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SUOMEN PANKIN KESKUSTELUALOITTEITA • FINLANDS BANKS DISKUSSIONSUNDERLAG

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Abstract

This study investigates the growth of Finnish deposit banks over the period 1980–1993. We examine the growth in balance sheets, lending and deposits of the public as well as major changes in the balance sheet structure. The focus of the study is first on the overall banking industry and second on the commercial, savings and cooperative banks as groups, including a separate treatment of the largest commercial banks. The study ends with a brief comparison of the Nordic countries. Also included is a discussion of changes that have occurred in the banking environment, but the emphasis is on the effects of bank-specific microeconomic factors on the rapid acceleration in the growth of bank lending and on the heating up of competition for market share, which took place after lending rates were deregulated and foreign exchange regulations eased. The micro factors examined are the change in banks' risk profile during the period of rapid growth as well as the various incentives behind the growth and competition for market share. To be sure, changes in the banking environment and macroeconomic developments have played a role in fomenting the banks' profitability crisis in the beginning of the 1990s, but the main reasons for the crisis can be found in the banks' strategic choices.

Tiivistelmä

Tässä selvityksessä tarkastellaan Suomen talletuspankkien kasvua vuosina 1980–1993. Selvityksessä tuodaan esiin taseiden kokonaiskasvu, luotonannon ja yleisötalletusten kehitys sekä keskeisimmät taserakenteen muutokset. Tarkastelun kohteena ovat ensiksi koko toimiala ja toiseksi liike-, säästö- ja osuuspankit ryhminä sekä suurimmat liikepankit erikseen. Selvityksen lopussa on lyhyt vertailu pohjoismaiden kesken. Selvityksessä pohditaan myös pankkien toimintaympäristön muutosten ja erityisesti pankkikohtaisten, mikrotason, tekijöiden vaikutusta kasvun voimakkaaseen kiihtymiseen ja markkinaosuuskilpailun puhkeamiseen antolainauksen korkosäätelyn purkamisen ja valuutansäännöstelyn lieventämisen jälkeen. Mikrotason näkökohtina tuodaan esiin pankkien riskiprofiilin muuttuminen nopean kasvun aikana sekä erityyppiset kannustinvaikutukset kasvun ja markkinaosuuskilpailun taustalla. Pankkien toimintaympäristön muutokset ja suhdannekehitys ovat toki osaltaan vaikuttaneet toimialan kannattavuuskriisin syntymiseen 1990-luvun alussa, mutta perimmäisinä syinä voidaan pitää pankkien strategiavalintoja ja muita pankkikohtaisia tekijöitä.

Contents

1 Introduction

During the last three years the profitability of Finnish deposit banks has dropped sharply: the Finnish banking industry has had to face a severe crisis. Banks showed operating losses already in 1991, but the actual plunge in profitability took place in 1992 (see table 1). The main reason for the banks' problems is generally considered to be the unrestrained growth in lending that followed the deregulation of interest rates and capital movements and led to a sharp increase in credit losses. Banks aggregate credit losses were nearly 3 per cent of their total assets in 1992. And in 1993 banks wrote off roughly the same relative amount of their loan stock (see table 2). Moreover, the growth in credit losses and non-performing assets has reduced banks' net interest income.

The banking crisis arose from a combination of cyclical and structural factors. The cyclical factor was the deep economic recession, which worsened the unexpectedly sharp decline in real estate and other asset prices, and hence collateral values, and had a direct impact on banks' financial results via nonmarketability allowances. In the case of real estate, it has been a matter of correcting the "bubble", which resulted from a deluge of bank lending. The recession has strengthened the structural impact of deregulation by, among other things, spurring keener competition in the banking industry. Overshooting during the phase of rapid expansion might have caused a counter reaction in that banks have become overcautious in their lending. This, in concert with the capital adequacy problems of the banks, could hamper the coming economic upswing. In addition to deregulation the main structural factors have been diversification, internationalization and rapid technical progress among the banks and other financial institutions as well as in the financial markets.

The aim of this study is first to document the growth of the deposit banks, especially the growth of lending, and annual variation in growth during 1980–1993. The period examined covers the entire process of liberalizing interest rates and capital movements. Attention is also focused on the major changes in the banks' balance sheet structure. In addition to this general overview, the study highlights the primary differences among the various banking groups and larger commercial banks. A second aim is to summarize the key changes in the banking environment which prompted the expansion in the late 1980s. Third, the study seeks to evaluate the growth of the banks from the perspective of microeconomic theory. Special emphasis is placed on changes in banks' risk profile that took place following the deregulation and on the factors that fuelled the growth. Our intent is to shed some light on the main features and to bring together the various explanations of the growth. The foreign operations of banks expanded sharply in the 1980s; the widening of these activities has caused significant losses. An in-depth evaluation of the foreign operations of banks, however, remains, beyond the scope of this study. At the end of the study we compare the growth and credit write-offs of the Nordic banks.[1]

[1] We want to thank Virpi Andersson for handling the data and Päivi Lindqvist for word processing. This paper is published in Finnish as an article in Kansantaloudellinen aikakauskirja 2/1994.

2 Deposit Banks' Growth and Credit Expansion

In the tables and figures given in the appendix, deposit banks include all domestic commercial banks as well as cooperative and savings banks. Foreign subsidiaries and branch offices are thus excluded from the study. In the analysis by bank group, the central financial institutions of cooperative and savings banks, OKO and SKOP respectively, are included in the commercial bank group, unless otherwise indicated. The data are for parent banks and are based on financial-statements data published by Statistics Finland. Information for 1993 is obtained from the Financial Supervision Authority. Bank lending includes all markka and foreign currency lending connected with cheque, giro and other transactions accounts, as well as bills of exchange, promissory notes, interest-subsidized loans and loans to residents and nonresidents out of public funds. It does not include lending to the central government and other financial institutions. Deposits include markka and foreign currency denominated deposits from the domestic public, with the above-mentioned exclusions.

2.1 General Developments in the Banking Industry

In describing the growth of banks, reference is generally made to balance sheet growth and this is also the case here. It must be pointed out, however, that changes in total assets are a poor indicator of changes in the volume of bank output. They omit the output of services, such as payment services, which is not reflected in balance sheet changes. Off-balance-sheet services are likewise disregarded. Another problem regards the composition of a production volume deflator. Only with respect to lending is the real markka amount an appropriate measure of the volume of lending services, which are defined to include the assessment and communication of the credit worthiness of enterprises and private customers. The amount of loan services provided correlates with the size of the loan, since an applicant for a larger loan must be evaluated and the loan must be subsequently monitored more carefully. (See Suominen and Tarkka (1991) for a more detailed look at the problems of defining and measuring the output of bank operations).

The attached tables 3 and 4 give the annual real changes in banks' total assets and lending between 1981–1993, while tables 5 and 6 present the corresponding figures in nominal terms. Figures 1 and 2 depict the growth of banks with respect to changes in GDP and the rate of inflation. Figures 3–6 present the growth figures for the banks and bank groups detailed above. We refer to these tables and figures in regard to the information given in this and the following section.

The combined balance sheet of Finnish deposit banks grew by almost six-fold in nominal terms and three-fold in real terms from 1980 through 1991, after which it started to fall sharply in 1992. The situation at the end of 1993 is affected by the sale of the Savings Bank of Finland (SBF) in equal parts to four of the banks' competitors, the cooperative banks, KOP, UBF and PSP (see Nyberg and Vihriälä (1994) for more information). SBF was taken into state ownership due to massive financial difficulties. Since March 1993 the transfer of SBF's assets and liabilities to the buyer banks' balance sheets has been in process. The transfer is to be completed by May 1994. The non-performing assets of SBF are being transferred to the asset management company Arsenal Ltd. These assets include loans, real estate and other assets amounting to FIM 30 billion, and guarantees of FIM 9 billion. The combined assets of deposit banks declined further in 1993. The drop exceeded slightly that of 1992 due to a drastic fall in banks' loan stock.

Starting in 1982 banks balance sheets grew substantially faster than gross domestic product: during 1982–1989 real asset growth was 3.7 times faster than the real growth of the economy. The higher rate of inflation prevailing in the early 1980s was reflected in nominal growth. However, it is noteworthy that balance sheet growth was at a rather high level throughout the early 1980s. In real terms, the growth was greater in each year during 1982–1986 than in 1989, when Finland was still in the midst of a boom. Nonetheless, the strongest growth by far, approximately 23 per cent in real terms, took place after the liberalization of the money markets in 1988.

The phasing out of interest rate and foreign exchange regulations gave banks the opportunity to meet the strong increase in credit demand spurred by the economic boom and by the unleashing of pent-up demand for loans. The most significant steps taken were the lifting of regulations on maximum and average lending rates in August 1986 as well as the subsequent allowance of the use of market rates of interest and the banks' own prime rates as reference rates. Furthermore, the discontinuation in 1987 of the advance savings requirements set by the Bank of Finland for housing and consumer loans made it easier for households to borrow. Because of the large differential prevailing between domestic and foreign interest rates, firms sought to use foreign currency loans to an increasing extent after the deregulation in 1986 of long-term (exceeding five years) foreign currency borrowing by manufacturers and shipping companies. In 1987 the right to raise long-term foreign currency loans was extended to other industries.

At its peak in 1988, total lending by deposit banks grew in real terms by almost 25 per cent. The demand for credit was boosted in 1988 in connection with the financing of a large number of company acquisitions prior to the tightening of capital gains taxation in 1989. Borrowing in foreign currencies intensified again in 1989, as the borrowing rights were extended to shorter, but still exceeding one year, terms. This final regulation was abolished in 1990. However, the imposition of a tax on foreign borrowing in January 1990 curbed the demand for foreign currency loans to some extent.

Since the deregulation, lending has been sensitive to the state of the economy. Deposit banks' real credit stock decreased already in 1991 and in 1992 it shrank by approximately 5.5 per cent, as the economy went into a recession. The demand for credit was also dampened by the sharp rise in market interest rates up until September 1992. Although market interest rates have since fallen significantly, the aggregate loan stock of Finnish deposit banks shrank by over 14 per cent in real terms during 1993. The major reasons for the development are, in addition to the still weak domestic economy, the rapid pay-back of foreign currency denominated loans since markka was floated in September 1992 and the rapid growth in credit losses.

Bank deposits did not keep pace with credit expansion. Banks covered their so-called funding gap by increasing their foreign liabilities and by tapping the money and bond markets. In the 1980s the funding link in Finland between lending and deposits was gradually severed in step with the process of deregulation. Previously, banks had been obliged to cover a funding gap directly through the Bank of Finland or via the interbank call money market, which was maintained by the central bank. Now that the stock of bank credit has shrunk, the funding gap has narrowed considerably, practically completely with respect to markka lending and deposits.

Suominen and Tarkka (1991) present indicators of changes in production volume also for bank services other than deposits and lending. According to their calculations, the growth in off-balance-sheet liabilities and securities trading was appreciably faster than the expansion of lending in the later 1980s (see Suominen and Tarkka (1991), table 11a). Furthermore, payment intermediation via debit cards and automated teller machines increased rapidly toward the end of the 1980s (see Suominen and Tarkka (1991), table 11b).

2.2 Differences between Bank Groups

In the early 1980s the combined balance sheet of commercial banks grew much more rapidly than those of the local banks. In 1980–1985 the real rate of growth for commercial banks was about one and a half times faster than that for cooperative banks and almost twice that for the savings banks. Savings banks' balance sheets grew the fastest in 1987–1989. At its peak in 1988 the real growth for savings banks was 32 per cent. The cooperative banks followed a more cautious growth strategy: their average balance sheet growth was less than that of the commercial banks also in the latter half of the 1980s. The difficulties faced by the savings banks are reflected in the shrinking of their balance sheets in the beginning of the 1990s: during 1990–1992 their balance sheet total fell at an annual rate of about 6 per cent in real terms. As a consequence of the sale of SBF, the savings bank sector lost nearly two thirds of its business volume, measured in terms of total assets.

KOP grew somewhat faster over the whole period under investigation than did UBF. The difference in real growth was about 1.5 percentage points in favour of KOP if the effect of the merger of STS Bank with KOP in 1992 is excluded. Public deposits held with STS Bank were transferred to KOP's books already at the end of 1992, but the healthy part of STS Bank's loan stock was transferred in early 1993. The problem loans, FIM 3.4 billion in total, remained on the books of STS Bank, which was renamed Siltapankki. PSP grew significantly more cautiously at the beginning of the 1980's than KOP and UBF. Its steepest climb took place in the late 1980s when its balance sheet grew 4 percentage points faster on average than that of KOP. The average rate of growth for KOP and UBF was in fact faster in the first half of the 1980s than in the latter half.

Of the larger commercial banks, the fastest balance sheet growth in the 1980s was achieved by SKOP. During 1980–1985 its growth was on a par with that of KOP, UBF and OKO, but in 1985–1990 its growth in nominal and real terms was over 10 percentage points faster than that of OKO, which was number two in terms of growth during this period, and almost 20 percentage points faster than UBF and KOP. The swift expansion by SKOP has been followed by the down-sizing of its balance sheet in the 1990s, as the bank met with severe financial difficulties: in 1993 SKOP's balance sheet was reduced by roughly a third[2]. (See figure 4.)

The trends in lending in the different bank groups have been similar to those for balance sheet growth. But lending growth was more pronounced in 1987 and 1988. The growth in lending by OKO during 1985–1990 was only about 5 percentage points slower than that of SKOP. This was due to the especially sharp growth in foreign currency lending in 1990, when lending by SKOP had already clearly slowed down. SKOP's credit stock soared in 1987–1989, at an annual rate of 40 per cent in real terms. The growth in lending by KOP, UBF and PSP was considerably more moderate than by SKOP and OKO. PSP increased its loan stock yet in 1992 when those of the other large banks had started to shrink. During 1993 the fall in the aggregate loan stock accelerated, amounting to a massive 14.1 per cent in real terms. (See tables 4 and 6.)

3 Major Changes in Deposit Banks' Balance Sheet Structure[3]

3.1 Structure of Deposit Banks' Liabilities

After the severance of lending from deposit developments in the early 1980s, with the deregulation of financial markets, banks have had to find other funding sources. Without these new forms of funding, the huge expansion of credit would not have been possible.

The most significant structural change in funding has been the sharp increase in foreign debt. The share of foreign liabilities on the balance sheet totals of commercial banks (excl. OKO and SKOP) grew from 17 per cent in 1980 to 41 per cent in 1992. The strongest increase in commercial banks' foreign debt took place after 1986 when the foreign currency restrictions on long-term foreign borrowing began to be phased out. Foreign funds were channelled primarily into enterprises in the form of foreign currency loans, but the purely international business activities of commercial banks, such as lending to the foreign public and real estate investment, increased sharply. The increase in foreign liabilities in the commercial and savings bank groups (incl. OKO and SKOP) has been considerably more modest. This is because it was not until the late 1980s that the largest local (cooperative and savings) banks were allowed to offer their clients foreign currency loans funded via their central financial institutions. At the end of 1992 the foreign debt of the cooperative and savings banks constituted about 15 per cent of their total liabilities and shareholders'

[2] For a comparison of SKOP and OKO, see Koskenkylä (1992).

[3] The source for the information presented in this chapter is the monthly balance sheet survey of the Finnish deposit banks conducted by the Bank of Finland. There are two recent studies by the Bank of Finland evaluating in a more detailed fashion the changes in the balance sheet structure of Finnish deposit banks: Silvonen (1994) and Jokinen and Solttila (1994).

equity. (The foreign debt of the savings banks relative to total liabilities and equity has declined since 1990, when the ratio was about 24 per cent.)

Foreign debt has crowded out deposits of the public in bank funding. The share of deposits in the total funding of commercial banks (excl. OKO and SKOP) fell from about 58 per cent to 31 per cent in the period 1980–1992. Among the local banks, deposits of the public have remained a more important source of funding, even though their share decreased in both groups during this period from about 80 per cent to 50 per cent. During 1986–1988 deposits by the public grew considerably faster in the local banks than in the commercial banks, owing primarily to the steep rise in households' tax-exempt term deposits. The savings banks ran into difficulties and lost depositors to the commercial and cooperative banks in the beginning of the 1990s. It would be an exaggeration, however, to speak of a run on the savings banks. (See figure 11)

Money markets emerged in Finland in 1987 when the Bank of Finland began open market operations and the cash reserve requirement was removed from certificates of deposit. After this, the use of CDs in funding increased rapidly. The share of CDs in total bank funding was only slightly over 10 per cent in 1992, but CDs are the most important source of short-term bank financing. The larger savings banks have issued their own CDs, whereas the money market operations of cooperative banks have been intermediated by OKO.

The share of bonds in total funding has increased since the beginning of 1991, when the adoption of the withholding tax on interest income increased investors' interest in bonds. The significance of bonds in the funding of deposit banks is nevertheless on the magnitude of only a few per cent. The undeveloped state of the domestic secondary market, low foreign interest rates and the longstanding tax-exempt status of deposits have hindered the use of domestically issued bonds. Now also the lowered credit ratings of the Finnish banks hamper banks' bond issues. The most important advantages to the banks of bond funding are the lengthening of the maturity of funding and the avoidance of opportunity interest costs on required reserves. (See Silvonen (1994) for a more detailed analysis.)

3.2 Structure of Deposit Banks' Assets

The most significant change as regards the asset side of the balance sheet was the rapid growth in the relative share of foreign currency lending after the 1987–1989 phasing out of foreign exchange controls on long-term lending. The share of foreign currency lending in the total loan stock almost doubled in 1987, to about 31 per cent. The growth in savings banks' foreign currency lending took place in 1990 and 1991. The independent savings banks have granted only a small amount of foreign currency loans and the cooperative banks hardly any at all. The foreign currency lending of these banking groups has been handled directly by their own central banking institutions: foreign currency lending by SKOP and OKO grew sharply in 1988–1990, levelling off at about 80 per cent of total lending in the early 1990s. The corresponding share for KOP has been slightly over 50 per cent, for PSP slightly over 40 per cent. The significance of foreign currency lending for UBF declined appreciably in 1992: the share of total lending fell by a third, to its 1989 level. Thus, UBF's customers paid back their foreign currency loans to a large extent already in 1992. During 1993 the relative share of foreign currency loans in UBF's total stock did not fall any further but instead increased slightly. In other banks the relative share of foreign currency loans remained stable over 1992 and began to fall in 1993, quite sharply at KOP and PSP, by roughly 15 percentage points, and more slowly at OKO and SKOP. (See figures 7 and 8.)

The share of deposit banks' foreign assets increased rapidly in the early 1980s, as banks opened branch offices abroad. Among the commercial banks (excl. OKO and SKOP), the share of foreign assets peaked at 28 per cent in 1986, after which their importance has gradually diminished. Foreign assets have had considerably less importance among the cooperative and savings banks.

For all deposit banks combined, the share of current assets in total assets has increased sharply, from about 1 per cent in 1980 to approximately 13 per cent at the end of 1993 (see figure 9). However, since the share of current assets is still so small, one can say that in Finland the securitization of assets has not yet occurred to any apparent extent. The share of current assets in total assets is appreciably lower for local banks than for commercial banks. Finnish banks' investment assets have grown more slowly than current assets. For the deposit banks as a whole, the share of investment assets has roughly doubled during the period under investigation. As is the case for current assets, investment assets have been of minor importance for the local banks. Thus, banks' securities trading and long-term investment in securities are concentrated to a large extent in the commercial banks (see figure 9).

Changes with respect to other asset items have not been as great. The real estate investments of deposit banks have been made primarily via subsidiaries, so that the increase in volume in the late 1980s is not evident in the changes that have taken place in the parent banks' fixed capital (see figure 9).

4 Factors behind the Expansion

During the 1980s the most important structural factors shaping the banking and finance industry were the liberalization of the industry and the liberalization of capital movements, technical progress and financial innovation and internationalization of the banks' corporate clientele. These factors created a base for the expansion of banking activities. First, the rapid liberalization allowed the banks to take advantage of the economic boom in their competition for market share. The deregulation process has affected financial services intermediation, i.e. the expansion of lending and deposit services, while technical progress has facilitated growth and efficiency in accounting and payment services. Second, financial innovation, i.e. the diversification of financial instruments, has accelerated the pace of financial intermediation. Third, as the internationalization of domestic firms accelerated and their financial needs increased, Finnish banks expanded their operations abroad in order to serve domestic clients in their foreign operations and export activities and to improve their efficiency in foreign exchange and securities trading related to company financing.

In addition to these structural factors, the prevailing fiscal and monetary policies as well as banking supervision and taxation have had an impact on the magnitude of bank expansion and thus on the initiation of the banking crisis. The main points can be summed up as follows:

Fiscal policy was evidently not sufficiently stringent during the boom of 1987–1989, considering the expansionary impact of liberalization. The extensive tax deductibility of interest on loans in combination with the high level of income taxation made the real cost of credit rather low, which had a significant impact on the sharp growth in household lending. The deductibility of interest expenses was reduced in the beginning of 1989, which in hindsight appears to have been too late. As equity capital remained heavily taxed relative to debt, companies were induced to use debt as the primary source of external financing. The tax exemption of interest earnings on low-yielding bank deposits constitutes a de facto subsidy to banks, which increases their capacity to lend in times of heavy demand for credit. Maintenance of such taxation rules when the economy was overheating can be regarded as the most serious policy error of the period.

The Bank of Finland sought to curb the growth of lending through its monetary policy. In 1987 the cash reserve requirement was raised and, more importantly, in 1989 the banks were obliged to make supplementary cash reserve deposits linked to the growth in outstanding credit, thereby increasing the cost of bank lending. This had the effect of curbing the growth of lending at most banks, but some savings banks chose to pay the new penal rates rather than to restrain credit expansion. However, borrowing in foreign currencies continued to increase as the regulations were relaxed. Finally, in 1989 the base rate was raised and the markka was revalued by 4 per cent. These actions can be criticized as being insufficient or coming too late, but in the overheated conditions of 1988 and 1989 monetary policy was quite limited in its ability to affect bank lending.

The banking supervision authorities did not have sufficient resources nor operative procedures for a deregulated environment. On the other hand, the warnings given by the authorities fell on deaf ears during the peak growth period. Furthermore, the law at that time did not provide adequate means for curbing the growth of lending.

The above-mentioned external factors have clearly promoted the banks' growth and credit expansion, but the behaviour of the banks must be analyzed more closely from the standpoint of risk management and pricing as well as competitive factors. These micro-level factors can be considered as fundamental reasons and motives behind the growth. The lending decisions were made by the banks, not by public authorities.

5 Micro Aspects of Bank Growth

5.1 Expansion of Activities and Change in Risk Profile

In an industry that has operated for a long time in a regulated environment, rapid liberalization is a form of external shock which causes changes in the pricing and other operative strategies of firms in the industry. The change in the banking industry can be expected to be especially profound since regulation has limited competition by preventing price competition, favoured cartel-type behaviour and limited the growth of bank assets, so that regulation may have led to credit rationing in case of some customers. By limiting competition, the regulations safeguarded the profitability of the industry and, one could say, raised costs through managerial expense preference behaviour. Under conditions of regulation, when price competition is impeded, banks strive to compete in the quality of services by increasing the number of bank service outlets (branches and ATMs) and producing technically adept services. This so-called quality competition leads to a higher level of distribution capacity and banking technology than would result under efficient price competition (see e.g. Neven (1990) and Vesala (1993)).

Deregulation can be expected to increase price competition and bank lending, if there has previously been actual credit rationing, i.e. if there has been unsatisfied demand for credit. The banks' on-balance-sheet risk could be increased in the process because of the following considerations (see e.g. Llewellyn (1992) and White (1992)):

(a) Banks consciously adjust their behaviour toward less risk averseness by aiming at balance sheet growth and market share (in the short run) instead of profitability. In connection with raising the risk profile, it is important that risks be priced correctly, i.e. that they be included in the interest margins.

(b) When all banks simultaneously expand their operations to a significant extent, lending becomes more risky, as for example, when borrowers' financial structures become more leveraged (systemic effect).

(c) Banks cannot gauge their risks correctly when they are expanding into new areas of activity.

(d) If growth in lending is concentrated on certain sectors, the risk of the overall loan portfolio increases.

(e) When lending expands rapidly, bank resources become stretched to thin to adequately evaluate their loan customers.

(f) As the level of interest rates rises, the risk entailed in the financing of investment projects increases as low-yielding but less risky projects are not sufficiently profitable (adverse selection effect).

As the Finnish deposit banks expanded, the risks associated with lending evidently increased for all of the above reasons. There were, of course, differences between individual banks: for example, excessive concentration on lending led to the downfall of SKOP. Generally speaking, the close ties in Finland between the banks and the manufacturing industry have increased portfolio risk because of the excessive concentration of the credit risk exposure. Banks paid insufficient attention to the value and quality of collateral, and the interest margins were too low, due to competition between banks for loan market share. With the benefit of hindsight, it is clear that margins were inadequate in light of the growing risk. Hence, banks severely underpriced their credit risks.

Banks did not place sufficient attention on the evaluation of credit risk: especially in the case of foreign currency lending, the banks were evidently insufficiently prepared for the realization of currency risk as credit risk in a situation where client firms ran into difficulties with their unhedged foreign currency loans when the markka was sharply devaluated (see Currie (1993)). The reasons for the shortcomings in the pricing of risk include the inexperience of the personnel and inadequate risk evaluation, monitoring and management systems. In addition, there was a lack of interest rate competition for deposits up until 1991 stemming from the tax relief law. With the aid of cross subsidies, lending rates were kept low in order to increase market share and attract new depositors. The costs of this type of product packaging were thus covered in the interest margins on deposits. Indeed, the banks' net interest income has come almost completely from the deposit markets (see Silvonen (1994)). Furthermore, the realization of interest rate risk has put a strain on the profitability of lending, especially as the interest rates on loans linked to the base rate remained below market rates of interest until the end of 1992. Banks' profitability was strained when a growing portion of its funding was linked to market interest rates. The pricing of risk has been impeded by the lack of an independent credit rating agency in Finland.

The banks and borrowers acted out of a widespread trust in favourable economic developments, which later proved to be overoptimistic. Furthermore, borrowers overestimated their ability to service their debts. In particular, with respect to foreign currency lending, there was a failure to recognize the hidden devaluation risk indicated by the large interest rate differential.

On the basis of points (a)–(f) it could be said that the fastest growing banks have incurred the greatest losses. Figure 10 presents the correlations between the growth in lending in the latter half of the 1980s and the loan write-offs that followed in the early 1990s. In this connection, the lag structure of the loan write-offs is not analyzed in detail but rather the time periods used reflect cyclical movements. In these figures, in contrast with other parts of this study, OKO and SKOP been included with the cooperative and savings banks. Owing to the savings banks, the positive correlation shows up clearly. Realized credit losses relative to lending growth have been large for UBF and KOP compared to the cooperative banks and PSP. It is noteworthy that interbank differences in the procedure for writing off loans affects the situation. The cooperative bank group has been much slower to write off loans. (See also table 2.)

5.2 Growth Catalysts

Banks were eager to expand their operations after the deregulation, as the capacity created during the period of regulation (in quality competition) now constituted a burden. Under conditions of price competition, the capacity built up during the period of regulation became overcapacity, and the previous level of costs per unit could no longer be maintained in the competitive environment of deregulated markets. The banks did in fact expand without increasing their branch office capacity, but the number of personnel grew sharply as the diversification of banking activities required more and better educated personnel.

A more significant incentive for the banks' credit expansion and increased credit risk taking during the boom of the late 1980s than the incentive coming from the cost side was conceivably the so-called moral hazard problem. The depositors and banks in Finland have regarded it as very likely that the government would support banks running into difficulties and prevent bankruptcies, as the Finnish banking system is very concentrated and banks hold a key position in the Finnish financial markets. This is known as the too-large-to-fail phenomenon. Thus, the repercussions of a failure of even one large bank for the other sectors of the economy would be great and would as a consequence endanger the entire banking system. A full deposit guarantee has safeguarded the funds of depositors, so that they have not felt a great need to place their funds in well managed, lower risk banks. The belief in unlimited support for troubled banks increases banks risk-taking propensity, since under favourable conditions (the continuation of the economic boom and rise in asset prices) the projects financed by the banks would be profitable to the banks, but in the worse case the risks would be shifted to the government, i.e. to the taxpayers. Under these conditions, even the unbridled growth in lending cannot be regarded as completely irrational or short-sighted behaviour.

5.3 Factors behind the Outbreak of Competition for Market Share

Setting growth and market share above the profitability objective can be explained by management preferences, e.g. status promotion, which conflict with the aims of owners. In this case the banks' owners can also be blamed for neglect of proper monitoring of management. With hindsight, we see that the growth strategy was implemented at the branch office level only "too well" through internal incentive schemes. In some cases, even executives' salaries were tied to growth.

The conflict of interest between management and owners could be one reason for the heating of competition for market share, but there is a deeper question to raise: how could growth in market shares be of benefit to the banks? If a bank can achieve higher profits in the future by increasing its market share, this is in the interest of the owners, even if profitability suffers in the short run. Bank customers are not disposed to changing banks, as "switching costs" are significant and the banks strive to bind customers by contractual means (see e.g. Vives (1991)). This also means that the banks have de facto market power over their clients and that their future profits depend on their current market share. Deregulation during the economic upswing increased the size of the market, so that the competition for market share can be regarded as competition for new clients. The objective of the banks was evidently to use their newly acquired market power to their advantage later on. The credit expansion, however, was so massive that it can hardly be fully explained by the above argument. Moral hazard in particular seems to have played a significant role.

The banks' growth strategy is often explained by the benefits of large-scale or joint production in that increasing output or offering new services lower the unit costs of producing bank services. In the econometric literature there is a broad consensus that the economies or diseconomies of scale are very small, nor is there strong evidence of economies to be gained through joint production (see Vesala (1993) for a review of the literature). On the contrary, the efficient use of resources has been found to be much more significant than bank size in determining unit costs. Cost efficient (competitive) banks are in fact found in all size categories (see Kuussaari (1993)). Hence, in light of econometric studies, the chief objective for bank growth, as for mergers, is to increase market power, and cost pressure cannot be regarded as a very significant factor behind growth.

6 Nordic Comparison of Bank Growth and Credit Losses

This section focuses on the growth of Nordic deposit banks, in terms of both total assets and lending. It covers parent banks over the period 1981–1993.

The most rapid growth in bank balance sheets occurred in the early 1980s in Denmark (figures 12). Financial markets there were liberalized before those of the other Nordic countries. The next fastest growth has been in Finland, especially during 1986–1989. In all the Nordic countries, bank balance sheets have shrunk significantly in the early 1990s.

The fastest growth in lending clearly occurred in Norway and Denmark in the early 1980s (figure 13). In the latter half of the 1980s loans outstanding increased most rapidly in Sweden and Finland. Figures 12 and 13 indicate that Finland, compared to the other Nordic countries, experienced particularly rapid growth in balance sheets but not in lending.

Figure 14 presents the ratio of bank assets to GDP over the period 1981–1993. Finland's ratio has clearly risen to the top spot among the Nordic countries since 1991, due not only to faster balance sheet growth than in the other Nordic countries but also to the fall in Finnish GDP. Denmark's asset/GDP ratio has been also been fairly high. The balance sheets of Danish banks include a sizable amount of government bonds in current and investment assets. The ratio of loans to GDP is now likewise clearly highest in Finland (figure 15). The ratio has been the next highest in Norway in the mid-1980s. The Swedish ratio is surprisingly low, even though bank lending grew very rapidly in Sweden in the latter half of the 1980s.

Figure 16 gives a comparison of the average growth rates for loan stock and of the ratios of credit write-offs to total assets. Since credit losses follow lending growth with a lag, figure 16 gives growth figures for outstanding loans for 1985–1990 and credit write-offs for 1991–1992. Figure 16 does not completely support the hypothesis that the faster the growth in lending, the greater the relative credit losses. The lag depicted in figure 16 is rather arbitrary, since the actual lag between lending and credit losses is not known with any precision. Furthermore, there are differences across the Nordic countries in the way loans are written off. Norwegian banks started provisioning for discretionary (probable) credit losses before the other Nordic countries (see Koskenkylä – Pensala (1992)).

Figure 17 examines relative net interest income in the Nordic deposit banks. The ratio of net interest income to assets has been substantially lower in Finland than in the other Nordic countries and it has displayed a declining trend. The faster growth in balance sheets and lending vis-à-vis the other Nordic countries in the latter half of the 1980s has led to a continued erosion of relative net interest income. Loans and other investments have been granted to clients that have been unable to fulfil their obligations to the banks.

The banks' relative credit write-offs are examined in figure 18. The ratio of write-offs to assets has climbed the highest in Sweden since 1991. It has risen significantly also in Finland and Denmark in 1991 and 1992. In Norway the relative credit losses fell already in 1992; in all the other Nordic countries the decline occurred last year.

In summary, it can be stated that the rates of growth in balance sheets and lending were the fastest in Norway and Denmark, already in the first half of the 1980s, i.e. considerably before the other Nordic countries. Balance sheet and lending growth were subsequently faster in Finland than in Sweden, even though credit write-offs relative to total assets have been higher in Sweden than in Finland. The difference is partly attributable to the fact that the writing-off of credit losses has been more liberal in Sweden than in Finland.

7 Conclusions

By far the fastest growth for Finnish banks took place immediately after the phasing out of some of the major interest and foreign exchange restrictions in 1988. In 1989, even while the Finnish economy was booming, the growth of banks had already slowed down. Lending growth hit a very sharp peak: in 1988 it grew considerably faster than balance sheets. The savings bank group grew the fastest of all groups in the late 1980s, when the cooperative banks and PSP also recorded their fastest growth. The growth of UBF and KOP, on the other hand, was much more even during the 1980s. The most important change in the lending structure for all the banks has been the considerable growth in the share of foreign currency lending in total lending subsequent to the deregulation of long-term foreign currency loans. The share of foreign currency loans in aggregate bank lending has nevertheless fallen significantly since its peak in 1992, as banks customers have strived to reduce their exchange risk exposure since the floating of the markka.

The strong credit expansion necessitated the diversification of funding. The most important structural changes were the increasing share of foreign debt and the rapid increase in the use of CDs after the emergence of the money market. Other changes have been minor.

The factors cited behind the expansion include structural factors, rapid liberalization, technical progress and internationalization as well as robust growth in loan demand during the economic upswing. The government's biggest mistake was perhaps its maintenance of tax regulations that encouraged enterprises and households to borrow. In general terms, economic policy was too loose in light of the booming economy. This was all due to the strong belief in the favourable course of the economy.

The credit expansion nevertheless had its roots in the strategic choices of the banks, whereby growth and market share became the conscious objectives. The failure of this strategy led to a profitability crisis owing to deficiencies in the pricing of credit risk, undeveloped risk analysis and even neglect in a situation where the lending risks were growing appreciably. Cost pressures, internal salary and other incentive schemes, and especially expectations about public support in the event of a possible crisis situation served as catalysts to growth.

The growth in banks' balance sheets and lending in Denmark and Norway took place in the early 1980s, earlier than in Finland and Sweden. Owing largely to the earlier start of financial market deregulation in Denmark and the earlier timing of the boom in Norway, bank growth was most rapid in Finland in 1987 and 1988 and in Sweden in 1989 and 1990. The growth in balance sheets and lending relative to gross domestic product was clearly fastest in Finland from the mid-1980s on: monetary flows increased more in Finland in relation to the real economy. In 1990, 1991 and 1992 the banks' credit write-offs relative to total assets were substantially higher in Sweden than in Finland. Swedish banks have evidently opted to write off credit losses at an earlier stage.

Due to vigorous export growth, the macroeconomic outlook has improved although many important domestic sectors still remain depressed. Domestic demand is expected to remain weak in 1994, although investments should pick up as output pushes against capacity constraints in the export manufacturing sector. Interest rates have declined considerably since the floating of the markka, and share prices rose very rapidly in 1993, generating more demand for credit. Banks' results should improve as banks have written off a substantial portion of their problem loans. This, together with the fall in market interest rates, should improve banks net interest income. All in all, the improvement in the banks' financial position depends crucially on future macroeconomic developments, which, according to current forecasts, should be quite favourable, especially from 1995 onwards.

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Table 1. **Deposit Banks: Operating Profit (= Profit before Appropriations and Taxes) / Total Assets, per cent**

	31.12.19xx														Averages			
	80	81	82	83	84	85	86	87	88	89	90	91	92	93	80–90	80–85	85–90	90–93
Commercial banks	0.66	0.91	0.89	0.78	0.69	0.97	0.74	0.78	0.99	0.42	0.38	–0.71	–1.95	–1.73	0.75	0.82	0.71	–1.00
Cooperative banks	0.62	0.65	0.72	0.64	0.60	0.70	0.62	0.67	0.85	0.56	0.74	0.74	0.03	–1.58	0.67	0.66	0.69	–0.02
Savings banks	0.55	0.62	0.59	0.47	0.38	0.56	0.59	0.66	1.89	0.44	0.54	–0.42	–9.53	–10.85	0.66	0.53	0.78	–5.06
Deposit banks	0.63	0.81	0.80	0.70	0.62	0.86	0.70	0.75	1.12	0.45	0.46	–0.46	–2.82	–2.25	0.72	0.74	0.72	–1.27
KOP	0.80	0.89	0.81	0.56	0.79	0.78	0.58	0.81	0.79	0.70	0.43	–1.20	–2.17	–1.73	0.72	0.77	0.68	–1.17
UBF	0.61	1.14	1.01	0.79	0.70	1.12	0.88	0.90	0.85	0.59	0.48	–0.06	–1.60	–1.61	0.83	0.90	0.81	–0.70
OKO	0.37	0.66	0.90	0.55	0.75	1.09	0.90	0.76	0.77	0.27	0.52	0.54	0.11	0.13	0.68	0.72	0.72	0.32
SKOP	0.49	0.50	0.57	0.43	0.81	1.18	0.74	0.93	1.36	0.24	–0.19	–3.02	–7.42	–5.82	0.64	0.66	0.71	–4.11
PSP	0.76	0.89	0.97	1.47	0.53	0.65	0.66	0.44	0.73	–0.15	0.47	–0.26	–0.64	–0.31	0.67	0.88	0.47	–0.19

Table 2. **Deposit Banks: Credit Write-offs / Total Assets, per cent**

	31.12.19xx														Averages			
	80	81	82	83	84	85	86	87	88	89	90	91	92	93	80–90	80–85	85–90	90–93
Commercial banks	0.01	0.02	0.08	0.05	0.05	0.06	0.08	0.14	0.21	0.29	0.31	0.93	2.32	2.37	0.12	0.05	0.18	1.48
Cooperative banks	0.02	0.01	0.05	0.01	0.01	0.02	0.05	0.17	0.17	0.16	0.17	0.38	1.10	2.09	0.08	0.02	0.12	0.94
Savings banks	0.01	0.01	0.02	0.02	0.03	0.02	0.04	0.10	0.10	0.16	0.34	0.95	6.98	7.23	0.08	0.02	0.13	3.87
Deposit banks	0.01	0.02	0.06	0.04	0.04	0.05	0.07	0.14	0.18	0.25	0.29	0.86	2.87	2.61	0.11	0.04	0.16	1.66
KOP	0.01	0.02	0.06	0.07	0.04	0.09	0.12	0.14	0.21	0.26	0.37	0.88	2.55	2.13	0.12	0.05	0.20	1.48
UBF	0.02	0.02	0.02	0.02	0.03	0.05	0.11	0.22	0.37	0.46	0.54	0.75	2.03	2.49	0.17	0.03	0.29	1.45
OKO	0.00	0.01	0.17	0.18	0.07	0.14	0.01	0.16	0.03	0.25	0.15	0.32	0.50	0.57	0.11	0.09	0.12	0.38
SKOP	0.01	0.10	0.06	0.09	0.25	0.03	0.11	0.09	0.10	0.22	0.15	2.65	5.92	4.74	0.11	0.09	0.12	3.37
PSP	0.00	0.00	0.20	0.01	0.00	0.00	0.00	0.01	0.09	0.19	0.13	0.61	1.71	1.59	0.06	0.04	0.07	1.01

Table 3. **Deposit Banks: Real Growth in Balance Sheets, per cent, 1980=100**

	Annual growth													Average growth			
	80–81	81–82	82–83	83–84	84–85	85–86	86–87	87–88	88–89	89–90	90–91	91–92	92–93	80–90	80–85	85–90	90–93
Commercial banks	2.79	13.75	10.40	19.82	11.40	22.81	12.75	20.84	9.25	3.04	1.46	−4.35	2.12	12.69	11.63	13.74	−0.26
Cooperative banks	5.06	7.05	7.99	7.91	10.49	11.91	12.90	24.05	6.64	2.63	2.43	2.42	8.85	9.66	7.70	11.62	4.57
Savings banks	2.72	7.03	6.95	7.28	8.12	10.27	15.29	31.91	14.96	−5.30	−5.37	−7.41	−63.17	9.92	6.42	13.43	−25.32
Deposit banks	3.17	11.26	9.34	15.52	10.69	19.02	13.16	23.07	9.85	1.49	0.46	−4.83	−5.76	11.66	10.00	13.32	−3.38
KOP	0.78	15.65	11.93	25.77	13.63	22.00	12.69	21.48	−1.97	2.61	−8.83	9.18	7.97	12.46	13.55	11.36	2.77
UBF	1.28	16.34	10.93	13.06	13.92	38.83	7.58	11.46	6.35	−9.73	3.97	2.03	3.47	11.00	11.11	10.90	3.16
OKO	5.66	10.89	16.64	14.59	7.11	19.41	16.07	42.60	18.42	−3.11	−1.54	9.07	19.83	14.83	10.98	18.68	9.12
SKOP	7.39	8.23	20.68	17.63	9.13	31.80	34.16	44.43	35.19	0.08	−13.29	−26.83	−35.27	20.87	12.61	29.13	−25.13
PSP	6.32	10.37	1.92	23.07	7.71	32.13	9.12	12.94	3.45	17.65	6.28	−2.02	14.72	12.47	9.88	15.06	6.33

Table 4. **Deposit Banks: Real Growth in Lending, per cent, 1980=100**

	Annual growth													Average growth			
	80–81	81–82	82–83	83–84	84–85	85–86	86–87	87–88	88–89	89–90	90–91	91–92	92–93	80–90	80–85	85–90	90–93
Commercial banks	0.69	8.70	6.72	12.09	18.60	12.26	11.32	24.22	12.97	9.29	−1.05	−6.90	−1.12	11.69	9.36	14.01	−3.02
Cooperative banks	6.88	7.37	6.82	6.54	9.05	10.80	14.01	22.66	5.02	1.97	1.02	−2.37	9.32	9.11	7.33	10.89	2.65
Savings banks	2.92	6.48	5.19	4.34	7.52	10.90	16.31	28.64	13.84	−4.05	−8.12	−12.23	−76.93	9.21	5.29	13.13	−32.43
Deposit banks	2.47	7.90	6.39	9.14	14.19	11.67	12.91	24.84	11.61	5.00	−2.10	−5.49	−14.10	10.61	8.02	13.21	−7.23
KOP	−0.34	7.97	16.37	18.71	18.63	17.50	1.15	26.69	8.41	1.91	−1.61	−6.83	8.41	11.70	12.27	11.13	−0.01
UBF	−0.68	17.15	2.98	8.61	25.95	23.99	9.29	20.66	6.22	−3.16	0.82	−3.21	3.58	11.10	10.80	11.40	0.40
OKO	13.73	−2.02	20.64	21.28	9.02	11.11	16.42	30.37	34.56	37.37	−4.62	1.57	−23.51	19.25	12.53	25.97	−8.85
SKOP	8.95	9.50	3.90	2.14	10.44	23.59	39.29	40.55	40.68	12.81	−11.58	−28.18	−35.87	19.19	6.99	31.38	−25.21
PSP	2.59	5.75	0.24	3.81	9.94	13.18	10.27	26.00	−0.16	15.98	2.14	4.52	11.42	8.76	4.47	13.05	6.02

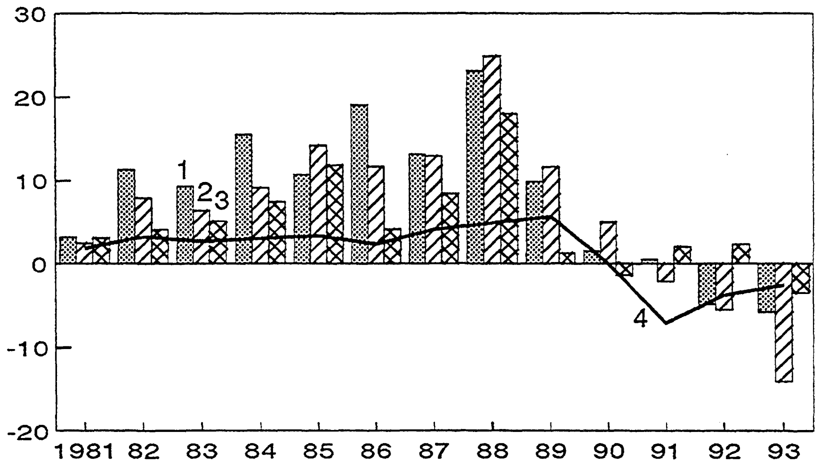
Table 5. **Deposit Banks: Nominal Growth in Balance Sheets, per cent**

	Annual growth													Average growth			
	80–81	81–82	82–83	83–84	84–85	85–86	86–87	87–88	88–89	89–90	90–91	91–92	92–93	80–90	80–85	85–90	90–93
Commercial banks	15.11	24.65	19.65	28.28	17.19	26.42	17.38	26.99	16.45	9.32	5.65	–1.86	4.23	20.14	20.97	19.31	2.67
Cooperative banks	17.65	17.30	17.03	15.53	16.24	15.20	17.54	30.36	13.66	8.89	6.66	5.09	11.10	16.94	16.75	17.13	7.62
Savings banks	15.03	17.28	15.91	14.86	13.74	13.51	20.02	38.62	22.54	0.47	–1.47	–5.00	-62.40	17.20	15.36	19.03	-22.96
Deposit banks	15.53	21.92	18.50	23.68	16.44	22.52	17.82	29.33	17.09	7.67	4.60	–2.35	–3.81	19.05	19.21	18.88	–0.52
KOP	12.85	26.72	21.30	34.65	19.54	25.58	17.32	27.65	4.49	8.86	–5.08	12.02	10.20	19.90	23.01	16.78	5.72
UBF	13.42	27.49	20.22	21.04	19.84	42.91	12.00	17.13	13.36	–4.23	8.25	4.68	5.62	18.32	20.40	16.23	6.19
OKO	18.32	21.51	26.41	22.68	12.67	22.92	20.84	49.85	26.23	2.79	2.52	11.90	22.32	22.42	20.32	24.53	12.25
SKOP	20.26	18.60	30.79	25.94	14.80	35.67	39.67	51.77	44.10	6.17	–9.72	-24.93	-33.93	28.78	22.08	35.48	-22.86
PSP	19.06	20.94	10.46	31.76	13.31	36.02	13.60	18.69	10.27	24.82	10.66	0.53	17.10	19.89	19.11	20.68	9.43

Table 6. **Deposit Banks: Nominal Growth in Lending, per cent**

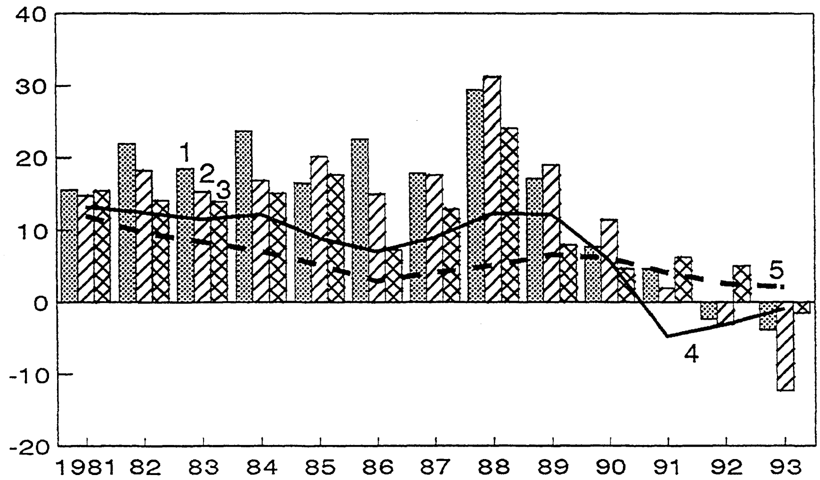
	Annual growth													Average growth			
	80–81	81–82	82–83	83–84	84–85	85–86	86–87	87–88	88–89	89–90	90–91	91–92	92–93	80–90	80–85	85–90	90–93
Commercial banks	12.76	19.11	15.66	20.01	24.76	15.56	15.89	30.54	20.41	15.94	3.03	–4.47	0.93	19.06	18.46	19.67	–0.17
Cooperative banks	19.68	17.66	15.77	14.06	14.72	14.06	18.69	28.89	11.94	8.18	5.18	0.17	11.59	16.36	16.38	16.35	5.64
Savings banks	15.25	16.68	14.00	11.71	13.11	14.16	21.09	35.19	21.34	1.79	–4.33	–9.95	-76.45	16.43	14.15	18.72	-30.24
Deposit banks	14.75	18.24	15.30	16.85	20.12	14.96	17.55	31.19	18.96	11.40	1.93	–3.03	-12.32	17.93	17.05	18.81	–4.48
KOP	11.61	18.31	26.12	27.10	24.79	20.95	5.30	33.13	15.56	8.11	2.44	–4.41	10.66	19.10	21.58	16.61	2.90
SYP	11.22	28.37	11.61	16.28	32.49	27.63	13.79	26.79	13.21	2.74	4.97	–0.69	5.73	18.41	19.99	16.83	3.34
OKO	27.36	7.36	30.75	29.85	14.68	14.37	21.20	37.00	43.43	45.74	–0.69	4.21	-21.93	27.17	22.00	32.35	–6.13
SKOP	22.01	19.99	12.60	9.35	16.18	27.23	45.02	47.70	49.94	19.68	–7.94	-26.31	-34.54	26.97	16.03	37.91	-22.93
PSP	14.88	15.88	8.63	11.15	15.65	16.51	14.80	32.40	6.42	23.05	6.35	7.24	13.73	15.94	13.24	18.64	9.10

Figure 1. **Deposit Banks: Real Growth, per cent**



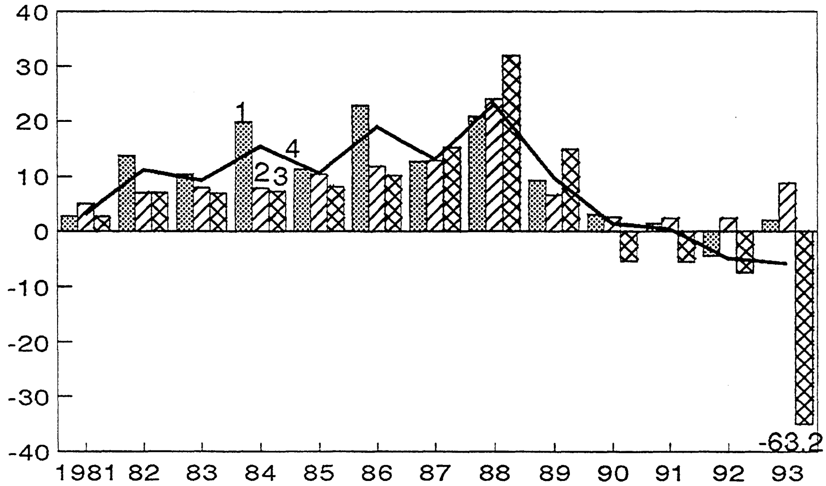
1 Balance sheet total
2 Lending
3 Deposits
4 Real change in GDP

Figure 2. **Deposit Banks: Nominal Growth, per cent**



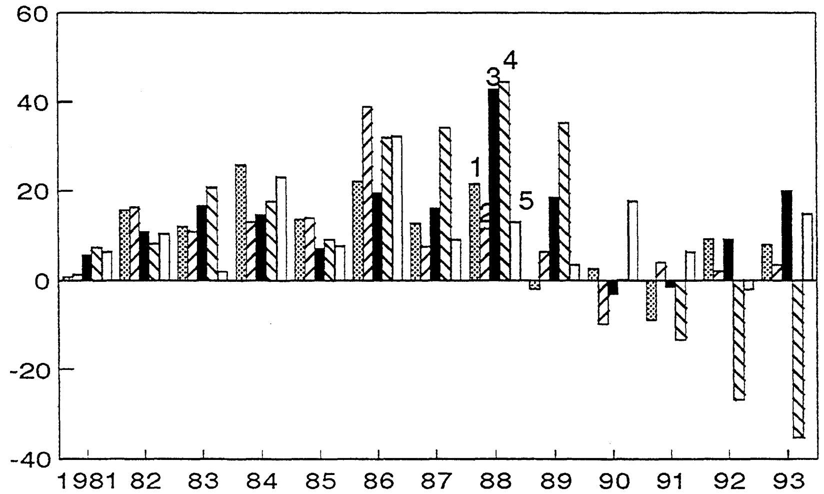
1 Balance sheet total
2 Lending
3 Deposits
4 Nominal change in GDP
5 Inflation rate (CPI)

Figure 3. **Bank Groups: Real Growth in Balance Sheets, per cent**



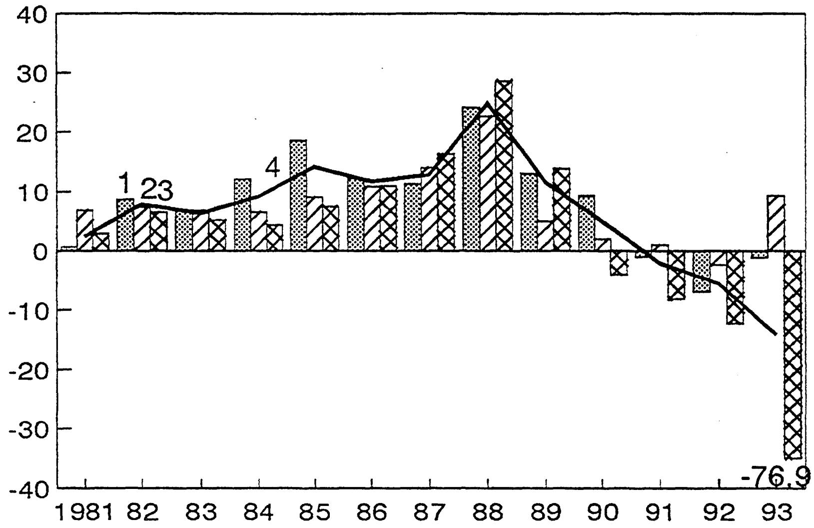
1 Commercial banks
2 Cooperative banks
3 Savings banks
4 Deposit banks combined

Figure 4. **Large Commercial Banks: Real Growth in Balance Sheets, per cent**



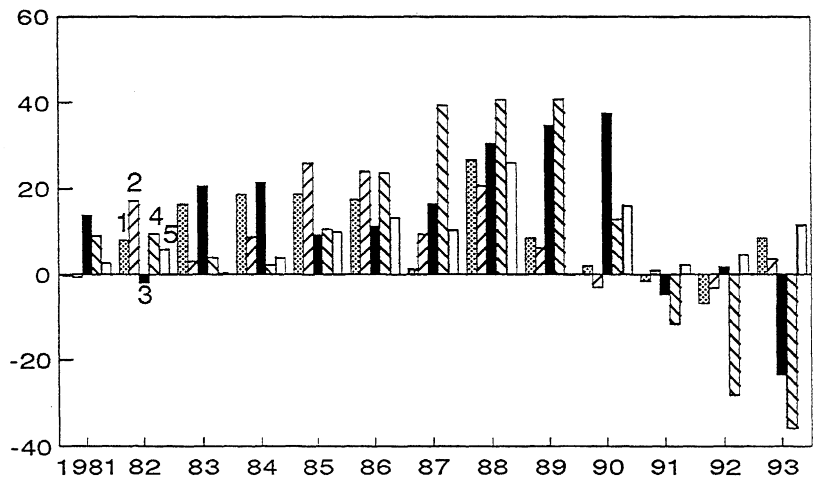
1 KOP
2 UBF
3 OKO
4 SKOP
5 PSP

Figure 5. **Bank Groups: Real Growth in Lending, per cent**



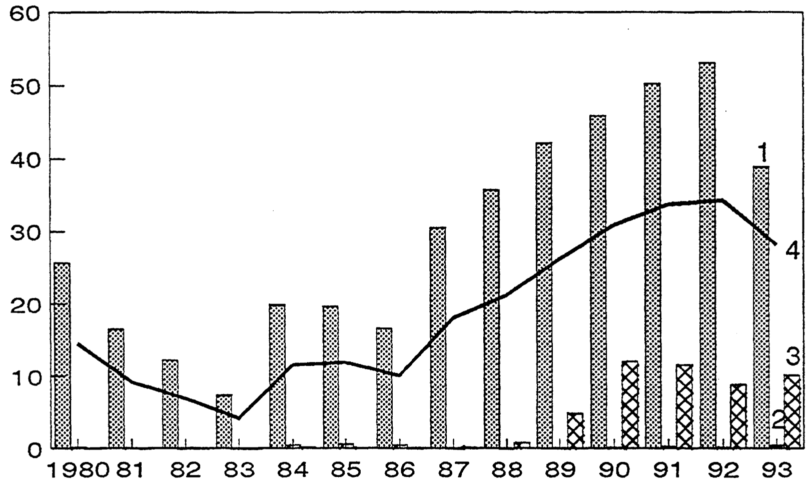
1 Commercial banks
2 Cooperative banks
3 Savings banks
4 Deposit banks combined

Figure 6. **Large Commercial Banks: Real Growth in Lending, per cent**



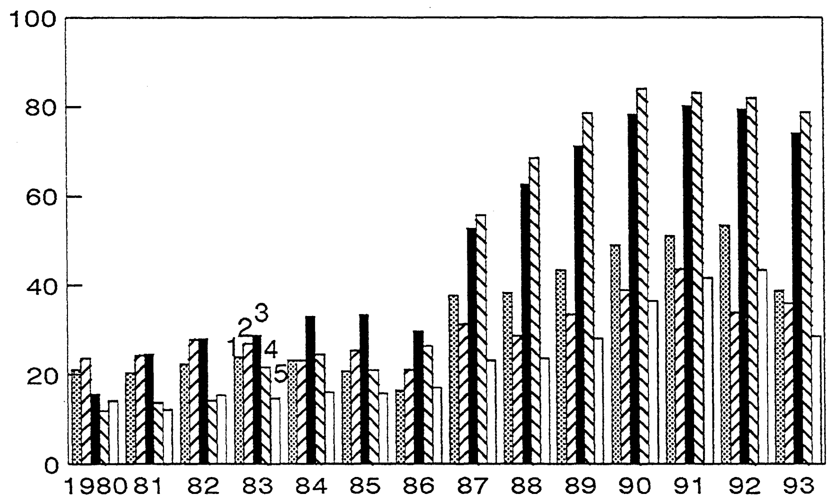
1 KOP
2 UBF
3 OKO
4 SKOP
5 PSP

Figure 7. **Bank Groups: Share of Foreign Currency Loans in Total Lending, per cent**



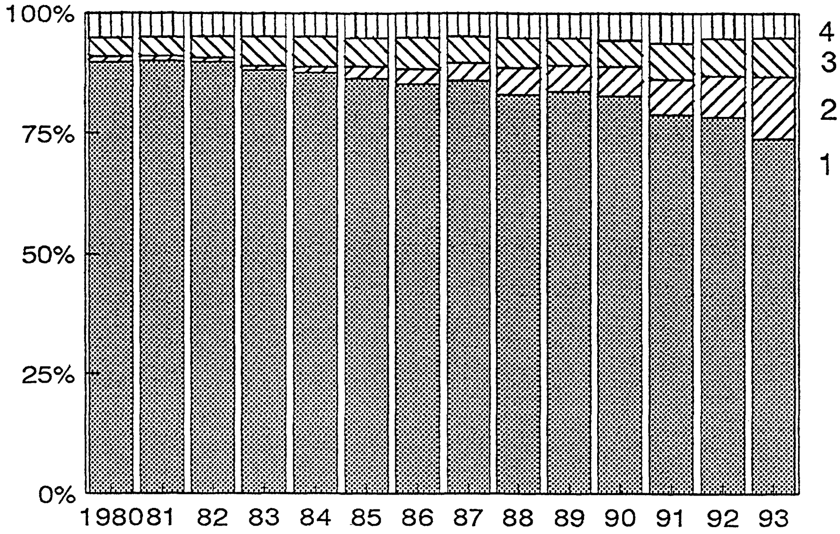
1 Commercial banks
2 Cooperative banks
3 Savings banks
4 Deposit banks combined

Figure 8. **Large Commercial Banks: Share of Foreign Currency Loans in Total Lending, per cent**



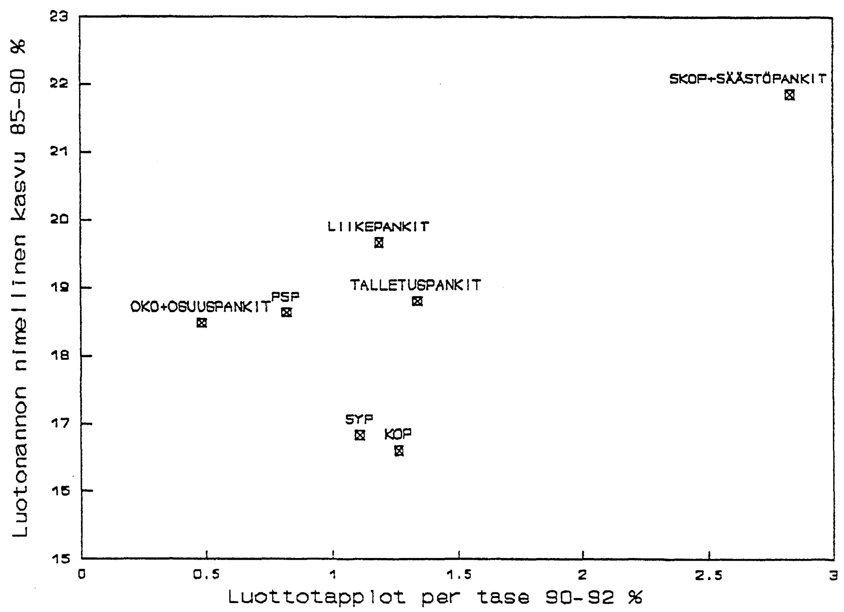
1 KOP
2 UBF
3 OKO
4 SKOP
5 PSP

Figure 9. **Deposit Banks: Breakdown of Assets**



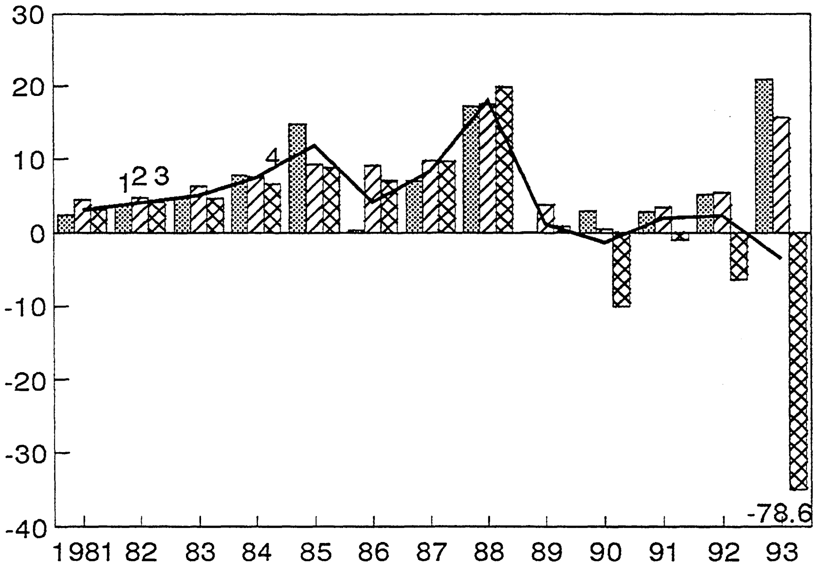
1 Cash and receivables
2 Current (trading) assets
3 Investment assets
4 Fixed and other assets

Figure 10. **Credit Write-offs vs. Growth in Lending**



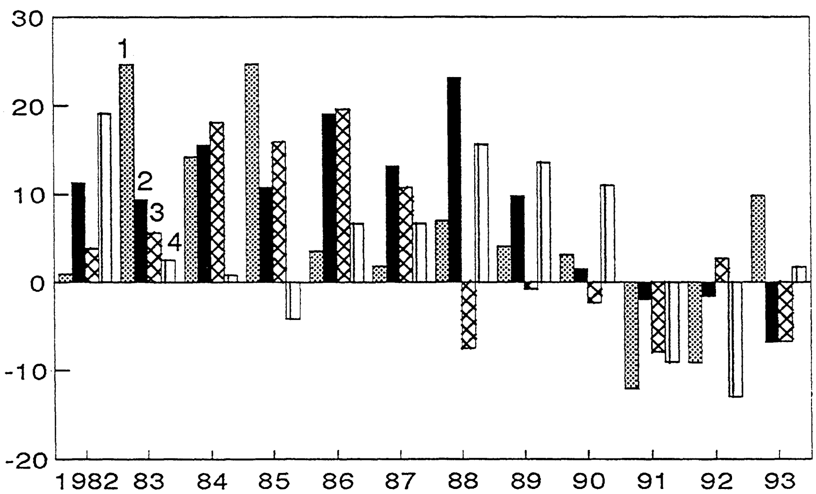
y Nominal growth in lending, 1985–1990, per cent
x Credit write-offs per total assets, 1990–1992, per cent

Figure 11. **Bank Groups: Real Growth in Deposits from the Public, per cent**



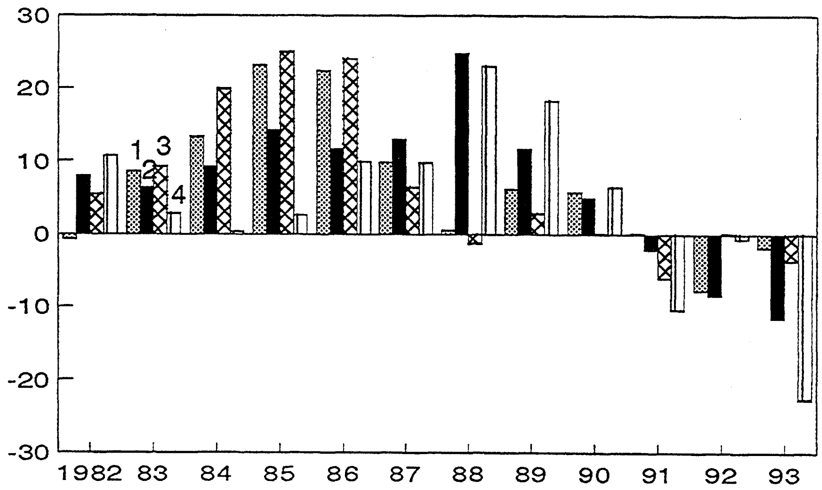
1 Commercial banks
2 Cooperative banks
3 Savings banks
4 Deposit banks combined

Figure 12. **Real Growth in Balance Sheets of Nordic Deposit Banks, per cent**



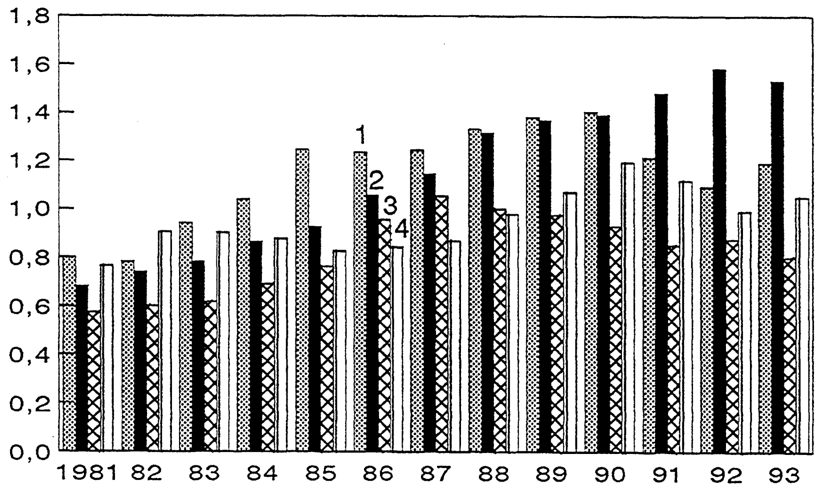
Denmark
Finland
Norway
Sweden

Figure 13. **Real Growth in Lending of Nordic Deposit Banks, per cent**



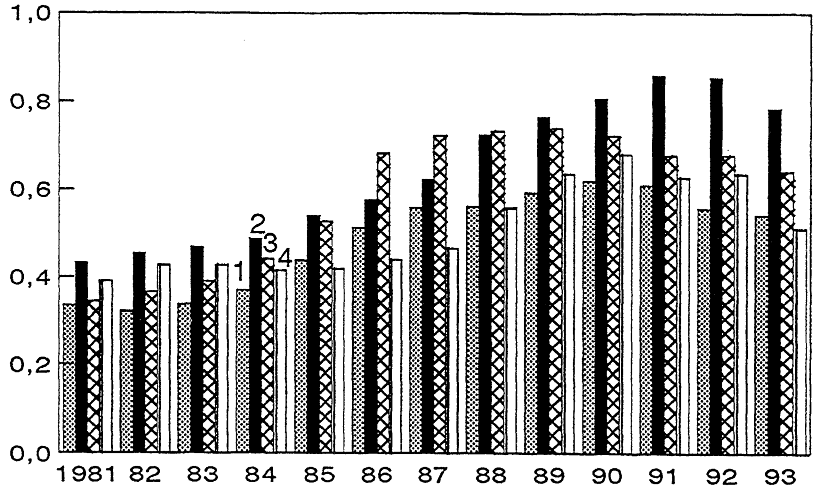
1 Denmark
2 Finland
3 Norway
4 Sweden

Figure 14. **Nordic Deposit Banks' Total Assets / GDP**



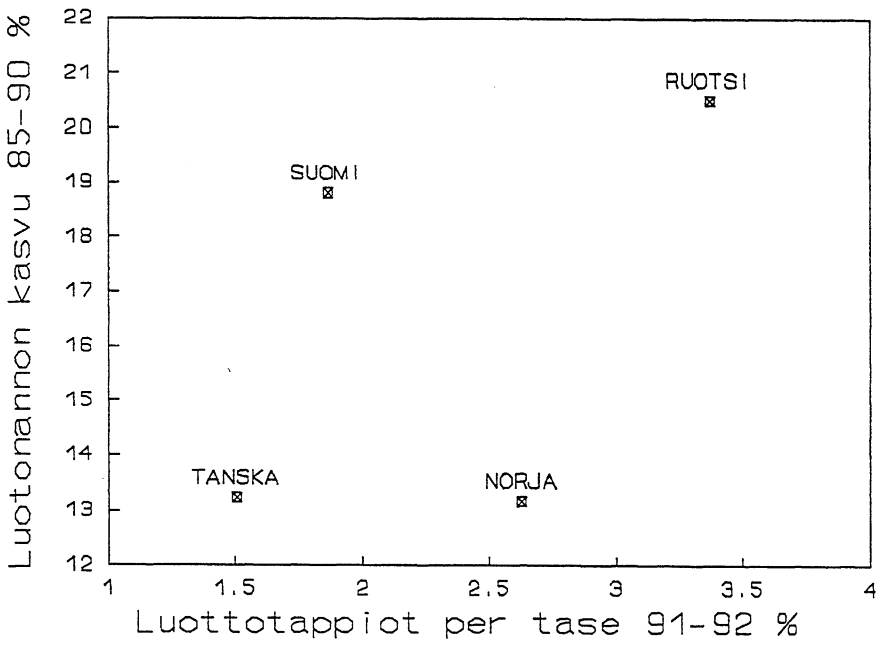
1 Denmark
2 Finland
3 Norway
4 Sweden

Figure 15. **Nordic Deposit Banks' Lending / GDP**



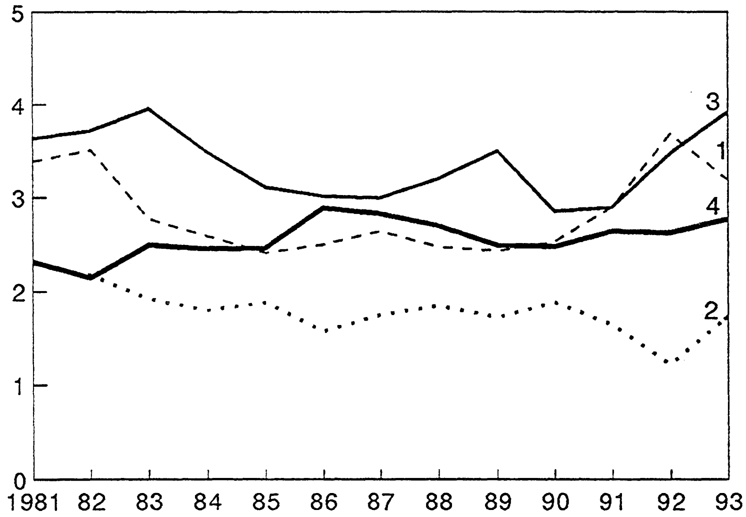
1 Denmark
2 Finland
3 Norway
4 Sweden

Figure 16. **Credit Write-offs vs. Lending Growth of Nordic Deposit Banks**



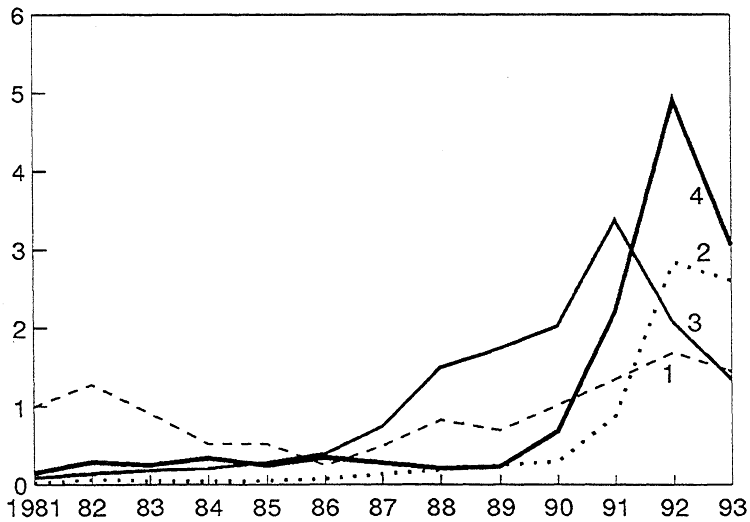
y Lending growth, 1985–1990, per cent
x Credit write-offs per total assets, 1991–1992, per cent

Figure 17. **Net Interest Income / Total Assets of Nordic Deposit Banks, per cent**



1 Denmark
2 Finland
3 Norway
4 Sweden

Figure 18. **Nordic Deposit Banks' Credit Write-offs / Total Assets, per cent**



1 Denmark
2 Finland
3 Norway
4 Sweden

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