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THE BALANCE OF IMBALANCE BETWEEN DEPOSITS AND LENDING IN SWEDISH COMMERCIAL BANKING, 1870 – 1994.

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Abstract

This paper studies the role of commercial banks in the economic development of Sweden between 1870 and 1994. We construct a comprehensive, novel dataset of the deposits and lending of banks in order to analyse the banks risk assessment and lending policies over the longer term. In general, banks tended to more risk during boom periods while periods of crisis were linked to a decrease in such lending practices. However, we find large differences in risk behaviour among different banks especially during the period before WWII. Our results show that, although it is a basic measurement, the lending/deposit ratio provides an indicator of the impact of economic turbulence on banking practices.

Our analysis is based on Swedish commercial banks' annual reports, which have been gathered in different official Swedish statistics publications, frequently published by Statistics Sweden. Our new database features all Swedish commercial banks (between 10 and 84 banks per annum). We map some of the largest and middle-sized banks to get a more detailed structure of banks' risk management. Thus, even though the lending/deposit ratio is a basic measurement it serves as an indicator for banking development over a longer period.

Keywords

Sweden, financial markets, commercial banks, lending, deposits, LDR-ratio, risk

Introduction

Whether banks were taking risks, or not, in their intermediation of credit has been an ongoing topic of the discussions regarding Swedish commercial banking. It was a frequent point of criticism, directed by the Bank Inspection Board towards the banks, particularly when they had used credit for speculative activities.[1] This was especially the case during the bank crisis of the early 1920s; in large part an effect of banks having granted too many loans against poor collateral when the risks were comparatively high. The crisis of the early 1990s shared some similarities with that of the 1920s: both crises were preceded by deregulations, inflation, an increased importance of companies affiliated to the banks, as well as similar monetary policies.[2]

This paper deals with the long-term development of lending and deposits in Swedish commercial banks. The relationship between lending and deposits is a basic leverage ratio that indicates changes in the development of banks' business and helps us understand the banks' risk assumptions. The lending-deposit ratio (LDR) is a commonly used measurement of liquidity and risk assessment within commercial banking. It can be said to measure to which degree loans have "stable funding". When loans are larger than deposits (i.e. the ratio is larger than 1 or 100) a funding gap occurs and banks need to reach out to the financial market to fill the gap.[3] The LDR can be used to assess funding risks or a worsening of the possibility of the intermediation of credit. A study of the latest financial crisis (2008-2009) shows that countries whose banking systems had relatively low LDR fared better in the crisis than did those systems with a higher LDR.[4] The ratio tends to rise during economic booms because funding on financial markets is easier to come by and then stabilizes or even falls during times of crisis. "Less deposit funding and more market funding is widely seen as negative for financial stability", which means that a sharp increase in the LDR can itself be a cause of crisis or instability.[5]

The LDR has also been shown to influence reserve requirements and can be used to apply counter-cyclical measures in the banking sector. Dadang et.al. write:

At a lower limit of LDR, a requirement of higher RR can push banks to extend more loans in order to support economic development in a period of economic bust. At the upper limit of LDR, a requirement

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[1] See for instance the notes from Banks Inspector Folke von Krusenstjerna leading up to the banking crisis of 1922/23. Sjögren, 1994.
[2] Larsson, 1993, p 16, pp 48-49.
[3]. See Van Den End, 2016, pp 237-253.
[4] Cecchetti et al, 2011, table 1 p 5.
[5] Quote from Berg, 2012.

of higher RR and/or capital can also provide disincentive to slow down its investment activities in an economic booming period and manage liquidity risk better.[6]

The European Central Bank (ECB) uses the ratio as one of the "risk assessment indicators" when analysing and comparing risk and liquidity between the banking systems within the European Union. It is, however, accompanied by other measurements and definitions of risk, such as credit risk, market risk and operational risk. The latest such investigation from ECB reported that the banking systems in Denmark, Sweden, and Finland had the highest LDR, while the lowest ratios were found un Latvia, Belgium, and Malta.[7] Van den End (2016) provides a method for analysing drivers of the LDR and how it relates to financial crisis and business cycles. This is not something we consider here but it is important to keep it in mind for further research.

This study focuses on the changes in the lending/deposit ratio during times of economic turbulence – economic crises as well as booms – to explain the role of banking in economic development. The analysis does not only discuss deposit and lending from a macroeconomic perspective, but also from different types of banks (banks with limited and unlimited liability), and between individual banks.

We argue that the importance of deposits can be reduced during periods of economic booms as alternative ways of finance increases. For example, banks borrowing on the international market can be of importance especially when interest rates on the Swedish national market are higher than on the international market, which changes the lending to deposit ratio. As deposits and lending fluctuate we can also assume that changes in the lending/deposit ratio can both counteract and contribute to economic development. Increasing ratio values would thus stimulate the economy while low ratio values would hamper development. The analyses can also highlight the relationship between regulations and commercial banks. For example, with the introduction of new rules, the banks could be requested to both reduce and increase their lending. But we can also expect individual differences between banks. Thus, we can presume that banks where the owners are liable for the bank's economic activities (*enskilda* banks) have a higher risk aversion than joint-stock banks.

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[6] Satria, Harun & Taruna, 2016, pp 24-34.

[7] European Central Bank, European Systemic Risk Board, "ESB risk dashboard" June 8 2017, http://sdw.ecb.europa.eu/reposts.do?node=1000004033 (assessed May 5 2017)

The next section gives a brief presentation of the sources and methods used in this paper. This is followed by a presentation of the overall development of the Swedish economy and commercial banking between 1870-1994. The relationship between lending and deposits is thereafter summarized and compared for the whole period. The empirical findings are then developed in two separate chronologies – running between 1870-1953 and 1954-1994 – which focus on the lending/deposit ratio for different banks and their long-term development.

Sources and methodology

Our database derives from the balance sheets in the banks' annual reports published by Statistics Sweden in various publications. The material covers all Swedish commercial banks between 1870 and 1994. This period witnessed the greatest number of banks, 84, in 1908, and the lowest number, 10, in 1994. Our database allows us, for the first time, to follow changes in the lending/deposit ratio for a longer period than has previously been attempted and can therefore reveal changes in the Swedish banking system over time. This broader view makes it possible to do specific assessments for groups of banks, as well as banks in geographical regions.

The analysis is based on Swedish commercial banks' annual reports, which have been gathered in different official Swedish statistics publications, most often published by Statistics Sweden. Our new database includes the balance sheets of all Swedish commercial banks. The compilation of data changes somewhat over time in these sources (for example, it switches from quarterly to monthly data as of 1875) but we were able to gather data on total loans and total deposits over the entire period. We have collected annual data from the month of December each year. We believe this to be a consistent way of gathering data over a longer period of time, as the changes between months are very small. Apart from the aggregated development of banks' lending/deposit ratio we also map some of the largest and middle-sized banks to get a more detail structure of banks' risk management. Even though the lending/deposit ratio is a basic measurement it serves as an indicator for banking development over a longer period.

When choosing which specific banks to analyse we have focused on the largest banks which had a long "life-span" (that is, those that did not file for bankruptcy, or were bought up) in order to be able to follow them. Inevitably, however, certain banks disappear when mergers are undertaken. Other banks change name or change their legal status, from being an *enskilda* bank (banks with the right to issue bank notes and with the owners being responsible for all the banks activities) to a joint stock bank, during the period of investigation. We have concluded that in these cases the banks essentially continued to conduct their business in the same way as before and can therefore be treated as the same bank throughout the period. Mergers and acquisitions are more complicated. However, we have decided that a bank continues to exist not only when it acquires another bank but also when it merges with another bank from as stronger position. Looking at the specific examples it is fairly obvious how the mergers were organized and implemented.[8]

Concentration and business in Swedish commercial banking

The first Swedish commercial bank was founded in 1831 when *Skånska Privatbanken* started its business. This bank was organized as an unlimited liability bank (*enskilda*) with the right to issue bank notes. This bank, as well as other banks with the same organizational form, initially showed little interest in the deposit market but financed their business with the owner's capital instead. Thus, this organizational form did not promote any larger risk-taking. The first joint-stock commercial bank, *Skandinaviska Kreditaktiebolaget*, was founded in 1864.[9] By 1870, when our investigation starts, a total of 26 commercial banks were active. After 1890 a rapid expansion process began to take place leading to a big increase in the number of banks that peaked in 1908 with 84 banks. During this period the right to issue bank notes was gradually taken over by the *Riksbank* (the Swedish Central Bank) and the organizational form – unlimited, or limited liability bank – became less important. From 1933 all banks were organized as limited liability banks. During the 1890s and the early 20th century the number of bank offices also increased significantly and they more than doubled on a per capita basis between 1890 and 1910.

Up until 1903 the regulation of Swedish commercial banks was quite limited. The unlimited liability banks had been regulated, initially in 1830 and later in 1864, but the limited liability banks, which were permitted from 1864, had no specific regulation and were instead subject to the joint-stock law from 1848. As the banking market expanded the need for a new legislation became apparent. Regulations needed to be adjusted to the fast-growing economy; at the same time the protection of the depositors' capital gained the highest attention. A first regulation was adopted in 1903 as the private note issuing right was withdrawn and concentrated to the *Riksbank*. The new law included the

[8] See for example Jungerhem & Larsson (2013) and Wallerstedt (1995). See also appendix.
[9] Skandinaviska Kreditaktiebiolaget changed its name to Skandinaviska Banken in 1939.

establishment of an independent Bank Inspection Board and several new regulations aiming at the protection of the depositors' capital. As early as 1911, a new regulation for commercial banks had been adopted that stipulated, among other things, the banks' capital requirements and cash regulations.[10]

After the government issued the new banking legislation in 1911, the number of banks fell sharply: in 1915 they were down to 66, reducing to 41 in 1922. During these years many smaller banks were acquired or were made to merge with larger banks. The reduction in the number of banks was mainly a consequence of the increased capital requirement introduced by the 1903 legislation and then increased in the 1911 legislation. Instead of expanding their capital several of the smaller banks chose to be bought by larger competitors. Industrialisation and economic growth had served to promote the expansion of larger banks since the 1890s and several of the larger Swedish city banks wanted to develop their business through the acquisition of rural banks where deposits grew fast. The Swedish economy also benefited from staying outside WW I—at least until early 1917.[11]

But the 1911 legislation did not only affect the bank market's structure it also had a direct impact on the banking business. For several decades the banks' right to acquire shares in industrial and trading companies had been up for discussion both in the parliament and among the banks. A regulation that allowed the banks to own and trade with shares would make it possible for the banks to take a more active part in Sweden's industrial development, as financiers, and would at the same time introduce the banks as active owners: both were seen as important for the fast-growing Swedish economy. After an unsuccessful attempt to introduce a new type of investment bank (*emissionsbanker*) the legislation was changed in 1911 allowing the largest commercial banks to own shares to a specific amount of their equity. However, this legislation was circumvented during the 1910s through the banks' establishment of fully-owned and controlled investment companies. By investing in shares these allowed the banks to be the indirect owner of companies to a greater degree than the legislation intended. This encouraged both speculation and inflation: both important factors in the economic downturn during the first half of the1920s.[12]

[10] SFS1903:101; SFS 1911:74.
[11] Söderlund, 1978; Jungerhem & Larsson, 2013.
[12] Östlind, 1945.

The commercial banks were hit hard by the economic crisis in early 1920s. Large losses in their affiliated investment companies resulted in their liquidation and banks were obliged to take over their shares to protect credit granted to the investment companies. Several banks also faced large losses and six banks had to be saved by the support of a special credit institute (*Kreditkassan*) organized by the state. The 1920s economic crisis did not only result in problems for the banks. Several Swedish industrial companies went bankrupt and were reorganised, or merged, with other companies, leading to industrial restructuring. In turn, this increased Sweden's competitiveness on the international market, which inadvertently proved to be advantageous during the Great Depression in the 1930s. Indeed, compared to other countries, the Swedish economy was not that hard hit by the depression. A growing domestic market helped the to expand the production of consumer goods while the large industrial companies retained their global markets.[13]

However, the 1930s depression did have an impact on the Swedish economy, chiefly as a consequence of the collapse of the business empire of the Swedish magnate Ivar Kreuger. During the 1910s and 1920s Kreuger had developed into a dominating financier and company owner not only in Sweden but also on the international market. But the downturn on the international market made it increasingly difficult for Kreuger to raise money for his business activities. By 1932 the situation was getting out of hand. The Kreuger business empire needed capital which was difficult to raise in Sweden as well as on the international market. After a last attempt to solve the problems in New York Kreuger committed suicide, in Paris, in March 1932. This did not merely affect the Kreuger business group but the Swedish economy as a whole. A direct consequence of the Kreuger debacle was that the banks' right to acquire shares was abolished in 1933. As the main Swedish financier of the Kreuger group the *Skandinaviska Bank* was hardest hit by the Swedish commercial banks and had to get state guarantees to continue their business for a couple of years.[14]

A long-term consequence of both the 1920s and 1930s crises was the consolidation of the largest Swedish banking groups. But the structural crisis in the 1920s and the crash of the Kreuger business group made it possible for the three largest banks – *Skandinaviska Banken, Handelsbanken* and *Stockholms Enskilda Bank (SEB)* – to take over ownership and control of several of the largest and middle-sized industrial and trading companies either through direct ownership or through newly established investment companies. In 1945, approximately 22 per cent of the industrial workforce

[13] Larsson, 1992; Östlind, 1945.
[14] Gäfvert, 1979; Wigforss, 1932; Söderlund, 1978.

was employed in companies controlled by these three banks. This trend continued after WW II. In 1963 slightly more than 30 per cent of the workforce was employed in companies controlled by the three banks and the number increased to 50 per cent in 1979.[15] This was a major factor behind the concentration of Swedish banking and growth the three largest banks.

Sweden's economy went into a strong growth period during the second half of the 1940s. This continued well into the 1970s, when the oil crises and the international economic downturn made the situation more difficult. However, commercial banks did not experience increased difficulty during this period partly because of the extensive control performed by the *Riksbank*. In the early 1950s the Swedish social democratic government, in cooperation with the *Riksbank,* introduced a detailed control of the financial system which encompassed commercial banks and savings banks as well as insurance companies. These regulatory measures included the control of both deposit and lending interest rates, the size of lending, as well as banks' liquidity. These regulations were adjusted to the economic situation and the requirement for capital in prioritised sectors of the economy; thus, regulations could vary considerably over time. For example, in 1969, more or less all the regulatory measures were activated and the financial market stagnated. As a result, competition was hampered and the market exhibited oligopolistic features. The *Riksbank* regulations were maintained into the early 1980s when they were gradually abolished and, from 1985, competition as well as lending increased.[16]

In 1953, there were only 17 commercial banks still in place. During the previous four decades a large number of the smaller banks from the expansion era of 1890–1910 had been acquired; in a few cases others had filed for bankruptcy. Swedish banking during the first half of the 20th century came to be dominated by the three largest banks: *Skandinaviska Banken, Svenska Handelsbanken* and *Stockholms Enskilda Bank (SEB).* These three banks dominated lending to industry and trade, especially through their credits to affiliated companies within their banking groups.

The concentration of Swedish banking continued, albeit at a slower pace, until 1980 when there were fourteen active commercial banks. Nevertheless, an expansion of bank offices had occurred in the 1960s which increased service to customers. During the 1980s, the commercial banking market was

[15] Larsson & Lönnborg, 2014, pp 115-119.
[16] See Larsson & Söderberg, 2017, for a more detailed discussion about the *Riksbank* regulations.

highly concentrated with only three major banks making up to 80-85 per cent of total deposits from the public.[17] From the middle of the 1980s foreign commercial banks were allowed to enter the Swedish market and compete on equal grounds with the domestic banks, meaning the number of total banks increased to 21 in 1990.[18]

The balance of lending and deposits 1870-1994

In this section we first present the development of lending and deposits and the lending/deposit ratio for all commercial banks for the entire period of investigation. We then study the case of selected banks at different periods in time.

Both lending and deposits increased fast from 1870 to about 1912; the growth was most notable from 1895 and onwards. This development is shown in the relationship between banks' lending and deposits to GDP (see figure 1). Commercial banks became the largest funder of capital for Swedish enterprises and industrialization overtaking the dominant role previously held by merchant houses. During this time the intermediation of credit was the absolute single largest function of Swedish commercial banks: total loans make up about 80 per cent of total assets in the balance sheets. Part of this was due to the fact that before 1911 the banks were not allowed to acquire stocks and shares in companies. During WWI the lending-share decreased while deposits were stable. The economy was, overall, strong from the 1920s onwards and both lending and deposits decreased as shares of GDP. Loans experienced a dip, especially during WWII, while deposits increased as a share of the economy. During the 1950s, 60s and 70s Swedish banking was put under a strict control by the *Riksbank* and indirectly by the Social Democratic government. This meant that lending was restricted and capital was directed to investment in new dwellings in urban areas instead. When the credit market was deregulated in the middle of the 1980s – for instance, by removing the cap on the amount of lending from each bank – it led to substantial changes in the intermediation of credit. Total loans measured in constant prices increased 70 per cent from 1983 to 1990 or from 850 billion SEK to 1465 billion.[19] As a result, lending as a share of GDP exploded and would only diminish slightly in 1994. The proportion of deposits also increased—but only in a significant way in 1993 and 1994.

[17] Larsson & Lindgren, 1989, p 23; Jungerhem & Larsson, 2013.
[18] Larsson, 1993, table 5, p. 35.
[19] Larsson, 1993, p. 44.

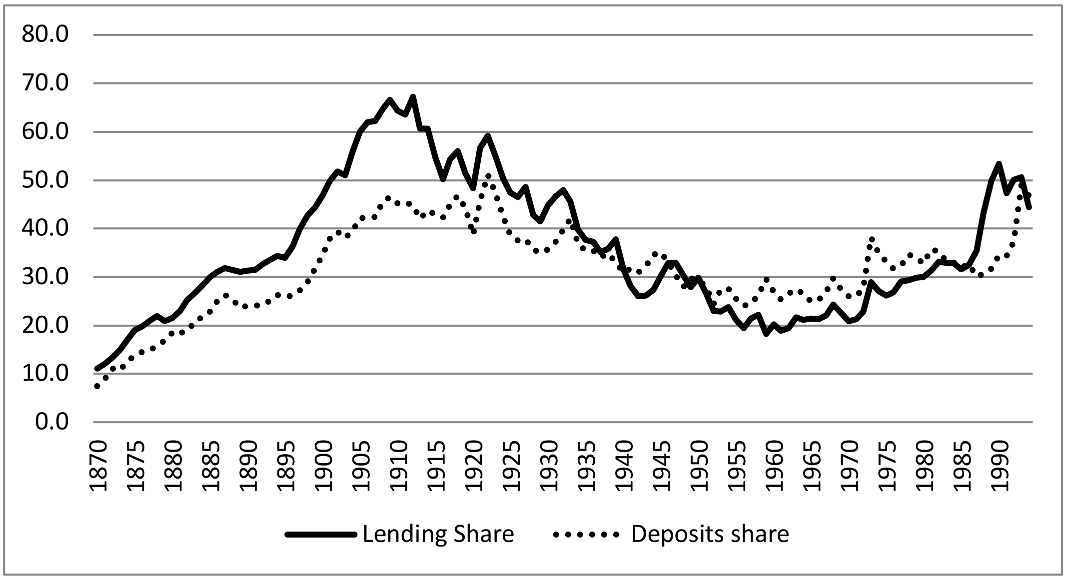

Figure 1. Commercial bank lending and deposits as share of GDP 1870-1994

Source: GDP; Schön & Krantz, 2012. Sammandrag, Enskilda bankers uppgifter 1866 - 1911; Statistiska meddelanden serie E: Uppgifter om bankerna 1912 - 1987, Bankerna 1988 - 1994.

This trend emerges clearly when one compares commercial banks to other financial institutions. Figure 2 confirms that commercial banks lost their share of the loan market to other actors to a considerable extent after 1920; showing that a brief period, 1890 – 1912, was the heyday of Swedish commercial banking. From around 1960 commercial banks were no longer the single largest intermediary of credit. The financial institutions that grew most towards the end of this period were specialized actors; primarily the mortgage brokers but also industry financiers, such as *AB Industrikredit,* as well.

Figure 3 shows the lending/deposit ratio for all Swedish commercial banks between 1870 and 2000. A couple of things become evident from Figure 3. First, the lending/deposit ratio drops notably in times of crisis; namely, during the bond crisis of the late 1870s, WWI, the Great Depression of the early 1930s, WWII, and the financial crisis of the early 1990s; but also, during periods of economic growth, such as the 1950s, due to the hard governance of the *Riksbank*. Second, it is more difficult, but still possible, to identify upturns in boom periods. We can see an increase in the ratio from circa 1888 to 1910, a minor rise from 1922 to 1927, a brief but sharp turn upwards 1945–1950, and an extreme boom from 1986 to 1990. Third, the overall trend over the whole period is a downward one until the early 1960s when there is a slow by steady increase until the boom of the late 1980s.

During the 19th century and early 20th century total lending was usually 20 - 40 per cent higher than total deposits. This was made possible by the circulation of private bank notes issued by the "*enskilda* banks" and by the inflow of foreign capital. The large increase in lending during the 1990s was also to a large degree financed by foreign capital transferred through Swedish banks. This was made possible by the high interest rates in Sweden compared to several foreign countries. In fact, it was sometimes cheaper for the banks to borrow capital on the international market than paying high interest rates for deposits in Sweden.[20]

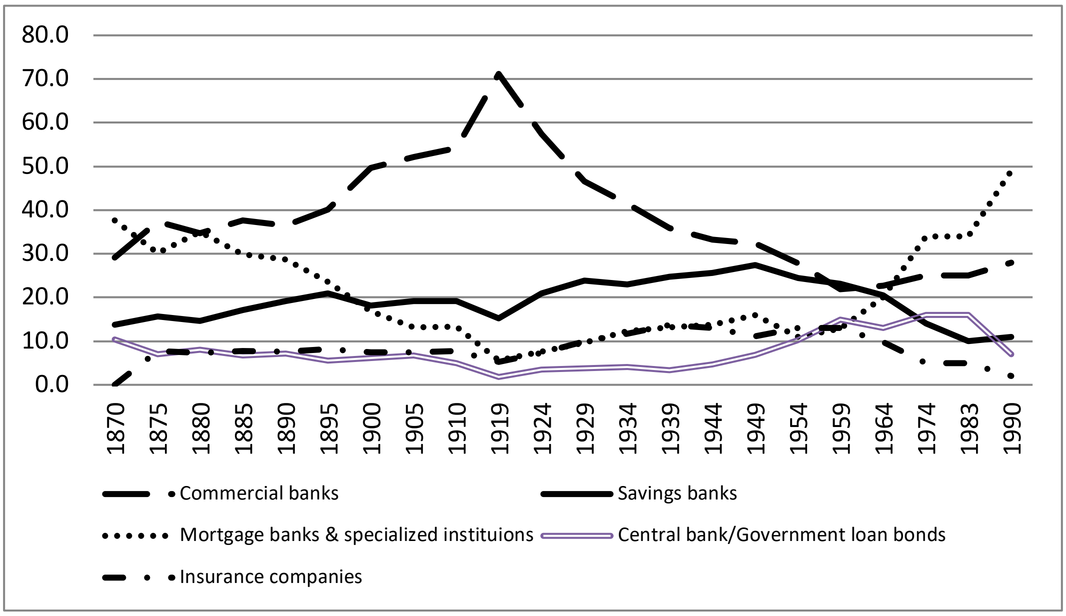

Figure 2. Lending by financial institution 1870-1990 as share of total institutional lending

Source: Nygren 1985; Larsson 1993, p 37, table 7

Usually when there was a notable shift downwards in the ratio it signified that lending decreased while deposits were more or less stable, or decreased less sharply than lending. This was particularly the case during WWI, the Great Depression and WWII. Government regulations also played their part at times, such as when a cap was put on loans in the early 1950s which brought about a sharp relative decrease in lending. The impact that this strict regulation on loans had was further noticeable when it was lifted in 1985, which as mentioned earlier led to a boom in lending and sharp turn upwards for the ratio.[21] The ceiling that was placed on deposits in 1911 which meant that deposits could not exceed banks' equity capital by more than five times, does not seem to have shifted the ratio upwards. This

[20] Larsson & Lönnborg, 2014
[21] On the regulations see Larsson, 1998.

could be due to the fact that regulations became less strict over time and that the periods of crisis that followed after 1911 had a larger impact on the ratio.

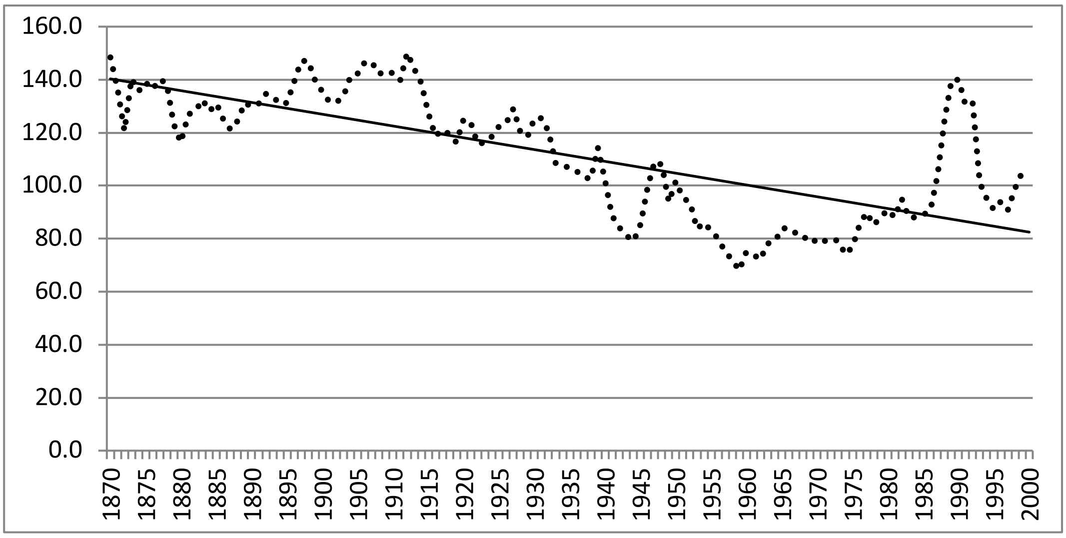

Figure 3. The lending/deposit ratio for all Swedish banks in per cent and trend 1870-2000

Source: Sammandrag, Enskilda bankers uppgifter 1866 - 1911; Statistiska meddelanden serie E; Uppgifter om bankerna 1912 - 1987; Bankerna 1988 - 1994.

Lending and deposits in selected banks 1870-1953

In Figure 4 we map the developmet of three of the largest and most dominating commercial banks in Sweden – *Skandinaviska Banken, Handelsbanken*[22] and *Stockholms Enskilda Bank (SEB).* There are some notable differences between the three giants from 1870 to 1953. First, *SEB* generally had a lower ratio than the other two almost throughout the entire period and particularly so between 1870 and 1890. This might be an effect of *SEB* being a bank with unlimited liability, which probably increased the owners risk aversion. However, this might also be the consequence of the priority of the main owner – the Wallenberg family. In the 1880s the *SEB* experienced large losses connected to both the acquisition of bonds and lending to industrial companies and had to take an active part in the restructuring of several companies where members of the Wallenberg family held an interest.[23] The experience of this probably increased the risk aversion in the family, and consequently in *SEB*. This may have had effects for the long-term development of *SEB's* lending/deposit ratio, which was also evident in the decades after WW II, when there were no banks with unlimited liability.

[22] Stockholm's Handelsbank changed its name in 1919 to Svenska Handelsbanken.
[23] Gasslander, 1956.

SEB and *Handelsbanken* were hit quite hard by the lending slump during WWI, while *Skandinaviska Banken* maintained their ratio at a fairly stable level. Things took a dramatic turn during the Great Depression of the early 1930s, when *Skandinaviska Banken* and *SEB* first took on risky loans of large amounts only to see their lending plummet after 1933. This was in the case of *Skandinaviska Banken* connected to the Swedish businessman Ivar Kreuger whose business was deeply connected to the bank. The *Skandinaviska Banken* had contributed about half of the credits that were given to Kreuger's businesses, the effects of which were felt all the way until the middle of the 1940s (Fig. 4).

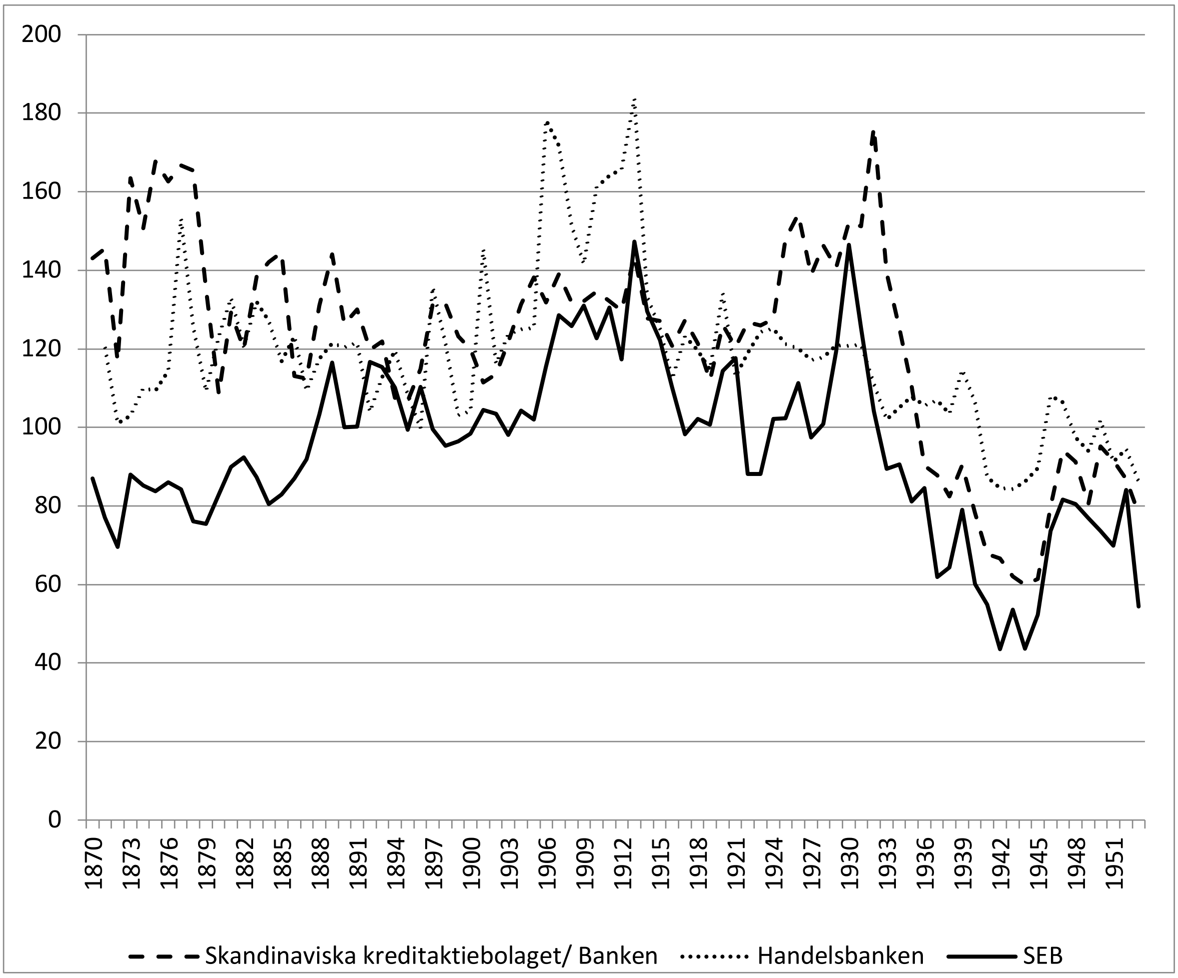

Figure 4. Lending/deposit ratio in per cent for three banks 1870-1953

Source: Sammandrag, Enskilda bankers uppgifter 1866 - 1911; Statistiska meddelanden serie E; Uppgifter om bankerna 1912 - 1953

Note: For changes connected to mergers and acquisitions see appendix.

Handelsbanken did not see such a large drop in their ratio as did the other two banks during the

1930s but instead saw a notable decrease in lending during WWII. This may have been an effect of *Handelsbanken* having a larger amount of small and medium-sized company customers in comparison to the other two banks. During the last decade of this period the three large commercial banks were more similar to one another than they had ever been before.

In Figure 5 we have broken down the lending/deposit ratio of four other large banks which were active during this period: *Göteborgsbanken, Smålandsbanken, Sundsvallsbanken* and *Upplandsbanken*.[24] During the first decade the first three banks had very high ratios, while that for *Upplandsbanken* was markedly lower. This bank had a comparatively low ratio until about 1900 when it increased during the economic boom. *Sundsvallsbanken,* as a big financier of the Swedish wood and paper industry, largely took on more risk than the other three banks. The LTD ratio fluctuated wildly at times in response to local investments and market expansion, even though the ratio fell towards the end of the period.

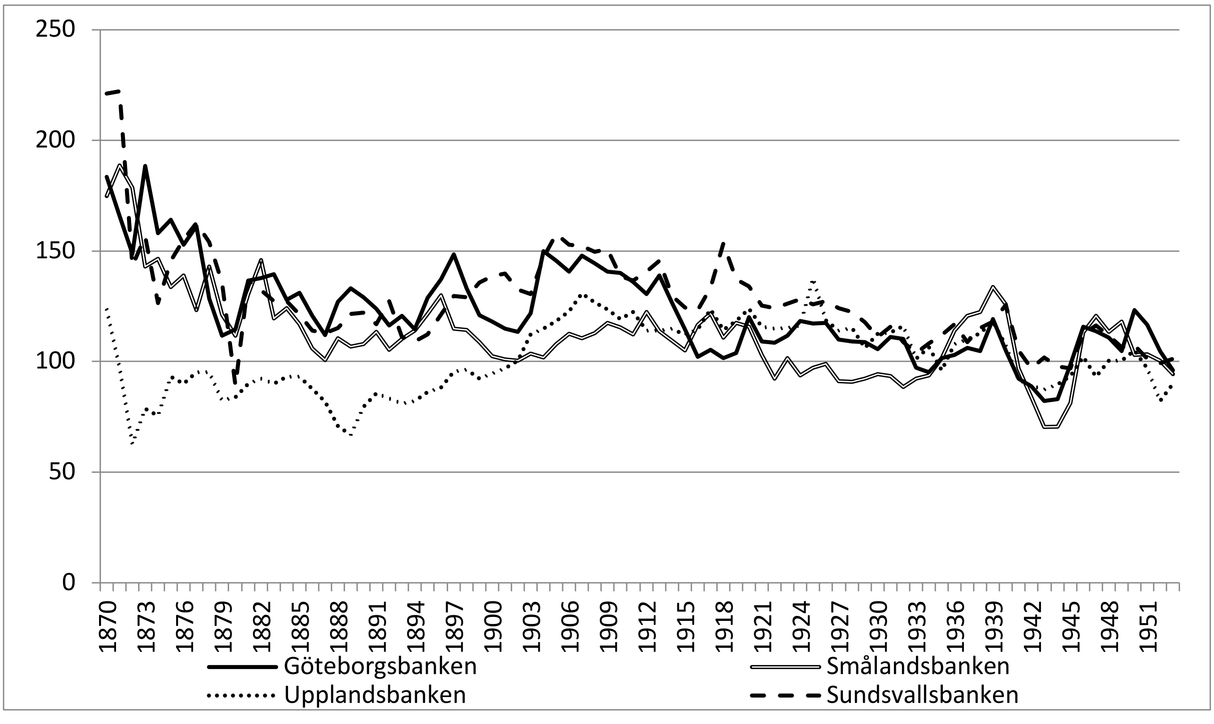

Figure 5. Lending/Deposits Ratio in per cent for four banks 1870–1953

Source: Sammandrag Enskilda bankernas uppgifter 1866–1911; Statistiska Meddelanden Serie E, Uppgifter om bankerna 1912–1953. Note: For changes connected to mergers and acquisitions see appendix.

[24] All these four banks began as "enskilda" banks with unlimited liability. However, during the period Göteborgsbanken became a joint-stock bank in 1903 and Smålandsbanken became a joint-stock bank in 1927. Upplandsbanken and Sundsvallsbanken were "enskilda" throughout the period by name, but functioned as joint-stock banks from 1933 – according to new legislation.

Smålandsbanken had a turbulent time after 1930. It first increased its lending relative to deposits from 1933 to 1939, only to cut back dramatically during WWII. It is notable, however, that all four banks were hit during WWII. By contrast, *Upplandsbanken* had carried on their business quite unscathed during WWI. Compared to the largest commercial banks, described in Figure 4, these four banks were not at all hit as badly during the Great Depression and the "Kreuger crash".

Lending and deposits in selected banks 1954-1994

The period from 1954 to 1994 was shaped by two major changes in the regulation of banks: the introduction of strict regulations and controls in the 1950s, governed by the *Riksbank*, and the deregulation in the 1980s. After deregulation, lending expanded significantly and the risks increased, which finally resulted in a financial crisis in 1992.

The lending/deposit ratio for the three largest banks – *SEB*, *Handelsbanken* and *Skandinaviska Banke* - were stable from 1954 to the early 1970s since the long-term use of liquidity quotas and lending ceilings by the *Riksbank* decreased the capacity of the largest banks to expand credit. *SEB* went even further than the regulation determined; a little more than half of its deposits were used for lending. By comparison, the lending/deposit ratio for the others ranged from 75 to 85 per cent (see Fig. 6).

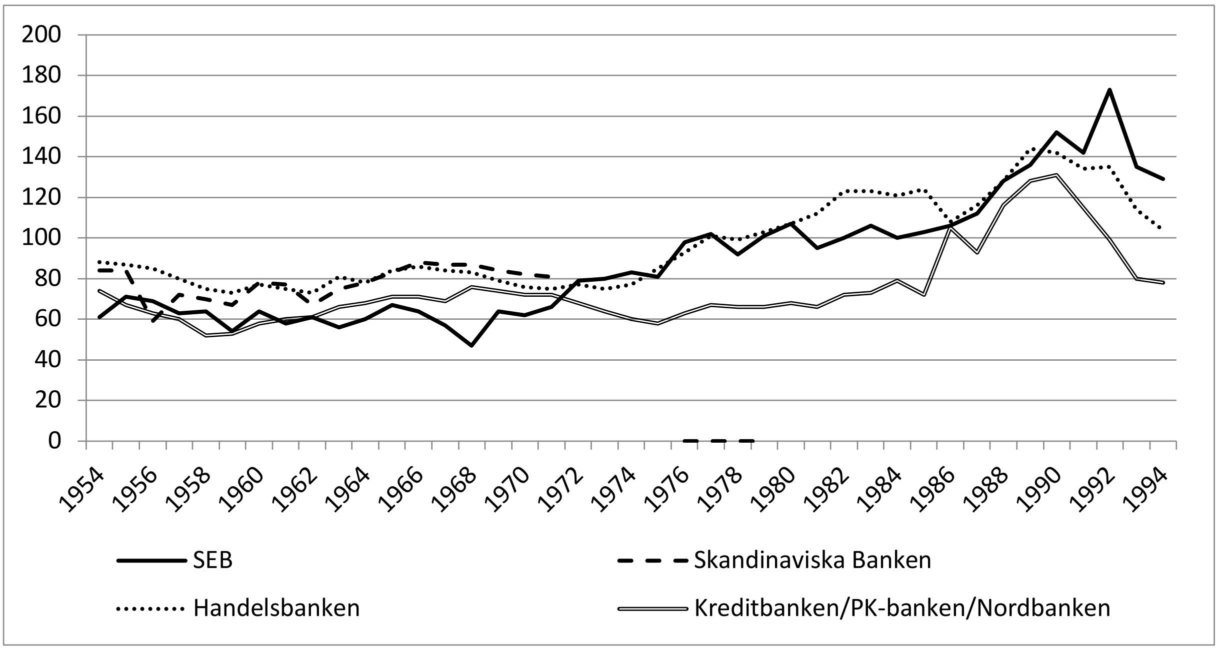

Figure 6. Lending/Deposits Ratio in per cent for four banks 1954 - 1994.Source: Statistiska Meddelanden Serie E, Uppgifter om bankerna 1954–1987, Bankerna 1988 – 1994. Note: For changes connected to mergers and acquisitions see appendix.

The bank market had been dominated by the three largest banks since the 19th century. However, the fear of an oligopolistic market after World War II made the Social Democratic government act to promote competition. In 1923 the state had taken over as owner of *Jordbrukarbanken* (the agriculture bank) in order to avoid its liquidation. It was argued that this bank could be used for the development of a state-owned commercial bank, that not only would act as a bank for all public bank transactions, but also provide deposit and lending services to individuals as well as companies, and thus promote competition. In 1951 this new state-owned bank, *Kreditbanken,* was established based on the business of *Jordbrukarbanken* and with some new offices taken over from other banks.[25] The *Kreditbanken'*s expansion during the first decade was to a large extent dependent on transactions from public administration and state-owned companies; but gradually the bank became a competitor to private banks. This bank's lending/deposit ratio was, during its initial decade of activity, in the vicinity of *SEB;* thus lower than that of the other two larger banks. This may have been due to the difficulties they had in attracting new customers from the private sector; or it may have stemmed from their support of the state's policy to avoid increased lending as a stimulus to inflation.

As we already have seen, the lending/deposit ratio started to grow in the 1970s. This was a consequence of both international influence and a relaxed *Riksbank* regulation. But changes in the bank structure also played an important role. In 1972 the Wallenberg owned *SEB* and *Skandinaviska Banken* merged creating *Skandinavisk Enskilda Banken* – also called *SEB*. Initially, this bank was not directly affiliated to the Wallenberg business group but soon it became a vital part of it. However, with this merger the new *SEB* acquired a large credit portfolio, which increased the lending/deposit ratio (see Figure 6).

The new *S.E.B.* became the largest Swedish bank. Such concentration in the banking sector was not consistent with public policy. And as a result, *Kreditbanken* was merged with another state-controlled actor, *Postbanken* (the Postal savings bank), in 1974. This bank's aim was to attract deposits and to conduct a limited lending business. Thus, the merger with *Kreditbanken* resulted in increased deposits in the new *PK-banken* and in possibilities to develop the lending business.[26] This was indexed by the gradual increase of the lending/deposit ratio during the late 1970s and early 1980s. But the ratio did not reach the same level as the other two banks.

[25] Eliasson & Larsson, 1992.
[26] Eliasson & Larsson, 1992.

The middle-sized banks also exhibited a steady increase in their lending/deposit ratio during the 1950s and 1960s. It was slightly higher than that of the larger banks, fluctuating between 80 and 90 per cent (see figure 7). To some extent, this can be explained by the stricter regulation of lending and liquidity for the largest banks,compared to the middle sized banks. However, on this competitive market the middle-sized banks may have been willing to take larger risks, increasing their lending share of deposits in order to safeguard their market position. The structural changes on the market in the 1970s and 1980s did not only concern the large banks. In fact, several of the middle-sized banks merged during these decades with other Swedish banks; for example, *Smålandsbanken* with *Göteborgsbanken* in 1972, and *Sundvallsbanken* with *Upplandsbanken* in 1986 (see appendix).

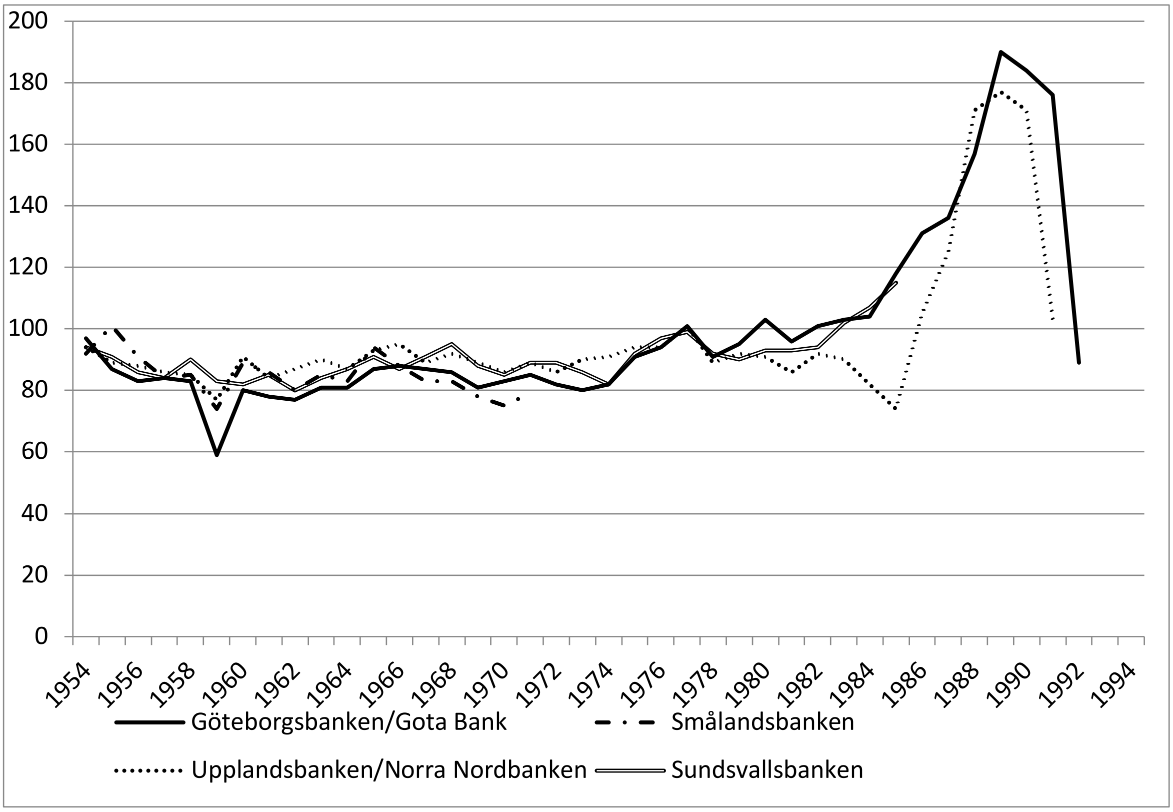

Figure 7. Lending/Deposits Ratio in per cent for three banks 1854-1994

Source: Statistiska Meddelanden Serie E, Uppgifter om bankerna 1954–1987, Bankerna 1988-1994

Note: Sundsvallsbanken and Upplandsbanken merged in 1986 forming Nordbanken, This bank was acquired by PK-banken in 1990 and the new bank took the name Nordbanken. Parts of the old Nordbanken continued business under the name Norra Nordbanken before it was liquidated in 1992.

These mergers did not, however, effect the lending/deposit ratio to any great extent. Instead, it was the deregulation of the financial market during the first half of the 1980s that opened the way for a sharp increase of the lending/deposit ratio by large and medium sized banks. The largest lending/deposit ratio, of 190, was registered for the *Gota Bank*; this can be compared to the highest ratio for *SEB,* close to 180; for *Handelsbanken,* just over 140; and for *Nordbanken,* at 130 (see Figures 6 and 7). Borrowing on the international market played a major role in the financing of lending from these banks.

Gota Bank was also hard hit by the bank crises in the 1990s as was *Nordbanken*. The main problem for these banks was, of course, that credits had been granted to less solvent borrowers; mostly within the real estate business. But the financing of lending with borrowed capital instead of deposits was also a problem. Sweden had moved from a fixed to a floating exchange rate in 1992, which resulted in a heavy depreciation, and for those who had their credits in foreign currencies the situation swiftly deteriorated, with increasing problems to repay the loans. All banks encountered credit losses but the situation was worst for *Gota Bank* and *Nordbanken* and, as a consequence, *Gota Bank* was taken over by the state and later merged with *Nordbanken*.

Conclusion

In this paper we have analysed the relationship between banks' lending and deposit to uncover the long-term relationship in the lending/deposit ratio as well as the risk connected to an imbalance between these.

Our analysis reveals that banks' lending as a share of GDP was quite low in the 1870s (20 per cent of GDP), but that it increased considerably towards the end of the 19th century culminating, during the first decade of the 20th century, with highs of 70 per cent of GDP. This development is closely related not only to the general expansion of the banking sector but also to the development of industry and trade as well. Sweden's economy underwent a rapid development during these decades and this entailed a large need for capital. Such demand could not be covered solely by deposits, which only reached 45 per cent of GDP, so the import of capital from abroad was important; in fact, Sweden had the highest foreign debt per capita in the world around 1900. However, this does not seem to have exposed the banks to a higher level of risk. Besides a limited banking crisis in 1907 the banking sector was fairly stable until the early 1920s when Sweden's commercial banks were hit by the post-war crisis.

In the 1980s, Sweden's bank lending once more reached a ratio over 50 per cent of GDP. This time development was possible through foreign capital. Differences in interest rates on the Swedish and the foreign markets made it profitable for the banks to transfer capital from the international to the Swedish market. However, this proved to have been a risky undertaking during the banking crisis in the early 1990s.

These developments can also be detected in changes of the lending/deposit ratio. From the 1870s to the 1910s the ratio fluctuated between 120 and 140, but started to fall during World War I, and continued to fall to around 1960, when it slowly started to increase. However, with the exception of the late 1980s and early 1990s, the banks' deposits covered their lending. Our analysis indicates that increases in the lending/deposit ratio occurs parallel with economic booms and that the ratio falls during economic drops. However, to understand the exact relationship between the lending/deposit ratio, economic development, and risk, the analysis has to be enlarged and broadened.

The development of lending/deposit ratios for different banks is closely connected to the general development of the ratio. However, we can identify some banks that are willing to increase their lending higher than deposits during periods of economic boom – both local and national. This was often a result of bank's lending specialization – such as the credits of *Sundsvallsbanken* to the paper and wood industry during the 1870s. But there are also examples of banks that preferred to place their deposit capital in less risky objects than lending. The best example of this was *SEB* that had a lower lending/deposit ratio than other banks from the 1870s to the 1970s. It is most likely that differences in the lending/deposit ratio between banks, were the consequence of priorities of the owners or/and of the management.

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Appendix – Important mergers and acquisitions in Swedish banking 1870- 1994

1879: Vadstena Enskilda bank and Östergötlands Enskilda bank

1889: Oskarshamns Enskilda bank and Smålands Enskilda bank

1896: Stockholms Tjänstemanna Sparkassa and Nordiska Kreditbanken

1899: Västerbottens Enskilda bank and Bankaktiebolaget Stockholm-Övre Norrland

1901: Jämtlands Godtemplarbank and Östersunds Diskontobank

1901: Mellersta Hallands Folkbank and Mellersta Hallands Bankaktiebolag

1902: Kristianstads Enskilda bank and Bankaktiebolaget Södra Sverige

1903: Norrbottens Enskilda bank and Härnösands Enskilda bank

1903: Mälareprovinsernas Enskilda bank and Aktiebolaget Mälareprovinsernas bank

1903: Göteborgs Enskilda bank and Aktiebolaget Göteborgs bank

1904: Göteborgs köpmansbank and Skånes Enskilda bank

1905: Hallands Enskilda bank and Aktiebolaget Göteborgs bank

1905: Bohusläns Enskilda bank and Aktiebolaget Göteborgs bank
1905: Örebro Handelsbank and Härnösands Enskilda bank

1906: Kalmar Enskilda bank and Bankaktiebolaget Södra Sverige

1906: Oskarshamns folkbank and Bankaktiebolaget Södra Sverige

1906: Vetlanda Bankaktiebolag and Sydsvenska kreditaktiebolaget

1906: Gamleby folkbank and Aktiebolaget Stockholms diskontobank

1907: Gotlands Enskilda bank and Bankaktiebolaget Södra Sverige

1907: Lindesbergs Bankaktiebolag and Aktiebolaget Bergslagsbanken

1907: Industri-kreditaktiebolag and Skandinaviska Kreditaktiebolaget

1908: Härnösands Enskilda bank and Bankaktiebolaget Norra Sverige

1909: Västerviks Handelsbank and Skånska Handelsbanken

1910: Skånes Enskilda bank and Skandinaviska Kreditaktiebolaget

1910: Sundsvalls köpmansbank and Sundsvalls kreditbank

1910: Sundsvalls folkbank and Sundsvalls kreditbank

1910: Hudiksvalls folkbank and Hudiksvalls kreditbank

1910: Aktiebolaget Linköpings bank and Sydsvenska kreditaktiebolaget

1911: Halmstads Bankaktiebolag and Göteborgs Handelsbank

1911: Gävleborgs Enskilda bank and Bankaktiebolaget Norra Sverige

1911: Kristinehamns Enskilda bank and Värmlands Enskilda bank

1911: Bankaktiebolaget Stockholm-Övre Norrland and Norrlandsbanken

1911: Tranås bankaktiebolag and Malmö folkbank

1911: Sollefteå folkbank and Sundsvalls Enskilda bank

1912: Härnösands folkbank and Ångermanlands folkbank

1913: Stockholms köpmannabank and Skånska handelsbanken

1914: Bankaktiebolaget Norra Sverige and Stockholms handelsbank

1914: Ljusdals folkbank and Sundsvalls enskilda bank

1917: Hudiksvalls bank and Sundsvalls enskilda bank

1917: Hälsinglands enskilda bank and Mälareprovinsernas bank

1917: Norrlandsbanken and Stockholms handelsbank
1917: Nordiska kreditbanken and Skandinaviska kreditaktiebolaget

1918: Örebro enskilda bank and Skandinaviska kreditaktiebolaget

1919: Skånska handelsbanken and Skandinaviska kreditaktiebolaget

1919: Göteborgs handelsbank and Nordiska handelsbanken

1919: Bankaktiebolaget Södra Sverige and Aktiebolaget Svenska handelsbanken

1919: Stockholms handelsbank becomes Svenska handelsbanken [change of name]

1922: Sydsvenska kreditaktiebolaget and Sydsvenska banken

1925: Nordiska handelsbanken and Göteborgs handel
1926: Skandinaviska kreditaktiebolaget becomes Skandinaviska banken AB (change of name)

1926: Mälareprovinsernas bank and Svenska handelsbanken

1927: Smålands enskilda bank and Aktiebolaget Smålands bank

1933: Örebro folkbank and Södermanlands enskilda bank

1935: Sydsvenska banken and Skånska banken [acquisition and change to the latter's name]

1949: Göteborgs handelsbank and Skandinaviska banken AB

1955: Inteckningsbanken (SIGAB) and Svenska Handelsbanken

1956: Gotlands bank and Svenska Handelsbanken
1972: Skandinaviska Banken AB and Stockholms Enskilda Bank becomes Skandinaviska Enskilda Banken (SEB) [merger and name change]

1972: Smålands Bank and Göteborgs Bank Gotabanken (acquisition and change of name)

1974: Postbanken and Kreditbanken becomes PK-banken (merger and change of name)

1986: Sundsvallsbanken and Upplandsbanken becomes Nordbanken (merger and change of name)

1990: Nordbanken and PK-banken becomes Nordbanken (acquisition and change to the first's name)

1990: Nordbanken and Norra Nordbanken (Parts of the old Nordbanken change name)

1990: SveaBanken and Sparbankernas Bank
1990: Skaraborgsbanken and GotabankenGota Bank (acquisition and change of name)

1990: Wermlandsbanken and Gota Bank

1991: Skånska Banken and Svenska Handelsbanken

1994: Gota Bank and Nordbanken

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