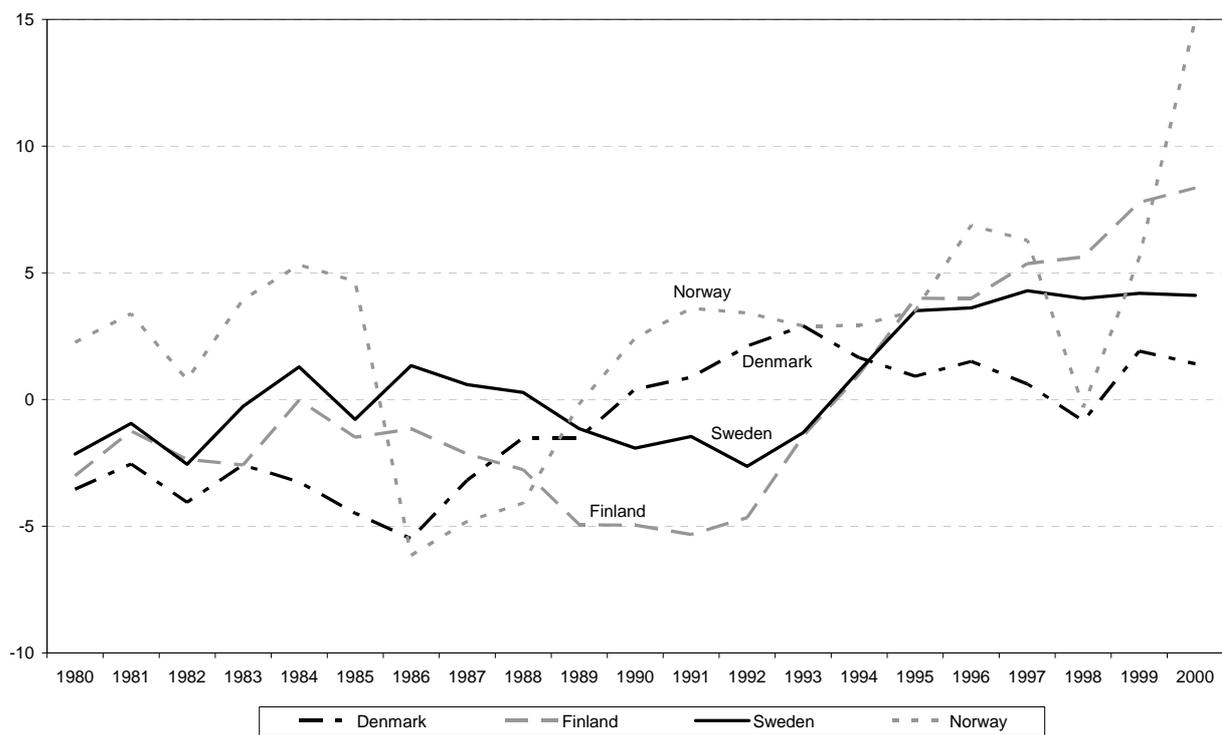
Source: Berg (1998).

Chart 5. Ratio of bank loans to GDP in the Nordic countries, 1970-1999, per cent.



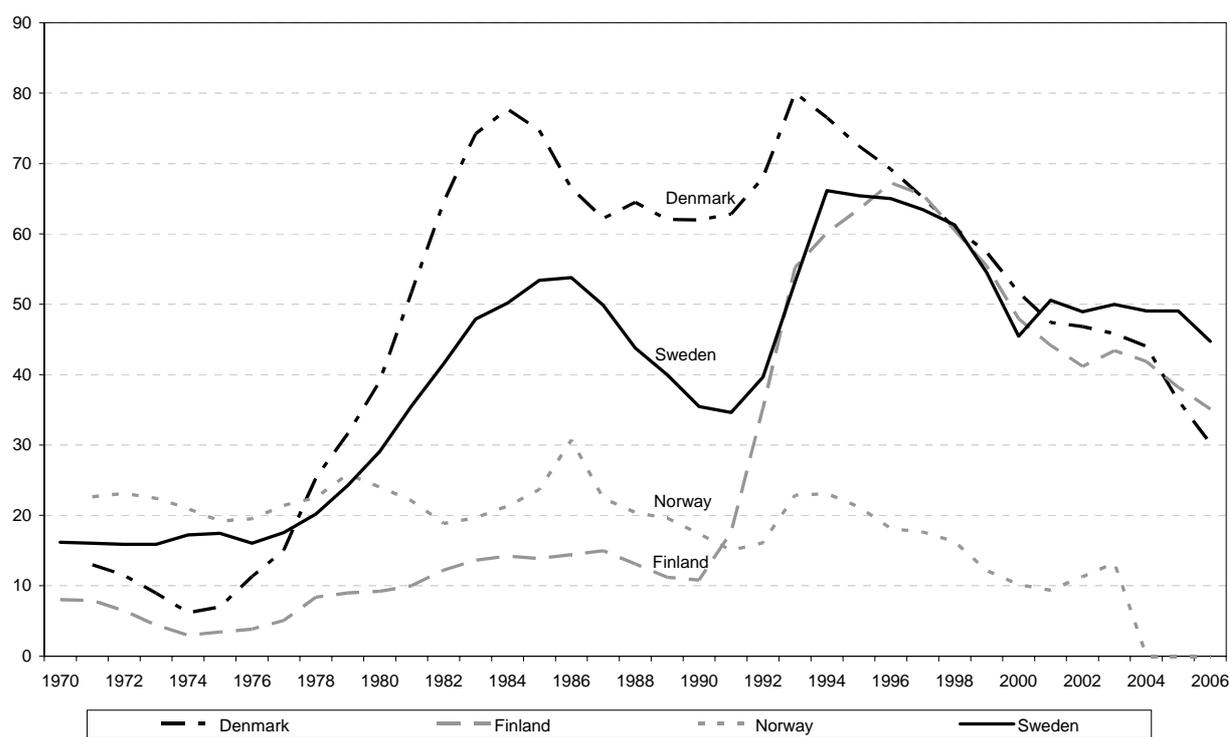
Source: International Financial Statistics, IMF.

Chart 6. Ratio of current account to GDP in the Nordic countries, 1980-2000, per cent.



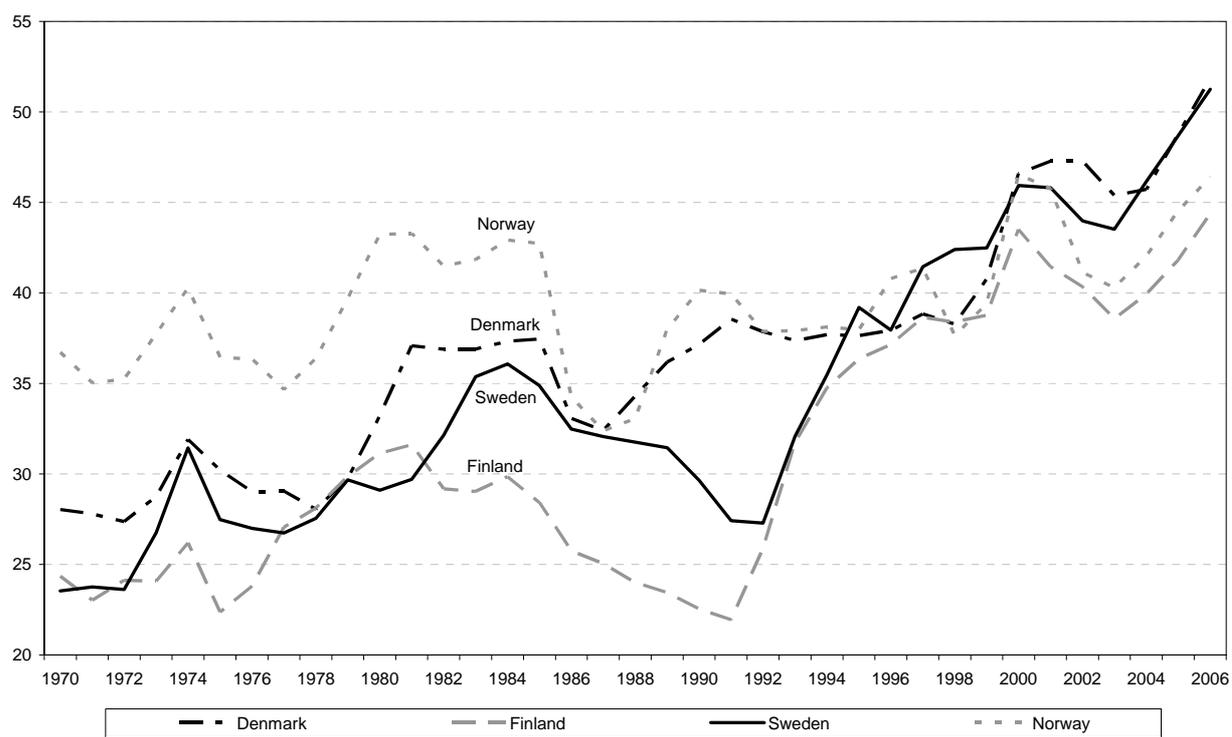
Source: Ameco.

Chart 7. Ratio of government debt to GDP in the Nordic countries, 1970-2006, per cent.



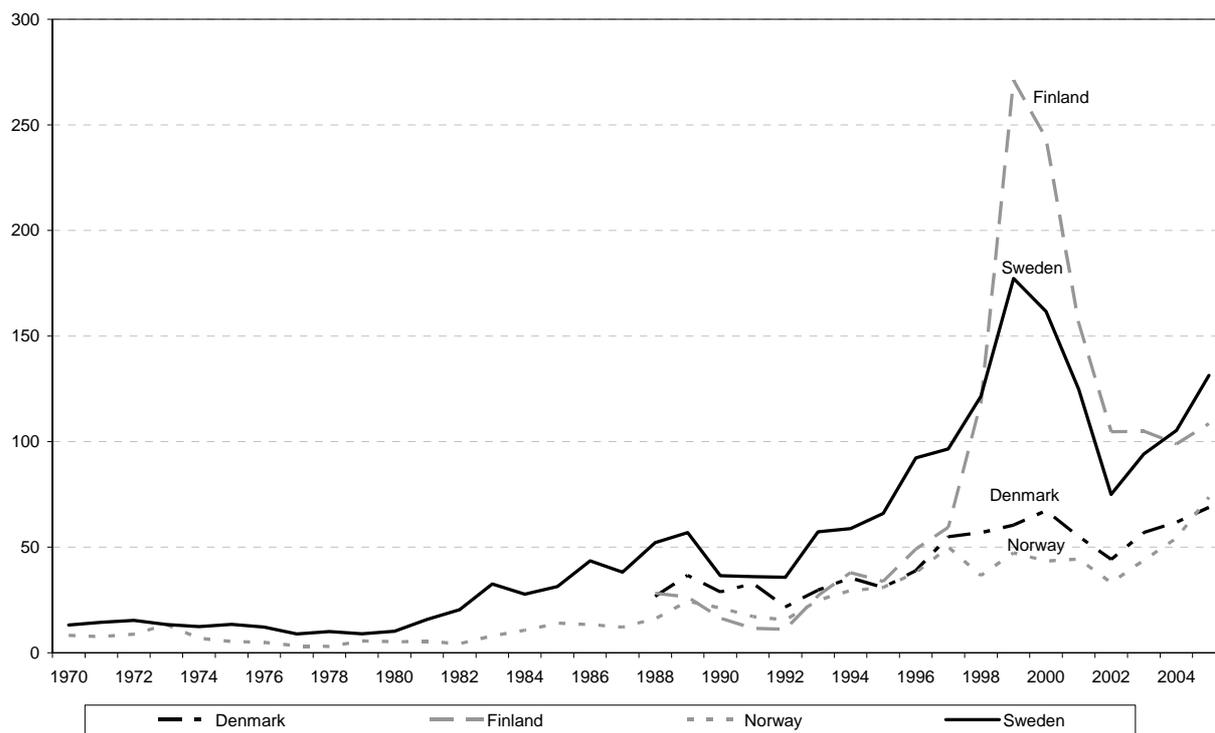
Source: International Financial Statistics, IMF.

Chart 7. Ratio of exports to GDP in the Nordic countries, 1970-2006, per cent.



Source: AMECO.

Chart 9. Ratio of market capitalization to GDP in the Nordic countries, 1980-2000, per cent.



Source: *Sweden*: Data kindly provided by Daniel Waldenström,
Norway: Market capitalization data kindly provided by Daniel Waldenström, GDP data from World Development Indicators (WDI)
Denmark and Finland: WDI.

Chart 10. The Nordic boom phase about 1985-90. A stylized picture.

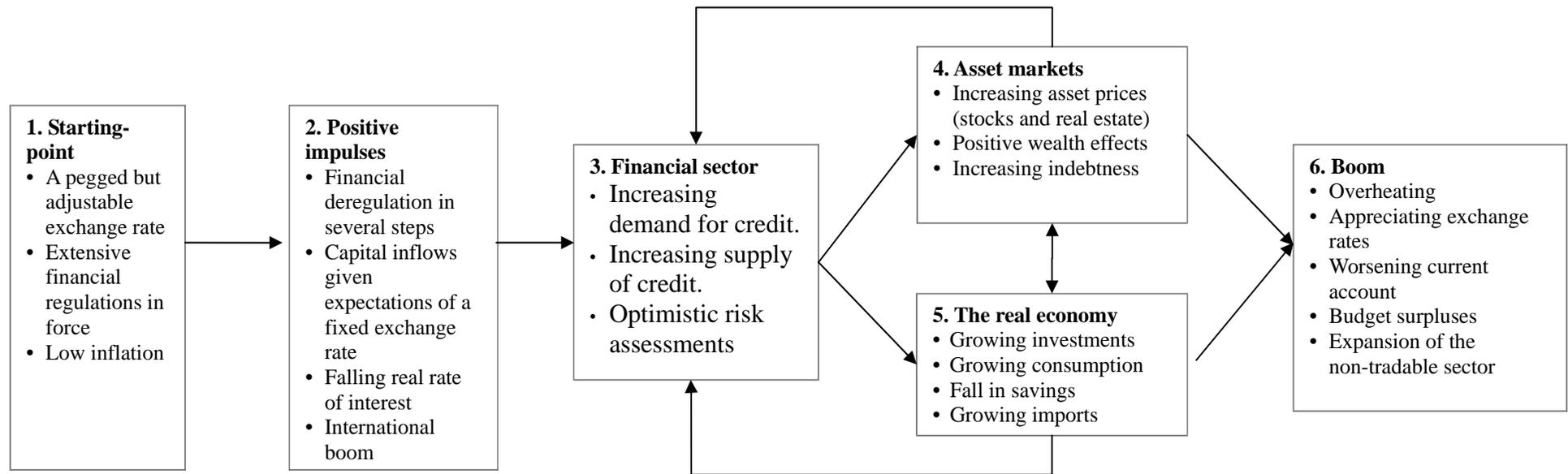


Chart 11. The Nordic bust phase about 1990-93. A stylized picture.

