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## Origins and Resolution of Financial Crises; Lessons from the Current and Northern European Crises

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# **Origins and Resolution of Financial Crises; Lessons from the Current and Northern European Crises**

Finn Ostrup, Lars Oxelheim and Clas Wihlborg

# Origins and Resolution of Financial Crises; Lessons from the Current and Northern European Crises\*

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*Forthcoming in Asian Economic Papers*

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## Abstract

Since July 2007 the world economy has experienced a severe financial crisis originating in the U.S. housing market. The crisis has subsequently spread to the financial sectors in European and Asian economies and led to a severe worldwide recession. The existing literature on financial crises rarely distinguish between factors that create the original strain on the financial sector and factors that explain why these strains lead to system-wide contagion and a possible credit crunch. Most of the literature on financial crises refers to factors that cause an original disruption in the financial system. We argue that a financial crisis with its contagion within the system is caused by failures of legal, regulatory and political institutions.

One policy implication of our view is that the need for various forms of rescues of financial firms in times of crises would be reduced if appropriate institutions could be put in place. Lacking appropriate institutions to avoid contagion within the financial system and a potential credit crunch, ad hoc financial crisis management is required. We draw on experiences from the financial crises in the Nordic countries at the end of the 1980s and the beginning of the 1990s. In particular, the Swedish model for crisis resolution, which has received attention during the current crisis, is discussed in order to illustrate the problems policy makers face in a financial crisis without appropriate institutions. Current European Union approaches to the crisis are discussed before turning to policy implications from an emerging market perspective in the current crisis.

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*Keywords:* financial crisis, institutional failure, insolvency procedures, contagion, systemic effects, macroeconomic shock, financial crisis management, Swedish model

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# **Origins and Resolution of Financial Crises; Lessons from the Current and Northern European Crises**

## **1. Introduction**

In mid-2007, a major financial crisis hit the economies of the advanced industrial countries. The crisis has in March 2009 spread worldwide. The crisis had its immediate origin in the markets for so called sub-prime mortgages in the US though in the current debate it is sometimes traced back to expansionary policies in the US after the bursting of the IT bubble in 2001 as well as to Asia and the undervaluation of the Chinese Yuan. It affected European financial firms with large exposures to U.S. mortgage-related securities at an early stage. The crisis in financial markets triggered a severe recession that worsened through 2008 and the beginning of 2009. The Asian economies seemed first to escape the crisis relatively unscathed but during the second half of 2008 the Asian economies experienced large-scale capital outflows and declining growth rates. Stock prices in the emerging economies fell more than in the advanced industrial economies during the “crash” of October 2008.

In March 2009 the financial crisis has developed into a worldwide deep recession and there are widespread fears that economic activity will remain depressed for years. At this time it is not clear to what extent the decline in real activity originates in the weak financial sector or whether it depends on a shift in consumption-savings behavior in Europe and the US, in particular. In the first case, the large decline in real activity in many countries would be explained by a decline in the supply of credit while, in the second case, the decline in real activity would explain a declining demand for credit. Disagreements among economists about the appropriate response to the crisis reflect differences in opinion about the main source of current problems and the need for adjustment.

In this paper we focus on causes of financial crises and policy responses to such crises. In our terminology, to qualify as a financial crisis an event affecting a part of the financial system must spread throughout the financial system as a whole through contagion effects and the crisis in the financial system must have real consequences through, for example, a credit crunch. In general, a financial crisis requires both developments outside the financial sector leading to financial disruption and contagion within the financial sector from the original disruption. Once a crisis is underway and real activity is declining the factors outside and inside the financial sector can

interact in complicated ways. The appropriate policy response to a crisis would depend on the weight of the different factors as sources of decline in real activity.

The existing literature on financial crises rarely distinguish between factors that create the original strain on the financial sector and factors that explain why these strains lead to system-wide contagion and a possible credit crunch. To clarify this distinction we discuss common explanations of financial crises in the literature and the policy debate. While most of the literature on financial crises refers to developments that cause disruptions in the financial system, we argue that a financial crisis with its contagion within the system is caused by failures of legal, regulatory and political institutions.

One policy implication of our view of financial crisis as the result of failures of institutions is that the need for various forms of rescues of financial firms in times of crises would be reduced if appropriate institutions could be put in place. Institutional reform of this kind such as the implementation of specific legally binding bank insolvency procedures is discussed. Lacking appropriate institutions to avoid contagion within the financial system and a potential credit crunch, financial crisis management by governments is required. We draw on experiences from the financial crises in the Nordic countries at the end of the 1980s and the beginning of the 1990s in order to illustrate the problems policy makers face in financial crises without appropriate institution. In particular, the Swedish model for crisis resolution, which has received attention during the current crisis, is discussed. Current regulatory initiatives in the EU in response to the crisis are also reviewed.

We turn finally to policy implications from an emerging market perspective. We conclude that legal and regulatory institutions can contribute to reduce the likelihood that shocks to the system cause financial crises. Macroeconomic policy including exchange rate arrangements can be conducted so as to minimize the impact of shocks. Crisis resolution procedures are required once a large part of the financial system is distressed.

The paper proceeds in Section 2 with a summary of the evolution of the current crisis in the USA and Europe. Common explanations of financial crises are discussed in Section 3 with examples from European crises in particular. Thereafter, we present our view of financial crises as the result of institutional failures in Section 4. The so called Swedish Model for crisis resolution is discussed in Section 5 while current regulatory initiatives in the EU are reviewed in Section 6. We conclude in Section 7 drawing implications for policy and institutional reform from an emerging market perspective.

## **2. The current crisis and in the US and Europe**

Prior to 2007, U.S. house prices had risen to unprecedented heights relative to long-term levels fuelled by a long period of low interest rates and an expanding credit supply. In 2007, a growing sense of uncertainty about mortgage-related investments was amplified by high levels of leverage and by the lack of transparency in structured financial products, in particular credit debt obligations (CDOs), which had been issued with backing in mortgage loans. The perception of uncertainty came to a head when in June 2007 two hedge funds managed by Bear Stearns, the fifth-largest U.S. investment bank, ran into trouble and had to be unwound. The uncertainty regarding real estate prices caused investors to adjust their appraisal of risk in the summer of 2007. Credit risk premiums increased and there was a big decline in prices on mortgage-backed securities. The upward adjustment of risk premiums spread to the short-term market for wholesale finance.

While triggered in the U.S. housing market the financial crisis had an early impact on the European economies through two channels. As a first channel the crisis spread to the Europe through the direct exposure of European financial firms to U.S. mortgage-related financial products. According to one estimate, one third of U.S. mortgage-backed securities had moved offshore and to Europe in particular.<sup>1</sup> In August 2007 two German banks – IKB and Landesbank Sachsen – collapsed due to losses on mortgage exposures in the U.S. market. Among the large European banks, the Union Bank of Switzerland (UBS) suffered particularly large losses.

As a second channel European financial markets were affected by the same rise in risk premiums and the same demand for liquidity as the U.S. markets. Rush to liquidity as a result of fear of insolvency caused financing difficulties for a number of European banks. In September 2007 depositors started massive withdrawals from the British bank Northern Rock which had relied on the wholesale financing market.<sup>2</sup>

The European Central Bank reacted early to the difficulties in the wholesale financing markets by suspending a rise in its policy rate which was expected to take place in September 2007. In addition, the European Central Bank reacted through a large increase in its lending facilities for banks. In September 2007, the Bank of England and several other central banks decided to lower

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<sup>1</sup> Blundall-Wignall (2008).

<sup>2</sup> The British government intervened by guaranteeing all claims on Northern Rock. As no acquirers could subsequently be found, Northern Rock was taken over by the British government in February 2008.

their policy rates. Further cuts in policy rates were implemented from December 2007. The Federal Reserve introduced similar measures in the US.

In March 2008, Bear Stearns collapsed due to losses on mortgage-related assets and was taken over by JP Morgan Chase with support from the U.S. Treasury. Criticism followed its decision to support the bail-out of Bear Stearns. The crisis entered a new phase when the U.S. government in mid-September 2008 decided not to intervene to save the fourth largest investment bank, Lehman Brothers, from bankruptcy. For the first time since the beginning of the 1930s, the financial authorities in a major economy allowed a large financial institution to file for bankruptcy. Widespread turbulence in financial markets followed. Financing through several important markets came to a virtual standstill. The commercial paper market and interbank lending came to a halt. Growth prospects declined as reflected in a steep fall in share prices of the magnitude 30-50% in October 2008.

In mid-September 2008 several large European financial firms had to be supported through the injection of capital from governments. One of the largest European financial groups, Fortis, was taken over by the Benelux governments. Dexia was taken over by the governments in Belgium, France and Luxembourg. In Britain the government acquired controlling stakes in three of the eight largest banks. In Germany the government stepped in to save the mortgage lender Hypo Real Estate and, in January 2009, it acquired 25% of the equity in Commerzbank, the second-largest German bank. In Iceland, three major banks with international operations were taken over by the government. In December 2008, the Irish government took over one of the largest banks. In Denmark, seven smaller banks collapsed in the autumn of 2008. In Sweden, the government took control of a medium-sized investment bank.

European governments reacted to the financial crisis through rescue packages for banks and other financial institutions. The first package was implemented in Ireland where all claims on the six largest Irish-owned banks became guaranteed in September 2008. To a varying extent the European rescue packages included government guarantees for debt obligations; government purchases of bad ('toxic') assets from banks; government injection of capital to banks in return for direct share holdings; lending facilities for the purchase of commercial papers; and direct government purchases of assets, e.g. mortgage-backed securities.

During 2008 and 2009 European banks were and are expected to be hit increasingly by losses originating in Europe. First, in many European countries real estate prices had risen to levels which appeared incompatible with long-term equilibrium already in 2007. Table 1 shows that

housing price increases in, for example, the United Kingdom, Spain and the Nordic countries have been even steeper than in the United States. Second, losses of bank-subsidaries in Eastern Europe are expected to increase.<sup>3</sup> Third, a number of large European corporations have been the target of private equity funds and, thereby become highly leveraged. Finally, a bubble in commercial real estate appears to have developed in several European countries. In 2007 prices on commercial real estate had risen to record levels in Denmark and Ireland. France, Netherlands and Spain have also experienced big price increases on commercial real estate.<sup>4</sup>

We conclude this section referring to Table 2 showing that credit to the private non-financial sector over the five-year period 2002-2007 rose sharply in several advanced industrial economies. Extending the time horizon to the ten-year period 1997-2007 the pattern remains. The largest expansion of credit took place in Spain where the debt of the private non-financial sector relative to gross domestic product rose 77.5 percentage points over the five-year period 2002-2007. Other countries with considerable increases in private non-financial sector debt over the 2002-2007 period are Denmark, Finland, France, Italy, the US and the UK. There is no obvious correlation between credit growth and severity of the crisis, however. The US, the UK and Denmark are among the countries that have been hardest hit but, until recently, Spain had not been affected as strongly as many other countries. Figure 1 indicates a positive correlation between the increase in debt incurred by households over the period from 2000 to 2007 and the increase in residential real estate prices relative to their long-term level for 15 advanced industrial economies.

### **3. Common explanations of financial crises**

In this section we review five commonly referred to explanations of financial crises and illustrate them with historical events. The explanations are not mutually exclusive and several crises appear to be the result of a combination of factors. The explanations of crises discussed here focus on factors that cause and trigger the original disruption in the financial sector as opposed to factors that cause systemic effects of an original disruption. The five views we present are:

- 1) Macroeconomic developments and leverage
- 2) Behavioral factors; speculation and optimism
- 3) Shift to liquidity and safety
- 4) Management failure

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<sup>3</sup> In December 2008, Lithuania had to be bailed out through loans from the IMF, the EU and the Nordic countries.

<sup>4</sup> BIS (2008).



## 5) Institutional weaknesses

### 3.1 Macroeconomic developments and leverage

According to this view failures in financial institutions occur as a result of negative macroeconomic shocks following a period of credit expansion leading to high leverage of households and firms. The negative shock to highly leveraged firms or households causes losses in the financial system with the consequence that highly leveraged banks risk becoming insolvent.<sup>5</sup> According to the ‘debt-inflation’ theory suggested by Irving Fisher, the level of debt in financial and non-financial enterprises is the crucial factor which determines the probability and size of financial crises.<sup>6</sup> A high level of debt in non-financial enterprises raises the risk of bankruptcy during economic downturns, causing losses for banks and inducing them to cut down on their lending. A reduction in bank lending will, in turn, reduce the credit and money supply.

A secondary effect of macroeconomic shocks on asset prices can amplify the original shock and worsen the impact on the financial sector.<sup>7</sup> Similarly, substantial indebtedness in foreign currency can amplify the shock if the domestic currency falls in value as is often the case.<sup>8</sup> Macroeconomic developments and shocks may explain why households and firms run into payment problems of debt. Explanations for insufficiency of capital in financial firms to withstand shocks and for an amplification of the original shock through the financial system must be explained in other ways, however.

Four Nordic countries (Denmark, Finland, Norway, and Sweden) experienced severe financial crises from the mid-1980s to the beginning of the 1990s. In each case, the crisis was characterised by a large prior increase in lending from banks and other financial institutions but the shock that triggered the crises were different. The Danish, Finnish and Swedish crises were triggered by large drops in real estate values while the Finnish crisis also was associated with a large decline in Finnish exports as a result of the break-up of the Soviet Union.

The financial crisis in Japan beginning in 1990 followed a pattern which was similar to the Nordic financial crises. In the second half of the 1980s, Japanese share prices rose 3.2 times. Real estate values on commercial property, in particular, also rose sharply. In 1990, Japanese asset

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<sup>5</sup> See e.g. Mishkin (1991, 1997). Mishkin (1991, 1997) discusses five different types of macroeconomic shocks which may cause financial crises.

<sup>6</sup> Fisher (1933).

<sup>7</sup> See e.g. Bernanke, Gertler and Gilchrist (1994), Kiyotaki and Moore (1997) and von Peter (2004).

<sup>8</sup> Eichengreen and Hausmann (1999).

prices collapsed and Japanese banks experienced large losses, especially on real estate.<sup>9</sup> The Japanese authorities postponed a resolution of the crisis in the hope that the economic situation might improve. At the end of 1997, the Japanese financial system was close to collapse with massive withdrawals from banks. In November 1997, the Japanese Minister of Finance and the Governor of the Bank of Japan issued a common statement in which they guaranteed all deposits in Japanese banks. In 1998, one of the largest Japanese banks, Long Term Credit Bank of Japan (LTCB), collapsed.

The crises that hit several East Asian economies (Indonesia, Korea, Malaysia, the Philippines, and Thailand) in the Asia-crisis in 1997-98 can to some extent be classified within the same category. Fixed exchange rate regimes contributed to the crisis since they encouraged borrowing by banks and firms in foreign currency. Domestic bank lending expanded rapidly and grew relative to gross domestic product. Prior to the crisis, the East Asian countries experienced steep increases in asset prices, in particular stock prices and prices on commercial real estate. A rising share of bank lending was used for speculative projects in real estate and for investments in equities. In July 1997 a sudden change in market perception of risk and the willingness to bear it took place.<sup>10</sup> As a result property prices fell sharply and triggered banking crises. The Asian crises cannot be explained by macroeconomic developments alone, however. Other explanations are offered within the following two categories of crises.

### 3.2 Behavioral factors; speculation and optimism

A common explanation of financial crises refers to speculation in financial and/or real assets and excessive optimism during a period leading up to an event triggering a sharp decline in asset prices. One view of asset speculation was developed by Keynes (1936). Expectations of future returns on investments must, according to Keynes, necessarily be characterised by a large degree of uncertainty and this leaves a large margin for expectations to be determined by possibly shifty sentiments.<sup>11</sup>

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<sup>9</sup> See Inaba (2005).

<sup>10</sup> See Furman and Stiglitz (1998).

<sup>11</sup> Keynes (1936 [1973]) writes: 'The later stages of the boom are characterised by optimistic expectations as to the future yield of capital goods sufficiently strong to offset their growing abundance and their rising costs of production and, probably, a rise in the rate of interest also. It is of the nature of organised investment markets, under the influence of purchasers largely ignorant of what they are buying and of speculators who are more concerned with forecasting the next shift of market sentiment than with a reasonable estimate of the future yield of capital-assets, that, when disillusion falls upon an over-optimistic and over-bought market, it should fall with sudden and even catastrophic force' (pp. 315-316).

A similar view of asset speculation as the origin of financial crises is expressed by Minsky (1964). Driven by optimism, corporations increase debt levels to finance purchases of assets. At a certain stage, a sudden and sharp fall in asset prices occurs, combined with a large cut-back in lending. Kindleberger (1989) offers a similar explanation of financial crises.

Related and more recent behavioral explanations have been offered by Bernanke and Gertler (1999) and Davis and Zhu (2005). The latter see speculation in commercial property as a particularly destabilising factor as banks may be tempted to increase lending due to the apparent safety of commercial property as collateral. Borio (2006 a, b) and Borio et al (2004) argue that a liberalised financial system is marked by recurrent crises as banks may be tempted to increase lending in periods with an optimistic valuation of future income prospects.

Historical examples are manifold. In 1907 the United States experienced a severe financial crisis with the collapse of several important institutions, most notably the Knickerbocker Trust Company. Stock prices fell by about 40% between September 1906 and November 1907. The collapse came after a period with sharp increases in stock prices marked by a speculative sentiment. J. P. Morgan Jr., partner in J. P. Morgan & Company, noted in January 1906: 'For the first time in three years the public – with stocks at their present high prices – have begun to come in heavily with the result that the so-called market-leaders are no longer in charge, and that the stock market is running away in a fashion which I must say suggests to me possible trouble in the future although not in the immediate future'.<sup>12</sup>

Over the eight-year period from August 1921 to September 1929, stock prices in the United States rose 6.1 times. Stock purchases were made possible through lending from banks. Especially after 1925, bank credit rose steeply relative to gross domestic product (Figure 2). Following the crash in October 1929, bank credit relative to gross domestic product fell sharply. A total of 9,096 U.S. banks, representing approximately a quarter of total deposits, collapsed from 1930 to 1933. The financial crisis spread to several European countries, especially Austria and Germany, as U.S. investors withdrew their overseas investments as they needed funds in the home market.

### 3.3 Shift to liquidity and safety

Another classic explanation of financial crises is a sudden increase in demand for liquid and/or low-risk assets. Already Bagehot (1873) discussed how a sudden demand for liquid, safe assets can be

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<sup>12</sup> Bruner and Carr (2007), p. 16.

caused by a sudden sentiment of fear. The demand shift caused, for example, by sudden concerns about the solvency of banks may trigger bank runs.<sup>13</sup> These runs can hit a large number of solvent as well as insolvent banks if the public cannot specifically identify the insolvent ones. Friedman and Schwartz (1963) describe how bank runs contributed to the crisis in the 1930s.

This explanation of financial crises comes closer to addressing issues of contagion within the financial system while the previous ones focus on explanations of shocks to the financial system. Keynes, Minsky, and Kindleberger argue that the demand shift to liquid and safe assets may arise when a speculative bubble bursts, thereby linking this explanation of crises with the speculative explanation above. As noted above the Asian crisis in 1997-98 was characterized both by a prior increase in asset prices based on optimism and speculation and a shift in risk perceptions in 1997.

### 3.4 Management failures

Excessive risk-taking on some level of a financial firm is one type of failure in this category. Irvine H. Sprague, chairman of the Federal Deposit Insurance Corporation (FDIC) from 1979 to 1986 gave the following account of financial failures: ‘the greed factor...remains the major – often the only – reason for a bank’s failure. Banks fail in the vast majority of cases because their management seek growth at all cost, reach for profits without due regard to risk, give privileged treatment to insiders, or gamble on the future course of interest rates. Some simply have dishonest management that loots the banks’.<sup>14</sup>

Referring simply to greed as in the above quote seems simplistic. Corporate governance that would allow simple greed to rule and incentives of bank managers must be considered as well. We return to these issues in the section on institutional failures below.

### 3.5 Institutional weaknesses

This fifth view of financial crises refers to weak regulatory and contractual institutions, in particular. Many economic reports, as well as academic papers, refer to deregulation as an important cause of financial crises. According to Mishkin (2006) institutional weaknesses can cause financial crises for a variety of reasons. A weak political structure may, for example, cause budgetary deficits and subsequent losses in financial institutions which may be pressured into

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<sup>14</sup> Sprague (1986 [2000]), p. 233.

holding government assets to finance the deficit. The lack of efficient financial supervision may also be seen as the consequence of institutional weaknesses. Other writers see weak protection of creditor rights as raising the risk of withdrawals from financial institutions and thus of bank failures.<sup>15</sup>

It is a common view that institutional weaknesses and failures describe the situation in developing and emerging market economies. Financial crises occur with equal frequency in developed countries, however. In Section 4 we argue that a broader set of institutional failures should be viewed as the main causes of systemic financial crises in countries on all levels of development.

The overview of the current crisis in Section 2 indicates that all the explanations of financial crises discussed here seem to have been at work. Macroeconomic developments have played a role in that credit was in ample supply since 2001 as shown in Table 2. The availability of credit contributed to speculative activity in residential real estate, in particular, but probably also in raw materials and equities. A shift in favor of safety has revealed itself in higher credit risk premiums and lack of liquidity in markets for securities. Management failures in the form of a focus on short term earnings and insufficient attention to risk management seem to have contributed. Among institutional factors many observers have pointed toward deregulation but at the same time the Basel Capital Adequacy Framework has become stricter. In the next section we focus on a range of institutional factors that we suggest have contributed to the severity of the crisis.

## **4. Financial Crises as Institutional Failures**

### 4.1 Allocation of value losses

From December 1999 through September 2002 the US stock market lost half of its value reducing household wealth by roughly \$10 trillions. From mid 2006 through December 2007 real estate prices fell about 30 percent reducing household wealth about three trillions.<sup>16</sup> In the first case, the systemic consequences for the financial sector as a whole, as well as for the real economy, were minor. In the second case, a major system-wide financial crisis erupted with severe consequences in the stock market and, in particular, in the the real economy. How can the system in one case allocate 10 trillion dollars worth of losses without severe strains while 3 trillion dollars worth of

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<sup>15</sup> A review of the literature is found in Breuer (2004). A study by La Porta et al. (1998) shows a larger risk of financial crises in countries with a weak enforcement of property rights.

<sup>16</sup> See Gjerstad and Smith (2009). This article contains an analytical review of events leading up to the so called subprime crisis.

losses in the second case have severe systemic consequences? In both cases losses had to be allocated to households and individuals one way or another. One would expect the problem caused by the allocation of losses to be proportional to the magnitude.

The factor that immediately comes to mind as an explanation of the difference between the two cases is *leverage*. Equity investment is leveraged to a much lower degree than real estate investment. The financial firms supplying debt are also highly leveraged. Thus, in the case of real estate investment, a relatively modest decline in asset values threatened the solvency of a number of financial firms. Leverage cannot be the fundamental explanation of a systemic financial crisis, however.<sup>17</sup>

In markets functioning without friction the leverage and insolvency of firms should not cause a substantial problem. After all, there are contracts specifying how losses are to be allocated. Once the equity of the financial firms is wiped out the additional losses should be borne by their creditors. Some of these creditors are households, others are other financial firms. Insolvency procedures would allocate the losses in accordance with the pre-specified contractual arrangements or in accordance with rules as specified in insolvency law. Assets of the failing firms would be purchased at reduced values by other financial and non-financial firms or households. The indirect ramifications for the real economy should be small.

Most of the traditional explanations for financial crises cannot explain why a systemic crisis erupted in the second case above but not in the first case in spite of the much larger initial shock to the financial system in the latter. For example, the expansionary, low interest rate policies of the Fed may have contributed to the run-up in housing prices since 2001 but they do not explain why the system could not handle the decline. Often cited “short memories” and other behavioral characteristics of financial market participants may also have contributed to the development of a pricing bubble but explanations for the system-wide effects of the decline in prices must be sought elsewhere.

#### 4.2 Frictions creating systemic risk

The task at hand is to identify the sources of frictions that cause great delays in the loss-allocation and to ask why these frictions exist. The tragedy in a financial crisis is that the friction caused

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<sup>17</sup> We are not arguing that the severity of the current crisis is due entirely to the systemic effects of the subprime problem. It is likely that another important factor is the desire of households and firms to decrease their leverage as a result of increased risk-premiums. In order to decrease leverage households reduce consumption and firms reduce investments.

additional losses in wealth and income. These losses must be allocated as well. Therein lies the systemic failure with contagion among financial institutions and decline in real activity as we now experience.

Looking for the explanatory factors in financial markets six candidates come to mind:

- (1) The individuals and firms facing and taking losses are reluctant to accept these losses and may try to cover them up in order to, for example, not lose creditworthiness or to avoid runs.
- (2) Lack of transparency in valuation of assets allows financial firms, in particular, to delay loss recognition.
- (3) Uncertainty and asymmetric information about asset values create a liquidity problem in markets when potential buyers suspect that sellers try to unload relatively low quality assets (adverse selection).
- (4) Insolvency procedures for many financial firms are time-consuming and costly in themselves. Allocation of losses requires assets of the firms to be valued without well-functioning markets and exact contractual relationships must be identified.
- (5) Many potential losers are protected by explicit or implicit insurance schemes created by expectations of bail-outs in different forms. The coverage of explicit deposit insurance schemes and other creditors of banks are often expanded in times of crises. In the current crisis creditors of non-bank financial firms have also obtained protection. Even shareholders and managers of large entities facing losses obtain a degree of protection when the survival of their firms is more or less guaranteed. The greater the share of the ex ante contractual losers that gain protection the greater are the losses potentially faced by others. In the end losses must be borne by someone. The tax-payers are obviously the “loss-takers of last resort” but in the current crisis tax-payers seem to resist this role.
- (6) Political conflicts about the allocation of value losses create uncertainty about the final allocation of losses. This uncertainty about the political process creates disincentives for those contractually responsible for losses to take private initiatives to deal with them. Firms hold out in order to first see whereto the political process leads and they lobby to influence the political process with the objective of shifting losses to others.

The listed factors contribute not only to delays in the allocation of the original losses but potentially to an amplification of them, as well as to contagion among financial institutions and

from financial institutions to firms. Contagion is created by lack of liquidity in markets for securities, delays in settlement of claims, possibly runs on banks and the withholding of new credit.

Once the financial sector is impaired by the process of loss allocation, the reduced availability of financial resources affect activity in the real sectors. Frictions in labor and product markets may be the source of additional output losses and unemployment. These frictions affect the severity of the systemic effects of a financial crisis. Product and labor market frictions amplify the effects of households' and firms' attempts to decrease their leverage, as well. In the following the discussion is restricted to financial sector frictions.

Managers of financial firms and investors do not perceive that they live in a world without market frictions. Thus, one would expect that the listed frictions and their potential consequences would be taken into account in risk-analysis of investments and lending. For example, the risk and costs associated with slow insolvency procedures should be taken into account by creditors as well as financial firms, inducing the latter to hold more capital. Similarly, one would expect that the risk of declining liquidity of assets under some circumstances and price effects of declining liquidity should be taken into account by financial firms and investors in various securities.

#### 4.3 Incentives to consider “friction-risk”

A number of factors contribute potentially to relatively weak incentives for investors and managers of financial firms to take into account the risks associated with periods of increased friction. Thereby they increase the vulnerability of the system to systemic crises after, for example, the bursting of an asset price bubble and they provide the rationale for much existing regulation and supervision of the financial sector. The factors that weaken the incentives to take systemic risk and liquidity risk into consideration ex ante are partly the same as the above factors causing friction in the allocation of losses.

(i) Explicit deposit insurance and implicit protection of various stakeholders in the financial system in the form of expected bail-outs create disincentives for creditors of banks and other financial firms to evaluate risk and to require a risk-premium for lending. For example, expected intervention by central banks in case low liquidity prevents assets from being sold at “fair values” reduces the incentives to manage liquidity risk ex ante.

(ii) The more responsive the political system is to pressures from particular groups facing losses in times of stress the greater is the implicit protection of these groups. For example,



large financial entities can more easily convince law-makers and regulators about the dire consequences of their failures. The “too big to fail” argument for big banks is by now widely accepted. This argument provides creditors of these institutions with stronger implicit protection and the “too big to fail”-firms with lower costs of funding.

(iii) Compensation and remuneration of executives, credit officers and other risk-decision makers may bias incentives towards short term profit considerations at the expense of risk.

(iv) Complexity and non-transparency of securities and their value-factors may enable originators to take on risk without facing increased funding costs and to sell the risk at prices that do not include an appropriate risk-premium. In the current crisis mortgage backed securities were created and sold in tranches. With the benefit of hindsight it seems that ratings agencies and quantitative risk models were unable to estimate risks associated with these instruments appropriately. It is obviously hard to make a clear distinction between inability to evaluate risk and the lack of incentives to evaluate risk appropriately as a result of factors (i)-(iii).

(v) Supervision and regulation of banks in particular should also be mentioned here, since, for example, capital requirements can substitute for incentives created in the market place. The Basel Capital Requirements specify methods and procedures for evaluating the risk of particular assets. If these methods are inappropriate they divert risk management resources to risk measures that do not reflect reality or to gaming and manipulation of these risk measures. Under Basel I, which was in effect during most of the period leading up to the crisis, the methods for risk-evaluation were crude and provided incentives for so-called risk arbitrage.<sup>18</sup> Under Basel II, which was implemented in 2007 in Europe, ratings and quantitative modeling became important for the amount of capital a bank must hold against a particular asset. Both these elements of the Basel II framework seem to have failed in the current crisis. Neither Basel I nor Basel II considers the contribution of a bank to systemic risk when specifying capital requirements.

The factors (i)-(v) contribute to the likelihood that times of friction will occur as a result of excessive risk-taking in the financial system while the factors (1)-(6) create frictions in the allocation of losses. These partly overlapping groups of factors contribute to the severity of systemic effects and both can be linked to legal, regulatory or political institutions.

#### 4.4 Frictions, incentives and institutional failures

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<sup>18</sup> Under Basel I many asset types with different risk were given the same risk-weights within each “risk-bucket” providing incentives for banks to lend to relatively risky, high interest rate lenders within each “risk-bucket. See Benink and Wihlborg, 2002.

Legal, regulatory and political institutional factors are not linked one to one to the listed factors but a specific institutional characteristic of a country can influence friction in financial markets as well as ex ante incentives in several ways. Relevant institutions affecting frictions in the allocation of losses are those influencing the incentives of firms and individuals to recognize losses, enforcement of contracts, liquidity of securities, transparency of valuation and transparency of risk-factors for securities as well as financial firms. Relevant institutions affecting ex ante incentives are those influencing risk-taking incentives of managers of financial firms and their incentives and ability to provide relevant information in the markets for securities including markets for their creditors and shareholders. The institutions discussed below affect frictions as well as ex ante incentives in financial markets.

Most of the assets that fell in value after the bursting of the IT bubble were traded in active markets for equity and contractual relations for allocating the losses were uncomplicated since the assets were relatively simple claims on corporate assets. Furthermore, there were few layers of financial firms wherein losses had to be recognized. Finally, the political pressures to protect losers were mild and disbursed equity investors' ability to form political pressure groups that would delay the allocation of losses was weak. Ex ante risk-taking incentives of investors in equity markets were similarly not an issue since risk-taking decisions were made by those directly exposed to risk.

The situation was obviously very different in the markets for real estate and real estate financing. Layers of financial firms and markets for securities were involved creating multiple agency relationships. Housing and its affordability is a major policy issue. The broad range of activities of financial firms involved in mortgage financing implies that one firm's failure may have broad repercussions. The political sensitivity of the failure of financial firms is enhanced by the sheer size and complexity of some of these firms.

A number of reasons have been put forward in the debate about causes of the financial crisis and its systemic consequences.<sup>19</sup> Several have been mentioned above including the existence of a real estate price bubble pre-2007 and its bursting. To explain the systemic consequences of these events we focus in the following on institutional characteristics that contribute to the failures of loss allocation or to the failure of financial firms to properly account for the risk or both. We do not claim to present an exhaustive list but focus on a few key institutional characteristics; explicit and implicit insurance of stakeholders in financial institutions, procedures for resolution of

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<sup>19</sup> See Wihlborg (2009)

insolvency, corporate governance in financial institutions, and uncertainty about the political process in times of crisis.

#### 4.5 Institutions affecting loss allocation and incentives

##### *4.5.1 Explicit and implicit insurance in the financial sector*

Explicit and implicit insurance of depositors and other creditors of financial firms reduces the incentives of these creditors to monitor the risk of financial firms. The explicit deposit insurance systems in the European countries affected by the crisis and in the USA provide only partial coverage for depositors through limits on the size of deposits insured and – at least until recently in the U.K. – through co-insurance.<sup>20</sup> Non-bank financial firms in the US in particular do not enjoy the benefit of deposit insurance. In consequence, it is unlikely that the explicit deposit insurance systems were strong enough to remove major creditors' incentives to monitor financial institutions. Hence, the existence of explicit deposit insurance does not appear to have been a major contributory factor to the failure of market discipline on risk-taking of financial institutions.

A more plausible candidate would appear to be the existence of implicit insurance. One explanation of strong implicit insurance of banks' creditors is that banks have special characteristics relative to other firms. First, banks supply liquidity in the economic system as a whole. A large part of their liabilities are very short term and subject to bank runs if creditors fear non-repayment. Second, there are generally substantial amounts of very short term interbank liabilities that may contribute to contagion among banks if one bank fails. Third, creditors of banks in particular are diverse and many. Thus, banks do not generally have one or a few large creditors with a strong interest in resolution of distress. The risk of runs on a bank in distress and contagion implies that speed of action in distress resolution is of the essence. Conventional liquidation and restructuring procedures are too time-consuming to be applied to banks without modification. As a result, governments in most countries tend to intervene to prevent bank failures of some magnitude. The moment the government intervenes the allocation of the banks' losses becomes a political issue.

There is little doubt that the implicit insurance of creditors of banks is strong in most European countries and there is strong empirical evidence that implicit insurance tends to be strong in countries with low explicit deposit insurance coverage (Angkinand and Wihlborg, 2008). The

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<sup>20</sup> Eisenbeis and Kaufman (2008) argue that the run on Northern Rock in the UK can be explained by the existence of co-insurance and possibly delays in insurance payments after a bank failure. They base this argument on the observation that there was no run on the US bank that faced circumstances similar to Northern Rock.

strong implicit insurance in Europe may have contributed to the willingness of European financial firms to buy more than one third of the securities backed by subprime mortgages in the US. Implicit insurance of banks' creditors is probably weaker in the US due to the existence of a legal infrastructure for bank crisis management, including the system of Structured Early Intervention and Resolution. These procedures are discussed further below.

There are observers, however, who argue that the implicit insurance of investment banks and large commercial banks is strong in the US as well.<sup>21</sup> This argument is very much based on "Too Big To Fail." A failure of a large non-bank financial firm can contribute to systemic risk as a result of price-and liquidity effects in securities markets. Any large financial firm forced to liquidate assets may put downward pressure on prices and, accordingly cause losses for other financial firms. Liquidity in the markets for particular securities may depend on relatively few large firms serving as counterparties. For this reason, there is pressure on the government to rescue such a firm in order to avoid contagion. The actions of the Federal Reserve with respect to Bear Stearns as well as the major banks during the current crisis support this reasoning.

In spite of the "Too Big To Fail" argument it is hard to argue that investment banks like Bear Stearns were considered truly protected and impervious to creditors' market discipline. As described in Cohan (2009) investment banks in general and Bear Stearns in particular built up large exposures to mortgage backed securities using the very short term, often overnight, unsecured commercial paper market for funding. Managers of these firms must have been aware that this source of funding could dry up very quickly as it did in the fall of 2007. Thus, the risk-taking behavior of these firms cannot be fully explained by implicit protection. Failures of corporate governance are considered below.

Another source of implicit protection of creditors in the markets for mortgages in the US is the government backing of Fanny Mae and Freddie Mac. These two firms were the largest buyers and insurers of mortgages with the explicit objective of making home ownership affordable. Although their activities may have contributed to the magnitude of the subprime crisis they cannot be held responsible for the exposures of investment- and commercial banks.

These explanations of implicit insurance of creditors and, in some cases, shareholders of financial firms that may be considered systemically important, depend to a large extent on an unwillingness of governments to allow formal insolvency procedures to work themselves out. These procedures may be considered too time consuming for large, complex

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<sup>21</sup> See Brook (2008).

financial firms, in particular, and the procedures may force firms to rapidly liquidate assets with consequences for asset prices.

#### *4.5.2 Distress resolution and insolvency procedures*

The difficulty of designing efficient insolvency procedures is to a large extent caused by information problems with respect to the cause of distress and asset values. Collateralized loans and priority rules discourage “runs” on the available resources of a distressed firm. A run can force a firm into bankruptcy prematurely. In banking this “run problem” is particularly acute.

Although the roles of insolvency procedures for banks in some ways are the same as for non-financial corporations the objectives of the procedures differ in important ways. These differences are explained by the special characteristics of banks and other financial firms as mentioned above. Speed of action in distress resolution is of the essence. Conventional liquidation and restructuring procedures are too time-consuming to be applied to banks without modification. The case of Lehman Brothers in the US indicates that the same argument applies to non-bank financial firms. This firm was placed in Ch.11 with its time consuming and to some extent unpredictable outcome for many creditors with short term claims on the firm.

For the reasons mentioned, corporate bankruptcy and restructuring laws are not often applied in countries where banks fall under the jurisdiction of these laws. Few countries have special insolvency law for banks and other financial firms, however.<sup>22</sup> The main exception is the USA that has implemented bank-specific insolvency procedures through the FDIC through the enactment of FDICIA (Federal Deposit Insurance Corporation Improvement Act) in 1991. A bank reaching a capital ratio of two percent is put under the receivership of the FDIC. Specific rules for merging or allocating the assets of the bank exist. A number of small and medium-sized banks have been closed this way since the beginning of the subprime crisis. The procedures have so far not been tested on a large bank, however. Also, the procedures do not apply on investment banks.

The pre-insolvency phase is of great importance in banking because of the difficulty of evaluating when the net worth of a bank is zero in market terms. In recent years PCA (prompt corrective action) rules, including SEIR (structured early intervention at trigger points while there is equity capital left) have been advocated. An important function of PCA rules is to allow

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<sup>22</sup> In addition to the USA, Canada, Italy, and Norway have specific insolvency laws for banks. The existence of a law does not necessarily mean that it is successful in the sense that it achieves its objectives. If not, as in Norway, the law is typically not put to use. In Sweden a law for public administration of distressed banks was proposed in 2000. The law has not yet been implemented, however.

intervention before insolvency occurs in order to rehabilitate or restructure a distressed bank. In the USA, legally binding PCA-rules exist since the enactment of FDICIA in 1991. PCA rules are only effective if they are credible by being enshrined in law.

Several economists have discussed the potential contribution of bank insolvency law in enhancing market discipline in Europe, where specific bank crisis resolution procedures have not been implemented.<sup>23</sup> Without predictable rules for the allocation of losses resolution will be delayed and, in the meantime, management and shareholders of distressed firms are likely to avoid the realization of losses in various ways.<sup>24</sup>

The European Shadow Financial Regulatory Committee (1998) expressed the objective of a special insolvency law for banks in the following way: “The implementation of insolvency law for banks .....should achieve an acceptable, low risk of runs and low risk of contagion while inefficient owners and managers exit. The contractual predictability of claims and the predictability of bankruptcy and PCA-costs should provide efficient ex ante incentives. By achieving these objectives the government’s and the regulator’s fear of a system crash should be alleviated. Thereby, non-insurance of groups of creditors and shareholders would be credible”.

#### *4.5.3 Corporate Governance in the financial sector*

During the Swedish banking crisis in the early nineties there were reports that the loan officers who granted the largest volume of loans won vacation trips to Hawaii. It is obvious that granting incentives for credit volume reduces the awareness of credit risk. Adding to the incentives for volume competition at the time in the early 1990s were widespread expectations - based on the creation of a common European financial market - that the European restructuring of the banking sector would end up with eight large pan-European universal banks before the end of the decade. Thus, banking strategies tended to focus on volume and universality in order to create an advantage in the restructuring process.

Similar reports of incentives encouraging volume competition exist in the recent crisis. It is necessary to distinguish between the incentives of the originators of loans and the incentives of those bearing the risk, however. The volume incentives of loan-brokers are obvious

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<sup>23</sup> See Angkinand and Wihlborg (2006), Eisenbeis and Kaufman (2008), Goldberg, Sweeney and Wihlborg (2005), Huertas (2007), Hupkes (2003), Krimminger (2005), Lastra and Wihlborg (2007), Llewellyn and Mayes (2003), Schiffman (1999),

<sup>24</sup> The European Shadow Financial Regulatory Committee (ESFRC) (1998) and Lastra and Wihlborg (2007) discuss characteristics of special bank insolvency procedures.

but one would expect that the loan originators set standards and loan evaluation procedures for the brokers. However, the ability of many sub-prime loan originators to securitize the mortgages and, thereby, to transfer the risk to the buyers of securities could have led to volume competition if prices of the mortgage-backed securities did not reflect risk. In hindsight risk premiums were too low. The question is then why the buyers of the mortgage backed securities did not properly assess risk and require greater risk-premiums. This question relates to the role of rating agencies and quantitative risk valuation models but also to the compensation schemes for bankers, fund managers and other investors in the mortgage backed securities. A number of observers including the Federal Reserve Governor Randall Kroszner have argued that remuneration schemes in the financial sector rewarded short term profits without incorporating longer term considerations where risk considerations become more important.<sup>25</sup>

The incentives of top executives of banks and other financial firms must be considered as well. The top executives are responsible for the remuneration schemes for managers on different levels in the organization and for the risk-management systems. In an effective corporate governance system executive compensation schemes should align the interests of executives with the interests of shareholders. There are many reasons to suspect that corporate governance systems in the US, as well as in many other countries, are not generally efficient in this respect. Top executives are powerful in designing remuneration schemes that favor their own interests in such a way that large losses do not have much impact on their remuneration.<sup>26</sup> In general, “huge bonuses are deposited and consumed long before the bad deals that generated them can slam investors.”<sup>27</sup> Generous exit packages for corporate executives that have been responsible for large losses can be motivated by incentives of diversified shareholders to discourage risk-aversion of executives. This argument can be questioned in the financial industry, in particular, where risk management is the primary business activity. Remuneration of executives based on short term earnings and equity prices in combination with generous insurance of executives against failure contribute to explain the AIG business strategy as well the high risk Bear-Stearns strategy of rolling over very short term commercial paper to fund investments in mortgage backed securities.

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<sup>25</sup> In AIG, managers of one unit insuring credit risk were remunerated in proportion to earnings from payments from issues of credit default swaps (CDS). In the short term these CDS provided a nearly safe income stream at low cost, while the potential for losses seemed distant.

<sup>26</sup> Often cited examples in the financial sector are Stan O’Neal and Chuck Prince, who were forced out of Merrill Lynch and Citigroup, respectively, in the face of large losses in the fall of 2007 with exit packages worth \$161m and \$42m.

<sup>27</sup> Cohan (2008).

Another consideration in the financial industry is that incentives for shareholder wealth maximization create incentives for risk-shifting to deposit insurance agencies and tax-payers to the extent there are explicit or implicit insurance of creditors as discussed above. This moral hazard problem in banking is supposed to be counteracted by means of risk-sensitive capital adequacy rules and supervision. Here we are back in the question whether explicit and implicit insurance of depositors and other creditors affect risk-taking incentives.

Corporate governance systems develop in complex interaction between market-incentives, law, regulation and politics. The failures of corporate governance leading up to the current crisis could be a reflection of a corporate law generally in the sense that it enables management to extract large short term benefits at the expense of shareholders. On the other hand, it could be the case that corporate law is sufficient to serve shareholders interests but shareholders interests stand in conflict with the interests of other stakeholders and society. The existence of strong explicit and implicit protection of creditors imply that managers of financial institutions do not have incentives to fully consider risk that can be shifted to tax payers and deposit insurance funds as noted above. In particular, they do not have incentives to fully consider systemic risk arising as a result of contagion and market frictions as discussed above. In the first case, the remedy must be sought in general corporate law while, in the second case, policy incentive for implicit insurance of banks' stakeholders should be considered.

The executive compensation schemes in the financial sector affect not only ex ante incentives but they may have contributed to the failure of loss allocation and, therefore, to the systemic effects of the subprime crisis in two ways. First, the lack of incentives to reveal losses could be associated with the incentives for short term profits. Second, the separation of loan originators from those bearing the credit risk may have amplified the effects of short term incentives.

Believers in the efficiency of markets argue that it lies in the interest of solvent financial institutions to reveal asset values at market prices to the extent possible in order to distinguish themselves from the insolvent and the dubious ones. Thereby, they would be able to access the markets for funding at relatively favorable terms. By the same token, the financial institutions that do not make a credible effort to reveal the quality of their assets would be considered possibly insolvent and unable to gain access to funding except at a high cost. Thus, transparency is a consequence of market forces according to this view.



Why do we not observe stronger attempts by solvent financial institutions to quickly and credibly reveal their losses in order to gain access to the markets and reduce funding costs? One answer could be that they simply do not know. Not knowing does not mean that they cannot provide a best estimate, however. It is more likely that they are holding back as a result of a “collective action problem”; even the solvent institution is disinclined to reveal its losses truthfully unless others do the same. The institution revealing larger losses than others risks being misunderstood and downgraded relative to others even if it is solvent. Furthermore, top management, which is remunerated, based on shareholder value and earnings may be reluctant to reveal losses and look worse than competitors in the short run. If remuneration were linked to long-term performance the management would have less to gain from delaying loss recognition and less concerned with revealing losses even if others do not. There is little doubt that the reluctance to reveal losses has contributed to lack of liquidity in markets for securities and derivatives. The reluctance to reveal losses as transparently as possible contributes to an adverse selection problem in securities markets since potential buyers may fear that more informed sellers try to sell the worst assets first.

The problem of liquidity cannot be blamed on incentives created by executive compensation schemes alone. Clearly, accounting rules and transparency standards implied by these rules play an important role as well. Much of the discussion of failures of corporate governance in the financial sector is, by necessity, speculative. There is clearly scope for much research to increase our understanding of governance structures in the financial sector and their effect on incentives.

#### *4.5.4 Uncertainty about the political process in times of crisis*

Expectations of government intervention to bail out creditors and owners of financial firms do not only affect incentives for risk-taking and high leverage prior to financial crises. Once a crisis has erupted expectations of bail-outs and uncertainty about the exact nature of these bail-outs can be a source of friction in the process of loss-allocation. These frictions can be amplified by attempts of different interest groups to influence the political process.

During the fall of 2008 the Federal Reserve created a number of facilities enabling financial institutions to obtain loans at favorable terms against increasingly weak collateral. The US Treasury announced the USD 700 billions TARP (Toxic Assets Relief Program) in October 2008. The original TARP proposal was quickly shot down because the suggested reverse auction

was considered unworkable for heterogeneous mortgage-backed securities by several auction experts. There was no agreement about other methods for valuation of toxic assets. The availability of USD 700 billions for crisis resolution - without political agreement on how to use them - created incentives for intense lobbying efforts. The funds could be used to recapitalize financial institutions or they could be used to help home-owners with negative equity to slow down the tide of foreclosures. Small and relatively healthy financial institutions did not want to be left out. Corporations, states, towns and municipalities felt deserving of aid as well.

In Europe governments developed more or less explicit schemes for aid to the financial sector. The European approach to the crisis is discussed in Section 6. There was political determination to prevent large scale failures of financial institutions but the exact procedures were vague. Direct aid to those firms which had produced the largest losses proved to be politically unpopular.

Expectations of aid in one form or another but lack of decision about the exact nature of this aid creates disincentives for financial firms to try to address their problems through their own initiatives. Recognition of losses becomes delayed until the nature of aid packages becomes known. In the current crisis the lack of centralized clearing of credit default swaps and other over-the-counter derivatives has contributed to frictions in the allocation of losses. A relevant question to ask is whether the lack of cooperative private initiatives to organize the netting out and clearing of these instruments has been caused by expectations of government intervention.

It is clearly impossible to know the extent to which private initiatives would be forthcoming to reduce the likelihood of contagion among financial firms and to speed up loss recognition. Credible commitments of no bail-outs are not easily obtained in democracies. If so, the regulatory framework can substitute for private initiatives, by focusing on institutions that enable insolvent financial firms to be closed with a minimum of contagion, as discussed above.

#### 4.6 Concluding remarks on institutional failures

The different institutional failures described here are not independent but they interact in important ways. At the center stands the lack of operational and credible insolvency procedures for financial firms. Rule-based procedures for “structured early intervention” and the closing of banks have been implemented in the US but they do not apply effectively to banks that are “too big to fail” and to non-bank financial firms. Other countries lack effective and predictable procedures completely.

The lack of specific insolvency procedures for financial firms implies that governments are compelled to issue far-reaching guarantees to creditors and even to shareholders of financial firms. These implicit guarantees affect risk-taking incentives of financial institutions, thereby increasing the likelihood of crises, as well as the incentives of financial institutions to resolve problems without government bail-outs. The risk-taking incentives can also contribute to the existence of executive compensation schemes that favor short term earnings and discourage consideration of risk in the longer term. Most likely, failures of corporate governance system go deeper, however, and depend on corporate law more generally.

Valuation and transparency issues have not been addressed at any depth in spite of their importance for crisis resolution. It can be argued, however, that transparency and incentives for information revelation are to a large extent endogenous relative to explicit and implicit protection of creditors of financial institutions, as well as to compensation schemes. Weak incentives of creditors to monitor risk-taking create weak incentives for information revelation. In times of crisis, information revelation is discouraged as long as the political process for support is uncertain and subject to lobbying efforts.

## **5. Northern European financial crises and the Swedish model for crisis resolution**

Four Nordic countries (Denmark, Finland, Norway, and Sweden) each experienced severe financial crises during a ten year period beginning in the mid-1980s.<sup>28</sup> These crises had much in common with the current financial crisis. In each case there was rapid credit growth in a recently deregulated financial environment. Lending by banks and other financial institutions was to a large extent used for investments in commercial property, fuelling big price increases. In Sweden, for example, prices on office buildings in Stockholm increased 4.2 times in real terms from 1980 to 1990 while prices for residential property doubled. When the property bubble burst, highly leveraged financial institutions in the Nordic countries suffered big losses. In Denmark the two largest insurance companies and a number of medium-sized and small banks collapsed. When there was a run on the second-largest Danish bank, the central bank had to guarantee its deposits. In Finland, the government guaranteed all obligations incurred by banks while two of the largest banks were taken over by the government. The Finnish banking sector received capital injections from the government. In Norway, almost the whole banking system was nationalized when the three largest

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<sup>28</sup> The Nordic region consists of these four countries plus Iceland.

banks were taken over by the government and a number of smaller banks were merged after serious losses.

In the following we focus on the Swedish approach to crisis resolution since it has received much attention during the current debate about resolving the ongoing crisis. The approach has been presented as a model to emulate by other countries. Most writers on the subject in the international press have fairly limited knowledge and sometimes misconceptions about the details of the model, however. In this section we revisit the Swedish approach to the crisis in 1990-1994 and discuss the consequences of specific aspects of the approach. We argue that “the devil is in the details”. In particular, we draw attention to issues of selection and valuation of assets transferred to a “bad bank” and to potential conflicts of interests caused by the creation and organization of the “bad bank.” These are issues that must be considered in any attempt to resolve a banking crisis without allowing large scale failures of banks.

### 5.1 The “Swedish Model” in brief

The Swedish crisis had its beginning in September 1990 when a number of finance companies could not refinance themselves as a result of falling prices on commercial real estate, in particular. The commercial banks were the important creditors of the finance companies. As a result the credit losses in the commercial banks increased rapidly during 1991 and 1992. The credit losses amounted to about six percent of the loan stock each of these years.

The crisis peaked during the fall of 1992 when the Swedish government and central bank were fighting pressures on the Krona and temporarily increased the marginal interest rate for overnight borrowing to 500 percent in September before allowing the Krona to float in November 1992.<sup>29</sup> By that time, one regional savings bank, one medium sized private commercial bank and one large state-owned bank were insolvent. At the time, the Swedish market was dominated by five large commercial banks of which one was majority state-owned.

The main ingredients of the Swedish model formulated during the fall of 1992 were the following:

- a) A blanket guarantee of all liabilities of the commercial banks was issued in December 1992 in order to ease the conditions for the banks’ short-term financing. At the same time a “Bank Support Board” was created to consider possible applications by the banks for support.

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<sup>29</sup> Oxelheim (1996).

- b) The shareholders in the privately owned medium sized Gota Bank were not protected when the government took over ownership of the bank for the price of one Krona (25 cents) in the fall of 1992. The government recapitalized the bank soon thereafter and the state became the owner. No large bank was nationalized, however.
- c) The relatively large majority state-owned Nordbanken was divided up into a “good bank and a “bad bank” during the fall of 1992 and the ”bad bank”, Securum, became a separate company on January 1, 1993 with the objective of unwinding the non-performing assets of Nordbanken. Securum as well as Nordbanken received capital from the state and the sound part of Nordbanken became fully state-owned. A similar arrangement was made for the smaller Gotabanken, then also state-owned. The two state-owned banks were later merged as were the two “bad banks.”

Not only Nordbanken but the dominating large, privately owned banks recovered quickly in 1993 once the blanket guarantee was issued and economic conditions improved after the Krona was allowed to float in November 1992. The Krona depreciated substantially and interest rates fell. Nordbanken would certainly not have survived without the recapitalization. It is less clear whether all the privately owned large banks would have survived without the blanket guarantee of their liabilities. Macey (1999) argues that owners and creditors of banks were unnecessarily strongly protected in the sense that a systemic crisis could have been avoided with less drastic measures.

The general description of the different measures listed above is not sufficient to evaluate the costs and benefits of the approach. In particular, the conditions associated with the separation of Nordbanken into a “good” and a “bad” bank affected the outcome as did the blanket guarantee of banks’ creditors. In the following we discuss how the costs of the mentioned measures depend on coverage of protection, valuation and selection of assets transferred to a “bad bank”, as well as on the objectives of the latter relative to the objectives of a regular bank.

## 5.2 The blanket guarantee, shareholders’ losses and risk-taking

There is little doubt that the Swedish banks before the crisis were considered protected in the sense that most creditors were considered safe although there was no explicit deposit insurance system. The banks had been tightly controlled until the mid-1980s and treated like public utilities. As a result the banks preferred cheap loan financing and capital was kept low. Under these conditions the competition among banks tended towards volume competition, since the cost of funding depended

very little on risk-taking. There are numerous anecdotes from the period before the crisis about, for example, incentives for credit officers to focus on volume of loans in order to win trips to exotic locations. Thus, the so-called moral hazard effects of explicit and implicit protection of banks' creditors are likely to have played a role in Swedish banks before the crisis.

The blanket guarantee that was issued in 1992 confirmed the protection of creditors even beyond expectations. The guarantee is likely to have created lasting expectations of creditor protection. The formal abolishment of the guarantee after the crisis was not likely to have affected expectations substantially, since a guarantee can be re-introduced very easily as soon as it is deemed necessary.

The guarantee also protected shareholders indirectly. The banks' costs of funding were lowered to the benefit of shareholders. As a result share prices of the banks increased immediately and continued to rise dramatically during 1993.

In the current crisis we can observe a confirmation of these effects. In Sweden and other countries banks have been 'surprised' holding insufficient capital and new expanded guarantees of creditors have been issued.

In the case of the privately owned, medium sized Gota Bank shareholders were not protected. After failing to sell the bank as a whole the state took over the bank for one Krona. Thereby, the government wanted to demonstrate that shareholders will not be protected. However, the policy towards Gota Bank's owners was contradicted by the effect of the blanket guarantee on shareholders of the other private banks. One interpretation of the differential treatment of the shareholders in Gota Bank is that this bank was not big enough for stakeholders to receive protection beyond the formal guarantee of creditors.

### 5.3 Asset selection, valuation and competitive effects of a "bad bank"

There are two important issues to settle when forming a "bad bank" to manage and unwind the non-performing assets of a bank. The two issues are the selection of assets that will be transferred to the "bad bank" and the valuation of these assets. These issues are rarely discussed in connection with "Swedish model" but they are critical for the effects of creation of a "bad bank."

In the Swedish case the implementation of the "bad bank" model was limited to the state-owned Nordbanken (including Gota Bank). This selectivity had potentially substantial effects on the competitiveness of the remaining sound Nordbanken relative to the privately owned banks.

The magnitude of these effects would depend on the valuation of the assets Nordbanken “sold” to the “bad bank”, Securum.

A second aspect of the selection issue was that Nordbanken was given free hands to choose criteria for non-performing loans that were transferred to Securum. The new management of Nordbanken took the opportunity to think through the bank’s future strategy and to give the remaining sound bank a good start. The management kept only loans that with substantial certainty would perform and a large number of performing loans were transferred. Thus, a number of small and medium-sized businesses found themselves in the hands of Securum although they were up to date with payment of interest and principal. Nordbanken was able to reduce potential costs associated with bankruptcies as well as costs of rescheduling and forgiving loans to firms facing short-run distress. Competing banks did not have the same opportunities. The consequences for businesses of Nordbanken’s ability to choose which loans to keep are discussed below.

The valuation of the assets transferred from Nordbanken to Securum also affected competitive conditions. One model for valuation is that the bank receives a price representing the market value of an asset, if there is a market, or the value of expected future cash flows generated by an asset. In this case the bank is primarily relieved of the risk associated with transferred assets while expected losses remain the responsibility of the bank.<sup>30</sup>

A second model for valuation is that the transferred assets are valued above economic value in order to recapitalize the bank. In this case the bank is compensated for losses that have already occurred but not realized. In the Swedish case the assets transferred from Nordbanken to Securum were given a value substantially above their economic value. This overvaluation contributed to the fresh start of the new, leaner Nordbanken while competitors were struggling to restore their capital base in the face of substantial credit losses.

In the Nordbanken-Securum case loans with a book value of SKK 67 billions were transferred to the “bad bank.” The official price was set at 50 billions of which 23 billions were given to Securum as equity capital while 27 billions were borrowed from Nordbanken and backed by a state guarantee.<sup>31</sup> The large capital infusion reflected large expected losses for Securum in the process of unwinding the assets. Nordbanken was at the same time given a SKK 10 billion capital infusion. This amount should also be viewed as a part of the price Nordbanken received. Thus, neglecting capital infusions into Nordbanken prior to its division, Nordbanken received 60 billions

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<sup>30</sup> We neglect here that liquidity can drive a wedge between the market value and the present value of cash flows. This issue was not important at the time of the Swedish crisis.

<sup>31</sup> See Carlsson (2002)

for assets booked at 67 billions. At the end of 1993 this value had been written down to 33,3 billions.<sup>32</sup> If we assume that these losses were expected at the end of 1992 the excess valuation of the assets transferred to the “bad bank” amounted to 30-35 billions.<sup>33</sup> Without this large overvaluation Nordbanken clearly would not have survived.

An evaluation of the wisdom of the Swedish model must consider the question what would have happened if Nordbanken had been declared bankrupt? The bank was probably not large enough to be considered a systemic threat and it can be argued that the other large commercial banks could have recovered faster without competition from a bank relieved of its non-performing loans. It should be noted, however, that there were no formal procedures for handling the bankruptcy of a bank except the regular, time consuming procedures for corporations. There was no attention to such procedures until after the crisis.<sup>34</sup>

#### 5.4 Conflicts of interest and unnecessary bankruptcies

We consider two types of conflicts of interest arising as a result of the design of the Swedish model. The first conflict arose as a result of Nordbanken’s ability to choose which loans to keep and which loans to transfer to Securum. The conflict amounted to an issue of equal treatment of borrowers. The second conflict is of a more ethical nature and relates to managers’ ability to use information acquired on the job for personal gain.

We argued above that Nordbanken’s right to choose criteria for “non-performing loans” may have distorted competition but it is likely that it also led to a large number of unnecessary bankruptcies and, thereby, large losses for individual business-owners. The management of Nordbanken took the opportunity to transfer loans that were up to date with payments but had some likelihood of becoming distressed or costly for the bank if they were to be rescheduled or partly forgiven. If these loans had been transferred at “fair” prices the bank would not have gained by transferring them to the “bad bank.” If they had stayed within Nordbanken some of the borrowers would have continued to amortize their loans while others would have run into difficulties with payments but not to such a degree that the bank would have gained by declaring them bankrupt. These firms would have activities that were sustainable in the long term but survival would have required some debt forgiveness. In this situation it would have been

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<sup>32</sup> See Jennergren and Näslund (1998)

<sup>33</sup> Considering that the USA is more than 30 times larger than Sweden the magnified “US-equivalent” overvaluation of Nordbanken’s non-performing assets was in the order of magnitude USD 150 billions.

<sup>34</sup> A government committee proposed specific procedures for bank-bankruptcies in 2000 but no action was taken. The current crisis has revived the proposal.



advantageous for Nordbanken to help the firms survive by accepting some loan forgiveness. By selling loans of this type to Securum at excess prices the bank was able to avoid finding itself in a situation where it would be compelled to reschedule or forgive loans.

The task of contributing to a reconstruction of a firm with excess debt can be considered part of an implicit contract between a bank and a borrower. For Nordbanken to renege on this implicit contract would not have had any consequences if the borrowers had had the same opportunities for debt restructuring with Securum. Securum was not a bank, however. The firm with its existing owner would have had to obtain financing from another bank to avoid bankruptcy. The problem the firm faced was that it had been classified as non-performing by Nordbanken when the loans were transferred to Securum.

The main task of Securum was to unwind its assets over time and to recover as much value as possible. The “bad bank” was not likely to play the role of a “house bank, however. The industrial expertise may have been lacking and even if it existed it would have to convince other banks that some of its assets were performing or potential buyers that businesses were viable at reduced debt ratios in spite of having been abandoned by Nordbanken. It is not surprising that the firms with loans that had been transferred to Securum had difficulties finding new bankers. Nordbanken was best informed about the firms in terms of hard and soft information and it had classified the loans as non-performing. Bergstrom, Englund and Torell (2003), who conducted a generally positive study of Securum, noted that a relatively large share of Securum clients were declared bankrupt in comparison with financially comparable clients of other banks.

A Swedish interview study concludes that the frequency of bankruptcies was unnecessarily high in Sweden at the time as a result of an unwillingness of banks to supply bridge financing or debt relief to firms with viable activities.<sup>35</sup> The study may be flawed since it was conducted with some stakeholder interest but its conclusions are supported by the large number of court cases after the crisis involving Nordbanken and Securum in particular. In these cases Nordbanken was sued for renegeing on credit promises. The business-owners were not successful in court, however, since the contracts they referred to were unwritten.

The second type of conflict of interest that has been linked to Securum arose as a result of the ability of management’s and employees’ to use information about assets acquired on the job for personal gain after leaving their jobs at the “bad bank.”<sup>36</sup> It is possible that employees of

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<sup>35</sup> The study was conducted by the Swedish Employers Federation as interviews of auditors and bankruptcy lawyers.

<sup>36</sup> See Björk (2008)

Securum could use insider information about asset values after resigning their positions to a greater extent than bank managers and employees, since banks stood under greater scrutiny by supervisors.

### 5.5 The devil is the details

A “bad bank” of the type Securum represents can contribute to a banking system’s recovery in a banking crisis if there are wide-spread expectations that property-or other asset prices will recover after some years while rapid assets sales will cause large losses for the banks. A separate state-owned firm can unwind the assets at a slower pace than a bank without facing liquidity constraints and thereby recover asset values to a greater extent than the bank could.

In the current crisis many banks hold assets they cannot sell at prices they consider reflections of economic values. The low liquidity, meaning that there are few potential buyers, depends to a large extent on uncertainty about asset values and potential buyers’ suspicion that sellers are trying to sell the worst assets first. Thereby, the values of the banks become uncertain as well. In this case the state can enter as a buyer and remove the uncertain assets from the banks’ balance sheets. The devil lies in the details, however. The valuation of the assets determine the extent to which tax-payers take over losses that contractually should be taken by shareholders and uninsured creditors of the banks. In case assets are overvalued the greatest subsidy tends to go the shareholders and the creditors of the banks that are responsible for the largest losses. Selectivity in the purchase of assets from different banks contributes further to competitive distortions.

In the Swedish case assets transferred to a “bad bank” were valued far above economic values at the time and only the state-owned commercial bank received the implied subsidy. The non-state owned banks dominating the market remained solvent and did not receive similar subsidies, but their cost of funding was lowered due to the blanket guarantee of liabilities. Such guarantees can be costly, however, since incentives of banks’ creditors to consider risk are weakened. Conflicts of interest relative to clients of banks arise if the banks are given the opportunity to determine themselves whether assets are “non-performing.” The Swedish case also indicates that managers and employees of the “bad bank” may obtain inside information that can be used for personal gain unless rules of ethics with respect to the use of such information are introduced.

## **6. European proposals for crisis resolution and financial sector reform**

Differences between Europe and the USA in their approaches to the crisis can be explained by the greater decentralization of fiscal and regulatory authority in Europe. Fiscal policy, as well as financial sector regulation and supervision, is a national responsibility while monetary policy within the euro area is centralized to the European Central Bank (ECB). The UK, Denmark, Sweden and Norway as well as most EU members in Central and Eastern Europe have independent currencies and central banks, however. Even within the euro area there is ambiguity with respect to the “lender of last resort” role of the ECB relative to the national central banks that participate in the ECB.

The less aggressive approach of the ECB relative to the Federal Reserve in the USA in the current crisis can be explained by the lack of legal authority of the ECB to initiate lending programs to banks without sound collateral. The ECB is not in a position to risk tax-payers’ money in all member states the way the Fed has done by opening facilities for lending against weak collateral to a variety of financial institutions. Most crisis management authority lies on the national level where fiscal resources can be committed although the European Commission as well as the ECB can issue recommendations and act as agents for coordination.

Since the EU has no fiscal policy authority, stimulus programs must also be decided on the national level. There is no consensus with respect to the required magnitude of stimulus packages and the extent of government intervention to rescue ailing industries. In general, there is currently greater skepticism in Europe than in the USA with respect to large deficits as a way out of the crisis. Nevertheless, a European Economic Recovery Plan (EERP) was agreed upon in the EU in December 2008. This plan committed governments to deficit financed stimulus packages amounting to 400m euros over 2009 and 2010 corresponding to 3.3 percent of GDP. Aid to specific industries is constrained by EU rules with respect to state aid. Protectionist tendencies in various countries can also be reigned in to an extent by EU rules with respect to free and fair trade.

Crisis management with respect to the financial sector has also been discussed on the EU level although decision making powers remain on the national level. Coordinated action was agreed upon on the EU level during the fall 2008. The policy measures included recapitalization of banks and guarantees to prevent “meltdowns” of large banks and to restore liquidity in financial markets. The European Commission presented a Communication to member states to guide them in design of measures to deal with “toxic” assets in such a way that state aid rules within the EU would not be violated. The alternative measures presented included state purchases, state guarantees, swapping or hybrid arrangements. Banks holding toxic assets should disclose them to national supervisors.

Banks' liabilities were also guaranteed beyond the deposit insurance schemes existing before the crisis.<sup>37</sup> The extent of these guarantees varies from country to country depending on the financial health of the banking system in each country. It is probably fair to say that banks' liabilities have been almost completely guaranteed in most EU-countries even if blanket guarantees have not been implemented.

The European Commission has been active in developing principles for a new financial regulatory framework. A set of principles was developed before the G-20 London Summit on April 2, 2009. In a Communication<sup>38</sup> the Commission "invites the European Council" to take a number of steps with respect to long term reform of financial sector regulation and supervision with the objective of creating "responsible and reliable financial markets for the future" (page 4). The Commission proposes a new reform program including:

- (i) the creation of a European body to oversee the stability of the financial system as a whole.
- (ii) the development of an architecture of a European financial supervision system,
- (iii) regulatory and supervisory standards for hedge funds, private equity and other systemically important market players,
- (iv) development of tools for early intervention,
- (v) initiatives to increase transparency with respect to complex financial products,
- (vi) increased quantity and quality of capital for trading book activities,
- (vii) actions to establish a more consistent set of supervisory rules
- (viii) marketing safeguards for retail investment products,
- (ix) strengthening of measures to protect bank depositors, investors and insurance policy holders,
- (x) measures on responsible lending,
- (xi) improvement of risk management through alignment of pay incentives with sustainable performance,
- (xii) strengthening of recommendations on remuneration of directors and
- (xiii) implementation of measures to ensure more effective sanctions.

The above list is impressive in its scope but it obviously is a list of intentions based on experiences of the current crisis. The list demonstrates the Commission's intentions to push far-reaching reform.

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<sup>37</sup> The co-insurance in the pre-crisis UK deposit insurance system has been abolished. The run on the Northern Rock bank in the UK was blamed on the co-insurance.

<sup>38</sup> Commission of the European Communities (2009)

Comparing this list to the discussion of institutional failures in Section 4 the absence of attention to procedures for closing or otherwise deal with insolvent financial institutions is glaring. Item (iv), development of tools for early intervention, is the closest the Commission comes to insolvency procedures. There is also no mention of problems caused by banks being “too big to fail” and measures that could enhance the role of market discipline. On the contrary, in item (ix) it seems that the Commission wants to expand the scope of explicit protection of depositors and investors.

The most interesting aspect of the Commission’s list is its attention to risk management, pay incentives and remuneration of directors in items (xi) and (xii). Failures of corporate governance systems to produce effective incentive structures in the financial sector were discussed in Section 4. Remuneration policies in the financial sector have received much attention in the EU recently and the Committee of European Banking Supervisors (2009) has developed ‘high level principles for Remuneration policies’ in the financial sector. The guidelines developed by the Committee are intended for both the financial firms and supervisors. In other words, the intention is to bring remuneration policies under the scope of supervision.

The principles developed for remuneration refer to objectives, internal and external transparency, decision making with respect to remuneration as well as more specific rules for measurement of performance and form of remuneration. The Committee states explicitly that remuneration should not encourage excessive risk-taking, measurement of performance should include adjustment for risks and cost of capital, and bonus payments should not be upfront cash payments but contain a flexible deferred component that considers risk-horizon of performance.

These principles provide the foundation for far-reaching intervention in remuneration policies in the financial sector. The danger with such intervention is that incentive effects of remuneration policies are not easily understood. Lacking market discipline on risk-taking and indirectly on incentive structures, there are reasons to be skeptical about supervisors’ ability to influence incentives effectively as well as efficiently.

## **7. Implications for economic policy to enhance financial stability in emerging economies**

We turn finally to policy implications from an emerging market perspective. Three types of economic policy in a financial crisis have been discussed. First, legal, regulatory and political institutions can contribute to reduce the likelihood that shocks to the system cause financial crises. Second, crisis resolution procedures are required once a large part of the financial system is

distressed. Third, macroeconomic policy including exchange rate arrangements can be conducted so as to minimize the impact of shocks and to contribute to an economic recovery. The policy implications for a particular country would depend on whether it has its own financial crisis or whether foreign interest rate and demand conditions have affected domestic economic activity.

It has been argued that financial systemic effects of an event disrupting the financial sector can be minimized by the existence of appropriate contractual, legal, regulatory and political institutions. These institutions would reduce frictions in the allocation of losses caused, for example, by the bursting of a real estate bubble by reducing incentives to delay the allocation of losses in accordance with contractual arrangements. Such delays contribute to contagion and to reduced supply of credit from financial firms with uncertain survivability and from investors in financial markets. The institutions should also contribute to minimizing the incentives in financial firms to shift risk to deposit insurance funds and tax payers.

The institutional failures emphasized here are implicit protection of creditors and sometimes even shareholders of financial firms, lack of credible, formal insolvency procedures for financial institutions, corporate governance systems in the financial sector, and failure of the political process to rapidly and credibly determine principles for allocation of losses. At the center stands the lack of operational and credible insolvency procedures for financial firms. Rule-based procedures for “structured early intervention” and the closing of banks have been implemented in the US but they do not apply effectively to banks that are “too big to fail” and to non-bank financial firms. Other countries lack effective and predictable procedures completely.

The lack of specific insolvency procedures for financial firms implies that governments are compelled to issue far-reaching guarantees to creditors and even to shareholders of financial firms once financial institutions are weak and the functioning of the financial system is threatened by insolvency or near-insolvency of banks and other financial firms. Policy makers face the problem of minimizing the effects of a possible credit crunch caused by banks’ need to build up capital. The difficulties and potential costs of conducting such policies were illustrated by the “bad bank” model used in Sweden in the early 1990s. Competitive effects of the valuation of the “bad assets” must be considered and the selection of assets transferred to the “bad bank” according to rules that minimize potential conflicts of interest.

The extent to which regulation itself contribute to systemic effects in a financial crisis has not been addressed directly. However, the “too big to fail” argument for implicit protection of financial firms and their stakeholders can be considered a result of a regulatory failure.

The Basel Capital Adequacy framework does not consider the potential systemic contribution of a particular firm's failure. It actually favors large financial conglomerates. The European Shadow Financial Regulatory Committee (2009) has recommended that systemically relatively important financial firms should be required to keep a relatively high capital ratio.

Lacking effective institutions that may prevent or reduce the likelihood of systemic consequences of a large shock in financial markets, policy must focus on creating a stable macroeconomic environment without strong incentives to build up leverage, and where risk and liquidity are not influenced by shifts in macroeconomic policy. Macroeconomic policy can also contribute to make the impact of de-leveraging as rapid and painless as possible. The design of such policy is highly controversial and beyond the scope of this paper. Frictions in labor and product markets would be important for evaluating alternative policy responses.

Turning to the current financial crisis and implications for emerging market economies without "home-grown" financial crises, there is little doubt that many countries are or will be seriously affected by a de-leveraging process in the US and Europe. The experiences from the Great Depression and from the Japanese crisis suggest that de-leveraging may stretch over a prolonged period. The experience from the Nordic crises is more optimistic. The recoveries in Finland, Norway, and Sweden were supported by large-scale exchange rate depreciations in 1991-92. The introduction of floating exchange rate regimes aided recovery by making it possible to lower the interest rate and stimulating the demand for exports. This possibility of using exchange rate depreciations to exit from a financial crisis seems, however, to be an option that is limited to small open economies.

A prolonged period of suppressed demand in the advanced industrial economies implies a radical change in the economic situation of the emerging economies. Economic growth in the emerging economies has, during the recent decade, been supported by the strong growth in private consumption and investment which has taken place in the United States, the United Kingdom, and a number of Continental European countries.

A weakening of demand in the advanced industrial economies will affect economic growth in the emerging economies through several channels. First, a reduction in private consumption and investments in the advanced industrial economies will spill over into lower import demand. As a second channel, a lower demand will diminish the wage pressures in the advanced industrial countries and will thus make enterprises from these countries more competitive. The weaker cost pressures in home markets will make firms from the advanced industrial economies

less inclined to shift production to low-cost locations. We may thus expect a reduction in direct investments to the emerging economies. Finally, as a third channel, a reduction in demand will increase competition in goods markets, implying that producers from emerging economies will face a harder time when they try to expand their production through exports. Enterprises in the advanced industrial countries will try to recapture home markets, thus driving out competitors from the emerging economies.

The consequences of increased risk-premiums in markets for debt instruments have hit the Asian economies through channels which are known from previous crises. In particular, there has been a capital outflow as investors have withdrawn to countries which are considered as safe heavens, in particular the United States. The credit spread between securities issued in emerging economies and securities issued by issuers in the advanced industrial countries has widened. During the stock market crash in October 2008, stock prices in the Asian countries showed a bigger decline than in the advanced industrial economies. Due to capital outflows, the currencies of several emerging economies have come under pressure.

Another consideration from an emerging market point of view is that the economic crisis will increase pressures on policy makers in the advanced industrial economies to pursue protectionist policies. During previous economic downturns, such protectionist pressures have been resisted by national policy makers. However, the present crisis may turn out to be more prolonged than previous crises and the effect of the current crisis on broad segments of the population is likely to increase political pressures for protectionism.

On a positive note, pressures may develop within the emerging economies for the introduction of floating exchange rate systems. Until now, exchange rate policies which have involved varying degrees of exchange rate fixity vis-à-vis the U.S. dollar have worked to the advantage of the emerging economies. Thus, the fixed exchange rate has made it possible to take full advantage of the strong import demand from the United States and, at the same time, it has improved financing conditions through easier access to the international capital markets. The United States has similarly seen an advantage in the fixed exchange rate policies because this has worked to keep down the real interest rate by facilitating capital imports from the emerging economies. However, in the current situation, a floating exchange rate will allow the emerging economies to pursue more expansive economic policies, thus bolstering production in the face of lower demand from the advanced industrial countries. A floating exchange rate system will further



make it possible for emerging economies to exploit the savings glut for their own advantage, making it possible to maintain a low interest rate which will benefit industrial development.

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**Table 1. The increase in residential real estate prices relative to income**

	Increase in price-to-income ratio (percent)	
	1997-2007	2002-2007
Canada	31.4	30.8
Denmark	63.6	38.2
Finland	-	15.0
France	69.1	47.5
Germany	-24.3	-13.0
Ireland	86.1	20.2
Italy	47.6	24.9
Japan	-28.4	-22.2
Netherlands	54.3	15.7
Norway	54.3	26.4
Spain	67.3	38.3
Sweden	61.6	34.5
Switzerland	- 6.9	5.7
United Kingdom	93.9	39.5
United States	23.4	14.7

Source: OECD, Economic Outlook, Statistical Appendix.

**Table 2. The increase in credit to the private non-financial sector (percentage points of GDP)**

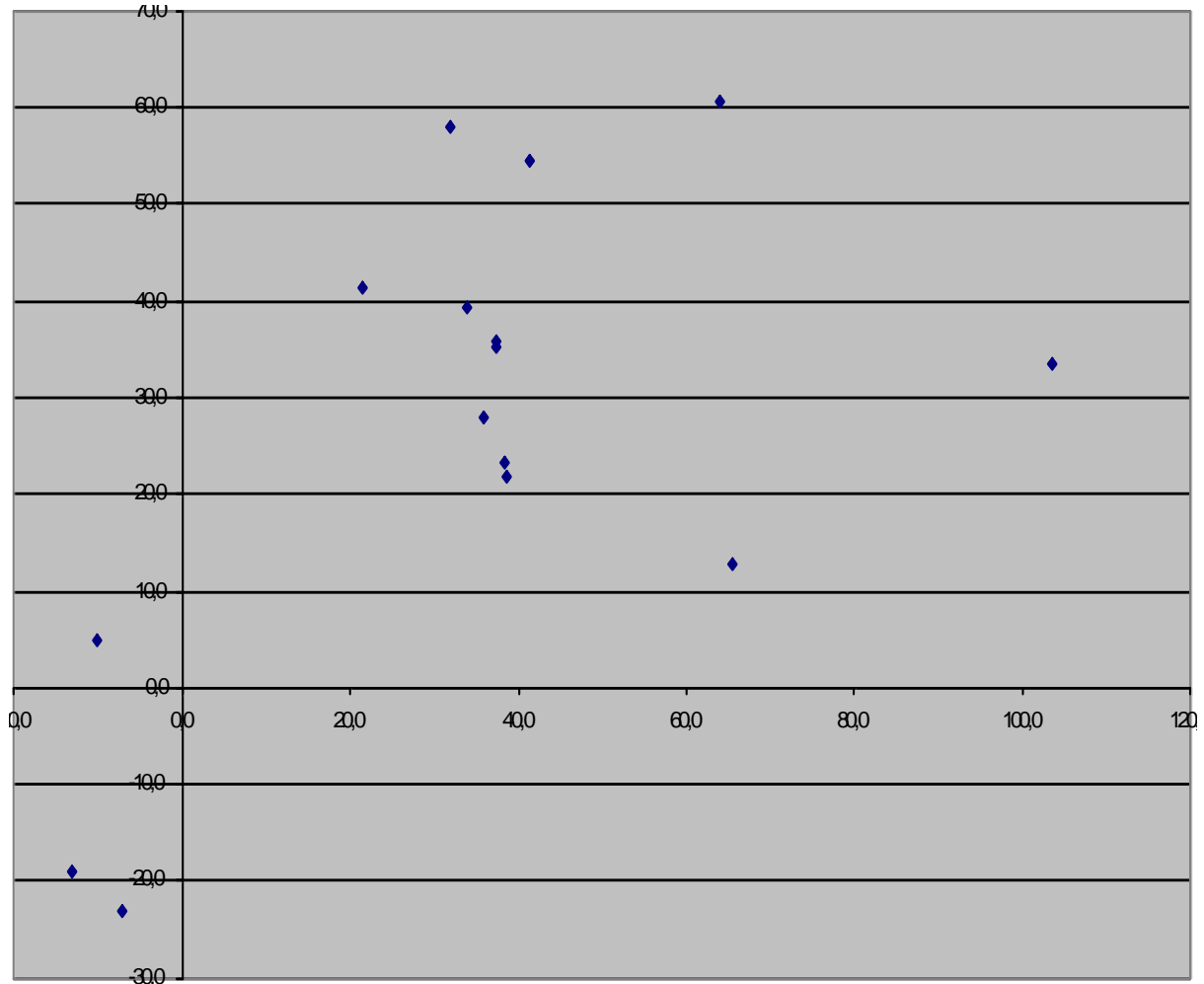
	Increase 1997-2007	Increase 2002-2007
Austria	24.4	7.6
Belgium	49.6	16.9
Denmark	73.4	52.4
Finland	39.5	29.5
France	49.3	24.9
Germany		
Ireland	13.3	-10.6
Italy	43.8	25.7
Japan	-44.4 <sup>1</sup>	-17.9 <sup>2</sup>
Netherlands	60.5 <sup>1</sup>	12.0 <sup>2</sup>
Norway		
Spain	143.7	77.5
Sweden		
Switzerland		
United Kingdom	87.7 <sup>1</sup>	43.3 <sup>2</sup>
United States	59.2	22.7

1. 1997-2006 period.

2. 2002-2006 period.

Source: OECD, National Accounts.

**Figure 1. The relationship between increase in household debt and increase in residential real estate prices**

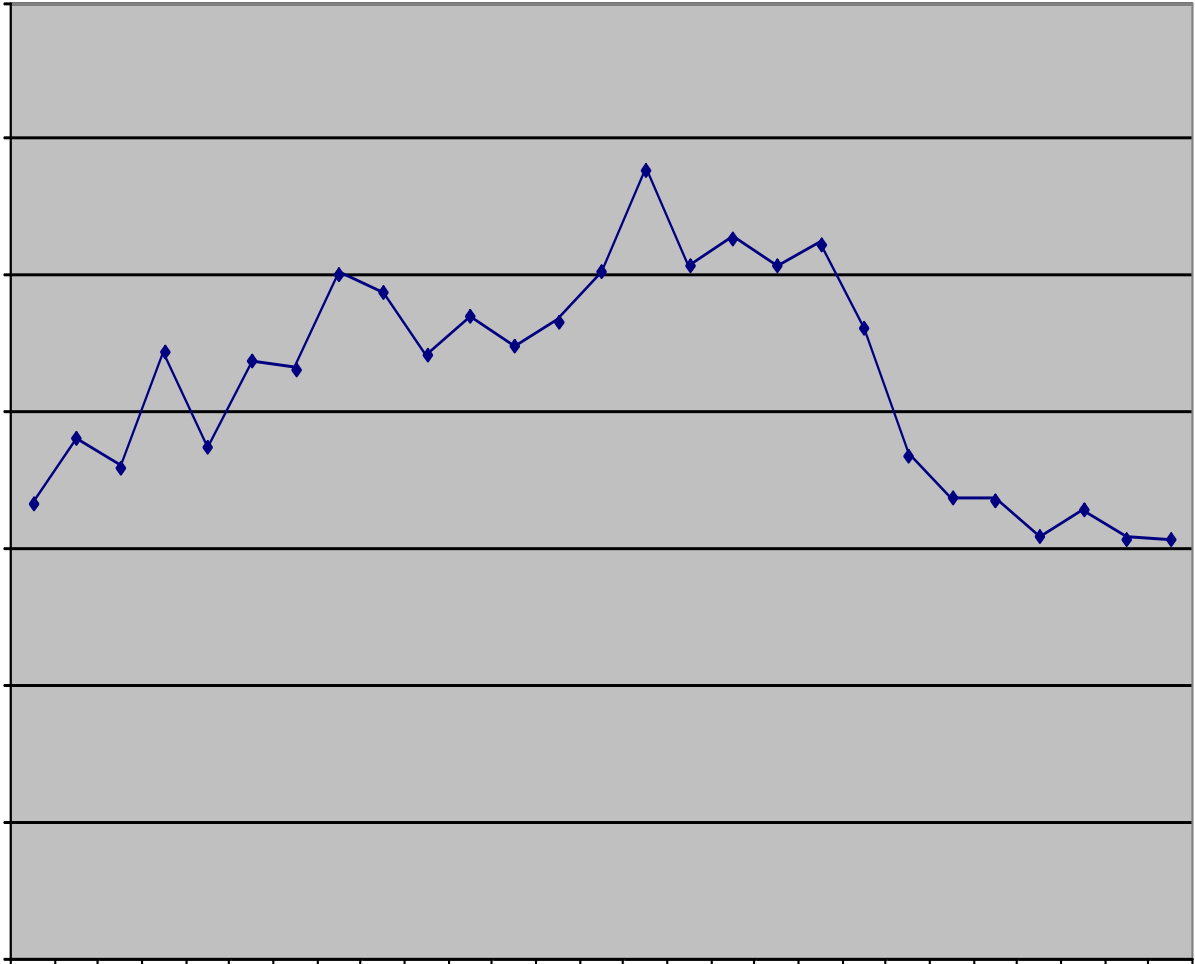


The figure shows for 15 advanced industrial countries (Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, Norway, Spain, Sweden, Switzerland, United Kingdom, and the United States) the relationship between (i) the increase in household debt relative to gross domestic product (measured in percent) over the 2000-2007 period (for Japan, Netherlands, Switzerland and the United Kingdom 2000-2006, for Ireland 2001-2007), and (ii) the increase in household prices relative to their long-term level (measured in percent) over the same period. House prices relative to long-term levels are found as the price-to-income ratio measured by the OECD. Data sources: OECD, Economic Outlook; OECD, Financial Accounts.



**Figure 2. The evolution of bank lending in the United States 1914-1940**

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The figure shows the development of lending from the member banks of the Federal Reserve System in relation to gross domestic product in the United States. Sources: Office of the Census, *Statistical Abstracts of the United States*.

