



Munich Personal RePEc Archive

Institutional Clash and Financial Fragility. An Evolutionary Model of Banking Crises

Knutsen, Sverre and Sjögren, Hans

Department of Innovation and Economic Organization, Norwegian
School of Management, Department of Management and
Engineering, Linköping University

January 2009

Online at <https://mpra.ub.uni-muenchen.de/13133/>
MPRA Paper No. 13133, posted 03 Feb 2009 23:56 UTC

Institutional Clash and Financial Fragility. An Evolutionary Model of Banking Crises

Sverre Knutsen* and Hans Sjögren**¹

* Department of Innovation and Economic Organization, Norwegian School of
Management

**Department of Management and Engineering, Linköping University
and EHFF, Stockholm School of Economics

¹ We are grateful for comments from Håkan Lindgren and Daniel Verdier.

ABSTRACT

There are mainly two types of theories explaining banking crisis, emanating from the monetarist school respectively institutional economics. Using an allegory, monetarists are discussing how much water in terms of liquidity that is needed to stop a fire escalating into a disaster, while institutionalists are occupied with the causes of the fire. Our study rejects the explanatory value of the monetarist view, but also criticizes the Kindleberger-Minsky model for not taking the legalisation and the sanctions in the hands of the authorities into account. We consider the institutional factor as a decisive part in the understanding of systemic risk and the process towards increasing debt in non-financial sectors and introduce the concept institutional clash. Not every recession has caused a banking crisis. But all banking crises have been preceded by an institutional clash. Consequently, an institutional clash is a prerequisite but not sufficient to cause a banking crisis: there must be a recession for a crisis to emerge. We also launch a stage-model for the evolution of banking crises. The stages in that model highlight decisive factors before, under and after a crisis. Our model has the capability to explain the occurrence of crises in a re-regulated economy. However, we only give few examples from Nordic banking crises how our model could be applied. Thus, the article is explorative. It is natural to make further empirical observation in order get a solid theory of driving forces behind banking crisis. The next step would be to empirically integrate all the Nordic banking crises between 1850 and 2000 in our analysis.

JEL Classifications G21, G32 and N84

Key words. Banking crisis, finance, institutional theory, Denmark, Finland, Norway, Sweden, Scandinavia.

Introduction

The occurrence of about 130 systemic banking crises has been documented on a global level throughout the period 1980-2008. As a contrast, no such crises have been registered for the preceding 25 years. Reflecting this historical process, academic interest in banking crises was almost non-existent in mainstream economics during the post-war era. After 1990, however, this mentioned growth in number of banking crises has spawned a substantial expansion of research into the causes and consequences of financial instability. The crisis related to sub-prime loans in the US gives further interest into this type of study. Considerable progress has been done to enhance our understanding of the mechanisms setting off banking crises. However, the main body of literature related to this research is chiefly focused on depicting the proximate causes of banking crises, whilst the fundamental causes are given less attention. A major shortcoming in mainstream macroeconomic analysis of financial crises is the absence of context and lack of understanding of process. One of the participants in the academic discussion on banking crises suggests, quite correctly in our opinion: "...whenever crises occur the economics profession tends to come up with a new generation model to explain the events, only to find that the next crisis do not fit the model."² Thus, the economics profession seems to engage in a continual chase for a new set of simultaneous macroeconomic variables to explain an outburst of a banking crisis, separated from a sequential process through time.

However, real world crises evolve through time. In our opinion an economic historical approach can add new insight to the understanding of both the proximate causes of banking, as well as more fundamental factors. On this background we present an analytical framework for the exploration and explanation of the evolution of Nordic banking crises, 1850-2000. The main research question is what factors give rise to large credit losses in many banks that it produces a systemic banking crisis.

Evidently, structural changes in financial markets precede the instability. Such changes are particularly attached to a reduction in entry barriers caused by deregulation, financial innovations, new markets and technological advances. This leads to intensified competition, credit expansion and increased risk-taking. Increased

² Caprio jr. (1998)

risk-taking may have several causes, such as poor information for new entrants, a breakdown of credit relationships, herd-like behaviour among lenders, and predatory pricing to gain increased market shares. Although GDP-growth and interest rates are important, financial fragility should be pointed out as a precondition for heightened systemic risk.³ Our hypothesis is that even in a strong economic downturn a banking crisis is unlikely to develop if the households and the corporate sector are not highly geared. Thus, our model has the capability to explain the occurrence of crises in a re-regulated economy. Whether this holds or not will be explored, when the circumstances in the Danish, Finnish, Norwegian and Swedish banking crises are compared and analyzed according to our model.

Theories on banking crises

The understanding of banking crises has traditionally been divided into two main “schools”- the “business cycle school”⁴ and the monetarist school.⁵ Whilst the first links the development of a banking crisis to the business cycle, the other stresses flawed monetary policy. Today, the hegemonic view in mainstream economics explains the outburst of banking crises by combining problems created by information asymmetry in credit contracts with the occurrence of “macroeconomic shocks” (e.g. Mishkin 1991) Thus, the explanation of the causes of banking crises is linked to the development of the business cycle. However, traditional monetarist ideas are very often mixed with the notion of “macroeconomic shocks”, emphasizing that faulty monetary policy both influences the business cycle adversely during the upturn as well as during the downturn. This may instigate depositors’ runs on the banks, thus threatening financial stability. A macroeconomic study on the Norwegian banking crisis 1987-92 suggest that pro-cyclic monetary policy caused both the reckless lending during the boom 1983-86 and the loan losses after 1987.⁶ It has been demonstrated, however, that monetary policy hardly could be the main driving force behind the excessive boom in Norway 1983-86. Rather the major impulses to the boom originated from the deregulatory measures carried out during the liberalization of financial markets, 1980-85.⁷

³ Knutsen and Ecklund (2000)

⁴ Fisher (1933); Kindleberger (1978)

⁵ Friedman and Schwartz (1963)

⁶ Steigum (2004)

⁷ Hove and Moum (1997)

No doubt that banking crises historically often have been connected to depositor runs and bank panics, and the same can be observed in banking crises in developing economies even to day, for instance in the banking crises in the Asian countries in 1997-98. However, applying bank runs as the main – or even the only – manifestation of banking crises, and failing monetary policy as the major explanatory factor in understanding banking crises over time and space, are linked with great analytical problems.

We consider banking crises as a part of a wider notion of financial crises, which can be defined the way Barry Eichengren and Richard Portes do:

“A financial crisis is a disturbance to financial markets, associated typically with falling asset prices and insolvency among debtors and intermediaries, which ramifies through the financial system, disrupting the market’s capacity to allocate capital within the economy.”⁸

We can observe a large number of systemic banking crises throughout history, where bank runs obviously were not the main manifestation, and flawed monetary policy not the main cause. For instance, several developed countries experienced severe banking crises during the 1980s and 1990s without any significant outbreak of bank runs. One basic reason for this was the existence of public deposit insurance schemes. The one feature being common for all systemic banking crises, however, is widespread credit losses and a large amount of non-performing loans, causing the loss of bank capital. Banking crises are typically such insolvency crises, or characterized by a combination of loan losses and depositor runs. Moreover, it is necessary to distinguish between failures of one or some banking institutions on the one hand, and a systemic banking crisis on the other. Bank panics can strike down the whole banking system, and hence create a systemic crisis. But since we very well can have the outburst of a system wide banking crisis without any depositor runs or banking panics, a systemic crisis should be defined otherwise than the outburst of a banking panic. We suggest that a systemic banking crisis is defined as a situation when more than half of the banking capital or at least a considerable share of the banking capital is lost.

Kindleberger’s stage-model

The historical economist Charles Kindleberger has developed a stage-model to analyse how banking crises evolve through distinct phases, which he terms

⁸ Eichengreen & Portes (1987), p. 10

displacement-boom-mania-revulsion-distress-panic and crash. His analytical framework is applied on a vast historical material.⁹ Kindleberger imported several elements into his framework from the macroeconomist Hyman Minsky.¹⁰ At the outset, the events leading up to a crisis start with a ‘displacement – some exogenous, outside shock to the macroeconomic system. Whatever the source of displacement, it will alter the economic outlook “by changing profit opportunities in at least one important sector of the economy.”¹¹ As a result, both business firms and individuals with savings or credit pick up the opportunity, and investment and production rise. This stimulates an increased demand for finance. A boom is developed, fed by an expansion of bank credit.

The extension of bank credit increases the money supply and self-exciting euphoria develops. An increasing number of firms and households are tempted into speculative finance. When the number of firms and households indulging in these practices grows large, speculation for profit leads away from normal, rational behaviour, and “manias” or “bubbles” result. The term mania emphasises the irrationality (mob psychology, herd behaviour) and the term bubble foreshadows the bursting.¹² Only a small incident is needed to transform the mania into panic, which then instigates the crisis and inflicts widespread damage. The problems reverberate throughout the financial system, creating financial instability and debt deflation. According to Minsky, a financial system naturally evolves from a robust structure to a fragile structure. Like Irving Fisher, representatives of the instability hypothesis attach great importance to the role of debt in causing financial difficulties. Over periods of prolonged prosperity, the economy “transits from financial relations that make for a stable system to financial relations that make for an unstable system”.¹³ Thus, the financial structure of firms in the non-financial sector shift from hedge to speculative and even ‘Ponzi’ finance during a boom. Increased financial fragility is also a result of “debt contracted to leverage the acquisition of speculative assets for subsequent resale.”¹⁴

Difficulties arise when individuals, firms and banks have insufficient cash flow to service their liabilities, and debtors, unable to pay debts when due, may be

⁹ Kindleberger (1978/89)

¹⁰ e.g. Minsky (1982)

¹¹ Kindleberger (1989: p.18)

¹² Kindleberger (1989: p. 20)

¹³ Minsky (1992)

¹⁴ Kindleberger (1989: p. 17); cfr Minsky (1992)

forced by creditors to liquidate their assets. This leads to a situation with a decline in price level and demand. Subsequently, the real value of debt increases and reinforces the downturn further. This process of debt-deflation, as Fisher termed it, continues until bankruptcies and bank losses have eliminated indebtedness.

Market psychology and speculation

A core concept in the Kindleberger-Minsky framework is the development of increasingly speculative investments during the boom, driven by loose credit decisions in the banks and euphoric expectations in the non-bank business sector about the future profit-possibilities. This process produces increasing credit risk in the banking sector, and correspondingly an increasingly unmanageable debt in the non-financial sector. With high debt-equity ratios, firms are vulnerable to the slightest downturn in earnings, since most earnings are committed to paying interest on their debts.¹⁵

When rational expectation and efficient theories are confronted with historical evidence, it is revealed that such theories cannot explain the eruption of excess volatility in asset prices. Kindleberger's emphasis of overlending- and overborrowing, propelled by euphoria and irrational exuberance, is underpinned by what Robert Shiller has denoted "price to price feed-back" theory.¹⁶ He argues that when speculative prices go up, creating successes for some investors this may "...attract public attention, promote word-of-mouth enthusiasm, and heighten expectations for further price increases." (Shiller 2003: 91) History shows that the talk is usually associated with "new era" theories and popular models that justify the price increases.¹⁷ A good recent example is the so-called dot.com.-bubble. Different Ponzi schemes, as described by Kindleberger, can be explained the same way. This implies that the development of asset prices such as for instance stock prices does not always incorporate the best information about fundamental values. Changes in asset prices very often happen for no fundamental reason at all; rather they occur because of mass psychology.

The Knutsen-Sjögren thesis: Institutional Clash and Financial Fragility

¹⁵ e.g. Caprio (1998)

¹⁶ Shiller (2003)

¹⁷ *ibid.*, p. 91

The Minsky-Kindleberger framework provides a helpful framework for analysing past crises. The framework emphasizes correctly the role of financial factors in causing instability. Highlighting the credit-powered boom, which leaves businesses excessively debt-burdened and unable to cope with an economic slowdown, is a key to understand the subsequent banking crisis. Over time, governments have increasingly used expensive bailouts to curb a Fisher deflation underway. But despite such actions, a study European financial history reveals that debt deflationary sequences may nevertheless occur.

The Minsky-Kindleberger theory has, however, an underlying flaw. Not all booms ends up in a subsequent banking crisis. Thus, a basic research question is: what are the fundamental factors, which spawn a macroeconomic trajectory of a kind that give rise to financial bubbles and a subsequent banking crisis?

In this perspective, it is interesting to observe that the Minsky-Kindleberger theory is not very detailed about the role of the state, in the period leading up to financial fragility. Apart from acting as a lender of last resort and directing the monetary policy (more or less dependent on private actors), the state is also responsible for the institutional settings in the financial sector, for example, the bank legislation. Thus, it seems that the model has to be developed on this point. Second, we need to explain the relationship between institutions and the potential risk of financial distress, i.e. the interaction between “rules of the game” and business strategies.¹⁸ The incentive structure and the attitude towards risk among the financial actors reflect partly the content of the legalisation and the sanctions in the hands of the authorities, partly the mental setting of the actors. Consequently, the possibility of increasing debt is dependent on the public view of risk. Third, traditional theories are not able to fully explain banking crisis since the differences within the banking sector are neglected. The strategies of individual banks have to be analysed and linked to the losses in the following crisis. Increasing indebtedness has to be studied in relation to the capital structure of the non-financial firms. By analysing the loan policy from both sides and on an organizational level – individual financial and non-financial firms -

¹⁸ The concept of institution includes formal and informal institutions – as rules of the game – but also enforcement characteristics. The former is in the financial system represented by bank legislation, other legal rules and conventions for financial institutions, habits and customs. The latter is found in the directives and sanctions put forward by various authorities and internal organizations, such as Finance Inspectorates and trade associations.

we are not only able to test the hypothesis of increasing indebtedness in society but also link certain bank strategies to long-term performance.

We stress that a bank's willingness to accept the risk of suffering credit losses is dependent on the macroeconomic environment, the legislation and the bank's internal governance- and control systems. Losses may thus be caused by managerial or operational decisions, a mismatch between old and new institutions, or by a general market movement, or more likely, by a combination of the three. This framework allows us to explain the simultaneous occurrence of an extensive banking crisis generalising across the banking sector, the different performance of individual banks during a period of crisis, and even between various organizational units of the same bank. We consider the institutional factor as a decisive part in the understanding of systemic risk and the process towards increasing debt in non-financial sectors. We are introducing the concept of institutional clash, making it possible to understand the long-term driving force behind a banking crisis. The argument for using this concept, which is defined below, is quite simple. As already mentioned, not every recession has caused a banking crisis. But all banking crises have been preceded by an institutional clash. Consequently, an institutional clash is a prerequisite but not sufficient to cause a banking crisis: there must be a recession for a crisis to emerge.

Conceptual Framework

Institutional clash, financial fragility, financial distress, systemic risk, banking crisis and lender of last resort are the concepts in the analysis of stages before, during and after a bank crisis. We define an *institutional clash* as a substantial shift of the dominating macroeconomic policy attached to the financial system. The clash appears by two distinct processes – extensive regulatory change and institutional rigidity, including the interpretation of the new situation by the actors themselves. Different mechanisms are activated, where the most important is increased competition, which leads to shrinking margins. In the struggle to increase volume, in order to uphold income with same capacity (productivity), control mechanisms are weakened. If the credit control in relation to credit management is not adjusted to the new situation, the clash will continue to have economic implications.

It is important to notice that our definition of institutional clash highlights a process before the boom-bust period that precedes the banking crisis. This stage has not been analysed satisfactorily by others. Our analysis stresses the institutional

change that enables debt gearing to appear in the first place, not a final macroeconomic shock that overturns the entire system.

The institutional clash operates in two ways – by co-existence of new and old rules of the game and through new business strategies. In the process of for example deregulation, the state is not aware of mechanisms between various institutions linked to the financial system, and can not, therefore, foresee the consequences of liberalizing in one way or another. This leads to a situation in which some institutions are lifted while others remain at the same time, and in the new context *get another meaning*. For example, while the restrictions on banks to lend money is lifted, the same old tax system that already favoured bank credits will give companies and households a further reason to increase their debt. The objectives of the old institutions - founded, integrated and natural during the regulated era - will slightly change in the emergence of the new financial system.

By introducing new business strategies, the organizations take advantage of the mismatch between new and old institutions. The new profit possibilities emanate from the fact that the remaining institutions are making the deregulation much stronger than it was meant to be. Profit-based actors respond rationally by expanding their affairs, unaware of the risks involved in badly coordinated laws and directives, but also stimulated by the indirect support they get from public controlling authorities. An inflated boom, fuelled by influx of liquidity, replaces organic economic growth based on technological innovations and increased productivity. The state (power of control) has difficulty judging whether it is a normal boom or an emerging bubble. Thus, certain institutional inertia is not viewed as a problem, not at least for the implementation of the liberalisation of the economy. As long as households and firms take advantage of deregulation, despite the fact that the increased values are based on higher inflation and debts, there are few incentives to be critical. The positive attitude of the public extends the period of debt gearing, until the entire financial system is filled with systemic risk. Then, the financially fragile situation needs only a small shock to convert into a general banking crisis.

In order to highlight the debt-gearing phase that follows on the institutional clash, the term *financial fragility* is used.¹⁹ Financial fragility is defined as a state of balance sheets offering heightened vulnerability to default in a wide variety of

¹⁹ In the empirical analysis, we will use the expression “debt-gearing” synonymously with “financial fragility”.

circumstances. When investors are used to continuous price increases on assets, profits are partly generated through the trade in assets. If the increased value is related to a substantial credit expansion and does not correspond to increasing variable returns, such as rent, a speculative movement is added. At a certain stage the actors realise the financial fragility captured in indebted and unprofitable assets – either securities or properties. This realism does not necessarily have to be linked to an external event, rather a closer look at the books. The financial fragility could be studied in terms of levels and changes of indebtedness, on a firm, a sectoral and a national level.

Financial distress indicates a situation of economic uncertainty, either specific through realised financial fragility, or general. For a single actor, financial distress means that the possibility of doing profitable business has decreased. The firms' income tends to not cover the payments on the loans. From the creditors' point of view, the creditworthiness of the lenders has declined. The financial distress could be measured in terms of liquidity balance, solvency, or numbers of bankruptcies. The financial distress could also be related to a whole economy, i.e. to the national state, and thus be viewed as a sharp decrease of GDP-growth on an aggregate level.²⁰ The length and the depth of a financial distress are determined by three factors. First, it is a matter of whether a lender of last resort steps in or not. Second, the number of actors involved is determined for the depth of the distress. Third, behavioural factors related to rationality, moral hazard, and collective action has an impact on the general outcome. The actors can put more or less trust in the functions of the market. If there is consensus about the means and the target, everybody will operate in the same direction. This attitude, in turn, leads to a smoother path towards stabilisation. If the financial distress still remains, the next stage is banking crisis.

In the literature, the term *systemic* risk has been given various meanings. Often, systemic risk is used synonymous with 'instability' or 'crisis'.²¹ In our model, a banking crisis follows from a combination of financial fragility in the non-financial sectors and excess credit risk in the financial sector, caused by an adverse development of institutional factors and macroeconomic disturbance. Systemic risk is

²⁰ While the institutional clash is the root to financial distress in industrialised countries, the financial distress in developing countries are often also related to external event. For example, bad harvests force the nation to buy grain and food from other countries, which could lead to a financial distress for especially a less developed country. Financial capital has to be taken from other parts of the economy to cover the losses in the agriculture sector.

²¹ Davis (1995: p 116)

something that is built up before a crash and signifies the danger of the system-wide contagion of the crisis. The very spread of financial fragility and financial distress within the system of finance is thus called *systemic risk*, and can be defined as negative externalities occurring when one actor takes a risk that causes a further risk for others in the financial system.²²

The concept of systemic risk is subordinated the concept of financial distress, since we do not share the view that the only way to spread financial distress is through a bank run, i. e. when the public at large and professional actors withdraw their money from the banking system.²³ However, financial distress can also be spread through the payment system, when banks no longer accept issued certificates or when the increased number of bankruptcies leads to cancelled payments. The systemic risk appears not only in the interaction of existing institutions and business strategies, i.e. in the interpretation of the rules of the game, but also when new and remaining institutions do not harmonise with each other. After the crisis, in a country where all banks share legislation, we are able to value the consequences of the actors' market behaviour in relation to the opportunities put forward by the general institutional settings. The degree of systemic risk could be measured in terms of a substantial increase in credit losses and the outburst of a banking crisis is the proof of an attained systemic failure.

How do we define a crisis? First of all, we should separate banking crises from currency crises. A sudden movement of the exchange rate and consequently sharp change in capital flows characterizes the latter. Banking crises usually originate in or induce insolvency in the banking system, and feature a collapse in the asset prices, most often in equity, securities, and real estate markets.²⁴ We define a banking crisis as an occurrence of instability linked to sharp declines in prices of financial assets, defaults by debtors, sharply increased non-performing loans and loan losses, and difficulties in the banking system in meeting the demand of its debtors.

A banking crisis could appear in different ways, either as a panic or a panic followed by a crash or the occurrence crash caused by substantial loan losses and insolvency. A panic is a sudden apprehension in society of what happens in the financial market. This fear starts a rush from illiquid to more liquid assets, which after

²² Dow (2000)

²³ Davis (1994) only reckon with bank run as a way of spreading financial distress, in his way of defining the term systemic risk

²⁴ Caprio (1998)

a time will be reflected in a dramatic decrease in prices, including bankruptcies among both financial and non-financial actors. This is the moment of crash.

Usually, a manifestation of a system-wide banking crisis can be large bailout programs and/or a large non-performing loan problem. Such problems can spread bank insolvency like wildfire either through the payment system or the interbank system. In a situation with depositor insurance and a well performing lender of last resort function, this is the most frequent manifestation of a banking crisis. Actually, a banking crisis involves a corporate debt problem in the non-financial corporate sector. Usually banks do not get into trouble if borrowers can easily service their debts, except in situations when solvent banks experience depositor runs.

The final key concept - *lender of last resort* - is less complicated than the concepts outlined. The function originates not in economic theory, but from praxis following the example of operations carried out by the Central Bank of England in the 18th century. The guarantor of liquidity does not necessarily have to be a Central Bank. Throughout history, Treasury Departments and private commercial banks have also had a lender of last resort function. The question of the most relevant lending actor is linked to the magnitude of the crises. In case of a limited regional or a national crisis, it might be sufficient to enlist help from another – more solvent – commercial bank. If many or all banks are hit by a crisis, the situation often calls for a rescue operation on a national scale, involving the Central Bank. In a case of a deep international crisis, or when the Central Bank lacks liquidity, a national state will ask for liquidity guarantees from an international fund, today e.g. the World Bank or the IMF.

In order to stop a panic or ease the consequences of a crash, the lender of last resort has two alternatives. It can either intervene or leave the problem for the market to solve. In the latter case, the lender of last resort will only make some recommendations. If the lender of last resort chooses to intervene, the target is to stabilise the economy by strengthening the liquidity base. This could be done in three ways: by guaranteeing all debts for one or many banks, or the entire payment system; by closing banks and stock exchanges in a so-called bank holiday; or by issuing new securities and building up new funds for rescue credits.

Irrespective of which alternative that will be chosen, problems remain with regard to the depth and the length of the rescue operation. Some questions to be considered are: How much resources will be spent? To whom will the rescue be

given, over what period and under what conditions? In case of substantial losses in the bank system, the lender of last resort has to ask what happens if all banks are becoming state-owned. A general dilemma for the state is whether the private actors will behave differently if they can rely on the lender of last resort to rescue to rescue their businesses, in case of failure. This is a problem of moral hazard. An argument for using a lender of last resort is that the market actors in a situation of panic and crash will not perform in consensus or collectively. Instead, each actor has an even stronger incentive than usual to ruin the others. Thus, the situation calls for a third, neutral part, to solve the problem by introducing institutions on a general level.²⁵

A Model for the Evolution of Banking Crises

Since we are interested in the roots of crises, the analysis starts at a point before the actual rise of financial fragility takes place. The starting point for our model shows an increasing demand for capital within the non-financial sector leading to organizational adaptation in the financial sectors, which then starts a process of institutional change (see Figure 2).

Figure 2. Stages before, under and after the Banking Crisis.

Stage 1 Increasing demand for financial capital in the non-financial sector, within existing institutions

Stage 2 Organizational adaptations within the financial sector, integration of resources

Stage 3 Institutional deregulation in combination with institutional inertia (institutional clash), financial innovations (new types of financial organizations)

Stage 4 Idle capital, investments in “false” innovations, speculation in certain (peripheral) economic sectors

²⁵ To use the state as a lender of last resort has been the praxis in the Nordic countries since the financial crisis in the late 1870s. However, this praxis is not limited to only small and open economies. During the long crisis for the saving and loan banks in the U S in the 1980s, the states operated as a lender of last resort. This has also been the case in Japan and South Asia. In the latter case, the IMF also had to be brought in, due to lack of national resources. In the case of Baring’s Bank debacle in the early 1990s, however, the Central Bank of England chose not to step in as a guarantor. If the crisis is isolated, for example to just one insolvent actor, the state has less incentive to step in, unless a bankruptcy of a bank lead to an increase risk of default in the rest of the financial system (systemic risk). In order to avoid the “too big to fail” doctrine, and hence moral hazard, the potential lender of last resort will rather use the case to prove the risks in banking (market discipline).

Stage 5 Debt gearing (financial fragility), asset price inflation, peak for financial assets/GDP

Stage 6 Price decline, reduced value for financial assets, panic that leads to crash (financial distress, systemic risk)

Stage 7 State intervention/internal reconstruction (lender of last resort), contraction of the financial sector, stricter laws and official control, increased internal financing in the non-financial sector

It is presumed that stage 1 leads to stage 2, which leads to stage 3, etc. Stage 7 is followed by stage 1, making it a cyclical process. The development is, to some extent, predetermined and has a certain direction. As historians, we do of course share the view that nothing in history is inevitable. “Determined” means that for an event to have happened otherwise, “the antecedent causes would have to be different”.²⁶ The first stage consists of increasing demand for financial capital in the non-financial sector, leading to higher financial growth. This will turn into a stage of organizational change within the financial sector, stage 2. During this stage, the network of financial organizations will be more integrated, concentrated, and centralized in order to provide better service to the firms. This stage leads to a deregulation process, stage 3, whereby organizational changes in the financial system will either be confirmed or rejected. The co-existence of new and old rules of the game together with business strategies of organizations, given new profit possibilities after the institutional change, results in an institutional clash. The deregulation allows for financial innovations to be introduced and highly exercised in stage 4. The capital market will be more diversified, including new sub-sectors, and an extended risk culture will emerge. Capital will be transferred to “false” innovations and peripheral sectors of the economy, in a situation of large liquidity surpluses and an absence of long-term profitable investments in key economic areas. If the supply of liquidity coincides with a strong demand of credit in the real sector, the consequence will be debt gearing and financial fragility: the solvency among households and non-financial firms will decrease. In case of a speculative boom, the debt accumulation/credit risk is concentrated in certain sectors or sub-sectors. Because of the high liquidity rate, asset prices in these sectors will sharply increase (asset-price inflation).

²⁶ Carr (1988: p. 96)

The most characteristic feature of stages 6 and 7 is financial decline. An optimistic period of asset price inflation turns into a period of asset price deflation. There are fewer opportunities for non-financial firms to make use of the capital market for their investments. The market actors experience financial distress. The systematic risk is spread among the financial organizations, and causes a substantial decline in financial growth. As a consequence of the banking crisis, the system as a whole, and particularly distressed organizations, will have to be rescued by the Central Bank and/or the government. The number of actors will decrease, and the financial sector will contract, causing a credit crunch. In the aftermath, the non-financial sector thus will be more dependent on internal financing and financial sources outside the traditional financial sector than before.

Empirical analysis

This empirical analysis on national cases is based on reconstructions of past crises. In reconstructing the national cases, we focus three periods of institutional and organisational changes due to the actual bank crises. The three periods are the 1850-1890 featuring the take-off for the modern financial system (period I); 1910 until the depression of the 1930s characterized by the abrupt dismantling of the gold standard institution at the outset of WW 1 and the attempts to establish a gold-exchange standard during the interwar years (period II), and finally the 1980s and 1990s with the neo-liberal deregulation of financial markets (period III). Although a systematic comparison of all crises in the four Nordic countries is quite possible due to our research, we have to restrict the scope of this article to an empirical analysis of one country representing each period of crisis.²⁷

Period I - Sweden

The Swedish banking crisis in the late 1870s followed on a modernization and deregulation of the financial system from the 1850s and onwards. Traditionally, Swedish commercial banks were private banks with joint responsibility (enskilda banker). The first was founded in the 1830s and they operated on a basis of three types of financial sources: equity capital, deposits from the public and issuing of notes. Since the owners were fully responsible for all commitments in the bank, there

²⁷ This article is part of a larger project on systematic comparison of all Nordic banking crises 1850-2000.

was a strong incentive to avoid risky lending. In the 1850s and 1860s, the banking system was transformed. Note issuing became less common as financial source, while the importance of deposits increased. Stockholm Enskilda Bank, founded in 1856, was the pioneer for this type of banking. Next step was the foundation of joint stock banks with limited liability, starting with Skandinaviska Kreditaktiebolaget in 1864.

The legal and ideological support from the state was essential for making various new types of commercial banks to important players in the market. Confidence was based on a liberal wave, implemented on the financial system by radical liberals such as J A Gripenstedt (minister of finance), Mortimer Agardh and André Oscar Wallenberg. British and Scottish banking but also Belgian and French types of banks inspired them. Later on, the German type of universal banking became a prototype for Swedish commercial banks. The development of the banking system increased the possibility of commercial banks to take an active part in the industrialisation process in Sweden during the second half of the 19th Century. However, the liberalisation of the banking system had increased the propensity of banking crisis substantially.

Stockholms Enskilda Bank, as the first modern commercial bank, operated with a large volume of deposit. The depositions were mainly based on liquidity surpluses from Stockholm-based firms and wealthy private persons. It was short-termed and therefore highly dependent on the business cycle. Consequently, priority was given to short-term and self-liquidating credits. Both private banks, based on traditional deposit banking, and joint-stock banks, got a prominent role in the market for long-term industrial credit. By extending their function to corporate finance, inspired by the universal banking system in Germany, they start to develop a symbiotic relationship towards the growing industry.²⁸

To a certain extent, the increasing number of private banks and joint-stock banks was a consequence of a new law for private banks in 1864. The main difference from earlier law was the right to establishments outside cities and to establish branches in other cities than the head-office was located. The following year (1865), eight new private banks were founded. It was indeed a liberal law since it did not consist of any rules concerning the activity of the banks, neither any demands on a certain level of cash reserves or liquidity ratio. The norm of protecting depositors in

²⁸ Larsson (1998), p 38-61.

case of financial distress had not been developed yet. Instead, the law focused on the procedures for establishment and abolishment of a private bank, and the note-issuing arrangement. The issuing of notes was closely connected to the note issuing in the National Bank of Sweden. However, with a charter 1874 the relation was broken up and replaced by a correspondence between the volume of the equity (grundfond) and other capital reserves of private bank and the issuing of notes. Together with the launching of free interest rate, free establishment of branches and banks and the allowance of joint-stock banks, the Swedish financial system had been substantially deregulated and more liberal. Furthermore, although the market for industrial credit was growing, the increasing number of establishments led to a much sharper competition among commercial banks than before.²⁹

First the private banks (enskilda banker) concentrated on bill discounting and short-term lending, financing their operations mainly by cheap bank-note-issuing, a privilege conceded by the State. However, the industrial transformation caused a shift from short-term to long-term credits. This changing structure of credit demand was a strong incitement for banks to gradually insert new activities within their traditional banking functions. The underwriting of industrial bond issues for subsequent public offer soon became a recognised banking function. The long boom in the railway industry in the 1860s and the 1870s, with a peak 1873-74, led to an increase of deposits in the banking sector, which caused a surplus of liquidity in that sector. Since there were not enough investments and risk capitalists to be supported by credits, the banks had to search for other ways to transfer their liquidity. As railway bonds were viewed as safe securities, by the banks themselves, the State and by the law, the banks made large placement in these bonds. Consequently, in the boom years of the 1870s, the volume of industrial and railway bonds in bank portfolios increased dramatically. This was a major factor in the 'railway bond crisis' of 1878-79, causing substantial losses in the banking sector and for the State.³⁰

The crisis started with the highly indebted railway companies encountering problems when revenues from the earlier export of iron ore to England disappeared. England had increased its own production and no longer required large imports of iron ore. The result was a fall in price and a crisis for assets in Sweden associated with iron. Many railway companies were not able to pay interest rate on the bonds issued,

²⁹ SFS 1874:44; Larsson (1998), p 60-61.

³⁰ Lindgren and Sjögren (2003), p 138

whilst at the same time they were holding non-saleable bonds in their own portfolio and consequently needed external finance. The bonds fell in value and railroad companies and lenders became financially distressed. In the case of Bergslagens Järnvägsaktiebolag, a railway company early hit by the crisis, the state decided to take over bonds of value of 6,7 million SEK. However, when the crisis was spread to the entire sector, the government declared a principal disinterest in financially support distressed railway companies. Since the situation became even worse in 1879 many firms were winding up in bankruptcy.³¹

The crisis in railway bonds was the immediate cause of the banking crisis, while the deregulation of the banking system in the 1860s was the underlying one. Many commercial banks experienced substantial losses and the risk of bankruptcy was threatening many of them. The worst hit was Stockholms Enskilda Bank, where bonds placements amounted to 36 per cent of total financial assets. To avoid a collapse of vital parts of the banking system, the Parliament, on the suggestion of the Government, established the so-called Railroad Mortgage Fund, where banks were able to pledge their unmarketable railroad bonds. The fund was administrated at the National Debt Office. The value of the fund was 23 million SEK (1 billion SEK in the value of 1993). This corresponded to 8-9 per cent of total public lending by commercial banks. However, the actors only needed a third of the rescuing capital, where the main part was acquired by Stockholms Enskilda Bank. After the intervention by the state, the financial distress successively disappeared from the market. The debate in the parliament whether the state should take the role as a lender of last resort or not had been extensive, but it was clear ex post that the intervention had led to a rapid stabilisation of the financial system.

The crisis in 1878-79 activated public supervision of the banks' activities. The supervision was organised as a bureau within the department of finance, since 1876. With increasing number of commercial banks, the office received further resources. After the crisis, the commission was widened to include the possibility of making detailed investigations of banks, including their account and commitments. The banking crisis also led to stricter laws. Besides, the crisis questioned the appropriateness of having commercial banks with right to issue notes. A central bank without a monopoly on note issuing had limited capacity to carry out a monetary

³¹ Larsson (1998), p 68-69.

policy. In a pro-memorial from a banking committee in 1883 it was suggested that the note issuing should successively been transferred to the central bank. The Parliament gave approval to this in 1887. In 1903 the National Bank of Sweden had full control of the note issuing and was formally acting a central bank with a monopoly right on note issuing in Sweden.³²

Period II - Norway

The Norwegian economy experienced a cyclical upswing during the early 1910s. After a short negative reaction subsequent to the outset of the First World War, the upswing soon developed into a striking wartime boom. The stock market soared. Speculation, especially in shipping-stocks, but even in stocks related to manufacturing industry, became increasingly euphoric. Ship freights went sky-high and rising earnings on shipping services caused a large-scale capital inflow. Inflation was galloping, increasing production costs immensely. Measured by the wholesale index, the price level almost quadrupled over the period 1914-1918, whilst the consumer prices tripled. Lax economic policy and excessive bank lending stimulated the boom. Actually, bank credit quadrupled over the period 1914- 1920.³³ This led to asset price inflation, which created a financial bubble built on irrational exuberance about future profits, especially in the equity market. The serious banking crisis into which Norway ran during the first half of the 1920s, turned out to be the most severe blow to the country's banking system, ever.

The gold standard was suspended at the outset of the war, like in the other Scandinavian countries. New legislation determined that from the 19th of August the fee The Bank of Norway had to pay for exceeding their note-issuing ceiling was set to 2 per cent below the central bank's discount rate. In fact this gave the Bank of Norway carte-blanche to issue money without any restriction, and the central bank's income increased with expansion of the amount of circulating money.³⁴ This change in legislation represented a major institutional change, involving a chief disturbance of the rules of the game, which had structured economic activity for a long period of time. This bolstered expansionist policies and business strategies. Even though the monetary policy carried out by authorities after the war was based on a framework

³² Larsson (1998), p 64 and p 84-85.

³³ Knutsen and Ecklund (2000), chapter 4.

³⁴ Rygg (1954: p 362 f)

permeated by the logic of the gold standard, the system never functioned as it did prior to 1914. Thus, the change was of a long-range and profound character.

After the armistice in November 1918, the wartime boom was provisionally terminated, but soon it was transformed to a post-war boom during the spring of 1919. A huge pent-up demand had been built up during the war. When the government removed most of the restrictions on import, the influx of commodities exploded. A new wave of speculation developed, now focused on consumer goods, and fuelled by continued bank credit. The current account deteriorated substantially and so did the balance of payment as well. The boom peaked in September 1920. Then the post-war international crisis hit Norway with a subsequent drop in prices. Export was reduced almost 50 per cent in one year, and both consumer spending and investments decreased substantially. The deflation was severe and prices fell continuously until December 1922. The deflationary development was mainly a reflection of the international price movement.³⁵

Profit evaporated in the business sector, causing a huge increase in non-performing loans, and the banks' loan losses surged. A banking crisis entailing several provincial banks developed during 1921. Soon, the crisis spread to a number of the largest banks too, and some even encountered signs of depositors' runs. All together 129 banks disappeared during the crisis. Some went bankrupt, several were taken under public administration and liquidated later on, and solvent banks acquired some. The greater part of the crisis occurred during the period 1921-1924. Thus, the banking crisis was not a consequence of the gold-parity depression, which emerged during 1926-27, caused by a steeply increased value of the NOK since 1925. Certainly, the goal of the newly appointed governor of the Bank of Norway in 1920 was to fix the NOK to gold and bring the currency back to its pre-war parity. However, when taking the escalating banking crisis into consideration, he redirected the Central Bank policy to bank-support in order to rescue faltering banks and thus underpinned production. Despite this, however, the banking crisis spread with devastating consequences to the banking system.

Recent research has demonstrated that the boom during First World War formed the foundation of the banking crisis of the 1920s.³⁶ Reckless lending increased the banks' credit risks considerably, whilst financial fragility correspondingly

³⁵ Knutsen and Ecklund (2000), op.cit.

³⁶ Knutsen and Ecklund (2000), op.cit

enlarged in the corporate sector. When the international slump and subsequent deflation reached Norway, the commercial banks encountered an immense non-performing loan problem. It was dispositions of private actors as well as authorities during the war, rather than faulty post-war monetary policy, that was the main reason for the banking crisis in the 1920s.

Especially institutional factors have to be taken into consideration. The suspension of the gold standard in 1914 represented a huge institutional shock to the economy and the professional actors. This alteration of basic rules in the market facilitated credit expansion and contributed heavily to a lax monetary policy. Moreover, no banking legislation existed until 1920, and a banking supervisory agency was not established until 1924. These institutional conditions contributed substantially to the outburst of the crisis as well.

On the organizational level, the banks expanded considerably in numbers. From 1910 to 1920, the number of commercial banks increased with 98 new banks, which meant a 96 per cent growth in a decade. Like in Denmark, this happened in an unregulated banking sector, and contributed significantly to credit expansion. In 1924, the first legislation on commercial banking was passed. This was a direct consequence of the severe expansion in number of banks and bank lending prior to 1920, and the subsequent crisis. From January 1925, the first public supervisory agency for commercial banks was put into operation.

Period III - Finland

Like in Norway and Sweden, regulations on the financial market were lifted in Finland from the early 1980s and onwards. The increased liberalisation started a new activity in the banking sector, where banks extended their role on the stock market, the real estate market and to operations abroad. Liquidity was imported from abroad. In this capital import, bank certificates – an innovation on the Finnish market – played a key role. From 1982, banks got the right to issue own certificates to a certain degree. Foreign entry was permitted in 1983, thus increasing competition for domestic banks. From 1987 there were no restriction on credit volume expansion, which meant no relation to the cash reserve of the actual bank and that banks were allowed freely to determine the interest rate of loans. The Bank of Finland ceased to issue guidelines in credit expansion; money markets were to a large extent created without reserve

requirements and the capital movements liberalised by allowing non-financial companies to carry out long-term foreign borrowing.

From the mid-1980s to 1989 the Finnish economy was booming. The real GDP rate went from 3 per cent in 1984 to 5.7 per cent in 1989 and the investment volumes gradually increased, peaking in 1989 with 15 per cent compared to previous year (for further figures, see appendix). During the boom, the Finnish banks increased their lending substantially: the bank lending to the public increased from 191 billion FIM in 1986 to 393 billion FIM in 1991, i.e. with 106 per cent. In relation to GDP, the ratio went up from 56 per cent to 106 per cent during the same period of time.³⁷ In the search for market share, savings banks were certainly active. In the year when the annual increase of lending peaked – 1988 – the average rate among savings banks was 35 per cent, compared to 31 per cent increase for all banks. Notable, the bank profitability in relation to total assets stayed on the same level as before the boom. In 1989, the growth of lending came to an end, and the prices in related market declined. In 1990s, the problems deepened due to the loss of foreign trade after the collapse of the Soviet Union. Also the general weakening of the world economy deteriorated the situation for the foreign trade dependent Finland. The Finnish mark had to be devaluated, and was later on allowed to float.

On the organizational level, the SKOPbank and the savings banks became the most offensive players in Finnish economic life after the deregulation. The growth of lending in the savings bank group was over 140 per cent 1986-90, compared to 80 per cent in Kansallis Bank, 70 per cent in the Post office Bank and 55 per cent in the Union Bank. Not surprisingly, the proportion of non-performing loans reached the highest level in the savings banks sector, over 30 per cent compared to about 20 per cent in the other three banks.³⁸

The trade with bank certificates played a key role in the debt-gearing process preceding the crisis. Bank certificates replaced the time-bounded credits and the depositions of the Central Bank, in line with the switch towards open market operations.³⁹ The value of bank certificates went from nothing to 100 billion Finnish Mark, and represented the foremost largest type of funding in the late 1980s. A large inter bank market emerged, for the trading of the certificates. The state authorities

³⁷ Kjellman (1994).

³⁸ Vihola (2001), p 176.

³⁹ Other decisions related to the capital market opened up for private firms and public organizations to import and export capital, which they also did.

viewed the certificates as part of the new regulations, not funding. However, since the instrument was not non-payable in the Central Bank there was no guarantee in case of a bank's insolvency. In the financial distress 1991, this became obvious, when banks refused to redeem other bank's certificates. The introduction of the certificates explains the rapid increase of credit and loans in the Finnish market.⁴⁰

An increased debt gearing in the Finnish non-financial sector could be traced back to the 1960s. The solidity of industrial companies decreased from over 30 per cent to less than 20 per cent between 1960 and 1990.⁴¹ The debt gearing was extremely high during the boom of the 1980s, when the rate of debt accumulation, measured as corporate debt/GDP, increased from 68 to 85 per cent 1988-1991 (Table 1). In Sweden, the corresponding figures were 152 and 176, also indicating a substantial increase. There was no similar trend among households (personal debt/GDP) in neither country, which was reflected in the relatively smaller credit losses during the following crises.⁴²

The debt gearing, leading up to the crisis in the 1990s, was made possible because of a paradoxical deregulation together with regulatory rigidity. At the same time as the market was overflowing with liquidity, the banking law kept the same rules regarding credit risks. The rule about cash reserve has already been mentioned. Another example is the rule about capital adequacy towards loans and credits in the real estate market that remained on the same level despite higher credit risks after the liberalisation of the market.

The regulatory factor should be viewed in the interest of the organizations. Many of the decisions made by the state legitimised a development that had already taken place in the market. The volume of money traded in opposition with the regulation in the money market exceeded from 10 billion to 70 billion Finnish Mark from 1980 to 1984.⁴³ The Central Bank found no ways to stop it, but rather approved it and made it available for all actors – especially banks – to take part in competition. There was certainly a pressure on the state from the organizations themselves to re-regulate the market. Especially the banks tried to speed up the pace of the reform process.

⁴⁰ Kuusterä (1998), p 27.

⁴¹ Kuusterä (1995), p 658.

⁴² Davis (1995), p 293.

⁴³ Kuusterä (1995), p 653.

The Finnish case gives evidence to the chronological statement in our model, i.e. that strategic decisions on the organizational level preceded the institutional change on the level of the national state. By the introduction of bank certificates and the international import of capital, the central bank of the savings banks, SKOPbank, could offer unlimited funding for their lending. The debt of the individual savings banks in SKOPbank increased ten times between 1985 and 1989.⁴⁴ SKOPbank used the financial innovations not only as a way to equalise liquidity imbalances, which had been the intention by the state, but also as a way to enlarge the basis of its funding. The state and the inspection authority neglected the risks in the balance sheet of the banks that emerge as a consequence of the increased debt accumulation. The content of the banking law remained the same through the boom.

The extreme development of the savings banks could be traced back to the changing of the 1970 law that removed restriction on savings banks operations and enabled them to take on the same credit risks as commercial bank.⁴⁵ This shift of policy paved the way for strategic failures when the liquidity increased in the 1980s. In 1985, SKOPbank launched a new aggressive strategy with the ambition to be the leading bank in all segments on the Finnish credit market. In relation to the history of the bank, being a fairly small and slow-moving Finnish bank with rural-based lending, the ambition was remarkable.⁴⁶ In a questionnaire to CEOs in the saving bank sector, the strategic choice and activities of SKOPbank stand out as the main cause behind the banking crisis. The growth policy of the savings banks group during the 1980s and the high ambition of SKOPbank and the regional banks were also negative factors, according to the CEOs.⁴⁷

The CEOs in the saving bank sector argued that the most important fact contributing to the granting of loans was the offering of securities by the firms as collateral. Then came the risk of the planned project and the potential risk of bankruptcy of the firm. The two least important factors for the decision-making process in the bank, according to the CEOs, were “the confidence in the economic policy of the Bank of Finland and the Finnish government” and “the expected inflation rate.” Consequently, empirical studies indicate that firm specific factors were

⁴⁴ Kuusterä, (1995), p 674.

⁴⁵ Vihola (2001), p 174.

⁴⁶ Legally, SKOPbank was a commercial bank but a saving bank when it came to the content.

⁴⁷ Kjellman (1996).

far more important than macroeconomic factors for the decision-making process of lending within the banking sector.⁴⁸

Evidently, the institutional clash appeared in the intersection between the intention of the lawmaker, the deregulation process and the lending incentives on the organisational level. In the centre of this mismatch between various institutions and routines were the tax policy and the rules for capital adequacy (coverage) in the banks. Concerning the tax policy and the credit market there was a generous tax deductibility of interest payments for households at high marginal tax rates (70 per cent). Since bank deposits remained tax exempted while equity continued to be disadvantaged in the tax system, the lifting of credit constraints led to a massive stock adjustment. Borrowers took advantage of the implicitly subsidised loan market, resulting in weighting of loan and equity in the national balance-sheet. Since the bank-supervisory resources were inadequate and the staff inexperienced in the evaluation of the credit risk emerged, the state was incapable to fully understand the potential systemic risk. Besides, the borrowers themselves underestimated the risks on foreign-currency and floating-rate loans.⁴⁹

Concerning the capital adequacy, the law stipulated 2 per cent for savings banks and 4 per cent for commercial banks. The intention of the lawmaker was that a smaller capital base in savings banks was compensated by stricter limits on the business operations. For example, in the savings bank law of 1969 the shareholding in non-financial companies was limited to 20 per cent of the share capital of the non-financial firm. There was no such a restriction for commercial banks. Besides, the savings banks law put relatively more emphasis on credit worthiness and risk aversion.⁵⁰ Thus, the scope of savings banks' operations was more strictly defined than that of commercial banks. However, the intention of the lawmaker was not followed up by the financial organisations themselves or the state authorities.

In relation to the legislative reform of 1969 it was sanctioned that depositor insurance funds could be counted as additional insurance for banks' equity capital. This change could be viewed as a way to compensate the commercial banks for the fact that the legislation allowed savings banks and cooperative banks to operate with lower capital adequacy. However, it gave also the savings banks an incentive to

⁴⁸ Kjellman (1996), p 18 and p 29.

⁴⁹ Davis (1995), p 284.

⁵⁰ FFS 1969, Nr 540 and Nr 541.

increase their volumes, since the capital base had been broadened for every credit organisation in the market. “When deregulation got under way in the mid-1980s this structural distortion in the legal framework became more pronounced since banks could operate with levels of capital that were too low and the rules on capital adequacy underestimated the true extent of risk taking.”⁵¹

The acting of the banks determined the normative behaviour of the state authorities.⁵² In case of collaterals, the supervisory authorities adapted their interpretations of the law to the practice in the banking sector. The lack of proper guidelines on collateral meant that the authorities did not have to *ex ante* work out principles for the interpretation of the rules. Instead, the lending of the banks determined the policy and routines of the authorities. Since the savings banks were highly aggressive in credit market, spurred by the lower capital adequacy, they also formed the collateral policy of the supervisory authority towards the commercial banks. Even the interpretations of the courts, concerning both collateral and large credit exposures, diverged from the basic premise of the lawmaker.⁵³

It is clear from the Finnish case that the interpretations of banks and state authorities regarding credit policies were not corresponding with the intention of the law. On the other hand, some parts of the legislation did not accord with the presumption of the lawmaker, which made the provision aimed at preventing risk taking during a boom less effective. In 1991, the banking law and the rules of capital adequacy were changed, in accordance with BIS, to 8 per cent in capital adequacy for all types of banking organizations. In, 1992, a government guarantee fund was set up, with the declaration that “the stability of the Finnish banking system would be secured under all circumstances.” The SKOPbank, which was overtaken by the Bank of Finland already in September 1991, was sold to the fund by the Central Bank, although many of the bad loans remained on the Bank of Finland’s balance sheet.⁵⁴ In an effort to ease the burden in the saving bank sector, forty-one banks were merged into a single new bank. However, the depth of the recession called for further rescuing operations, and in 1993 the sound parts of the single bank were sold to four major banks whilst the non-performing assets were transferred to a public company, Arsenal Ltd. The

⁵¹ Halme (1999), p 511-2 (quotation p 512).

⁵² In the Bank Inspectorate Act of 1969 the control of the private deposit banks was made uniform. FFS 1969, Nr 548.

⁵³ Halme (1999), p 512-4.

⁵⁴ The government guarantee fund also supported a merger of STS and KOP Bank, to prevent bankruptcy in the former.

relative share of credit guaranteed by the Bank of Finland in the early 1990s was 11 per cent of GDP.⁵⁵

Summary

There are mainly two types of theories explaining banking crisis, emanating from the monetarist school respectively institutional economics. Using an allegory, monetarists are discussing how much water in terms of liquidity that is needed to stop a fire escalating into a disaster, while institutionalists are occupied with the causes of the fire. Consequently, monetarists are focusing macro-economic factors and the role of the central bank in building up the imbalances causing the actual systemic crisis. In the institutional theory, legal norms and the behaviour of the actors are analysed in order to get a grip of long-term driving forces that precede a severe banking crisis. Our study rejects the explanatory value of the monetarist view, but also criticizes the Kindleberger-Minsky model for not taking the legalisation and the sanctions in the hands of the authorities into account. Besides, the Kindleberger-Minsky model is not able to explain why certain banks experience financial distress but not others, i.e. the variations on the organisational level within the same financial system.

In this article, we stress that a bank's willingness to accept the risk of suffering credit losses is dependent on the macroeconomic environment, the legislation and the bank's internal governance- and control systems. Losses may thus be caused by managerial or operational decisions, a mismatch between old and new institutions, or by a general market movement, or more likely, by a combination of the three. This framework allows us to explain the simultaneous occurrence of an extensive banking crisis generalising across the banking sector, the different performance of individual banks during a period of crisis, and even between various organizational units of the same bank. We consider the institutional factor as a decisive part in the understanding of systemic risk and the process towards increasing debt in non-financial sectors. To operationalize this theory, we are introducing the concept of institutional clash, making it possible to understand the long-term driving force behind a banking crisis. Not every recession has caused a banking crisis. But all banking crises have been preceded by an institutional clash. Consequently, an institutional clash is a prerequisite but not sufficient to cause a banking crisis: there must be a recession for a

⁵⁵ Herrala (1999), p 17-18.

crisis to emerge. We also introduced and defined financial fragility, financial distress, systemic risk, banking crisis and lender of last resort. Based on these analytical concepts we launch a stage-model for the evolution of banking crises. The six stages in that model highlight decisive factors before, under and after a crisis.

Our empirical findings suggest the introduction of note-issuing banks and joint stock banks with limited liability, that lead to credit policies characterized by increased risk, to be the fuel of the institutional clash in the second half of the 19th century. The subject for the institutional clash causing the credit fueled booms during the WW I and thus creating the outburst of the banking crisis of the 1920s, was the sudden dismantling of the Gold standard institution at the outset of the war. This created completely new rules of the game in the overall economy, as well as in the financial sector. Finland did not experience this institutional change, and interestingly this country didn't experience a devastating banking crisis during the 1920s either. The way the deregulation process was carried through in the early 1980s seems to have been a fundamental impetus to the severe banking crisis in Finland, Norway and Sweden during the late 1980s and early 1990s. The differences in outcome between the three neighboring countries and Denmark, which did not experience a deregulation of a banking crisis, fit well into this explanatory pattern.

This article is in a sense explorative. It is natural to make further empirical observation in order get a solid theory of driving forces behind banking crisis. The next step would be to empirically integrate all the Nordic banking crises 1850-2000 in our analysis. This study will also raise questions of the impact of the "Nordic" legalization and culture on the outcome and the frequency of banking crises, for example if the fact that there have been many reregulations in the Nordic countries is the key factor behind the high frequency of crises and the observed pattern. The next step would be to test our model on banking crises in other highly industrialized countries in the world, in order to get more observations and make the theory as general as possible. Such an international comparative study would also tell us if the history of Nordic banking crises is unique or not.

References

- Caprio, C. Jr (1998), *Banking on crises: Expensive lessons from recent financial crises*, The World Bank: Development Research Group, June.
- Carr, E. H. (1988): *What is History?*, reprint 2. rev. utgave, Basingstoke : Macmillan
- Davis, E P (1994), "Causes of financial crises in a deregulated economy", in *Macroeconomic surveillance aiming to detect potential or emerging financial crises*, The Banking, Insurance and Securities Commission of Norway, Oslo.
- Davis, E P (1995), *Debt, financial fragility and systemic risk*. Oxford University Press.
- Dow, J (2000), "What is Systemic Risk? Moral Hazard, Initial Shocks, and Propagation", In *Monetary and Economic Studies*, December 2000.
- Eichengreen, B. & Portes, R., *The Anatomy of Financial Crises* in Potes, R. and & Swoboda, A.K. (eds.), *Threats to International Financial Stability*, Cambridge: 1987
- FFS, *Finlands författningssamling*
- Fisher, I (1933), "The Debt Deflation Theory of Great Depressions", *Econometrica*, Vol.1, No.4, 1933, pp 337-57.
- Friedman, M. and A. Schwartz (1963): *A monetary history of the United States 1867-1960*, Princeton N.J.: Princeton University Press.
- Hansen, P H (1996) *På glidebanen til den bitre ende. Dansk bankvæsen i krise 1920-1933*, Odense: Odense University Press.
- Hansen, P H (1995), "Banking Crises and Lenders of Last Resort: Denmark in the 1920s and the 1990s", in Y Cassis, G D Feldman and U Olsson (eds), *The Evolution of Financial Institutions and Markets in Twentieth-century Europe*, Aldershot: Scholar Press.
- Herrala, R (1999), "Banking Crisis vs. Depositor Crises: the Era of the Finnish Markka 1865-1998", *Scandinavian Economic History Review*, Vol XLVII, No 2.
- Hove, S.I., og K. Moum (1997): "Fra kjøpefest til ledighetskø. Kredittliberalisering, konsumutvikling og konjunktursvingninger 1983-1993", i *Økonomiske analyser* nr. 8, Oslo: Statistisk Sentralbyrå.
- Kindleberger, C P (1978/89), *Manias, Panics and Crashes. A History of Financial Crises*, London (second edition).
- Kjellman, A (1994), "Banking Crisis and Bank Performance. Economies of Scale and Scope within the Finnish Banking Industry", *Meddelanden från Ekonomisk-statsvetenskapliga fakulteten vid Åbo Akademi*, Ser A:415, Åbo.
- Kjellman, A (1996), "What can we learn from the Finnish Banking Crisis. The cases of the failures in saving bank sector", *Meddelanden från Ekonomisk-statsvetenskapliga fakulteten vid Åbo Akademi*, Ser A:458, Åbo.
- Knutsen, S. & G.J. Ecklund (2000): *Vern mot kriser? Norsk finanstilsyn gjennom 100 år*, Bergen: Fagbokforlaget.
- Kuusterä, A (1995), *Idé och pengar: Sparbankerna i det Finländska samhället 1822-1994*. Helsingfors: Förlagsaktiebolaget Otava.
- Kuusterä, A (1998), *Pelissäänöt. Helsingin Rahamarkkinakeskuksen lyhyt historia*. Julkaisija: Rahakontti Oy.
- Larsson, M (1998), *Staten och kapitalet. Det svenska finansiella systemet under 1900-talet*. Stockholm: SNS förlag.
- Larsson, M & Sjögren, H. (1995), *Vägen till och från bankkrisen*, Stockholm: Carlssons förlag.
- Lindgren, H. and H. Sjögren (2003): Banking systems as "ideal types" and as political economy: The Swedish case, 1820-1914 in Forsyth, D.J. and Verdier, D. (eds.): *The Origins of National Financial Systems. Alexander Gerschenkron reconsidered*, London: Routledge
- Minsky, H. P. (1982): *Can "it" happen again?: essays on instability and finance*, New York : M.E. Sharpe

- Minsky, H. P. (1992), "The financial instability hypothesis", Working paper no 66, The Jerome Levy Economics Institute of Bard College, May. Quoted after Papadimitriou & Randall Wray (1998).
- Mishkin, F. (1991): "Asymmetric Information and Financial Crises: A Historical Perspective" in Hubbard, R.G. (ed.) *Financial Markets and Financial Crises*, Chicago: University of Chicago Press.
- Rygg, N. (1954): *Norges Banks historie*, bind 2, Oslo: Norges Bank SFS, *Svensk författningssamling*
- Shiller, R.J. (2003): "From Efficient Markets Theory to Behavioral Finance", *Journal of Economic Perspectives*, Vol. 17, Number 1, pp. 83-104.
- Steigum, E. (2004 a): "Financial deregulation with a fixed exchange rate: Lessons from Norway's boom-bust cycle and banking crisis", in Moe, T.G., J.A. Solheim and B. Vale (eds.), *The Norwegian Banking Crisis*, Oslo: Norges Banks skriftserie No. 34
- Vihola, T (2001), *The Direction of Money. Union Bank and Merita Bank 1950-2000*, Helsinki: MeritaNordbanken