3. Financial crisis in Finland and Sweden: similar but not quite the same

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INTRODUCTION[1]

In both Finland and Sweden, the general macroeconomic depression in the early 1990s was associated with a deep financial crisis, involving a currency crisis, a banking crisis, and widespread debt service difficulties in the non-financial sector. These episodes have much in common with the financial crises experienced in several developing countries in the recent past. In particular, they were preceded by financial liberalization and a credit boom. In the case of developing countries, inadequate institutions have often been blamed for what happened. 'Crony capitalism', corruption, bad statistics, and the expectation of international rescue operations have been cited as important factors leading to an unsustainable boom and a later collapse.

In the Nordic countries such institutional weaknesses are less likely explanations. These countries are among the most highly developed and least corrupt countries in the world. Nevertheless, the boom-and-bust experiences seem very similar to those of many developing countries, suggesting that other factors must have been important. Macroeconomic policies constitute one set of candidates; in particular, both Finland and Sweden unsuccessfully tried to stick to a pegged but adjustable exchange rate regime just as so many developing countries have done. Similarly, despite generally highly developed institutions, the financial and regulatory systems were ill-prepared to cope with the forces that were unleashed by financial liberalization.

Once the crises hit, the authorities intervened heavily. Failing banks were kept alive through massive public support, and far-reaching guarantees of bank liabilities were issued. In spite of this, there was some disruption of financial intermediation, which may have exacerbated the general economic depression. The direct impact of government intervention was

to prevent the market mechanism from restructuring the distressed financial sectors, which, particularly in Finland, displayed a clear over-capacity before the crisis. The end result was a consolidation of the banking sector in both countries. The operational efficiency increased substantially, and Swedish and Finnish banks turned quite profitable, in contrast to those of Japan, another developed country that ended up in financial crisis in the early 1990s.

In this chapter, we first give a concise description of the crises, including their background, the evolution of the main events, and government policies. Second, we look at the consequences of the banking problems for the real economies. Finally, we try to isolate the key factors behind the emergence of the crises and the relatively speedy recoveries. We hope that the experiences of these two neighboring countries with many similarities, but also with several distinguishing features, can help in understanding the general phenomenon of financial crises.

3.1 THE FINANCIAL SYSTEMS IN THE EARLY 1980S

3.1.1 Bank-dominated Intermediation

In the early 1980s, the Swedish and Finnish financial systems were still comparatively undeveloped, particularly given the otherwise advanced nature of the two economies. The Finnish financial system was much smaller than those in continental Europe, not to mention the Anglo-Saxon countries, with a ratio of total financial assets to GDP of less than 60 per cent of that in Germany. The Swedish system was somewhat more developed, with roughly the same relative size as in Germany. In terms of structure, the financial systems were closer to the continental-European model, with intermediaries dominating the channeling of funds, than the Anglo-Saxon model, with the securities markets playing a major role. In both countries the ratio of assets held by financial intermediaries to total financial assets was comparable to that of Germany and markedly higher than in the United States.

Stock markets were poorly developed, particularly in Finland, and played a limited role in financing new investment. This was partly a result of deliberate policies. The tax systems favored financing investment through retained earnings due to the double taxation of dividends, and in Sweden also through subsidies available to firms that set aside profits to special funds rather than paying dividends. As a result, stock market capitalization remained under 10 per cent of GDP in Finland and under

30 per cent in Sweden in the first half of the 1980s, far below the level in many other countries. This was to change with soaring stock prices in the 1980s. When stock prices peaked in 1989 capitalization rates had doubled in both countries.

Among intermediaries, banks played a dominant role. In both countries, banks provided a wide variety of services following the universal bank tradition, and their economic importance tends to be underestimated by looking at asset shares. In Finland, the number of banks was as large as 632 in 1985. Almost all operated in just one or a few municipalities – 254 savings banks and 370 co-operative banks. Individual savings and co-operative banks were formally fully independent entities, but could be considered as two bank groups covering the country as a whole. First, the savings banks jointly owned a commercial bank – *Skopbank* – that acted as a central bank, providing liquidity and various specialized services to individual savings banks. Alone in the group, *Skopbank* had access to central bank and foreign financing. Second, credit risks were spread among all savings banks via a guarantee fund and a mutual insurance company for deposits of individual banks. Third, business strategies and marketing were often centrally designed. Similarly, the co-operative banks with their jointly owned commercial bank – *Okobank* – formed a separate banking group.

Apart from the two local bank groups, the Finnish bank market had three major actors: the two commercial banks *Kansallis-Osake-Pankki* (*KOP*) and *Suomen Yhdyspankki* (*SYP*), and the post office bank (*PSP*). The commercial banks were the most versatile and provided lending and other services to large corporations. *PSP* had some privileges in the management of government liquidity and was often 'the second bank' of large corporations. The savings banks focused on housing and real estate lending, while the co-operative banks specialized in agricultural and small enterprise lending. Yet, banks also competed actively, particularly in the household deposit and loan market. Housing loans were particularly important, as the role of separate mortgage institutions was small.

In Sweden, the most important intermediaries were banks and mortgage institutions. Some mortgage institutions were owned by major bank groups, whereas others were independent (for example, *Stadshypotekskassan*). Historically, banks accounted for the major fraction of lending to the public. After World War II, commercial banks provided around half of total bank lending. Several of the banks (in particular *Skandinaviska Banken*, *Svenska Handelsbanken* and *Stockholms Enskilda Bank*) had a major influence on corporate governance of Swedish corporations by acting as 'house banks', by being represented on boards of directors, and

by direct ownership influence. In particular, the Wallenberg family exerted much of its influence through its dominance of *Stockholms Enskilda Bank*. The government-owned post office bank accounted for some 10 per cent of total lending, and played an important role for payments by operating a giro system. It was merged in 1974 with a government-owned commercial bank to form *PK-banken*. Just like Finland, Sweden also had two strong groups of savings banks (*sparbanker*) and co-operative banks (*föreningsbanker*), with their main customer bases in the household, small business and agricultural sectors of the economy.

The bank dominance was gradually broken during the post-war period. In 1986, lending from housing mortgage institutions, with 37 per cent of the total, was almost as large as bank lending, with 39 per cent. The rapidly growing group of finance companies, which were to play an important role in the early phase of the Swedish banking crisis, had another 8 per cent of the market. Insurance companies and pension funds also provided substantial lending to the non-financial business sector by re-lending of employers' pension contributions. This was more or less automatic and did not entail any risk-taking for the lenders, as loans were guaranteed by third parties, often banks.

3.1.2 Pervasive Regulation Confined Business Opportunities

The activities of financial institutions were tightly regulated in both countries by various conduct rules. In Finland, banks were subject to a reserve requirement, used for monetary policy purposes. More importantly, their pricing policies were severely constrained by ceilings set by the central bank on each institution's average and top lending rates. In addition, all banks were required to offer the same interest rate linked to the central bank base rate in order for the interest income to be tax-exempt for depositors. Most deposit accounts adhered to this requirement. Lending was not explicitly regulated, but the central bank issued guidelines, according to which, for instance, business investment was to be given priority over loans for consumption.

In Sweden, banks, insurance companies and other institutions were subjected to *lending ceilings*, typically formulated as limits on the growth rate of the stock of loans to low-priority purposes (in practice household loans, except for the purchase of newly constructed homes). *Liquidity ratios* required banks to hold a minimum fraction of their assets (over 50 per cent around 1980) in bonds issued by the government and by mortgage institutions. *Placement requirements* put a similar restriction on the investments of insurance companies. The huge supply of bonds was the result of large budget deficits and an ambitious program for residential investment.

Liquidity ratios and placement requirements were adjusted to ensure that the desired residential construction could be financed at below-market interest. With more than 50 per cent of their assets in bonds, typically with long maturities and with interest rates being fixed for five years at below-market levels, Swedish banks and insurance companies had in effect been transformed into repositories for illiquid bonds, crippled in fulfilling their key function in screening and monitoring loans for consumption and investment.

Interest regulation put a cap on lending rates and limited the ability of banks to capture scarcity rents created by the lending ceilings. As a result lending was effectively rationed. Bank actions were also continuously scrutinized by the *Riksbank*, whose views on proper bank behavior were communicated in weekly meetings between the governor and representatives of the major banks.[2] The net of regulations imposed on banks benefited other financial institutions. In particular, finance companies, originally focusing on activities like factoring and leasing, expanded aggressively into regular lending.

In both countries, regulated interest rates were low relative to inflation, making real rates negative for long periods of time and creating constant excess demand with credit allocated by other means than prices. Despite low interest rates the absence of alternatives – particularly in Finland – kept depositors willing to deposit in banks. Stock and bond markets were small and illiquid and investments abroad were either prohibited or subject to special permits.

Further, the tax systems – with nominal interest payments deductible against marginal tax rates from 50 up to 80 per cent in Sweden – contributed to making the after-tax real interest rate even more strongly negative. Clearly this was not an equilibrium situation. It could only be sustained through regulations and rationing. Regulations had a major impact on bank balance sheets and cost structures and risk profiles. Banks held bonds and corporate and household loans, which, even though formally risky, entailed almost no credit risk for several reasons. First, the debt service burden never became too severe. Real lending rates were low and often negative, and economic downturns usually resulted in devaluations, which by increasing inflation created a real transfer from depositors to borrowers. Second, lending rate regulation allowed banks to use creditworthiness as the key rationing device. Third, ceilings on average lending rates allowed banks in Finland to transfer interest payments from customers in financial difficulties to healthy customers: lowering rates for the former could at least partially be compensated by increasing rates to the latter without violating the regulations and without fear of losing customers.

3.1.3 Bank Efficiency Generally Low

Interest rate regulation and the lack of competition protected bank interest margins. Yet bank profitability was relatively weak in both countries. One reason, particularly in Finland, was the high operating costs caused by large and expensive branch office networks. Local bank markets were largely oligopolistic, with a small number of banks offering a homogeneous set of services. In the absence of effective price competition, banks competed mainly on the quality and availability of services, mostly through setting up new offices to increase the convenience of deposit and loan customers. This structure was not stable, however, and the potential for cost savings by avoiding the duplication of bank offices triggered a wave of bank mergers in Sweden in the 1970s and 1980s. In Finland the bank structure remained essentially unchanged until the crisis years, although the number of both savings banks and co-operative banks declined through mergers.

Profitability varied a great deal among banks. In both countries the weakest banks were the savings banks. They were often inefficiently small, and they had a weak position in the profitable business of lending to corporations. In Sweden the average rate of return on equity within the savings banks group was consistently a couple of percentage points below that of other banks in the early 1980s.[3]

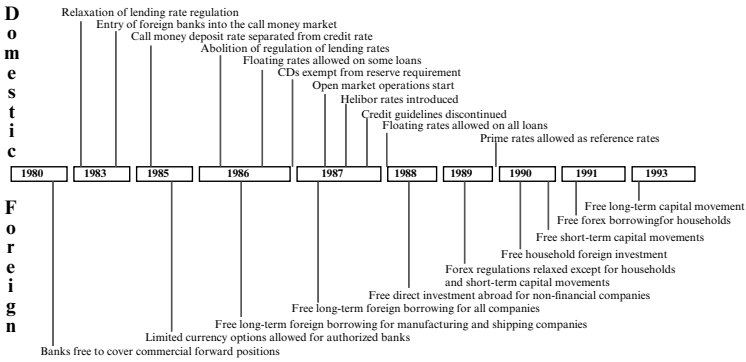
3.2 FINANCIAL LIBERALIZATION – THE INITIAL IMPACT

3.2.1 Gradual Deregulation

Many strains developed in the regulated financial systems over time. Circumvention of the regulatory constraints became more widely spread, increasing the dissatisfaction of those households and firms that did not want to bend the rules or could not easily do so. At the same time, technological developments and internationalization made many actors – particularly major corporations – less dependent on the inefficient domestic credit markets. As a result, the rationale of regulations was increasingly questioned, and a gradual liberalization process started in the early 1980s in both countries. Although both the starting positions and the end results were similar in the two countries, the sequence of events differed (Figure 3.1).

In Finland, the process got underway in 1980 when banks were allowed to cover their commercial forward positions with transactions in foreign

FINLAND



SWEDEN

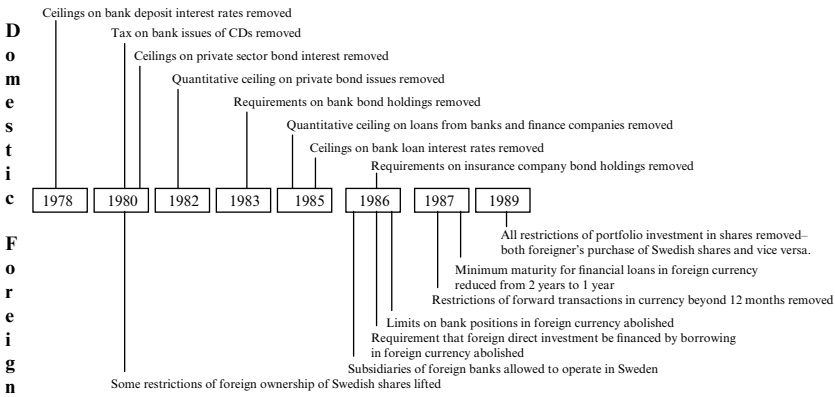


Figure 3.1 Deregulation of financial markets in Finland and Sweden, 1980–93

money markets. Domestic deregulation started in 1983 with some easing of the lending rate regulation. After several gradual liberalization measures, restrictions on lending rates were fully lifted by early 1986. Simultaneously, steps were taken to create a true domestic money market. Certificates of deposit (CDs) were exempted from cash reserve requirements at the beginning of 1987. As the central bank started market operations in CDs (its own and those of commercial banks) in 1987, volumes increased rapidly and the CD market became the core of the money market. The abolition of credit guidelines and the lifting of remaining restrictions on the use of floating rates in loan contracts completed the domestic liberalization by the beginning of 1988.

In Sweden, new legislation in January 1980 allowed banks to issue certificates of deposit, as an exception to the general prohibition on the issuing of bonds and similar instruments by banks. The CD market developed rapidly, demonstrating that it should be possible to conduct monetary policy through open-market operations in treasury bills or similar instruments, in Sweden just as in other countries. This set the stage for further deregulation of domestic transactions, which took place in a couple of swift steps. The key move was the removal of the lending ceilings for banks and the placement requirements for insurance companies in November 1985.

In both countries, there remained important elements of capital account regulations that were only gradually lifted between 1986 and 1989. Some regulations were abolished in 1986 and 1988, but Swedish banks remained restricted on the forward market, and foreigners remained restricted in their access to the Swedish money and bond markets. It was only with the final abolition of capital account controls in July 1989 that the *krona* money and bond markets came to be fully integrated with international markets. In Finland, inward long-term capital movements were fully freed by mid-1987. Outward capital movements were liberalized later, starting with direct foreign investment in 1988. The last restrictions on short-term capital movements were lifted at the end of 1990.

Liberalization expanded banks' choice set of assets and liabilities. Instead of being forced to invest in government and housing bonds, Swedish banks were now free to lend where return prospects were best. Similarly, Finnish banks were no longer affected by lending guidelines, although their importance had already diminished substantially before their final abolition. Perhaps even more important was the change in refinancing opportunities. Improved access to foreign sources of funds helped banks and other financial intermediaries to reduce their dependence on central bank funding, and the growth of the domestic money market gave individual banks much more freedom in refinancing and helped the banking sector to tap funding from the domestic non-financial sector.

Under the regime of financial regulation, obtaining a loan from the bank had been a sort of privilege. The abolition of lending controls now allowed and forced banks to compete much more freely for borrowers, as in any retail business. The new environment reduced the segmentation of financial intermediation. In Finland, savings and co-operative banks could expand lending to firms that previously had mainly relied on commercial banks. In Sweden those institutions that had been more loosely regulated – finance companies and to some extent insurance companies – had thrived as a result of regulatory arbitrage. Most finance companies had expanded from their original activities such as leasing, factoring and credit cards

into direct lending, where regulation gave them greater freedom than banks had. Now that banks had entered into the markets previously in the domain of the finance companies, these were pushed into higher risk markets. Being unable to receive deposits or to issue bonds, finance companies were financed partly by direct borrowing in banks and partly by commercial paper (*marknadsbevis*), typically guaranteed by banks. As a result, Swedish banks became indirectly exposed to credit risk, a fact that became fully visible only when the banking crisis erupted.

3.2.2 Lax Regulatory Framework

Before the liberalization, prudential regulation played a relatively minor role in both countries. With limits both on the amount of lending and on interest rates, banks had little incentive to take on extra risk. Risk-taking was also severely constrained by rules that limited the types of business allowed to banks. In Finland, savings banks and co-operative banks, for instance, were prohibited from granting credit without 'secure collateral'. With conduct rules now being relaxed, banks were given new opportunities to expand and take on excessive risks. It was gradually recognized that prudential requirements became more important in the new situation. However, reforms were diluted and delayed for many reasons and the regulatory framework remained unchanged in most ways.

A central aspect of modern bank regulation is the system of capital requirements that obliges banks to hold a certain amount of capital, in proportion to a weighted sum of different classes of loans and other assets. Towards the end of the 1980s, capital requirements were modified in both Finland and Sweden as part of an international harmonization, following the recommendations by the G-10 group within the BIS in 1987. In Finland, prudential regulation was in general fragmented with different laws for different types of banks. Capital requirements were low: 4 per cent for commercial banks and 2 per cent for savings banks and co-operative banks. Furthermore, a large number of local banks were permitted to operate with less than the stipulated 2 per cent capital as a transitional arrangement. The rationale for applying a lower ratio for the local banks had been that their lending was less risky than that of the commercial banks. Smaller risks were thought to stem, for instance, from the aforementioned 'secure collateral' requirement. Although tightening of capital requirements was also widely recognized as necessary in Finland, the process was delayed, not least because of stiff resistance from the savings and co-operative banks. As a result, prudential regulation remained essentially unchanged until January 1991, when the new Deposit Bank Act took effect, by and large meeting international standards. The reform was too

late to have an impact on bank behavior in the crucial years following the liberalization.

In Sweden, the structure and level of the capital requirements were broadly in line with the Basel recommendations already in the mid-1980s – with one important exception. Lending to housing and real estate was treated as relatively safe and collateralized real estate loans and mortgage-institution bonds were subjected to lower capital requirements than other forms of lending. Only in the midst of the banking and real estate crisis did Sweden adapt the international view on real estate lending, effectively sharpening capital requirements.[4]

3.2.3 Financial Supervision Slow to React

Financial supervisory responsibility was split between various government agencies in both countries. In Finland, banking supervision was handled by the Bank Inspectorate, which was directly responsible for the commercial banks. In the case of other bank groups it was assisted by the Savings Bank Inspectorate and the Co-operative Bank Inspectorate. These two supervisory bodies were subordinated to the Bank Inspectorate, but in practice they operated rather independently and in close collaboration with the key decision-makers in the two banking groups. Supervision of insurance companies was, in turn, in the hands of the Ministry for Social Affairs and Health. No major reform of financial supervision took place during the years of liberalization, although some technicalities were changed in connection with the new Deposit Bank Act in 1991. Only in 1993 was a new supervisory body, the Financial Supervision Authority, created. Even then, insurance supervision was kept separate.

In Sweden, prudential regulation was handled by two agencies, *Bankinspektionen* for banks (including savings banks) and *Försäkringsinspektionen* for insurance companies. In 1991 the two agencies were merged into a single Financial Supervisory Authority, *Finansinspektionen*. This merger was undoubtedly well motivated as a reflection of ongoing structural changes within the financial industry, making the dividing line between banking and insurance increasingly blurred. At this time, however, the reorganization may have contributed to diverting the attention of the supervisors away from the emerging systemic crisis to issues of internal organization.

The resources devoted to financial supervision were small by any standards in both countries. Perhaps because of this, but presumably also owing to tradition, the approach to supervision was rather legalistic. An in-depth study of the Finnish Bank Inspectorate by Halme (1999) suggests that banking supervision was rather passive and in fact allowed the bending

of some key prudential rules. This contributed to highly vulnerable risk positions among the savings banks in particular. One such instance was the requirement for 'secure collateral', which was interpreted very loosely. Similarly, according to Halme, bank supervision permitted the savings banks to use value adjustments to bolster bank capital in a way that was in flagrant conflict with the Finnish Accountancy Act and sound accounting procedures.

In Sweden, *Bankinspektionen* played a somewhat active role when problems emerged in a couple of minor savings banks around 1990 by acting as a mediator and contributing to private reconstructions. When the crisis grew into more of a systemic crisis, however, its role became marginal. Much of the limited resources for supervision were spent on rather peripheral issues. Consumer protection was very much in the forefront of the political agenda in the late 1980s, and as a result there were fewer on-site inspections of banks after 1985 compared with earlier periods (Sjöberg, 1994).

3.3 THE LENDING BOOM

3.3.1 A General Lending Frenzy

Financial liberalization coupled with a favorable macroeconomic environment created conditions conducive to rapid credit growth. The devaluations of the early 1980s had improved external competitiveness in both countries, the world economy was growing rather robustly, and declining oil prices improved the terms of trade. Particularly in Sweden, fiscal policy remained expansive for several years.

Years of credit rationing had prevented many households and smaller firms from borrowing as much as desired at given interest rates. In Finland, households were less indebted than in many other countries, with a total debt of less than 60 per cent of the household disposable income. In Sweden, by contrast, aggregate indebtedness of the household sector was close to 100 per cent of disposable income, relatively high by international standards. This is largely explained by government-subsidized lending schemes for newly constructed housing and favorable student loans. Despite this there were pockets of unsatisfied credit demand.

In both countries, high inflation – combined with interest payments being tax-deductible at marginal tax rates of 50 per cent or more – made borrowing attractive despite high nominal short-term rates. The situation of negative after-tax real interest rates (measured ex post) prevailed in Sweden throughout the 1980s. In Finland, decelerating inflation increased

real rates in 1986 and 1987, but faster inflation in 1988 and 1989 brought them back close to zero. Given the long history of negative real rates, the ex ante real rates may also have been very low in Finland throughout the second half of the 1980s. Under these conditions there was a large pool of customers willing to borrow when credit became freely available. The scene was set for a credit boom.

Lending evolved broadly in the same way in both countries, with Finland leading somewhat in timing. The initial acceleration of credit growth came in 1985 in Finland and in 1986 in Sweden. In Sweden, finance companies and other non-bank intermediaries were particularly active at this initial stage. In Finland, both banks and non-bank intermediaries expanded rapidly in 1985. After a temporary slowdown (in Finland in 1986 and in Sweden in 1987), credit growth accelerated again in 1988. At this stage banks played the predominant role. In both countries, bank lending grew by around 30 per cent in nominal terms. Although inflation accelerated, real lending growth was close to 25 per cent. The fact that the overall interest margin of banks, if anything, declined somewhat, suggests that an outward shift in bank credit supply was an essential element of the story. See Figures 3.2a and 3.2b.

In Finland, tightening of monetary policy and special measures to rein in bank lending (a special cash reserve requirement calculated on the basis of credit growth during 1989) slowed down bank credit expansion in 1989 and even more in 1990. In Sweden, real bank lending continued to expand at a rate of between 15 and 20 per cent in both 1989 and 1990. The break came only in the second half of 1990 in response to tightened monetary policy and a tax reform that cut the marginal tax rate on interest

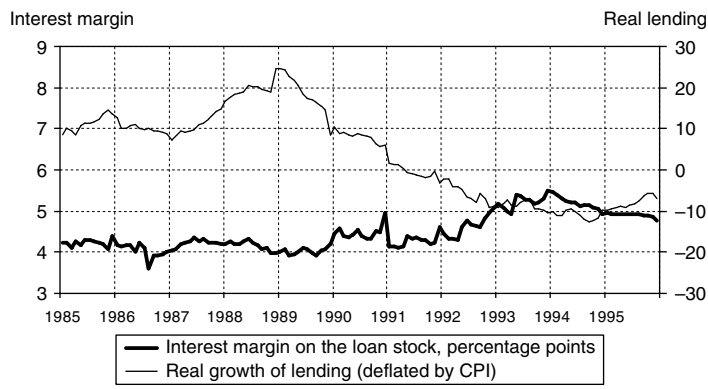


Figure 3.2a Real growth of bank lending and the interest margin in Finland, 1985–95

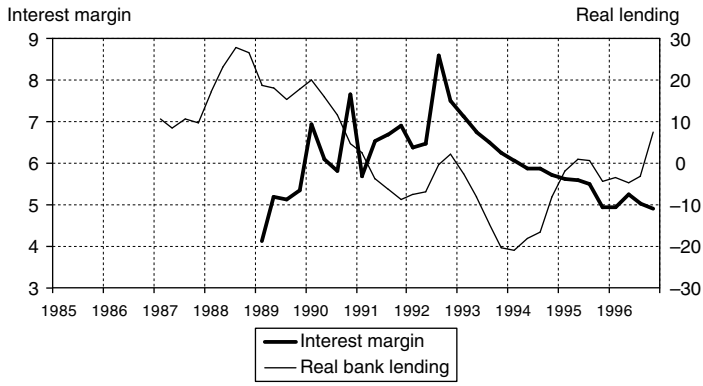


Figure 3.2b Real growth of bank lending and the interest margin in Sweden, 1985–96

deductions from 50 to 30 per cent. As a result, the after-tax real interest rate increased sharply, and finally became positive. Lending started to fall in real terms from the second quarter of 1991.

3.3.2 Asset Prices and Bank Profits Fuel Credit Growth

The loosening of credit constraints had its strongest effects on those sectors that had earlier been hardest hit. Consumption of durable goods and housing investment by households and investment of closed-sector firms were most strongly affected. Readily available finance also spurred merger and acquisition activity, which in Finland was further supported by a tax reform in 1988.

Additional demand inflated real estate and stock prices, in turn bolstering borrower balance sheets (see Figure 2.7 in Chapter 2 for housing prices). This supported further lending, which in turn fed back into asset prices. Even though household indebtedness increased substantially in relation to disposable income, it was matched by a parallel increase in asset values. The ratio of debt to total assets remained essentially unchanged at around 22 per cent in Finland and increased by less than 5 percentage points to close to 40 per cent in Sweden by the end of the decade; see Clapham et al. (2002). Presuming the higher asset prices to be sustainable, household borrowing did not appear excessive from the lenders' point of view.

Bank lending was also bolstered by higher bank profits and improved solidity. The rapid extension of new loans added to fee income, as did increased stock and money market activity. Good earnings growth also made bank cost-effectiveness (revenue/cost ratios) look better, in many

cases masking weak underlying profitability. As subsequent developments demonstrated, the increased profitability was largely an illusion, since it did not account for the credit risks. Fees and interest income were recorded immediately whereas credit risks manifested themselves only later.

Ex post it is quite obvious that there was an asset price bubble, in the sense of higher prices than could easily be explained by fundamental factors. This emerged as a result of several mutually reinforcing factors. Highly over-optimistic – even irrational – expectations may have played a role, but such an outcome could also be explained by fully rational agency theoretical arguments; see, for example, Allen and Gale (2000).

3.3.3 Some Lenders More Aggressive

Financial deregulation affected competition both within the banking sector and between banks and other financial intermediaries. Generally, there was now scope for more intense competition, since banks and other actors faced fewer restrictions. The relative competitive positions of different actors were also affected, triggering shifts in market shares between banks and other lenders.

In Finland, the most aggressive player was the savings bank group. Between the end of 1986 and 1990 the combined lending by the savings banks and *Skopbank* grew by over 140 per cent, compared with a little over 90 per cent for the co-operative banking group and less than 80 per cent for the commercial banks. The rapid expansion of lending and entry into new business areas were deliberate strategic choices of *Skopbank* and the largest individual savings banks. The intention was to 'grow out' of profitability problems caused by high costs.[5] Another part of the strategy was to incorporate a major industrial conglomerate within the 'sphere of influence' of the group. In 1987, *Skopbank* became a majority shareholder in the metal industry company Tampella. It was also very active in 'cornering' companies by obtaining substantial stakes for later sale to strategic buyers.

In Sweden, competition between bank groups had already intensified before the deregulation. Banking legislation was made neutral across savings banks, co-operative banks and commercial banks in 1969. At that time, savings banks were gradually losing their traditional dominance in household deposits, and had to resort to increased borrowing from other financial institutions for funding. To handle this problem the savings banks tried to expand away from their almost exclusive dependence on the household sector. The share of lending to industry in total savings bank lending grew from 6 per cent in 1980 to 13 per cent in 1985 and 20 per cent in 1990.[6] At first, this was not associated with an increase in total lending. In fact, the lending market share of the savings banks fell during the first

half of the 1980s, and it was only following the deregulation that they started to gain market shares again, with *Första Sparbanken* being particularly expansive.[7] Among the commercial banks, those banks with a weak position in corporate lending – in particular *Nordbanken* and *Gota Bank* – expanded most strongly, whereas other banks – primarily *Handelsbanken* – were more cautious.

In both countries the most aggressive actors were also the weakest in terms of capital and underlying profitability. This is in line with a 'gamble for resurrection' approach in response to liberalization: weak profitability, or low 'charter value', increases the willingness to take on risks. American evidence in support of such risk-shifting or asset substitution behavior has been provided by Keeley (1990). Vihriälä (1997, Chapter 3) provides analogous evidence for Finnish savings banks: the weaker bank profitability and capital position at the outset of the liberalization period, the stronger the subsequent credit growth. Differences in profitability and capital are sufficient to fully explain the difference in lending growth between savings banks and co-operative banks. Bad incentives seem to have been a key factor in explaining the degree of credit expansion and – as we shall see – the depth of the banking problems.

The deregulation also had an impact on competition between banks and other intermediaries. The Swedish finance companies provide a good example. These companies had earlier taken advantage of a loosely regulated position and expanded from activities such as leasing, factoring and credit cards into direct lending. Immediately after the deregulation the finance companies continued to expand at a faster rate than other financial institutions. However, after a couple of years the effect of the removed restrictions on banks became evident, when banks entered into the markets previously in the domain of the finance companies, which were now pushed into higher-risk markets. As a result, these companies lost market shares at a rapid pace from 1988. Banks were not only competing against the finance companies but also doing business with them in the form of short-term lending and by guaranteeing their commercial paper programs. In 1990, 5 per cent of all bank lending went to finance companies compared with 1 per cent in 1985. As we shall see, this now turned out to be risky business as the credit losses among the finance companies continued to grow.

3.3.4 The Result: Vulnerable Financial Positions in the Non-financial and Financial Sectors

Total credit expanded at an unprecedented rate in both countries in the second half of the 1980s. Firms and households alike became highly indebted relative to income flows. By the peak of the boom, household

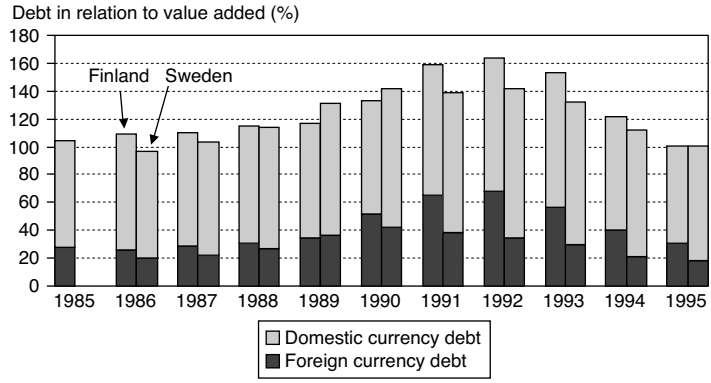


Figure 3.3 Corporate sector indebtedness in Finland and Sweden, 1985–95

debt as a fraction of disposable income had increased by some 20 percentage points to 80 per cent in Finland and by 30 percentage points to 130 per cent in Sweden. Corporate sector indebtedness increased in a similar fashion. The ratio of corporate debt to nominal GDP increased from 60 per cent to some 80 per cent in Finland and from about 70 per cent to more than 90 per cent in Sweden.[8] (Figure 3.3.)

Table 3.1 Comparison of selected credit booms

Crisis		Average real lending growth prior to crisis	Average domestic credit-to-GDP growth prior to crisis	Domestic credit to GDP (right scale)
1998	Philippines	0.21	0.15	0.70
1998	Thailand	0.19	0.14	1.34
1998	Indonesia	0.14	0.05	0.59
1998	Korea	0.13	0.05	0.78
1991	Finland	0.12	0.08	0.95
1988	Norway	0.10	0.09	0.70
1990	Sweden	0.10	0.06	0.87
1989	Japan	0.09	0.04	1.39
1992	Mexico	0.07	0.02	0.31

Source: IFS, WDI, authors' own calculations.

As a whole, credit growth was rather typical for countries that were to have banking crises. In fact, as seen from Table 3.1, the real growth of credit during the boom period was even higher in the more recent

banking crisis countries in East Asia – Korea, Indonesia, Thailand and the Philippines – but the resulting ratios of domestic credit to GDP were as high in Sweden and Finland as, for example, in Indonesia, the Philippines or Mexico.

A particularly important feature was the large fraction of debt in foreign currency, even among firms with no foreign currency revenues that would have needed hedging. Both countries defended fixed exchange rates by high interest rates. As a result, substantial gains could be made by borrowing in foreign currencies and investing in *kronor* or *markkaa* – as long as there was no devaluation. Many borrowers, primarily large corporations, tried to take advantage of the large interest differences. In Sweden the fraction of bank lending to the non-bank public denominated in foreign currency increased from 24 per cent in 1986 to 44 per cent in 1990.[9] Finland witnessed a similar change: the share of foreign denominated debt in total corporate debt rose from 23 per cent in 1986 to 39 per cent in 1990. Since little of this was hedged by forward contracts, the corporate sector became vulnerable not only to income and interest rate shocks but also to exchange rate movements.

The balance sheets of the intermediaries changed in the process. The share of ordinary deposits as a source of finance decreased substantially. Instead, many banks became highly dependent on money market funding as well as foreign interbank and bond finance. This was especially true for *Skopbank* and the large savings banks in Finland.

3.4 THE MAIN EVENTS OF THE CRISIS

3.4.1 Tight Monetary Conditions Stop the Expansion

Early signs of over-extension and distress emerged in both countries in 1989. Stock prices and real estate prices peaked, some months earlier in Finland than in Sweden. Interest rates had already started to increase in 1988, primarily as market responses to imbalances in the economies. In addition, foreign interest rates increased, particularly in Germany. However, apart from occasional episodes of higher interest rates to defend the exchange rates, there were few signs so far in the financial markets of either country that signaled a crisis.

The attempts by the central banks to rein in credit expansion and overheating had been frustrated by the fixed exchange rate regime: interest rates could not be raised very much as long as confidence in the currency peg led to large short-term capital inflows. Capital flows not only prevented a major hike in the *krona* and *markka* rates but also financed

an increasing share of bank lending denominated in foreign currency at relatively low interest rates.

Given the impotence of monetary policy, repeated calls were made in both countries for tighter fiscal policies. But for a long time they went unanswered. In Sweden, there had been broad recognition since 1987 that the economy was overheated. The open unemployment rate reached an all-time low of 1.4 per cent in 1989, and prices continued to rise faster than in other countries. However, there was little parliamentary support for a restrictive fiscal policy, and public consumption continued to increase, by about 5 per cent in real terms in both 1988 and 1989. In Finland taxes were cut, new transfer programs were enacted and old ones expanded. Macroeconomic policies were still supporting growth rather than restraining it.

In Finland, this impasse led the monetary authorities to try two special measures to slow down credit expansion in the spring of 1989. First, the exchange rate band was widened and shifted so as to allow an immediate revaluation of the *markka*. This induced expectations of depreciation, which increased money market rates and made borrowing in foreign currency more expensive. Second, banks were subjected to a special cash reserve requirement, the size of which increased with the rate of credit expansion. Initially, the effects appeared to be modest. Credit stocks and nominal GDP both continued to display two-digit growth rates in 1989, in Finland just as in Sweden.

However, towards the end of 1989 (in Finland) and in early 1990 (in Sweden) there was a significant tightening of monetary conditions, mainly led by market impulses. Foreign interest rates rose substantially and strong expectations emerged about depreciation of the currencies, driving the domestic interest rates up even further (see Figure 2.8 in Chapter 2). In Finland the special cash reserve requirement also started to contribute, and the lending growth of most banks decelerated rapidly.[10]

Higher interest rates and falling asset prices were soon followed by weakened domestic demand. In 1990, private investment started to decline and consumption stagnated in Finland. In Sweden, consumption was declining but investment still continued to grow in 1990. Weakening demand and increasing interest expenses led to a dramatic reduction in corporate earnings. Some firms started to have problems in servicing their debts. High interest rates and weaker cash flows exerted further downward pressure on asset prices. Lower collateral values in turn increased banks' exposure in the case of default. Credit losses still remained small, but the financial sectors started to feel the pressure in both countries.

While the Finnish banking sector as a whole was still making profits, the

most aggressive bank – *Skopbank* – displayed a substantial loss in 1990, as earlier capital gains turned into losses and fee income was sharply cut by reduced trading activity. The bank – which had come under special surveillance by the authorities in late 1989 – was required to design a restructuring program aimed at reducing its risk exposure. As a part of the program, the controlling owners – the savings banks – had to make a FIM 1.3 billion capital injection to boost *Skopbank* capital.

3.4.2 Further Shocks Increase Pressures in the Financial Markets

Weak economic activity in the main export markets following the crisis in the Persian Gulf, persistently high interest rates in Western Europe, and – in the case of Finland – the collapse of the Soviet Union reduced exports in 1991. In Sweden, tax policy created a further shock when a long overdue reform of the income tax system was finally implemented in 1990–91. A reduction of the marginal tax rate applicable to interest deductions from 50 to 30 per cent finally made after-tax real interest rates positive, but it also meant a substantial negative shock to aggregate demand.[11] In their evaluation of the tax reform, Agell et al. (1998) estimate a negative effect on aggregate demand by around 1 per cent. Added to the autonomous forces already affecting domestic demand, these shocks gave major negative impulses to aggregate demand. GDP declined in both countries in 1991, by 6 per cent in Finland and by 2 per cent in Sweden (see Figure 2.1).

The shocks impacted on the monetary and financial systems in many ways. The exchange rate pegs were called into question, putting renewed upward pressure on domestic interest rates. In response, both countries tried to strengthen their fixed exchange rate commitment by changing the currency index that the exchange rate was tied to. Sweden moved from a trade-weighted basket to the ECU basket in May 1991, and Finland followed a month later. In fact, the Finnish action was forced by the Swedish move, which created speculation that Finland would follow suit and use the occasion to make a 'final' devaluation. No devaluation came, and for a while the market in Finland also calmed down.

Despite this temporary success on the exchange rate front, signs of financial distress were mounting. Plummeting corporate profitability weakened firms' capacity to service debt, and bankruptcies increased by some 50 per cent in both countries in 1991 from the already elevated levels of 1990. Bank earnings were squeezed by lost income from non-performing assets and declining fee income from new lending and trading activity. Declining collateral values increased the costs of bankruptcies to the lending banks (Figure 3.4).

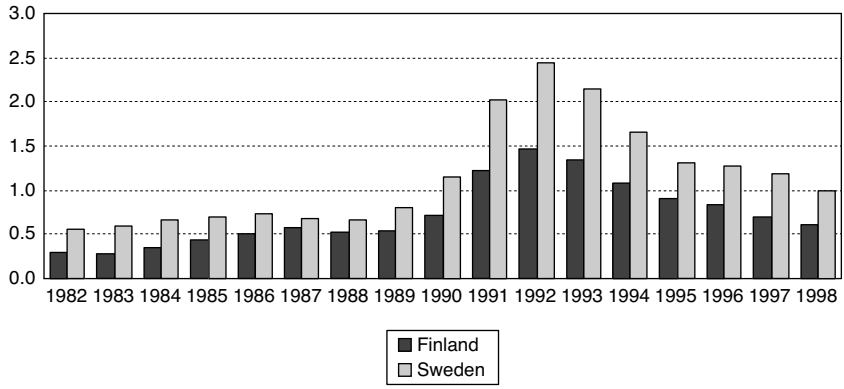


Figure 3.4 Bankruptcies per capita (thousands) in Finland and Sweden, 1982–98

3.4.3 Swedish Finance Companies the First Casualty

During the fall of 1989 one saw the first indications that the commercial property market had reached its peak in Sweden, and there were reports of increasing vacancies and difficulties in finding tenants at current rent levels. The stock market reacted rapidly and from its peak on 16 August 1989 the construction and real estate stock price index fell by 25 per cent in one year, compared with 11 per cent for the general index. Now there were also indications of potential credit losses among the finance companies, but nothing signaled expectations of a widespread financial crisis.

Reports early in 1990 about sizeable credit losses in some finance companies – such as *Infina* and *Obligentia* – went by without any effects on stock prices or on expectations more generally.[12] It was only in September 1990 that the mood suddenly changed when one of the finance companies, *Nyckeln* ('the Key'), with heavy exposure to real estate, found itself unable to roll over maturing commercial paper (*marknadsbevis*). This was a sort of 'run'; rather than actively running to the bank to withdraw deposits the holders of maturing *marknadsbevis,* otherwise routinely reinvesting, now refused renewed funding in the face of an imminent bankruptcy risk. The crisis spread to the whole market for *marknadsbevis,* which dried up in a couple of days. Surviving finance companies had to resort to bank loans. The crisis also spread to other segments of the money market with sharply increasing spreads between t-bills and certificates of deposit. In the next few months a number of other finance companies also went into bankruptcy.[13]

In this situation the banks, which had underwritten the commercial paper programs, had two options: either let the finance companies go

bankrupt and take the losses right away or extend new lines of credit with the risk of higher losses further on. One example of the latter strategy is the rescue operation undertaken by *Nordbanken* to save the finance company *Gamlestaden* in the autumn of 1990. As the crisis deepened such a strategy proved less tenable. Several finance companies were allowed to go bankrupt, and now the crisis spread rapidly to the banks. Already in August 1990, *Nordbanken*, with the state as the main owner, reported unusually large credit losses. Total credit losses in the bank sector amounted to around 1 per cent of total lending in 1990, two to three times the level in earlier years.

3.4.4 Banking Problems and Exchange Rate Collapse in Finland

The crisis processes that followed were broadly similar, although the timing was somewhat different, with Finland in general leading Sweden. In Finland, problems came earnestly out into broad daylight on 19 September 1991, when *Skopbank* could not even obtain overnight funding and faced the risk of imminent closure. This was not allowed to happen, and the Bank of Finland took over the failing bank, which continued its operations under new management. The bank was split into three holding companies: one for ordinary banking operations, one for equity and real estate holdings, and one for the main industrial holding, the *Tampella* group. The Bank of Finland invested some FIM 3.5 billion in the operation in equity investment. The total commitment was substantially higher, estimated at the time at FIM 14 billion, although the final cost of the rescue operation was expected to be much smaller.

The *Skopbank* failure added to the general pessimism about the state of the economy, while other bad news continued to accumulate. Industrial production was declining, bankruptcies and unemployment increasing, and the public deficit increasing. Devaluation speculation started anew, and short-term interest rates shot up sharply from August 1991. In defense of the existing parities, the Bank of Finland sold foreign currency worth FIM 28 billion over two months from mid-August, leaving the currency reserve at only FIM 16 billion at the end of October.

In a final attempt to avoid devaluation, the labor market parties negotiated a rather extraordinary wage agreement that would have cut nominal wages by some 7 per cent. However, as powerful unions did not agree in the end, the agreement was never signed. Speculation increased further, and on 14 November 1991 the *markka* was devalued by 13 per cent. This brought short-term interest rates down by some 4 percentage points for a while, but longer-term rates were largely unaffected, the five-year bond rate remaining above 12 per cent.

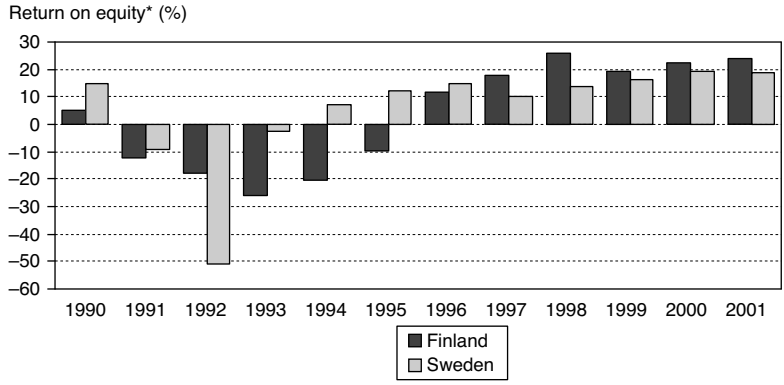
3.4.5 From the *Skopbank* Take-over to a Full-blown Crisis

Skopbank was first considered a single rotten apple in the lot, rather than one of many; more than any other bank it had pursued a risky lending and investment strategy. However, the overall deterioration of the economy and particularly the continuing high interest rates progressively weakened all banks. The devaluation was an important element in this process. Although their currency positions were closed, banks were hurt by bankruptcies among firms with loans denominated in foreign currency. While large export companies could typically overcome an additional foreign debt burden through higher prices, companies operating in the depressed domestic market could not do so.

In early 1992, the Finnish government decided to reserve FIM 8 billion to bolster the capital base of the deposit banks across the board through a capital injection. Furthermore, a completely new authority, the Government Guarantee Fund (GGF), was established to 'safeguard the stability of deposit banking and depositors' claims'. The GGF was authorized to use up to FIM 20 billion for support operations. These decisions were largely considered – for example, in the financial press – very proactive and sufficient to guarantee the stability of the banking system. Interestingly, the Swedish authorities did not yet admit any reasons for similar precautionary measures. In Sweden the banking problems were still seen as isolated to a couple of banks and not to be handled as a systemic crisis.

It did not take long for new problems to emerge in Finland, particularly among the savings banks, as a large fraction of their loans turned non-performing. This reflected the generally weak quality of the loan stock, which had continued expanding even as late as 1991, and a high proportion of loans in foreign currency.[14] In addition, the savings banks had substantial investments in *Skopbank* shares, which had become practically worthless. In June 1992 the GGF committed FIM 7.2 billion to support some 40 distressed savings banks that were merged to form the Savings Bank of Finland (*SBF*). By September the whole *SBF* capital had already been wiped out, and by the end of the year a total of FIM 12.5 billion in bank support had been allocated to the SBF, now transformed into a joint stock company owned by the GGF.

In October 1992 yet another bank was failing. The *STS*-bank – a rather small commercial bank with close links to the trade unions – was taken over by one of the two largest commercial banks (*KOP*). The government took responsibility for the substandard assets of the failed bank, nominally worth FIM 3 billion. The overall credit and guarantee losses of the banking sector in 1992 amounted to about FIM 20 billion. Combined with weak net interest earnings and loss of fee income, the overall loss of the



Note: Excluding asset management companies.

Figure 3.5 Net profit of the banking sector in Finland and Sweden, 1990–2001

year was also FIM 20 billion, reducing bank capital by almost 40 per cent. Three banks had been taken over by the state – *Skopbank*, the Savings Bank of Finland and the *STS*-bank – and the remainder of the banking system had become dependent on government support. By the end of the year almost all banks had accepted their share of the FIM 8 billion capital injection offered by the state (Figure 3.5).

As the banking crisis erupted, GDP continued to decline, unemployment shot up, central government borrowing increased unabated, and there were no signs of current account improvements. In this situation new pressures started to mount on the Finnish *markka* in the spring of 1992. Both short- and long-term interest rates increased, and the Bank of Finland had to sell foreign exchange to support the exchange rate.

After having calmed somewhat in the summer, pressures increased again in early September. Apart from the general economic decline, the budgetary situation and the general uncertainty about the sustainability of the ERM particularly brought pressure on the *markka*. With depleted foreign exchange reserves and no rapid improvements in sight, the Bank of Finland abandoned the peg on 8 September 1992. The currency immediately depreciated by some 12 per cent.

3.4.6 The Swedish Crisis Spreads to the Banks

In Sweden, bank credit losses accelerated during 1990 and 1991 to reach an annual rate of 3.5 per cent of lending by the end of 1991, and 7.5 per

cent of lending at the peak of the crisis in the final quarter of 1992, about twice the operating profits of the banking sector. Over the period 1990–93, accumulated losses came to a total of nearly 17 per cent of lending.[15] The evolving crisis was closely connected with a sharp downturn in the real estate market, with prices of commercial properties in downtown Stockholm falling by 35 per cent in 1991 and by another 15 per cent the following year.[16] Lending 'related to real estate'[17] accounted for between 40 and 50 per cent of all losses, but only 10–15 per cent of all lending.

The fraction of lending going into real estate and the pace of lending expansion in previous years are the key factors that explain why some banks had larger credit losses than others. *Handelsbanken* – the only major bank to go through the crisis without the need for government support[18] – had the lowest rate of expansion and the lowest fraction of real estate loans, whereas *Gota*, with the largest losses, was at the other end of the scale.

The first signs that the losses caused solvency problems came in the fall of 1991, when two of the six major banks, *Första Sparbanken* and *Nordbanken*, needed new capital to fulfill their capital requirements. Just as in Finland, problems were at first seen to be limited to a couple of banks. In *Nordbanken* the state had to act in its capacity as the main owner. In December 1991, SEK 5 billion of new equity was injected into *Nordbanken*, 4 billion by the government and close to 1 billion by the private owners. The government also issued a guarantee to the owners of *Första Sparbanken* – a foundation – for a loan that enabled the bank to fulfill its capital requirement. Problems returned for these two banks already in the spring of 1992, leading the government to issue a new guarantee to *Första Sparbanken* and to transform the earlier guarantee into a subsidized loan at a cost of SEK 1.3 billion. In the case of *Nordbanken*, a major restructuring was decided by parliament in June 1992. The government was given a total limit of SEK 20 billion, part of which was used to bail out the private owners of the bank at a cost of SEK 2.1 billion, 20 per cent above the current stock market valuation. A 'bad bank', *Securum*, was founded and a quarter of *Nordbanken*'s credit stock, at an original book value of SEK 67 billion, was transferred to *Securum*.

During the spring of 1992, problems also surfaced in *Gota Bank*, the bank that in the end turned out to have made the largest losses. In April the bank's private owners put up new capital, but this lasted only a few months and on 9 September 1992 the holding company owning *Gota Bank* went bankrupt. It was only at this stage that the banking problems were dealt with as a systemic crisis. Sweden had no formal deposit insurance at the time, but now the government immediately announced that it guaranteed *Gota*'s liabilities. A similar guarantee, covering not only deposits but all forms of bank debt, was extended to all banks a few weeks

later. Subsequently the state bought *Gota* at a price of one *krona*, but with recapitalization costing a total of SEK 25 billion.

3.4.7 The Swedish Currency Crisis

The banking crisis coincided in time with the European ERM crisis. The currency market unrest in the summer of 1992 spilled over with particular force on Sweden and Finland, not surprisingly given their legacies of high inflation and recurring devaluations. The immediate result was further interest increases; the *Riksbank* raised the overnight interest rate to 12 per cent in July and to 13 and 16 per cent in August. While rescuing the *krona* for the moment, it deepened problems for many bank customers and threatened to have adverse effects on Swedish banks' international funding. With more than 40 per cent of their lending in foreign currency, banks were heavily dependent on access to international financial markets, and with increasing signs of crisis, loan maturities shortened.

In early September 1992, the pound and the lira touched the lower limits of their currency bands and on 8 September the Finnish *markka* started floating. This led to speculation against the *krona* and on 9 September (the day of the *Gota* bankruptcy) the overnight rate was raised to 75 per cent. On 16 and 17 September, the UK and Italy left the ERM and the *Riksbank* now had to increase the overnight rate to 500 per cent to defend the *krona*. In this situation the general bank guarantee announced by the government (see below) played an important role in securing continued international funding for the Swedish banks. The *Riksbank* also provided liquidity by depositing a part of the foreign exchange reserves with the banks, thereby insuring bank liquidity against problems with international funding. During the fall the Swedish government presented some restrictive fiscal measures, making it possible to lower the overnight interest rate gradually to 11.5 per cent. But this brought only temporary relief. In November speculation against the *krona* resumed, and on 19 November the *krona* was left to float, leading to an immediate depreciation by 9 per cent the next day and by 20 per cent by the turn of the year.

The interaction between the currency crisis and the banking crisis is complex. The fact that the banking crisis started at least a year before the currency crisis with credit losses culminating in the fall of 1992 – before the fixed rate was abandoned – indicates that there was no strong direct link from currency losses to the banking crisis. In this regard the Swedish crisis process differs from that in Finland, where the 1991 devaluation had a direct impact on the debt service burden of the corporate sector, thereby adding to credit losses relatively early in the process. On the other hand, there was an indirect link, which was particularly important in Sweden,

with the defense of the *krona* by high interest rates, causing credit losses and deepening the banking crisis.

During the 1980s, the Swedish private sector built up a large stock of foreign currency debt, estimated to be SEK 541 billion in September 1992 (35 per cent of GDP). Most of this was intermediated by the banking sector, whose net position in foreign currency was essentially balanced. The spot position was positive (SEK 20 billion), but the position on the forward market was minus SEK 65 billion.[19] This situation involved two risk elements for the banks. One was the liquidity risk: even if banks did not directly take excessive exchange risk, they faced the risk of foreign lenders refusing to roll over short-term credit lines. This mechanism contributed to deepening many other banking and currency crises (see, for example, Mishkin (1999a) on Mexico and Corsetti et al. (1999) on Asia). In the end, the liquidity support provided by the *Riksbank* played an important role in avoiding this risk.

The other risk element relates to bank customers. Whereas the banks themselves had a balanced position, many of their customers were heavily exposed in foreign currency. Indeed, profiting from the gap between domestic and foreign interest rates had been the main purpose of much of the borrowing. On aggregate, however, the private sector held foreign currency assets to offset the debt. Financial assets in foreign currency amounted to SEK 174 billion, making the net financial position in foreign currency minus SEK 367 billion in September 1992. Adding direct investments abroad and holdings of foreign shares made the total net position in foreign currency a trivial minus SEK 13 billion; that is, the balance sheet of the aggregate private sector was not very vulnerable to a Swedish devaluation. But the balanced average concealed an uneven distribution, with many small and medium-sized bank customers heavily exposed to devaluation. It is not known what share of currency positions was hedged, but it is believed to have only been a minor fraction.

The banking crisis and the currency crisis reinforced each other. As the precarious situation of the Swedish banks came to be recognized internationally during 1992, it became clear that the banks and many of their customers would not be able to survive an extended period of very high interest rates. This improved the odds of speculating against the Swedish *krona*, thereby leading to further interest increases, and in the end making it unavoidable to abandon the fixed parity.

3.4.8 Additional Bank Support and Stabilization

In the first months of 1993 the scale of the bank support became a major issue in Finland. A GGF decision to allocate almost FIM 5 billion to the

SBF at the end of 1992 had raised the total GGF support commitment to FIM 15 billion. Thus only some FIM 5 billion out of the originally authorized 20 billion would be left for further support. As no signs of overall improvement were seen, there was market concern about what would happen once the support resources were exhausted. As a consequence, the maturity of banks' foreign borrowing shortened substantially, and many lender banks cut their quotas – the same problems as encountered by Swedish banks in the fall of 1992, before the general government guarantee. Furthermore, the currency depreciated strongly again in the first months of 1993.

In this situation the parliament passed a resolution in February 1993, guaranteeing that Finnish deposit banks would meet all their financial commitments. This extended the 100 per cent deposit insurance to all bank liabilities, although the resolution was not stipulated by law as was the deposit insurance. The analogy with the Swedish bank guarantee introduced in late 1992 is immediate. Further, the parliament decided to commit more funds to bank support. The GGF support authorization was increased first by an additional FIM 20 billion in the spring of 1993 and later in two more steps to a total of FIM 80 billion by the end of 1993.

Towards the spring of 1993 the pressures in the financial markets started to recede in both countries. In Finland, short-term interest rates had been declining since the currency was left floating, and long-term rates had started to fall following a major budgetary package in October 1992 including expenditure cuts in the order of FIM 20 billion. But it was only after the bank support measures taken in February 1993 and the first signs of a more sustained improvement in the current account in the second quarter that the financial markets calmed down, with capital flows now turning towards *markka* assets. The exchange rate started to appreciate, while the Bank of Finland could simultaneously buy foreign currency, and interest rates continued to decline. The real economy also stabilized and from mid-1993 GDP started growing again and the increase in unemployment decelerated. Towards the end of 1993 even the central government borrowing requirement started to decline substantially.

Despite the overall improvement, further bank support measures were still needed. In August 1993 the two major commercial banks – *KOP* and *SYP* – were given GGF guarantees for raising tier-2 capital.[20] In November, the government also stepped in to protect the trust fund 'depositors' of a large co-operative retail chain (EKA). Those funds were not strictly deposits as defined in the Deposit Bank Act, and not covered by formal deposit insurance. Yet the government decided to guarantee the capital, although not the interests accrued.

Table 3.2a Bank support payments in Finland, 1991–96

		Value (billion FIM)
1991	*Skopbank*, equity etc. by the Bank of Finland	3.5
1992	All deposit banks, general capital injection	7.7
	Skopbank, additional equity capital	1.5
	Savings Bank of Finland/*Arsenal*, equity capital	10.0
1993	*STS*-bank, equity capital	3.0
	Skopbank, additional equity capital	1.0
	SBF/*Arsenal*, additional equity capital	7.1
1994	*Skopbank*, additional equity capital	0.5
	SBF/*Arsenal*, additional equity capital	6.2
1995	*SBF*/*Arsenal*, additional equity capital	8.0
1996	*SBF*/*Arsenal*, additional equity capital	3.8
Total payments		52.4

In addition, the restructuring of the *Skopbank* and the Savings Bank of Finland and the associated asset management company, *Arsenal*, continued with full force throughout 1993. The single largest restructuring measure of all took place in the autumn: the splitting up and sale of the Savings Bank of Finland (a more detailed account is given in Section 3.6). This ended the acute crisis management phase, but the restructuring of failed institutions and the associated disposal of assets required substantial public funding for several years to come (Table 3.2a).

Also in Sweden, financial indicators started to return to normal levels in 1993, with interest rates falling continuously during the year. By the end of 1993 both short- and long-term rates were down at around 7 per cent. The depreciation of the *krona* was halted in February 1993, but in contrast to the *markka* it was not strengthened until 1995. Lower interest rates eased the situation for the banks, and after 1993 no more government support was needed. From May 1993 a new government agency, *Bankstödsnämnden* (the Bank Support Agency), was coordinating all forms of bank support. Government payments to the banks are summarized in Table 3.2b. Out of a total of SEK 65 billion, only 3.1 billion went to the old bank owners: 1 billion in interest subsidies to *Första Sparbanken* and 2 billion in buying out the old owners of *Nordbanken*. By and large the government followed the principle of saving the banks but not their owners.

Table 3.2b Bank support payments in Sweden, 1991–94

Date	Event	Value (billion SEK)
1991	*Nordbanken*, new equity	4.2
1992	*Nordbanken*, bailout of old shareholders	2.1
	Nordbanken, new equity	10.0
	Securum, equity	24.0
1993	*Gota*, new equity	25.1
1994	*Första Sparbanken*, interest subsidy	1.0
Total payments		66.4

3.5 CRISIS MANAGEMENT AND RESTRUCTURING

When the crisis hit, it entailed a new experience for the active generation of bankers and regulators, both in Finland and Sweden. Previous bank failures in the 1920s and 1930s were ancient history. Not only did the bankers of the 1980s have little experience in handling large-scale credit losses, but regulatory institutions were also unprepared for the sort of massive problems that emerged. Thus, while the authorities tried to come to grips with what was going on, and what should be done about it, new organizational structures had to be created to handle an unprecedented intervention in the workings of the financial system.

3.5.1 Recognizing the Scale of the Problem Took Time

In Finland, the possibility of banking problems started to be recognized in late 1989. The Bank of Finland and the Bank Inspectorate put *Skopbank* under special surveillance, as it and the savings bank group finally started to constrain lending. The *Skopbank* CEO, the architect of the expansion strategy, committed suicide shortly afterwards, which was by many considered an admission that the bank was heading for disaster. At this stage the authorities actively tried to work out ways for the bank to reduce its risks and find additional private capital. This resulted in a restructuring program in 1990, part of which was the capital injection by the savings banks described above. No public money was involved at this stage.

With the onset of the general economic downturn in 1991, it became clear that private solutions would not suffice to keep *Skopbank* alive, and plans were made for a central bank intervention. However, it took an acute liquidity crisis before the central bank felt obliged to step in and take over the failing bank in September 1991. Subsequently, a working group was

appointed by the prime minister at the end of 1991 with the task of assessing the situation and making proposals about the measures to be taken. The working group concluded in March 1992 – more than two years after the emergence of the *Skopbank* crisis – that serious problems extended to the banking system as a whole, and that extraordinary measures would need to be taken.

Sweden experienced a similar process of gradually recognizing that the crisis involved the banking system as a whole. In the early phase, when the finance companies were hit in 1989–90, the Bank Inspection Board (*Bankinspektionen*) was actively involved in discussions with the banks with the aim of finding private solutions that avoided the crisis spreading to the rest of the financial system. As a result the banks took over loans previously granted by the finance companies. Apart from this the role of the Bank Inspection Board was limited and the government acted primarily directly through the Finance Ministry. In the case of *Nordbanken*, the government was involved from the start for the obvious reason that it was the main owner.

For other banks private solutions were sought, as in Finland. In April 1992 the owners of *Gota*, who had invested new money to ensure that the bank could meet the capital requirements, declared themselves unwilling to make further investments. In this situation the bank signed a contract with a group of international insurance companies, which guaranteed *Gota* the right to borrow money to cover credit losses within a frame of SEK 13 billion. For the biggest savings bank, *Första Sparbanken*, the government had already issued a guarantee for losses up to a maximum of SEK 3.8 billion in 1991, a guarantee that was later transformed into a loan. The triggering event in recognizing that it was a systemic crisis was the bankruptcy of the holding company owning *Gota Bank* in September 1992. At that stage – which coincided with the currency crisis – it did not take lengthy deliberations of a working group to realize that the stability of the whole financial system was at stake.

In characterizing the government's 'emergency treatment', two things should be emphasized. The first factor is the decisiveness and broad political support once action was taken. The government made it clear that it guaranteed *Gota*'s obligations on the very day of the bankruptcy. The announcement of the general bank guarantee came only two weeks later with the support of all parties except a small populist party (*Ny demokrati*). Broad political support was particularly important, since the bank guarantee was so far just an announcement of a forthcoming bill to parliament; the formal decision in parliament came three months later. The second factor is that there was in principle no direct compensation given to the shareholders of the failed banks. Of course the general bank guarantee

was a valuable asset provided free of charge. In fact, its existence probably saved one or more of the surviving banks from bankruptcy, and thereby indirectly part of the wealth of the shareholders. But the guiding principle was to rescue the financial system with a minimum of wealth transfer to the original shareholders.

3.5.2 Systemic Problems Motivated Action in Both Countries

Once the scale of the banking problems started to emerge, the stability of the financial system was seen as being under threat in both countries. Even though government actions were limited to individual banks, they were explicitly motivated by the threat that the failure of a large bank would pose for the stability of the financial system. This was the case with *Skopbank* in Finland[21] and *Nordbanken* in Sweden.[22] Similar arguments were used in the assessment of the aforementioned Finnish working group when discussing the consequences of further banking problems. But in addition to a general reference to the value of preserving financial stability, the working group emphasized the danger of a 'credit crunch'. The group argued that depletion of bank capital could force banks to cut down lending, even forcing customers to pay back debts in advance. Such a decline of credit supply would exacerbate the deflationary tendencies, even in the absence of additional bank failures.[23] In Sweden the potential impact on the real estate market was also emphasized. It was pointed out that a weak banking system would be unable to continue funding real estate holdings, with the risk of contributing to a downward price spiral impelled by fire sales. This version of a credit crunch argument appears to have featured more prominently in Sweden than the broader impact of a credit crunch on investment and consumption.

A practical conclusion from the perceived systemic threat was that no bank should be allowed to close operations. The absence of bank runs suggests that this policy was quite well understood by bank creditors, even if never officially spelled out by the authorities.[24] Still, liquidity problems occurred in both countries as some banks encountered difficulties in renewing funding in the international money market. This was a crucial factor in triggering bank support. In Sweden it led the *Riksbank* to deposit a good part of its exchange reserves with the banks in the fall of 1992. The purpose was to shield the banks, and their borrowers, from any immediate problems if foreign credit lines were to be cut off. Similarly in Finland, the broad guarantee resolution in early 1993 and the subsequent widening of GGF support authorization were particularly motivated by the need to safeguard a steady flow of foreign credit.

The difference in formal depositor protection between the two countries

does not seem to have played any role. Even though all bank depositors were fully covered by insurance in Finland but not in Sweden, the authorities in both countries intervened in roughly the same manner. Perhaps the fact that Sweden did not have deposit insurance may have made the Swedish politicians more prone to issue an unlimited guarantee straight away once they acted in the fall of 1992, while the Finnish authorities took a more gradual approach.

3.5.3 The Main Policy Response: Capital Support and Guarantees

In principle, several policy options were available to deal with the looming banking problems. One was an expansionary macroeconomic policy. In particular, easing monetary policy would both help bank borrowers to meet their contractual commitments and lower bank costs of financing non-interest-yielding assets. A second approach would be to bolster bank profitability through targeted policy measures such as providing inexpensive central bank financing or changing fees and remaining interest rate regulations. A third option would be to reduce the costs of market financing through various guarantee schemes. Finally, capital bases could be strengthened by direct equity injections by the state.

Of these options, macroeconomic policy played an important role in both countries, in particular the exchange rate policy. Holding the exchange rate fixed for so long undoubtedly had contributed to aggravating the crisis, but conversely the depreciation that followed when the exchange rates started floating had an important expansive effect at a critical moment. As a result, interest rates came down immediately. Some targeted measures to boost bank profitability were also undertaken, but their significance was relatively small.[25] Instead, both countries came to rely heavily on capital injections and guarantees, Sweden putting more emphasis on the latter and Finland on the former.

3.5.4 Preferred Capital Certificates: A Finnish Innovation

Acting on the advice of the working group on bank problems, the Finnish government offered in March 1992 to inject FIM 8 billion into the deposit banks. The injection was allocated to the banks according to their risk-weighted assets and off-balance-sheet commitments. The instrument – preferred capital certificates – was specially designed to allow it to be included in Tier 1 capital while avoiding direct government ownership.

Preferred capital certificates could be used to cover losses along with other Tier 1 capital. The instrument carried an interest equal to the short-term money market rate for the first three years. Thereafter, the interest

rate would increase progressively so as to create incentives for the bank to replace the instrument with equity. Should the bank be unable to pay the contractual interest for more than three years or should the bank's capital ratio fall under the statutory minimum, the government would be entitled to convert preferred capital certificates into ordinary shares with voting rights.

The basic idea was to bolster in a pre-emptive manner the banking sector's capital base across the board, thereby avoiding any loss of confidence in the banking system's solvency and any need for the banks to constrain lending due to lack of capital. Making the facility available to all banks was considered important in order to avoid distorting competition. A special instrument rather than new equity was considered necessary in order to make all banks willing to accept government involvement, and to make the capital injection easy to apply to all kinds of banks, some of which did not have share capital at all.

The preferred capital certificates worked broadly as intended. Almost all banks accepted the offer in the end,[26] and all banks not resorting to GGF support paid back the capital when the interest charge started to exceed the going money market rate. Thus the cost to the government was restricted to the lost interest revenue over a three-year period. Although the counterfactual is difficult to establish, it is very likely that at least one other bank – *KOP* – would have had to resort to GGF support in the absence of the general capital support.

3.5.5 Sweden: Direct Capital Support and Guarantees

Most of the Swedish government support went to the state-owned *Nordbanken* (Table 3.2b), mainly in the form of new equity with no strings attached. The amount of new equity went beyond what was needed to fulfill the capital requirement. A private majority owner would not have invested in *Nordbanken* the way the government did. Since this was a transfer from one pocket of the state budget to another pocket, it may be argued that it did not involve as severe moral hazard problems as support to a private bank would have entailed, although such concerns about the relation between owner and manager should not be neglected. In any case, this was clearly a selective subsidy reducing the cost of capital for *Nordbanken* relative to other banks. This selective support gave *Nordbanken* a competitive advantage over other banks, thereby strengthening the bank as a player in the future restructuring of the banking sector in the Nordic region.

In relation to privately owned banks, various forms of guarantees played the major role. These involved guarantees to the foundation that was the owner of *Första Sparbanken*, allowing the bank to obtain a loan

on the open market. This guarantee was later transformed into a direct loan with favorable conditions. At a later stage, in 1993, the Bank Support Agency granted a special form of guarantee to *Föreningsbanken*, ensuring that the bank would be able to fulfill its capital requirements. If its capital were to fall below 9 per cent of the capital base, that is, dangerously close to the limit of 8 per cent, then the Bank Support Agency was committed to buy preferential shares with a yield corresponding to the market interest rate. Existing shareholders were given the right to buy back the preferential shares at face value until 1998. If this right was not exercised, the preferential shares should be transformed into regular shares with full voting rights. This construction had some similarities with the Finnish capital injection. It ensured that the government got its money back if the bank were in a position to survive. As it turned out, the guarantee was never used.

3.5.6 Handling of Failing Banks through Specially Created Institutions

In neither Sweden nor Finland were there pre-existing government institutions with a clearly defined task to handle failing banks. Key actors in both countries have testified to the improvised nature of many of the measures taken in the early stages of the crisis.[27] In Sweden, the Financial Supervisory Authority was in charge of bank supervision, but almost all measures taken during 1991 and 1992 were handled directly by the finance ministry. In Finland, as noted above, the first bank failure was taken care of by the central bank. As the scale of the banking problems became understood, special institutions were created in both countries to handle support to banks at the risk of failure or having failed.

In Finland, the special institution was the Government Guarantee Fund (GGF) created in April 1992. The fund was authorized to extend credit to the security funds of various banking groups, to guarantee such funding, to acquire shares and other equity capital in banks, to extend loans and guarantees to deposit banks, and so on. Originally, the decision-making powers were formally given to a board with representatives of the Ministry of Finance, the central bank and the bank inspectorate. In practice all major decisions were taken at the highest political level, and in February 1993 the formal decision authority was transferred to the government.

The GGF became the central body of bank support operations in Finland. The Bank of Finland sold its shares in *Skopbank* to the GGF, which from June 1992 onwards was responsible for the restructuring of this bank. The GGF also took over the failing savings banks, organized their merger into the Savings Bank of Finland and later restructured the bank. Similarly, non-performing loans and other assets of the *STS*-bank

became the responsibility of the GGF. All these activities involved large amounts of capital injections, and the GGF became the main channel of public capital support to the banking sector.

In Sweden, the general bank guarantee was first announced in a press release issued by the government on 24 September 1992, following consultations with all political parties represented in parliament. It was only confirmed three months later by a formal decision in parliament. Handling of the guarantee was now moved from the finance ministry to a special authority, the Bank Support Agency (*Bankstödsnämnden*), which started operating in May 1993. It was staffed with civil servants headed by a director general, and overseen by a board of governors, some of whom had a background in business and banking. In contrast to Finland, formal decision authority was moved from the central government to an independent agency. The tasks of the Bank Support Agency involved the detailed scrutiny of the economic health of those individual banks that might be in need of government support. Aided by international consulting teams, the agency conducted in-depth analyses of the credit portfolios and future prospects of individual banks (all major banks except *Handelsbanken*). This resulted in a special agreement with one of the remaining banks, *Föreningsbanken*, as mentioned above. In practice, the Bank Support Agency took few concrete decisions. By the time it was operative, bank profits were improving and the need for support disappearing.

3.5.7 Work-out of Bad Assets in Asset Management Companies

A major issue concerning the failing institutions was the handling of non-performing loans and other 'bad' assets. Unlike Norway, both Sweden and Finland chose to set up separate government-owned asset management companies. In Sweden, *Securum* was created in 1992 as a vehicle to remove bad loans from the balance sheet of *Nordbanken*. It was originally conceived by the management of the bank, not as an instrument to handle a general banking crisis but rather as an ingredient in the efforts to turn *Nordbanken* into a strong and profitable bank. In all, assets with a book value of SEK 67 billion were transferred to *Securum*. In January 1993 it started operating as an independent company, owned directly by the state to 100 per cent. Not being a subsidiary of *Nordbanken*, it was not subject to banking regulation. As a bank subsidiary it would, for instance, have been obliged to sell its assets as soon as market conditions permitted, and would not have had the right to purchase additional assets apart from those taken over as collateral. Now its freedom of action was only restricted by general corporate law.

Securum was run by a professional management team, which was given

substantial independence by the owner. The company was capitalized in order to be able to operate with a long time horizon. Its assets consisted of a portfolio of non-performing loans, and the primary initial task was to rescue whatever economic values these contained. In an initial phase this involved taking decisions on whether to have the debtors file for bankruptcy or not. In most cases bankruptcy turned out to be the solution, resulting in *Securum* taking over the underlying collateral, mostly real estate assets. The company then faced the task of disposing of these assets. This involved, first, securing that the underlying economic activities were run efficiently; second, repackaging the assets in such a way that the potential market value was maximized; and, third, selling them at the best possible price.

Securum had to operate with an eye to the development of the real estate market. It was the owner of around 2500 properties with an estimated market value of SEK 15–20 billion, corresponding to between 1 and 2 per cent of all commercial real estate in Sweden. It was believed that putting all of this on the market immediately, for example, through auctions, would have led to large losses and depressed the real estate market even further. For this reason, *Securum* was heavily capitalized with the intent of guaranteeing its survival without further government support for at least ten years.

Assets were sold in three ways: IPOs (initial public offerings) on the Stockholm stock exchange, corporate transactions outside the stock exchange, and transactions involving individual properties. Most of the sales were carried out in 1995 and 1996, when the real estate market had started to recover but prices were still low by historical standards. The company was dissolved in the summer of 1997, after a much shorter period than the ten years envisaged when it was formed. Out of an initial equity of SEK 28 billion, 14 billion was repaid to the state.[28]

In Finland, the creation of asset management companies was a more contentious issue. It was widely agreed that the restructuring of the failing banks would be aided by separating the assets of dubious quality from ordinary banking business. Nevertheless, there were concerns that the transfer prices of the assets might be set too high so as to create hidden subsidies to the remaining 'good bank', which in principle could remain in private ownership. The issue became highly politicized, and in February 1993 the parliament rejected the proposal to use asset management companies as a vehicle of bank restructuring. However, as it became clear that such companies would only be used in the context of banks for which the government in any case bore a full financial responsibility, they were finally approved by the parliament in October 1993.[29] Once approved, asset management companies became a central vehicle of restructuring. In

particular, *Arsenal* played a central role in the banking sector restructuring that took place.

Arsenal was established in November 1993 as a state-owned company with the task of taking care of substandard assets of the Savings Bank of Finland (SBF). For practical reasons, *Arsenal* in fact became the owner of the SBF with sound assets sold out to four other banks (see below). The book value of the assets transferred to *Arsenal* from the SBF originally amounted to FIM 39 billion, of which 16 billion were non-performing corporate loans, 8 billion non-performing household loans, 12 billion real estate holdings and 3 billion stocks. Later, *Arsenal* also took over the bad assets of the failed *STS*-bank (FIM 1.4 billion at the time of the transfer in 1995) and some real estate holdings of the former *Skopbank*.

The disposal of assets took place gradually for the same reasons as in Sweden. In particular, the property holdings were considered simply too large to be sold immediately in a depressed market. In fact, the disposal process was completed only in 2000. By the end of that year, the total losses of *Arsenal* amounted to FIM 20 billion, about 50 per cent of the original book value of transferred assets.

3.5.8 Bank Creditors Bailed out but not Owners

The very commitment to take whatever measures are needed to keep banking systems operational – such as the open-ended guarantee resolutions adopted in Finland and Sweden – invariably constitutes an implicit subsidy to the banks and their owners. The potential for receiving government support quite clearly creates moral hazard problems, giving banks incentives to take on excessive risks. This implies that the conditions of the support operations are very important. A general principle in both countries was that no bank creditors, including holders of subordinated debt, were allowed to suffer losses, but that bank owners should carry their full financial responsibility. Thus when the authorities took over a failing bank, the government also became the owner of the bank with nominal or no compensation to the earlier owners.

In practice there were exceptions to the rule of full ownership responsibility. In Finland, the most obvious one is the general capital injection. Even ex post, it constituted a transfer to the bank owners corresponding to the interest revenue lost by the government. The size of this subsidy was nevertheless relatively modest: FIM 1.2 billion to the banks that remained in private ownership, corresponding to less than 5 per cent of these banks' regulatory capital at the outset of the crisis. The principal owner of *STS*-bank – a foundation – was also paid FIM 75 million for its equity in the bank, whose net worth was clearly negative. Although

some additional transactions make it debatable whether this represented a transfer from the government to the fund, the fact remains that an owner of a failing bank was compensated for relinquishing his or her ownership in a negative-net-worth bank.[30]

In Sweden, owners of a failing bank were also to some extent compensated. The owners of *Första Sparbanken* – a foundation – received an interest subsidy of SEK 1 billion. The private minority owners of *Nordbanken* were paid SEK 21 per share in the summer of 1992 when the market price was only SEK 18. The value of this subsidy amounts to SEK 300 million. Both of these cases reflect decisions taken early on during the crisis. In the case of the interest subsidy to *Första Sparbanken*, the government at a later stage tried to persuade the bank to pay it back, without success.

A potential for hidden government subsidies also existed in the sale of assets in the process of restructuring. In Finland, particularly the pricing of the 'sound' assets of *SBF* was questioned at the time of the split-up of the bank. In Sweden, there are similar issues with regard to the pricing of assets sold by *Nordbanken* to *Securum*, although this may simply be regarded as a transfer between two accounts in the governmental books. In practice it is of course not easy to determine what is the fair value in a highly distressed and illiquid market.

3.5.9 Strong-handed and Rapid Restructuring of the Banking Sector

The banking crises led to large-scale reorganizations of the banking systems, particularly in Finland but in many ways also in Sweden. In Finland the end result in fact resembles a likely market outcome in the sense that all failed banks ceased to exist. The good assets of *Skopbank*, the Savings Bank of Finland and *STS*-bank were sold to other banks and dubious assets were disposed of through asset management companies. In Sweden, on the other hand, the two banks that would have gone bankrupt in an unregulated market – *Nordbanken* and *Gota* – were allowed to survive and form the nucleus of the successful *Nordea* banking group.

The single most important restructuring action in Finland was the split-up and sale of the Savings Bank of Finland with the bad assets transferred to an asset management company and the good assets sold to the four domestic competitors in equal shares. In particular, all branch offices, including deposit accounts, were sold to the buying banks. As a result, most of the savings bank sector disappeared overnight. The split-up in equal shares was considered the only practical option, as foreign interest in acquiring the bank was small and no domestic bank was in a position to buy the whole of the *SBF*.[31] The crisis can also be seen as the main impetus for the merger of the two largest commercial banks, *KOP* and

SYP (*Unitas*), into *Merita Bank* in 1995. Particularly, *KOP* had suffered significant losses and seemed unable to restructure on its own.

The Swedish crisis was also followed by some restructuring efforts. Out of six major banks before the crisis, four now remain. If the market forces had been allowed free play, at least two banks would have disappeared, *Nordbanken* and *Gota*. In the case of *Nordbanken* this was prevented through government interventions securing the survival of a financially strong bank. *Gota*, on the other hand, was put up for sale after the government take-over. After some negotiations with domestic and foreign banks the government decided to sell *Gota* to *Nordbanken*. This bank would subsequently take the lead in international restructuring, resulting in the creation of a truly pan-Nordic banking conglomerate through a merger with *Merita Bank* in 1997 and later mergers with *Unidanmark* from Denmark and *Christiania Bank* from Norway. The result is a banking group, *Nordea*, which is by far the largest in the Nordic area.

In both countries the restructuring was accompanied by substantial cost cutting. Given that the Finnish banks had been less cost-efficient at the outset of the crisis, it is natural that the efficiency gains were larger in Finland than in Sweden. In Finland, the number of bank employees and branch offices declined by more than 50 per cent during the 1990s. In Sweden, the number of branch offices declined by over a third, but the number of employees declined only marginally. Both countries have been pioneers in introducing modern banking technologies. Apart from automated teller machines and points of sale, remote access banking in the form of telephone and internet-based services also spread faster in Finland and Sweden than in most other countries. As a result, at the end of the 1990s the Swedish and Finnish banking sectors employed the least personnel relative to population in the whole EU. In fact, Finnish banks seem to have surpassed Swedish banks in overall cost efficiency, measured by the ratio of total costs to total revenues. On the other hand, looking at the value of bank assets per employee, Swedish banks remain above and Finnish banks below the EU average. Between 1985 and 1995 the number of bank employees per ecu billion of assets decreased from 929 to 371 in Finland and from 205 to 137 in Sweden. Corresponding averages for the EU area were 507 and 241, respectively; see Ibañez and Molyneux (2001, Table 10).

3.5.10 Substantial Costs to the Public Sector

Substantial amounts of public funds were committed to bank support in both countries. In Finland, the total commitment was FIM 97 billion, of which 69 billion was in paid-out support and the rest in various kinds

of legally binding guarantees. In Sweden, SEK 65 billion was paid out in support between 1992 and 1994. The total commitment under the general bank guarantee was in principle only limited by the value of total liabilities. Relative to the annual GDP at the outset of the crisis in 1991, the paid-out support amounted to 4.8 and 13.9 per cent in Sweden and Finland, respectively. The Swedish cost is clearly at the low end while the Finnish cost is relatively typical compared with fiscal costs in other countries. In a comprehensive sample of 40 banking crises studied by Honohan and Klingebiel (2003), the average fiscal cost is 12.8 per cent of GDP.[32]

The definition of fiscal costs is not clear-cut. One problem is the valuation of the guarantee commitments. Since they are not available on the market, they are difficult to price correctly. In practice they are typically ignored, that is, valued at zero, which is clearly not sensible. Another problem is that a considerable fraction of what is paid out is normally recovered at a later stage, making the final cost smaller. The question is when to close the books. This was particularly important in the Swedish case, where a large part of the support went to a government-owned bank that was subsequently partly privatized, and recoveries depended on the price development of *Nordea* shares. Closing the books in mid-1997 (when *Securum* was dissolved and the surplus returned to the government), Jennergren and Näslund (1998) arrive at a net cost estimate of SEK 35 billion in 1997 prices, corresponding to no more than 1.7 per cent of 1991 GDP. For Finland the final costs have been estimated at FIM 33 billion, or 6.5 per cent of 1991 GDP.[33]

While the fiscal costs may appear rather small put in the perspective of national income, they are certainly non-negligible compared with banking sector capital, particularly in Finland where the total cost amounted to over 60 per cent of the regulatory capital at the outset of the crisis. It is also worth remembering that the support operations aggravated the budgetary crises. Nevertheless, in comparison with other banking crises, the costs to taxpayers were in no way exceptionally high.

3.6 EFFECTS ON THE REAL ECONOMY

The mechanisms whereby financial crises can have real consequences remain controversial. A traditional monetarist view posits that a financial crisis is important only to the extent that it affects the money supply. A crisis that leads to bank runs and forces bank closures can cause a large decline in the money supply and disruptions in the payments system. These can substantially reduce aggregate demand. On the other hand, crises that

do not reduce the money supply are seen as inconsequential for economic activity, even though they may involve bankruptcies in the non-financial as well as financial sectors and volatile asset prices. Schwartz (1986) calls such non-monetary crises 'pseudo crises'.

In this terminology the financial crises in Sweden and Finland were pseudo crises with no real consequences. Money stocks did not drop much, and there were no suspensions of banking operations or disruptions in the payments systems. The only real consequences could then be associated with the adverse effects of bank support policies as such, for example, the effects through public finances on public and private spending and longer-term effects on risk-taking incentives.

This narrow view of the significance of financial crises has been increasingly challenged. In the last two decades a large body of literature has emerged about the role of financial intermediation in economic activity. It emphasizes the role of the financial system in general and the banking system in particular in channeling funds from savers to investors in situations of asymmetric or incomplete information. Financial intermediation can be disrupted by crises, and such disruption can have adverse real consequences. Consistent with this view, Mishkin (1999b) defines 'financial instability' as a situation 'when shocks to the financial system interfere with information flows so that the financial system can no longer do its job of channeling funds to those with productive investment opportunities'. Such a failure naturally has negative real consequences, irrespective of what happens to the money supply.

3.6.1 Financial Factors Can Affect Real Outcomes in Several Ways

Financial intermediation can be disrupted in different ways by the type of events that took place in the early 1990s. One can distinguish between at least four channels. First, high interest rates not only dampen demand through the standard opportunity cost mechanism but also exacerbate adverse selection problems that create credit rationing; see, for example, Stiglitz and Weiss (1981). Thus rationing phenomena can become more serious, reducing aggregate demand.

Second, debt service problems and failures among non-financial and financial institutions alike increase uncertainty in financial markets. This makes it more difficult to assess risk, thereby increasing adverse selection problems. Further, one cannot exclude the possibility that bank managers' risk perceptions change, and that their risk assessment may become excessively cautious.

Third, weak borrower balance sheets affect creditworthiness. Low asset prices reduce the value of collateral that can be used to reduce credit risk.

Declining borrower net worth – whether associated with asset values or lower expected earnings – makes lending riskier. Variations in borrower net worth create a financial accelerator: lower net worth increases risk premiums and thus lending interest rates, in the extreme leading to credit rationing; see, for example, Gilchrist et al. (1996).

Fourth, weak intermediary balance sheets weaken lending capacity. Intermediaries themselves can suffer from the same sort of net worth problems as non-financial entities: banks cannot raise sufficient funds, as their depressed net worth makes them too risky borrowers. In addition, capital regulations may create a constraint even when no market pressures exist. The result can be a 'credit crunch', that is, a decline in credit supply due to lack of capital or insufficient net worth in the banking sector.

3.6.2 Aggregate Observations Broadly Consistent with a Financial Factor Story

The decline in aggregate demand and production during the crisis years was associated with a significant decline both in aggregate credit and in the importance of bank loans in relation to other sources of funds. In Finland, the ratio of total liabilities among non-financial enterprises to GDP declined from 65 per cent in 1992 to 40 per cent in 1995, and the share of bank loans in those liabilities fell from 52 per cent to 49 per cent. The pattern was similar in Sweden, where total liabilities fell from 126 per cent of GDP in 1992 to 83 per cent in 1995, and the fraction of bank loans among total liabilities decreased from 28 to 25 per cent.

This is consistent with the hypothesis that credit constraints became more important and contributed to reducing economic activity during the depression. However, declining credit volume could also be explained by weak credit demand owing to high interest rates and weak profitability prospects of firms and weak income expectations of households. Survey data lend some support to the hypothesis that financial constraints indeed played a role. In Finland a large proportion of firms reported financing difficulties during the crisis years. Responses to such survey questions can be interpreted in different ways, however. In particular, it is not easy to disentangle problems that are due to the borrowers' lack of creditworthiness from those that reflect the weakness of banks and other lenders. Nevertheless, the sharp increase in the proportion of firms in Finland reporting funding difficulties indicates a role for tighter financial constraints, be they on the side of borrowers or lenders.

Econometric analyses with aggregate time series data are also in line with the financial constraints story. In a study on quarterly data for all Nordic countries 1980–2002, Hansen (2003) finds that total lending of all credit

institutions, along with house prices, has a strong predictive power for bankruptcies (Granger causes). For Finland, vector autoregressive models on monthly data from 1980 to 1996 reported in Anari et al. (2002) indicate that shocks to bank credit explain a significant proportion of GDP variation, even accounting for the effects of past GDP, money supply, consumer prices and exports. Similarly, Saarenheimo (1995) finds on quarterly data from 1970 to 1994 that bank credit impacts significantly on private fixed investment, allowing for the effects of money supply and interest rates. A problem with these studies is that what are referred to as credit shocks need not be supply shocks but could also represent autonomous changes in credit demand. However, this objection is not very strong, since credit shocks have a significant impact on output and investment, even when credit is allowed to affect investment and GDP only with a lag.[34]

Furthermore, a more structural analysis by Pazarbaşioğlu (1997) supports the idea that supply is indeed responsible for at least a part of the decline of credit in Finland in the early 1990s. Pazarbaşioğlu estimates a disequilibrium model of the Finnish credit market with monthly data from 1987 to 1996. Her results suggest that supply determined the amount of credit from the second half of 1991 to late 1992.

For Sweden, Hallsten (1999) studies the hypothesis of a lending channel for monetary policy within the framework of an *IS*/*LM* model extended with an equilibrium condition for the loan market. The model implies that the mix between bank loans and other sources of private sector funding should vary with the stance of monetary conditions, and further that this mix should have an impact on production, investment and consumption. Her study documents a pronounced decline in the share of bank loans out of various broader credit aggregates between 1991 and 1993. In a regression analysis on quarterly data from 1985 to 1995 she studies the impact of the mix between bank loans and other sources of funding measured in different ways. The general finding is that a reduced proportion of bank loans has a significantly negative impact on GDP.

3.6.3 Collateral Squeeze or Credit Crunch?

Aggregate relationships cannot say much about the nature of the link between financing problems and real outcomes, and even if credit shocks are identified as stemming from the supply side it is not obvious whether they reflect reduced credit supply to constant quality borrowers or weakened borrower creditworthiness. Using the terminology of Holmström and Tirole (1997), one has to distinguish between a 'credit crunch' and a 'collateral squeeze'. This is not easy in practice because, for instance, declining asset prices may simultaneously reduce the collateral values

and lender net worth. Similarly, bankruptcies and associated credit losses deplete lender capital while also signaling an increased bankruptcy risk among other borrowers.

From a policy point of view, it is still crucial to know whether the main problem is lack of bank capital or weak borrower balance sheets. In the former case, bank support and restructuring could help, while such support might be rather ineffective in the latter case. Expansionary macro policy or targeted borrower support schemes would help only slowly if bank capital is the main constraint on credit expansion and would be much more effective if weak borrower net worth is the main issue.

The time series analysis for Finland by Pazarbaşioğlu (1997) attempts to find proxy variables for the two mechanisms. Borrower credit worthiness is proxied by market capitalization of listed companies, representing corporate net worth, and by the differential between the bank lending rate and the money market rate, indicating a risk premium. The availability of bank funding is proxied by the variance of bank share prices relative to the market average. It turns out that both borrower credit worthiness proxies obtain a significant coefficient with the expected sign. In contrast, the coefficient of the bank risk variable remains insignificant. Thus, collateral squeeze rather than credit crunch receives support. Nevertheless, the evidence hinges on the credibility of the proxy variables and must be considered rather weak.[35]

3.6.4 Borrower Balance Sheets Played a Role

Let us now look in some more detail at the connection between private sector balance sheets and consumption and investment. Starting with firm investment, there is evidence that weak firm balance sheets had a negative impact on fixed investment in Finland in the early 1990s. Honkapohja and Koskela (1999) show, for panel data on the 500 largest Finnish firms for the years 1986 to 1996, that investment spending was much more dependent on cash flow (positively) and on debt (negatively) for firms that on a priori grounds could be considered financially constrained than for non-constrained firms.[36] Furthermore, the effect of cash flow was stronger during the depression than in an average year. With somewhat different specifications but using essentially similar though shorter data, Brunila (1994) also found that investment depends positively on cash flow and negatively on indebtedness. The effects are stronger for non-manufacturing than for manufacturing firms, which may reflect differences in the nature of available collateral assets. Similar patterns are found in time series data. According to estimates by Kajanoja (1995), investment would have been 6 to 15 per cent higher in 1993 had the sector's debt ratio remained at the 1980

level. On the other hand, the changes in indebtedness do not seem to have contributed much to the rapid growth of investment in the late 1980s.

For Sweden, Hansen and Lindberg (1997) estimate the impact of financial constraints using an unbalanced panel of manufacturing firms that had been in existence for at least six years during the period 1979 to 1994. They capture borrowing restrictions by treating the marginal cost of capital as an increasing function of indebtedness. They find a significant, but quantitatively small, effect of indebtedness on the cost of capital, consistent with the importance of financial constraints.

All in all the evidence indicates that high debt levels tend to constrain investment. In particular, the Finnish results are in accordance with the idea that borrower balance sheets have a rather non-linear impact on investment. Marginal changes in indebtedness at low debt levels, particularly under favorable macroeconomic conditions, do not matter greatly, but at high debt levels increased indebtedness can be a significant constraining factor, particularly in bad macroeconomic circumstances. This is likely to have played a role at least in the Finnish financial crisis.

The evidence with regard to consumption is less clear-cut. In neither country have there been studies based on panel data for individual households, and we have to rely on aggregate time series. For Finland, Honkapohja and Koskela (1999) estimate a consumption function augmented by measures of net wealth and credit growth, and find that private consumption depends, apart from on disposable income, positively on net wealth and credit growth and negatively on the nominal interest rate.[37] This is in line with corresponding studies for Sweden by Berg and Bergström (1995) and by Agell et al. (1995). Clapham et al. (2002) confirm the existence of wealth effects for Finland, whereas their results tend to be weaker for Sweden. For Finland they find a stronger propensity to consume out of housing wealth than out of stock wealth, in accordance with recent evidence from US data by Case et al. (2005).

A further approach builds on the assumption that financially unconstrained households consume according to an intertemporally optimal consumption plan. If this is so, the marginal utility of consumption should follow a random walk, that is, in a time series regression the coefficient on (the marginal utility of) lagged consumption should be unity. Adding current income as an independent variable, its regression coefficient should indicate the fraction of total consumption that is limited by credit constraints. Employing such an Euler-equation approach, Agell and Berg (1996) and Takala (2001) find for Sweden and Finland, respectively, that private consumption has been sensitive to current disposable income, and that this sensitivity increased after 1991. The interpretation is that the fraction of credit constrained consumers increased during the crisis.

These findings are consistent with the idea that weak balance sheets played a role in the development of investment and consumption during the crisis years. However, these studies being basically single-equation ones, other interpretations are certainly possible. It is, for instance, conceivable that the presence of wealth effects and the significance of current cash-flow and income in Euler equations reflect that these variables are correlated with changes in the perception of risk, and hence intertemporal discount rates, or with factors affecting the supply of credit.

3.6.5 Weak Evidence for 'Credit Crunch' due to Insufficient Bank Capital

Inference of the role of bank balance sheets requires bank level analysis. Furthermore, to really distinguish between 'collateral squeeze' and 'credit crunch' one should ideally combine data on individual firms with those of individual banks. Unfortunately, a lack of data has largely prevented such analyses.

Kinnunen and Vihriälä (1999) examine how the likelihood that a firm terminated its operations in Finland in the early 1990s depended on firm characteristics and on whether the firm had a lending relationship with the most troubled part of the Finnish banking system, that is, the Savings Bank of Finland and *Skopbank*. The database consists of 474 small and medium-sized firms with accounting data and information about the bank from which the firm had outstanding credit. The results suggest that, even accounting for the effects of liquidity, current profitability, indebtedness, age and size, firms with a lending relationship with the SBF and *Skopbank* were more likely to close in 1992 than other firms that year or the same firms in other years. The statistical significance of the finding is not very strong, however.[38]

In a related study for Sweden, Bergström et al. (2002) examine the probability of default for a cross-section of all Swedish firms in 1991–93 with more than ten employees. The focus of the study is on the impact of being a client of *Securum*, that is, having at least one loan that was transferred from *Nordbanken* to *Securum*. The study shows that, apart from a number of standard indicators of financial health, being affiliated with *Securum* had a positive impact on the probability of the firm being liquidated or going bankrupt. Since *Securum* was a financially strong lender, unaffected by credit crunch, this result suggests that the behavior of other lenders was also unrestricted by balance sheet factors.[39]

Another study with Finnish data follows the widely used cross-sectional approach of examining how the rate of credit growth is affected by bank capital.[40] Vihriälä (1997, Chapter 4) estimates reduced form equations for loan growth of 313 individual savings and co-operative banks in the early

1990s. The study controls for demand factors using data on the economic conditions in the regions of operation of the banks and for borrower quality by the share of non-performing assets in each bank's loan stock.[41] There is no significant effect of bank capital on credit growth, a finding that is robust to various definitions of capital. Nor does a complementary analysis of bank issuance of subordinate debt suggest that capital constrains lending. On the other hand, borrower quality affected lending growth among the savings banks as in the collateral squeeze story.

As a whole, the Finnish evidence supports the conclusion that financial factors exacerbated the economic downturn in the early 1990s. This seems to stem mainly from weak borrower balance sheets. The lending behavior of banks may have contributed as well, but the evidence on this score is rather weak. The Swedish evidence is generally weaker, perhaps because the crisis was not as deep in Sweden as in Finland.

3.7 A COMBINATION OF FACTORS

The Finnish and Swedish banking crises share many features of the crises experienced elsewhere. Geographically, the closest case is Norway, but many similarities can also be seen with the crises of several developing countries.[42] In particular, the East Asian financial crises are rather similar in many respects.[43] These experiences and extensive research on them allow one to draw some broad conclusions about the factors that triggered the crises, contributed to their depth, and shaped the pattern of recovery. We will attempt to distinguish between triggering factors ('shocks'), on the one hand, and factors that affected responses to these shocks ('propagation mechanisms'), on the other. We conclude that the crises were due to the combination of extraordinary shocks and a propagation mechanism that was fundamentally altered as a result of financial deregulation.

3.7.1 Financial Liberalization and Credit Boom not the Whole Story

It is commonplace to claim that the key shock occurred several years before the crises: the deregulation of the financial markets in the mid-1980s. Such reforms were undertaken in many countries all over the world as financial systems moved away from pervasive controls and restrictions towards market systems. A wide array of conduct regulations were eased or lifted completely. Interest rates are now freely determined in the market, and intermediaries are no longer required to invest in certain preferred assets or prohibited from investing in other types of assets. New derivative markets substantially increase opportunities for shifting risk. Further, the

abolition of a host of restrictions on the international mobility of corporations and capital has made financial markets in different countries much more closely integrated. Financial capital now flows freely and it is much easier for foreign institutions to enter into domestic markets.

Such reforms were as a rule followed by periods of increased activity in the financial markets. Securities markets expanded, with both the capital raised and secondary market transactions increasing strongly, and banks and other intermediaries expanded credit supply. Part of this was a reallocation of credit away from previously unregulated lending such as trade credits. But to a large extent it was a real credit expansion. Many countries, like Finland and Sweden, saw periods of exceptional credit growth.

Such credit booms often preceded financial crises. There is econometric evidence of a strong positive correlation between the degree of credit growth and the resulting indebtedness, on the one hand, and the occurrence of a banking crisis, on the other. For example, Demirgüç-Kunt and Detragiache (1998) found – in a panel analysis of 65 countries over the period 1980–94 – that, even after controlling for factors such as GDP growth, the real rate of interest and the existence of deposit insurance, the rate of credit expansion and the ratio of private sector credit to GDP had significantly positive impacts on the likelihood of a subsequent banking crisis. Kaminsky et al. (1997) reach similar conclusions based on a survey of seven studies on the role of credit in creating currency crises. In five of these studies there is a statistically significant effect of credit growth on the likelihood of a currency crisis. As we do not know of any crisis country – at least among developed countries – where the financial problems were not preceded by rapid credit growth, we conclude that financial deregulation facilitating a credit boom has been a necessary condition for a banking crisis.

But financial deregulation has been far from a sufficient condition. While financial liberalization in one form or another has occurred in basically all developed and many developing countries, it has been followed by a lending boom and a crisis in only a few. More importantly, only a minority of credit booms have ended in banking or currency crises with associated credit busts. Gourinchas et al. (2001) find that a credit boom, defined as a deviation of the ratio of private credit to GDP from a stochastic trend, was followed by a banking crisis in only 10 to 21 per cent of all cases, depending on the precise definitions of boom and crisis. Thus, in the vast majority of credit growth episodes, no banking crisis followed. The likelihood of a currency crisis was even smaller.

In general, liberalization alone does not create a boom–bust cycle like that experienced in Finland and Sweden, much less a banking crisis. This conclusion is in line with evidence discussed in Section 3.6 above,

indicating that removing financial restrictions did not *per se* have a dramatic impact on household consumption and corporate investment in Sweden and Finland. This is not to say that the booms in the two countries were not triggered by the deregulations, but rather that the credit booms had a strong impact on aggregate demand only in combination with other macroeconomic disturbances and expansive macro policies. Furthermore, deregulation was instrumental in leading to a crisis only because of the absence of effective supervision or other institutional arrangements giving banks the right incentives vis-à-vis risk-taking.

3.7.2 External Macro Shocks Important, Particularly for Finland

Both Finland and Sweden are small open economies heavily exposed to external events. The years around 1990 were unusually turbulent with a series of negative international macro shocks. First, there was the increase in European interest rates following German reunification. This affected both countries more or less in the same way as it did other Western European countries, although countries with a high government debt – like Sweden – may have been hit harder than others.

Second, demand in the OECD area declined in response to the higher interest rates and the fallout of the crisis in the Persian Gulf. This demand shock also had a similar impact on most countries, albeit stronger on countries heavily dependent on foreign trade, like Finland and Sweden. Third, the ERM crisis initiated a general turmoil in exchange markets. Although general in nature, this shock was particularly important for small countries like Finland and Sweden, trying to defend fixed exchange parities increasingly removed from their fundamental values.

Finally, the Soviet Union collapsed and with it the Soviet export market. This specific shock hit Finland – traditionally having a large share of its trade with the Soviet Union – much more strongly than other countries. In fact, Finland was the only OECD country to experience declining overall export market growth in 1991.[44] As a result, the volume of goods and services exports declined by 6.6 per cent in Finland in that year. In Sweden the decline was 2.5 per cent.

A comparative analysis by Pesola (2001) using panel data for the four Nordic countries quantifies the shocks to aggregate demand occurring in the early 1990s. He finds external macro shocks to be of major importance in Finland but not in the other countries and estimates that the negative GDP surprise was much bigger in Finland than in Sweden or in Denmark or Norway. In 1991, Finnish GDP was 8 per cent below expectations, while the biggest Swedish negative shock occurred in 1993 – past the peak of the crisis – and was no more than 3 per cent.

3.7.3 Fiscal Policies were Pro-cyclical, but the Impact Uncertain

Other shocks derive from fiscal policy measures. For Sweden it is widely acknowledged that the boom in the late 1980s was exacerbated by an expansionary fiscal policy. It was only in 1990, when the crisis was well under way, that some contractionary fiscal policy measures were undertaken. When the crisis hit, there was a dramatic deterioration in the central government budget, from a surplus of 4 per cent of GDP in 1990 to a deficit of 12 per cent in 1993.

In Finland, fiscal policy also fueled rather than reined in economic expansion during the boom years. Taxes were cut in several steps, while attempts to reduce tax expenditures, such as the deductibility of interest expenses in household taxation, met with strong resistance. The high tax revenues induced by the booming economy kept surpluses significant, making it politically very difficult to tighten policy.

When the crisis hit, government finances deteriorated rapidly, as tax revenues declined, and various subsidy programs including bank support payments increased expenditure. Exploding deficits were forecasted unless expenditures were radically cut, and there was a discretionary tightening of fiscal policy in 1992 and 1993 through several expenditure and tax packages. This tightening reduced – at least as a direct effect – aggregate demand and thereby exacerbated the downward spiral. At the same time, however, interest rates started to come down, thus supporting growth. It is still a matter of substantial controversy as to how contractionary fiscal policies were during the depression (see, for example, Kiander and Vartia (1998)). In a situation where the solvency of the public sector is in question – as may quite well have been the case in both countries – it is also an open question whether budget cuts may not be expansionary in the end, as suggested by Giavazzi and Pagano (1990, 1996). A deeper analysis of the role of fiscal policy is, however, beyond the scope of this chapter.[45]

3.7.4 Pegged but Adjustable Exchange Rate Regime Fatal

The great majority of recent financial crises have occurred in countries with a pegged exchange rate regime of one sort or another. In this sense, Finland and Sweden in the early 1990s were similar to Mexico in 1994, the East Asian countries in 1997, Russia and Brazil in 1998, Turkey in 2000 and Argentina in 2000–01. This supports the new consensus view that a fixed but adjustable exchange rate regime is conducive to financial crises and not really sustainable (see, for example, Fischer (2001)).

The Finnish and Swedish crisis episodes are well in line with this general pattern. In the period when liberalization unleashed suppressed demand

and led to strong growth, market confidence in the existing parities remained relatively strong, although large and occasionally increasing interest differentials indicate that the probability of exchange rate adjustments was not zero. Nevertheless, the exchange rates were sufficiently credible for attempts to tighten monetary policy to be largely futile. Interest rates could not be raised sufficiently, as capital inflows responded strongly to higher short-term rates. Furthermore, many non-financial firms took large exchange rate risks by borrowing in foreign currency to benefit from interest differentials. Ironically, the authorities in both countries – supported by a large majority of the academic opinion – strongly emphasized that the era of recurring devaluations was over for good.[46] This historically exceptionally strong commitment to unchanging exchange rates presumably increased public confidence in the exchange rate, irrespective of underlying economic realities.

When the financial positions had become vulnerable and external shocks hit the economies, a confidence crisis was quick to unfold. Interest differentials vis-à-vis continental Europe had to increase, and coming on top of an international increase this combined to form a major interest rate shock hitting the decelerating economies. Naturally, this had a very strong negative effect on the highly indebted private sector.

In the end, the fixed rate regimes had to be abandoned in both countries. Although the resulting depreciations could be considered necessary for recovery, they involved a short-run deflationary effect through the impact on the domestic currency value of borrowing denominated in foreign currency. The magnitude of this effect depends on the currency position of the private sector. For Sweden, calculations made by the *Riksbank* indicate that the negative financial position in foreign currency was fully offset by positive holdings of shares and real assets. The Finnish private sector had relatively fewer foreign assets, and the overall net currency position was likely to be significantly negative. Therefore, the expansionary effects of the depreciation of the domestic currency may have been more subdued in Finland than in Sweden.

The processes leading to floating rates differed between the two countries, and this may have impacted on the macroeconomic developments and perhaps on the banking crises as well. Finland was first forced to devalue in late 1991 and then floated in September 1992 before the exchange market turbulence led several countries to leave the ERM. Sweden attempted to defend the exchange rate even after that, with extremely high short-term rates in the fall of 1992.[47] An earlier devaluation in November 1991 helped Finland's exports to start recovery earlier. However, the decision to devalue rather than float left the exchange rate regime still highly vulnerable to further speculations and thereby

contributed to high interest rates. This, in combination with the windfall losses brought about via foreign currency loans, weakened the financial position of the domestic sectors in Finland, even before the turbulence and the inevitable floating in the autumn of 1992. It therefore seems that the Finnish approach to floating was more unfortunate from the point of view of the domestic sectors – and banks – than the Swedish one, with just a brief period of extremely high *krona* rates before floating. Be that as it may, with hindsight it seems obvious that both countries would have benefited from an earlier floating.

3.7.5 The First Downturn in a Recently Deregulated Economy

In retrospect the processes of deregulation that took place over a couple of years in the mid-1980s may appear inevitable; the time just seems to have been ripe. At the time, however, the swiftness of the process came as a surprise. As a result, many actors, not least among regulators and financial institutions, were ill-prepared for the new situation. But it did not take long for the financial sector to realize that the competitive environment was fundamentally different. Lending restrictions no longer conserved the relative positions of different institutions. Competition over market shares was unhampered, and did in fact develop vigorously. Even though banks remained quite profitable in the short term, underlying profitability and solidity did not in general improve and in many cases deteriorated as a result of the rapid rate of expansion.

It took longer for banks and regulators to learn to understand the nature of financial risks in the new situation. Up until 1990 credit losses had been running at minuscule levels for as long as any active banker could remember. Few had studied the banking history of the 1920s and 1930s, and little was learnt from the current crisis experience in nearby Norway. In practice, risk assessment followed routine procedures, at best. When the crisis was resolved some years later it was even found that standard documentation was lacking for many loans. In times of rapid expansion administrative matters had been given low priority. As a result, not only was there poor risk analysis of individual loans, but also banks had little overview of the portfolio of loans they were holding, such as the exposure towards a single borrower or a particular sector.

A conspicuous illustration of higher risk-taking is the treatment of real estate collateral. In both countries banks started accepting loans with ever higher loan-to-value ratios, even exceeding 100 per cent, presumably based on recent experience of an inflationary and regulated environment where prices were growing at high and stable rates. This environment was to change in two ways, both of which may have been difficult to predict.

The trend growth rate of nominal property prices was reduced as a result of lower inflation. Further, real estate prices became more volatile, as a result of the higher loan-to-value ratios.

The recession that started in both countries around 1990 was the first downturn after the deregulation. It hit a bank system with low solidity, high-risk loan portfolios and highly leveraged borrowers. This triggered dynamic responses that banks and regulators were quite unaccustomed to. In particular, the interaction between asset prices, collateral values and credit losses was a new phenomenon, or rather the rediscovery of a phenomenon well known decades ago to Irving Fisher (1933) and others. It was the combination of strong negative shocks and a fundamentally altered propagation mechanism that was at the heart of the crisis.

3.7.6 Supervisory Policies, Deposit Insurance and the Too-big-to-fail Doctrine

There are also grounds to believe that lax prudential regulation and supervision contributed to both the size and vulnerability of the credit boom of the late 1980s. For Finland, the careful analysis by Halme (1999) points to severe shortcomings of supervision, which for example allowed banks to report unrealistically strong capital positions and to lend against insufficiently secure collateral. For Sweden, Sjöberg (1994) documents that resources devoted to on-site bank inspections were cut in favor of tasks related to consumer protection rather than financial stability.

Bank risk-taking can undoubtedly partly be explained by a lack of understanding of how unregulated markets function. In particular, there is ample evidence that bankers did not fully understand how credit risks depended on inflation, asset values, interest rates and exchange rates. However, there are also good reasons to believe that distorted incentives played a role. There is evidence for both countries that banks with a weak capital base and profitability deliberately tried to resolve their problems through growth. This picture emerges both from insider accounts and from econometric analyses.[48]

In the academic literature many studies single out deposit insurance as a major cause of such distorted incentives, but this was of little importance for the Nordic crises. Sweden had no deposit insurance at all, and in Finland the marginal funding that the most expansive banks relied on – money market funding and bonds – was not covered by deposit insurance. More plausible is that providers of funds – even in a late stage of credit expansion – trusted that banks would not be allowed to fail given their central position in the payments systems. Such beliefs were also supported by actions and statements. One example is the special arrangement by the

Finnish central bank to alleviate the pressure on bank profits created by the high interest rates in 1986. Another Finnish example is that the central bank priced all bank CDs on par with its own CDs in market operations, implicitly treating them as free of credit risk.

3.7.7 The Bottom Line

The banking crises of Finland and Sweden in the 1990s stand out as extraordinary events both from an international perspective – in occurring in advanced market economies with strong public sectors – and from a historical perspective – in being the first major crises to hit these economies since the worldwide depression of the early 1930s. In this concluding section, we have isolated the factors that triggered the emergence of the crises and that explain the relatively speedy recoveries.

We conclude that there is not one explanation. The crises were due to the combination of several extraordinary shocks and serious mistakes, both in macro policies and in regulatory policies. The crises were preceded by a far-reaching financial liberalization in both countries. This may have been a necessary condition, but it was far from a sufficient cause for the crises. Neither can formal deposit insurance or other aspects of government regulation be blamed. The crises exacerbated macroeconomic problems primarily through their impacts on borrower balance sheets. However, evidence of a so-called credit crunch remains weak. Crisis management was fast and strong-handed. In both countries the financial sectors were substantially restructured and recovered from the crisis relatively quickly.

NOTES

1. We thank Ari Hyytinen and Thomas Hagberg for very competent research assistance. We are grateful to the Bank of Finland, *Sveriges Riksbank* and the Finnish Ministry of Finance for data.
2. See Jonung (1993) for an account of these meetings.
3. Hörngren (1989, Table 4.7).
4. This was done in two steps, taking effect in January 1991 and January 1992, raising the capital requirements on mortgage loans (except for owner-occupied housing) and mortgage-institution bonds to a maximum of 8 per cent.
5. See Kuusterä (1995) for documentation that this was indeed the case.
6. Larsson and Sjögren (1995, Table 3.1).
7. See Pettersson (1993) for an insider account of the strategic thinking within this bank.
8. Financial Stability Report, *Sveriges Riksbank*.
9. Wallander (1994, Tables A1 and A3).
10. The only exception was the savings bank group, which deliberately chose to pay the extra costs involved to gain market shares. Internal *Skopbank* documents quoted in Kuusterä (1995) reveal that the center strongly encouraged individual savings banks

to disregard the Bank of Finland recommendation of slowing down credit growth. Instead, the banks were advised to use the opportunity to capture market shares.

11. In Chapter 6 of this volume the pro-cyclicality of real interest rates is presented as a key ingredient in the Finnish and Swedish boom–bust cycle. The same holds for the boom–bust cycle in Norway as demonstrated in Chapter 7.
12. See Jennergren (2002) for a study documenting the lack of stock market reaction to the early reports of credit losses among finance companies.
13. This crisis bears some resemblance to the crisis for the British 'secondary banks' in 1973. Like the finance companies, they had thrived due to regulation and were put under competitive pressure when the operations of banks were deregulated. See Davis (1992, pp. 152–3).
14. There is evidence that the speed of credit expansion during the boom years had as such a clear negative impact on credit quality during the crisis. The savings banks that had the fastest aggregate credit growth also had the largest share of non-performing loans in all lending. Solttila and Vihriälä (1994) show that the speed of credit expansion during the boom is a much more important factor in explaining the later credit quality of individual savings banks than the sector composition of lending or share of loans denominated in foreign currency.
15. These numbers include provisions for future losses for loans that were still performing.
16. These are particularly uncertain estimates as the market dried up with few transactions making the empirical ground for the appraised values thinner than usual.
17. See Wallander (1994, Tables 4 and 5). The concept was defined by the Financial Supervisory Authority and includes loans to the real estate and construction industries but also other loans against real estate collateral.
18. *SE-banken* entered discussions with the Bank Support Agency, but they did not result in any direct support. The private owners invested new equity capital in the bank to ensure that capital requirements were fulfilled.
19. These figures are based on unpublished calculations within the *Riksbank*. We are grateful to Anders Lindström and Kerstin Mitlid for making these figures available to us.
20. The GGF decided in principle to guarantee the interest payments and the capital for ten years of the tier-2 instruments to be issued by the banks. In November the GGF also decided to guarantee the interest payments of the co-operative banks' guarantee fund. In the end none of these guarantees was used.
21. Bank of Finland Year Book 1991.
22. Government bill to Parliament 1991/92:153.
23. The term 'credit crunch' was adopted from the contemporaneous American discussion related to the slowdown of both economic activity and credit contraction. Particularly the article by Bernanke and Lown (1991) was often cited in this context.
24. There was, nevertheless, a run on the trust fund of the retail chain EKA in November 1992, forcing a temporary closure of the fund. The fund was not covered by any formal deposit insurance scheme. Furthermore, its small size and secondary importance in the financial system suggested that not bailing it out might be a real option. Yet the government decided to pay out to the 'depositors' their lost capital (but not interest accrued). In Sweden, *Gota Bank* lost 5 per cent of its deposits during one week in the spring of 1992. This 'mini-run' was apparently the result of statements made by the owner indicating doubts about the willingness to support the ailing bank further.
25. In Finland, interest rate regulation was used to increase by a percentage point the rate of interest on the stock of bank credit with low interest rates linked to the Bank of Finland base rate. A change in tax legislation was used to prevent this change from increasing deposit rates so as to widen banks' interest margins.
26. Some banks delayed accepting the offer until the end of the year, which suggests that the conditions put on the capital injection were considered at least somewhat difficult to accept by the banks.
27. See, for example, Ingves and Lind (1997 and 1998) for Sweden.
28. See Bergström et al. (2002) for a detailed analysis of *Securum*.

29. For this reason the pricing of transferred loans was less of an issue in Sweden where the 'selling' banks were already state-owned. The total book value of the loans was depreciated by SEK 14 billion in *Securum* shortly after the transfer, which indicates over-pricing. See Bergström et al. (2002, pp. 48–51).
30. The buyer of the 'good' parts of the bank (*KOP*) reimbursed the government the FIM 75 million after the deal.
31. A particular problem in selling the bank (good assets) to a single buyer was that it was considered difficult for a single buyer to keep deposits given the competition of other banks. In the split-up deal such competition was likely to be less serious. Competition was, furthermore, contractually limited through an agreement that the buying banks would not advertise deposit accounts for a few months.
32. See also Chapter 9 of this volume for a comparison between the Nordic crisis and the Asian financial crises.
33. The official estimate made by the Finnish government in its report to parliament in 1999 ('Valtioneuvoston selonteko eduskunnalle pankkituesta', 1999). The Swedish estimate uses the interest rate on 12-month t-bills to bring all cash flows forward to 1 July 1997. The Finnish estimate is not quite comparable as it does not include any discounting or interest expenses.
34. In neither study is the effect of a credit shock sensitive to the ordering of variables in the Choleski decomposition. Credit shocks matter even when there is no contemporaneous effect from credit to investment or GDP or money.
35. One can question particularly the appropriateness of the variable used to proxy for the lending capacity of banks. It does not reflect the capacity of the non-listed banks (savings banks and co-operative banks). Yet, it was the savings banks, if any, that should have suffered from lack of bank capital. The proxy also overlooks any potential effects of capital regulation. One can also question the conclusions based on the borrower creditworthiness variables. Net worth is inherently a firm level issue, and an aggregate measure may quite well proxy for something other than the individual firms' net worth positions. Furthermore, the coefficient of the interest differential turns out to be unstable over time.
36. A firm was classified as financially constrained if it could not meet the interest payments on its debt by profits in the previous period.
37. The authors interpret the finding that the nominal rather than the real rate of interest affects consumption as evidence of liquidity constraints.
38. The critical coefficient has a *t*-value of 1.83, implying a marginal significance level of 6 per cent.
39. This is not the only possible interpretation. It may be that *Securum* was more ruthless than other lenders, because by construction it had a limited lifespan and no long-term borrower relations to worry about.
40. These credit crunch studies were started by Bernanke and Lown (1991). A survey and critique of the early studies is provided by Sharpe (1995).
41. The share of non-performing assets can be considered as an indicator of borrower quality, because even in normal times most lending goes to existing customers. In a financial crisis situation adverse selection problems are likely to tie borrowers even more closely to their existing lending banks. On the other hand, non-performing assets represent a loss potential not fully accounted for by loan loss provisions. This is problematic because they can thereby also capture the effect of expected changes in bank capital. However, if this effect dominates, one would expect the capital ratio and the share of non-performing assets to have a roughly similar effect on lending. This is not the case.
42. See Chapter 7 in this volume for a discussion of the Norwegian experience. Despite many features in common with the other Nordic countries, Denmark did not experience a financial crisis, as analysed in Chapter 8 of this volume.
43. See Chapter 9 of this volume for a comparative analysis of the Nordic and Asian financial crises.

44. According to the *OECD Economic Outlook*, the export market for Finnish manufacturing declined by 1.2 per cent in 1991, while it increased by 4.3 per cent on average in the OECD area and by 2.2 per cent in Sweden. This was indeed a shock as export markets had been expected to grow robustly in 1991. The December 1990 *Outlook* predicted a market growth of 6.2, 6.0 and 5.7 per cent for Finland, the OECD and Sweden, respectively.
45. See Chapter 2 in this volume for a discussion of the role of fiscal policy.
46. In Finland the government in power in 1987–91 described its economic policy strategy as one of 'managed structural change' as opposed to the 'soft' devaluation-prone policies of earlier governments. Prior to the general election of spring 1991, the governing coalition furthermore made the 'stable *markka*' a central plank of its election platform. See Chapter 2 on the politics of the crisis.
47. The rates were so high that no financial system could sustain such pressures for more than a few days. The exorbitant rates were probably central to making the banking crisis acute in Sweden in the fall of 1992. In fact, the crisis in *Gota* occurred on 9 September, the very same day that the overnight interest rate was increased to 75 per cent.
48. For Finnish savings banks this is supported both by internal documents as shown by Kuusterä (1995) and by the econometric analysis of Vihriälä (1997). For Sweden, Pettersson (1993) provides an insider account based on his experience as CEO of *Första Sparbanken*.

REFERENCES

Agell, J. and L. Berg (1996), 'Does financial deregulation cause a consumption boom?', *Scandinavian Journal of Economics*, **98** (4), 579–601.

Agell, J., L. Berg and P.-A. Edin (1995), 'The Swedish boom-to-bust cycle: tax reform, consumption, and asset structure', *Swedish Economic Policy Review*, **2**, 271–314.

Agell, J., P. Englund and J. Södersten (1998), *Incentives and Redistribution in the Welfare State*, London: Macmillan.

Allen, F. and D. Gale (2000), 'Bubbles and crises', *Economic Journal*, **110**, 236–55.

Anari, A., J. Kolari, S. Pynnönen and A. Suvanto (2002), 'Further evidence on the credit view: the case of Finland', *Applied Economics*, **34**, 267–78.

Bank of Finland Year Book, various issues.

Berg, L. and R. Bergström (1995), 'Housing and financial wealth, financial deregulation, and consumption – the Swedish case', *Scandinavian Journal of Economics*, **97**, 421–39.

Bergström, C., P. Englund and P. Thorell (2002), *Securum. Vägen ut ur bankkrisen* (Securum, the road out of the banking crisis), Stockholm: SNS.

Bernanke, B. and C. Lown (1991), 'The credit crunch', *Brookings Papers on Economic Activity*, 2:1991, 205–47.

Brunila, A. (1994), 'Investment and financing considerations: evidence from Finnish panel data', Bank of Finland Discussion paper 4/94.

Case, K.E., J.M. Quigley and R.J. Shiller (2005), 'Comparing wealth effects: the stock market versus the housing market', *Advances in Macroeconomics*, **5** (1), 1–32.

Clapham, E., A. Hyytinen and K. Takala (2002), 'Household wealth, credit and consumption: evidence from Finland and Sweden', manuscript.

Corsetti, G., P. Pesenti and N. Roubini (1999), 'What caused the Asian currency and financial crisis?', *Japan and the World Economy*, **11**, 305–73.
Davis, E.P. (1992), *Debt, Financial Fragility and Systemic Risk*, Oxford: Oxford University Press.
Demirgüc-Kunt, A. and E. Detragiache (1998), 'The determinants of banking crises in developing and developed countries', *IMF Staff Papers*, **45**, 81–109.
Fischer, S. (2001), 'Exchange rate regimes: is the bipolar view correct?', *Journal of Economic Perspectives*, **15**, 3–24.
Fisher, I. (1933), 'The debt-deflation theory of great depressions', *Econometrica*, **1**, 337–57.
Giavazzi, F. and M. Pagano (1990), 'Can severe fiscal contractions be expansionary? Tales of two small European countries', *NBER Macroeconomics Annual*, 75–116.
Giavazzi, F. and M. Pagano (1996), 'Non-Keynesian effects of fiscal policy changes: international evidence and the Swedish experience', *Swedish Economic Policy Review*, **2**, 67–103.
Gilchrist, S., B. Bernanke and M. Gertler (1996), 'The financial accelerator and the flight to quality', *Review of Economics and Statistics*, **78**, 1–15.
Gourinchas, P., R. Valdés and O. Landerretche (2001), 'Lending booms: Latin America and the world', *Economía*, **1**, 47–89.
Hallsten, K. (1999), 'Bank loans and the transmission mechanism of monetary policy', in K. Hallsten, 'Essays on the effects of monetary policy', dissertation in economics 1999:2, Department of Economics, Stockholm University.
Halme, L. (1999), *Pankkisääntely ja valvonta. Oikeuspoliittinen tutkimus säästöpankkien riskinotosta* (Regulation and supervision of banks. A legal policy study of savings banks' risk taking), Bank of Finland Studies E:15.
Hansen, J. (2003), 'Financial cycles and bankruptcies in the Nordic countries', Sveriges Riksbank, Working paper no. 149.
Hansen, S. and S. Lindberg (1997), 'Agency costs, financial deregulation, and corporate investment – an Euler equation approach to panel data for Swedish firms', Working paper 1997:20, Department of Economics, Uppsala University.
Holmström, B. and J. Tirole (1997), 'Financial intermediation, loanable funds and the real sector', *Quarterly Journal of Economics*, **112**, 663–91.
Honkapohja, S. and E. Koskela (1999), 'The economic crisis of the 1990s in Finland', *Economic Policy*, **29**, 399–424.
Honohan, P. and D. Klingebiel (2003), 'The fiscal cost implications of an accommodating approach to banking crises', *Journal of Banking and Finance*, **27**, 1539–60.
Hörngren, L. (1989), *Kostnadsutveckling och konkurrens i banksektorn* (Cost development and competition in the banking sector), SOU 1989:16, Stockholm.
Ibañez, D.M. and P. Molyneux (2001), 'Financial restructuring in European banking and foreign expansion', paper presented at the Workshop on European Banks and the Brazilian Financial System, University of Oxford Centre for Brazilian Studies, 12 March.
Ingves, S. and G. Lind (1997), 'Loan loss recoveries and debt resolution agencies: the Swedish experience', in C. Enoch and J. H. Green (eds), *Banking Soundness and Monetary Policy. Issues and Experiences in the Global Economy*, Washington, DC: IMF.
Ingves, S. and G. Lind (1998), 'Om att hantera en bankkris' (Handling a banking crisis), *Ekonomisk Debatt*, **26**, 41–54.

Jennergren, P. (2002), 'The Swedish finance company crisis – could it have been anticipated?', *Scandinavian Economic History Review*, **50**, 7–30.
Jennergren, P. and B. Näslund (1998), 'Vad blev notan för skattebetalarna?' (What was the bill to tax payers?), *Ekonomisk Debatt*, **26**, 69–76.
Jonung, L. (1993), 'Riksbanken i regleringsekonomin. Mötena mellan riksbanken och affärsbankerna 1956–1973' (The *Riksbank* in the regulated economy. The meetings between the *Riksbank* and the commercial banks 1956–1973), in L. Werin, (ed.), *Från räntereglering till inflationsnorm* (From interest regulation to inflation norm), Stockholm: SNS Förlag.
Kajanoja, L. (1995), 'Aggregate investment and corporate indebtedness: some empirical evidence from Finland', Bank of Finland Discussion Paper 9/95.
Kaminsky, G., S. Lizondo and C. Reinhard (1997), 'Leading indicators of currency crises', IMF Working paper 97/79.
Keeley, M. (1990), 'Deposit insurance, risk, and market power in banking', *American Economic Review*, **80**, 1183–1200.
Kiander, J. and P. Vartia (1998), 'Suuri lama' (The great depression), Elinkeinoelämän tutkimulaitos (Research Institute of the Finnish Economy), B143.
Kinnunen, H. and V. Vihriälä (1999), 'Bank relationships and small-business closures during the Finnish recession of the 1990s', Bank of Finland Discussion Paper 13/99.
Kuusterä, A. (1995), *Aate ja raha. Säästöpankit suomalaisessa yhteiskunnassa 1822–1994* (Ideology and money. The savings banks in the Finnish society), Helsinki: Otava.
Larsson, M. and H. Sjögren (1995), *Vägen till och från bankkrisen* (The road to and from the banking crisis), Stockholm: Carlsson.
Mishkin, F.S. (1999a), 'Lessons from the tequila crisis', *Journal of Banking and Finance*, **23**, 1521–33.
Mishkin, F.S. (1999b), 'Global financial instability: framework, events, issues', *Journal of Economic Perspectives*, **13**, 3–20.
OECD Economic Outlook, various issues.
Pazarbaşioğlu, C. (1997), 'A credit crunch? Finland in the aftermath of the banking crisis', *IMF Staff Papers*, **44**, 315–27.
Pesola, J. (2001), 'The role of macroeconomic shocks in banking crises', Bank of Finland Discussion Papers 6/2001.
Pettersson, K.-H. (1993), *Bankkrisen inifrån* (The banking crisis from the inside), Stockholm: SNS Förlag.
Saarenheimo, T. (1995), 'Credit crunch caused investment slump? An empirical analysis using Finnish data', Bank of Finland Discussion Paper 6/1995.
Schwartz, A. (1986), 'Real and pseudo-financial crises', in F. Capie and G. Wood (eds), *Financial Crises and the World Banking System*, London: Macmillan.
Sharpe, S. (1995), 'Bank capitalization, regulation and the credit crunch: a critical review of the research findings', US Federal Reserve Board, Finance and Economics Discussion Series 95-20.
Sjöberg, G. (1994), 'Bank- och Finansinspektionens verksamhet 1980–1993' (The activities of the Financial Supervision Agency 1980–1993), in *Bankkrisen,* reports from *Bankkriskommittén*, Stockholm.
Solttila, H. and V. Vihriälä (1994), 'Finnish banks' problem assets: the result of unfortunate asset structure or too rapid growth?', Bank of Finland Discussion Paper 23/94.

Stiglitz, J. and A. Weiss (1981), 'Credit rationing in markets with imperfect competition', *American Economic Review*, **71**, 393–410.
Takala, K. (2001), *Studies in Time Series Analysis of Consumption, Asset Prices and Forecasting*, Bank of Finland Studies E:22.
'Valtioneuvoston selonteko eduskunnalle pankkituesta' (Government report to parliament on bank support) (1999), 16 November, Helsinki: Edita.
Vihriälä V. (1997), *Banks and the Finnish Credit Cycle 1986–1995*, Bank of Finland Studies E:7.
Wallander, J. (1994), 'Bankkrisen – omfattning, orsaker, lärdomar' (The banking crisis – magnitude, causes, lessons), in *Bankkrisen,* reports from *Bankkriskommittén*, Stockholm.