Causes of the financial crisis: Risk misperception, policy mistakes, and banks’ bounded rationality

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ABSTRACT

This article describes important determinants of the current financial crisis. In particular, the text focuses on the bounded rationality of banks which contributes to the credit cycle. The credit cycle is the mechanism that links the present financial crisis with earlier crisis. Shortcomings on the side of monetary policy, rating agencies, and bank regulation are also discussed. We propose measures to strengthen the stabilizing effect of market forces, banks’ risk management, as well as possible changes to regulation and monetary policy.

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“The structured credit markets and the growth of ‘originate and distribute’ banking have amplified the turmoil in credit markets in recent months. But under the new clothes, the old credit cycle is still recognisable. It is important we learn the lessons about the new credit instruments and markets. But we also need to address again the roots of the credit cycle.” Gieve (2008, p. 8)

1. Background

The two economists Karl Case and Robert Shiller (Case and Shiller, 2003) were among the first to warn us of the impending crisis. These researchers pointed toward a dynamic of U.S. house prices driven mainly by price expectations. Anticipations of capital gains on housing property led to a bubble of house prices. Fig. 1 shows the course of house prices since 1987. The trend of rising prices had started in the 1990s and was not affected by the bursting of the Internet bubble. This price development was also fuelled by public policies favoring private home ownership and was excessive relative to fundamentals like interest rates, population growth and construction costs. An important further element in this development was the tendency to extend credit to borrowers with low credit ratings (the so-called subprime market). The business of banks and loan brokers flourished because lenders worked with a new business model. Mortgages were sold to other financial enter-

prises which tailored a range of saleable financial assets based on the underlying credit claims. The various newly engineered assets differed with respect to their default risk. For several years rating agencies granted excellent ratings to the range of these assets privileged regarding default risk. Hence, for a number of years financial decision makers worldwide considered these financial assets to have a very favorable risk-return profile. Today we know better.

When after years of speculative price increases the U.S. housing market began to crumble in 2006 an ever greater number of borrowers defaulted on their loans. It was at that time that the credit costs in contracts with flexible interest rates started to rise. In that situation many debtors, particularly those with low incomes, found themselves unable to make the payments they had committed themselves to in their loan contracts. The fact that borrowers had to contribute only a fraction of capital to house purchases compared with only 10 years previously had a magnifying effect. According to Lindsey (2007), first time home owners in terms of their own money had to come up with only 2% of the total cost of a home. Fifteen years previously this fraction was roughly 10 times higher. Against this background and in light of the falling prices of their properties many home owners saw no possibility or no advantage in honoring their credit commitments. Hence, foreclosures in the U.S. reached a peak in 2008 with 2.3 million homes and apartments.

1 In these credit contracts there is typically no further collateral like future income or other assets.
Economists soon pointed toward the urgency of coming up with a legally dependable framework for debt conversion and debt relief (e.g., Zingales, 2008, Shiller, 2008). Clearly, bankers and credit brokers with their aggressive lending tactics bear a part of the responsibility. Hence, policy should help borrowers to improve their desolate situation. The crux of any measures of debt relief is that they should not promote abuse by those who remain in a position to meet their obligations. However, in a major crisis it is more important to find and implement practicable solutions rather than look for incentive-wise perfect solutions. When credit obligations are again honored and more borrowers make interest payments (even if reduced) the price of securitized credit instruments will become more calculable and will rise again. Here is the barrel that continues to leak. Here is the black hole into which hundreds of billions of dollars have disappeared.2

In terms of policy mistakes that have contributed to the current financial crisis monetary policy is a major culprit. As John Taylor (Taylor, 2009) shows, U.S. monetary policy since 2002 has been too expansionary. This verdict is based on an analysis of the federal funds rate. For more than 20 years the Federal Reserve has steered this interest rate and made changes in it in response to changes in the course of inflation and aggregate income. As empirical studies document the Fed has raised (lowered) the federal funds rate when inflation and GDP growth have increased (decreased). This systematic policy reaction (the so-called Taylor rule) was not only qualitatively constant but also quantitatively stable.3 It is exactly this rule-based, systematic and transparent aspect of monetary policy since the 1980s that many observers see as the basis of the favorable macroeconomic track record (the so-called “great moderation”). The key point here is that the actual federal funds rate since 2002 has followed a course markedly below what this policy rate should have been according to the Taylor rule. Remarkably, it was around 2002 that the housing bubble developed its full power.

According to John Taylor it is questionable whether the insolvency of Lehman Brothers was indeed the critical event that dramatically worsened the crisis in September 2008. For sure it was a key (and possible wrong) decision by the U.S. Treasury and the Fed to let a major bank fail. It seems plausible that this bankruptcy led to a system-wide loss of confidence that exacerbated the crisis. However, empirically it is questionable whether this event was really critical. Assessed by the risk premium in the money market it appears as if the counter-party risk (the risk that the counter-party in a financial transaction will not pay) indeed notably rose in July 2007 but that it only shot up in October 2008. Into that period fell important announcements of U.S. policy makers on how the crisis would have to be managed. These political statements had to be altered repeatedly in that period. Hence, the recognition of the difficulties of policy makers to deal with the crisis should certainly also be seen as a factor in the aggravation of the crisis. Cases of policy making adding to uncertainty and instability have not been confined to the U.S. One example from Europe is the protracted process toward a (in the end questionable) solution for so-called “bad banks” in Germany.

2. Of risks and herd behavior

Some causes of the present troubles – like the complexity of financial products and the globalization of markets – might seem unique to the current crisis. Yet, from a historical perspective these causes are not new. Financial sophistication and globalization of markets had also reached a peak in the late 1920s. However, the most important common element of the current financial crisis and earlier crises lies in the nature of the so-called credit cycle (Kindleberger, 1978). The term “credit cycle” describes the tendency of banks to excessively increase their credit supply during the upswing and to strongly cut down lending during recessions (when everybody tries to evade risk). The longer the boom lasts the more banks drive each other into excessive risk taking. This happens as banks lend at lower interest rates and on easier terms. This phase of over-optimism regularly ends as the object of investment (and speculation) hits the market in large quantities.4 As this happens the price bubble bursts and euphoric expectations of future capital gains are frustrated. This marks the beginning of the crisis and banks make large losses on defaulting loans. Banks now realize that their lending during the boom was made at rates that turned out to have been too low to cover the default risks. The reaction to this wake up call typically is a strongly reduced inclination to bear risks, and as a result a decline in aggregate lending. Several authors (e.g., Lindsey, 2007; Silvia, 2007; Gieve, 2008) have documented the similarities of the recent boom–bust pattern with earlier episodes.

How can these excesses of lending be explained by behavioural tendencies? In order to find an answer we have to distinguish motives that are effective within the single bank and forces that result from interactions among banks. The longer a boom lasts the younger and the less experienced are the individuals in management positions of banks who are responsible for lending decisions. They will not yet have experienced a major setback during their career and tend to underestimate credit default risks. More experienced decision makers who warn of the build-up of risks find themselves accused of failing to understand the signs of the time and of dragging their feet. Fearing to be pushed aside they often simply follow the trend. The tendency toward excessive risk taking during the boom is further encouraged by the typical compensation scheme that links the banker’s incomes to current profits of the bank (see Rajan, 1994; Kroszner, 2008).

What happens at the level of the single bank is magnified by the competition among banks. The individual bank faces the challenge of strategically positioning itself during the boom. If it chooses a cautious lending policy the bank is in danger of being marginalized by bolder competitors and becomes a take-over target as the boom carries on. This hazard is taken into consideration by banks that would tend (without this peril) to lend with greater restraint.

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2 Asset values have also declined in the course of the crisis because short- and medium-term growth prospects have turned bleak.

3 Specifically, the Taylor rule stipulates that the federal funds rate should be set so that it is changed in line with deviations of GDP from trend and with deviations of the inflation rate from target.

4 In the boom leading up to the current crisis residential homes were the primary object of investment.
as margins in the credit business deteriorate relative to the default risks incurred. As a result, many banks in their competition for market share and struggle for survival follow the trend towards riskier lending. The herding that emerges in such an environment has been documented, for example, by Rötheli (2001) based on data of major Swiss banks of the 1980s and 1990s. The behavioural tendencies in risk taking described regularly lead banks into excessive lending during good times. As a result banks experience large losses in their credit business when the economic downturn occurs (see, Jiménez and Saurina, 2006; Foos et al., 2007). Thus, the delayed effects of credit booms are losses by the banking system and a deepening of the recession in the real economy.\(^5\)

3. How can financial stability be strengthened through market forces?

The main role of financial markets it to channel savings into productive investments. Further, financial markets make a major contribution to the management of individual and collective risks. However, as the recent experience makes clear, financial markets are at times the source of major system-wide disturbances. If the financial system is to be designed to provide less disruption in the future we will need more effective regulation and stronger corrective market forces. In the following I will detail several measures that promise to strengthen the stabilizing effects of market forces.

3.1. Transparency and effective stockholder control of banks

Should not the owners of a bank be ultimately responsible for controlling the risk taking of a bank? For banks, which are organized as a stock corporation, the stockholders should be able to set the risk profile. This claim is as correct as it is difficult to enforce in practice. In reality stockholders delegate their rights to the board of directors and the management who set the strategy of the bank and conduct the daily business. Between stockholder and management the familiar principal-agent problem is evident. The principal tries to motivate the agent to the effect that he represents the principal’s interests. In any stock corporation this arrangement involves conflict potential. The reason for this is that, typically, management is better informed about the business opportunities and the related risks than are the stockholders. Hence the management has the opportunity to make decisions in a way favorable to their status and income. Highly sophisticated employment contracts for managers could potentially harmonize the interests of stockholders and management. However, actual compensation packages are far removed from this ideal. To date salaries and bonus payments are inadequately tied to the risks assumed. The financial incentives given to management systematically encourage risk taking at the expense of the investors. Indeed here is also a difference between private banks with shareholders who are personally responsible and banks organized as a stock corporation. Those decision makers who besides risking their jobs also put at stake their personal financial wealth will be inclined to direct their attention much more towards the risks involved.

With respect to the control of the management of banks, the stock exchange has to play a more prominent role. A more unobstructed view of stockholders on the business activity of banks and the related risks can help to avoid a rise in stock prices of banks with an aggressive business strategy, which further encourages such risky adventures. But how can we ensure that the stockholders become aware of the risks assumed? Here different aspects have to be considered. First, we need more and better information. Second, we need more highly qualified financial analysts to evaluate this information. With regard to the additional information several aspects are worth considering. Let us first take a look at the information which is already produced and evaluated by public institutions. Many central banks regularly ask banks for data about assets and liabilities and information about income statements. Such data collected uniformly across banks could be published at no significant cost. The legal requirements potentially necessary for a publication of such data should be implemented in the near future. In this process it should also be examined what additional information (e.g. more specific statements about development of several types of credit and credit losses) should be collected from banks and then published. With regard to such detailed information there must be a weighing of interests. On the one hand, there is the political desire for more transparency and, on the other hand, the business interest of the banks involved need to be taken into account. As is well known banks are producers of information and allocate resources to this purpose. Hence, published data should not be overly detailed so as to prevent competitors from benefiting from this expertise without having to pay for it. What matters most is that the extra information made available to the public should help in making banks and their risks more transparent and open to comparison.

Further, publication of the assessments of the banking supervisors should be considered. Banking supervision in many countries assembles information to assess the overall condition of individual banks. The so-called CAMELS-ratings (Capital adequacy, Asset quality, Management factors, Earnings, Liquidity and Sensitivity to market risks) allow the classification of banks into risk groups. The result of the individual investigation and assessments is regularly communicated to the respective bank and depending on the rating the banking supervision puts pressure on the banks to correct the situation. To date this is where the effect of this assessment ends. The economic literature has debated the question of publishing such ratings for years. Feldman et al. (2003) provide a good presentation of arguments for and against publication of such information and also give empirical evidence in support of making such information public. At this point it can be said that particularly in the U.S. there is a willingness to further pursue this opportunity of market discipline for banks (see Petrou, 2008).

An unobstructed view on the risks of banks will also be helpful to improve the compensation systems in banks. It will be necessary to adjust the salaries and bonus payments for the risks assumed. Managers should not be able to earn more merely by taking on a greater risk. Here too the previously discussed new information can be helpful to quantify the risk assumed. An important point to be considered here is that any compensation system should give clear incentives and reinforce successful behavior. From this perspective the suggestion of retaining a part of the bonus payments and paying it out only after several years (if the bank does not suffer a setback) is questionable. In such schemes there is no direct feedback for correct and incorrect behavior. Excessive risk taking by managers would be punished only after years. Accordingly, managers under herding pressures would not act more cautiously in their risk taking. A compensation system based on key risk indices (besides profit information) could potentially correct excesses more quickly.

For the reasons illustrated the production of additional information and the publication of previously confidential data are of great importance.

\(^{5}\) Bazerman (2006) uses the term competitive escalation when addressing such destructive behavior of competitors.

\(^{6}\) Clearly, the role of the shadow banking system plays an important part here. Adrian and Shin (2009) give a survey of the quantitative contribution of the market-based supply of credit to the recent credit boom.

\(^{7}\) A non-trivial problem here is that bankers themselves are among the most important wealth managers. In this function they face a possible conflict of interest with regard to the assessment of the stocks of their own bank. Here the financial press could take on a control function by publicising abuses.
importance for disciplining banks through the stock market. Yet more detailed and more sophisticated information alone will not be sufficient. However, the publication of further and more complex information will also have the effect of attracting a larger fraction of highly talented people to financial analysis. So far, many of the intellectually most challenging activities in banks can be found in the field of financial engineering. In the future talents should not exclusively be directed to such uses where they create financial vehicles of socially dubious value. From a welfare point of view we need more brain power to be directed toward the assessment of banks and their strategies.

3.2. Reform of the rating agencies

Assessing the risks of financial products is an expensive enterprise. Professional rating agencies (the major players being Standard and Poor’s, Moody’s and Fitch) have been providing important services in this field for many years. Rating agencies gather and analyze data with the aim of quantifying default probabilities of assets and firms. With the beginning of the crisis several important flaws of the current system have been uncovered. These defects have contributed greatly to the magnitude of the present troubles. In particular, ratings gave investors a false sense of safety regarding the default probability of securitized loans and credit default swaps. The business model of the rating agencies currently promotes conflicts of interest because rating agencies not only rate financial assets marketed by banks (as, e.g., credit default swaps) but in addition offer other services to these institutions. The competition among rating agencies for corporate customers is not conducive to an unbiased assessment of risks as needed by investors. To make these defects worse, in recent years rating agencies have had to evaluate new and complex financial assets for which there existed no record of historical data and no adequate models of risk quantification (see, Buitier, 2007). A further destabilizing effect of rating agencies can be found in the role given to them in the Basel II accord. Here, the ratings directly affect the quantity of capital banks have to hold. The underestimation of risks of complex assets in recent years has thus contributed to the inadequate capitalization of many banks. It is important to note here that ratings only signal default risks and do so without giving any indication of the accuracy of this signal. The current crisis shows vividly that assets are also subject to price and liquidity risks. The rational assessment of such risks remains a major challenge.

Even if there remain many unsolved problems in the quantification of risks we can hint at the direction in which the rating business ought to evolve. The major priority must be to eliminate the biases toward an underestimation of risks and the false impression of safety among investors. To this end it would be helpful if rating agencies did not only publish ratings, but, in addition, were obliged to publish a measure of accuracy for every such estimate. With more transparency regarding the bandwidth of estimates investors will be able to assess more carefully new and complex financial products. Further, an enforced disentangling of lines of business and additional competitors in the rating business promise competent services in the future (see Buitier, 2007). Although the reform of the rating business is not a key element in a therapy of the current financial crisis it is nevertheless important to address these issues quickly. For one, the pressure of the crisis can help to overcome the vested interests holding on to the status quo and, in addition, further progress in this field would be a welcome contribution to re-building confidence in the financial system.

3.3. New financial products and markets

It should be clear that financial innovation will not come to a halt because of the crisis. Hence, the important question here is what type of innovation could further financial stability in the future. Shiller (2008) proposes a whole set of new financial products for wide use. In particular a futures market for homes could help home owners to hedge against the risk of falling prices. According to Shiller, owners could sell part of their property short on this market and would thus prevent speculative bubbles on the housing market. While there is the notion in economics that speculation tends to stabilize markets (as argued by Friedman, 1953), analyses of recent years have tended to question this proposition. We now know that speculators who extrapolate price trends can also destabilize markets (see e.g., De Long et al., 1990; Rötheli, 2007). Seen from this perspective the new financial products discussed will stabilize the financial market only if market participants are well-informed and far-sighted. If instead there were large numbers of over-confident traders who believe in the continuation of price trends then market activities could exacerbate the problem of price excesses.

Potential problems also come with other forms of new financial products. For quite some time Shiller (1993) has proposed increased international risk diversification through the use of new financial contracts. If we had, for example, financial markets in which we could trade our income for a fraction of the Chinese, Indian or British income then we could insure ourselves partially against domestic business cycle risk. The insurance effect of such transactions would result because, internationally, incomes are only partially correlated. There are at least two significant problems here. First, the insurance effect could lead to a further drop in savings. Second, this scheme generates major counter-party risk. Which international institution would enforce that a country in an economic crisis – but with a recession that is mild relative to other countries – will transfer a significant part of its GDP abroad?

All these proposals for new financial products imply the risk of more rather than less financial instability. No doubt some of these products and markets will emerge. It is to be hoped that this development will take place under close scrutiny of regulators. In recent years – just think of the uncontrolled growth of the hedge funds business – such a control was clearly lacking. With hindsight it is baffling that such risky innovations could emanate from a country that otherwise has such high standards of public safety. Just consider the measures taken in the U.S. against terrorism or the hurdles necessary to market a new drug.

3.4. Off-balance sheet vehicles

Since the 1990s banks have increasingly done business that does not show up on their balance sheets (see Gup and Kolarli, 2005, Chapter 14). Examples of this type of business vehicle are loan guarantees, loan commitments and derivatives (like currency and interest rate swaps). Such products can be used to manage the risk of a bank but they can also, with insufficient internal control of the overall risk exposure, add risks. By now it is clear that there is a need for more transparency regarding these exposures of banks (see e.g., Bernanke, 2008). In future, bank regulation and oversight must control off-balance sheet vehicles much more closely. Such engagements of banks will have to be reflected in the capital requirements. Furthermore, there is a need for common classification and aggregation schemes that help both regulation and the computation of forward-looking indicators of systemic risks (see, International Monetary Fund, 2009). Finally, it is of the utmost importance that off-balance sheet constructs are not allowed to be used to undermine the initiatives for more transparency of financial institutions.

4. The trouble with large banks

The current crisis documents that the decisions of individual banks can put entire economies at risk. This is particularly evi-
dent in smaller economies and Iceland is the prime example (see Jackson, 2008). Iceland’s three major banks pursued aggressive growth strategies which led to their downfall and nationalization and to a major political crisis in that country. Another example is Union Bank of Switzerland (UBS), the largest Swiss bank. After a decade of forced growth it realized losses of 40 billion U.S. dollars in 2008 and had to be saved with public money. The looming insolvency of a large bank is a crisis scenario in any economy and American, British and German banks have received extraordinarily large sums of government money in order to keep them afloat. The argument for such policy intervention is that some banks are of a size (and with so important interconnections with other banks) that gives them system-wide relevance. In other words, there exist banks that are too big to fail. This policy reflex of stepping in to save such large banks needs to be critically reviewed. Experts of the matter see several important moral hazard problems here. Banks have an incentive to grow to a size that, in case of misfortune, assures that they are being saved (see, Stern and Feldman, 2004). A further questionable motive for the drive for size is that a bank’s management can thereby aim at advantages at the stock holders’ expense (see, Hughes et al., 2003).

These motives are particularly important if the reorganization of troubled banks is not left to the private sector. In this case the tax payer bears the risk of the bailout. This leads directly to the question about the maximum possible size of government bailouts. Stress tests are necessary to set conditions and procedures. This also means that limits to the size of individual banks should be considered and that large banks need to be put under special supervision. Furthermore, it is necessary to think about policy schemes that prevent troubled banks to socialize the costs of their earlier mismanagement. The tax payer should not have to pay for mistakes of bankers that, in good times, reap the benefits of reckless risk taking. In summary, it would be wrong to deny the banks the realization of economies of scale but it would be equally wrong to let banks socialize costs by striving for size.

How can banks improve the safety of their business through their own efforts? First, banks need to make safety a top priority. This is not necessarily so and it would, for example, be wrong to assume that all bankers do everything to prevent the risk of insolvency. An example may be instructive here: An investigation by the Swiss banking supervision (see, Eidgenössische Bankenkommission, 2008) on what brought on the troubles at UBS reads like a textbook on behavioral economics. Bounded rationality in the form of over-optimism and over-confidence led bank management to take on ever larger challenges.8 Overall, the detailed account of events portrays a bank that wanted to grow no matter what risks were involved. Based on such experience and given more pressure from stock owners and supervisors banks may now better understand the need for controlling risks more consistently. Those banks choosing to move in this direction could benefit from research and practices in other industries and domains of life where high risks are involved. Managers, for example, of nuclear power plants, of sea, air and space traffic and firms in the chemical industry have learned from accidents and disasters. A distinct field of research has evolved around these issues (see Weick, 1989; Reason, 1990; Marcus, 1995). It indicates the importance of permanently looking for organizational weaknesses and the need of instilling a distinct safety culture at all levels of the organization. One further finding of this scientific analysis of high-risk technologies is that multi-dimensional approaches are of key importance. There is both a need for organization-wide indicators of risks and for decentralized signals and mechanisms. Hence, it would be wrong to work toward unique centralized risk measures (or a small set) that banks’ top management should control. Instead, there is a necessity for diverse models or indicators that signal danger. An interesting situation arises, for example, when one measure indicates troubles while the others see the bank in safe waters. Then we would have a situation where – as a possible response – a specialized task-force should be activated. It would be wrong to oppose such a diversity of risk measures on the ground that the various approaches involved are redundant. In fact multi-layered warning systems are not at all redundant but instead rather complement each other.

5. Better bank regulation

In response to earlier banking crises and especially as a result of the great depression of the 1930s banking belongs to the most highly regulated industries anywhere (see Santomero, 2002). Two concerns are central to bank regulation: protection of depositors and stability of financial markets. For a bank depositor it is practically impossible to accurately judge the risks his bank assumes. The historical evidence is quite clear on this point. Depositors are not able to systematically discipline frivolous banks by early withdrawal of their funds. Hence, deposit insurance has been introduced as a main pillar for the protection of savers. Deposit insurance has a further function in that this scheme helps to prevent bank runs. With the introduction of deposit insurance in more than 90 countries generalized banking panics that were so common in the 19th and early 20th century have now practically been eradicated. However, the current crisis shows that deposit insurance is not sufficient to limit the risks of a generalized banking crisis.9 Banks are linked through the payment system and through various other forms of dependencies. A singly large bank’s inability to pay may thus lead to further insolencies and can trigger a systemic crisis. In order to prevent this banks have to hold sufficient capital to absorb even large losses.

In recent years both bankers and regulators have acted jointly to reduce the level of bank capital relative to the level of bank assets. In light of the enormous systemic risks that have become apparent many of the considerations under Basel II regarding bank capital requirements seem misguided. They resemble measures for improved comfort during flights in good weather. In terms of capital requirements there is clearly a need for a trend reversal.10 Banks need to contribute more to limiting the systemic risk that results from their activities. Concerning the quest for growth of banks we should think about regulation that limits the scale effects in banking. Public policy cannot leave the problem of “too big to fail” unanswered. We have to devise appropriate ways to internalize the costs of this risk. If large banks had to hold higher capital ratios there would be less rivalry for size. Nevertheless, it would be wrong to strengthen financial stability by means of higher capital requirements alone. It is similarly important that new measures be implemented to secure the liquidity of banks. Especially banks that finance long-term investments largely with short-term funds should hold higher liquidity buffers. Here, we have room both for regulatory initiatives (Goodhart, 2008) and for improvements in management techniques (Lopez, 2008).

8 For the psychological factors behind such behaviour see Koriat et al. (1980), Nisbett and Ross (1980) and Reason (1990).

9 In fact, systemic risk can increase as a result of deposit insurance in that it can lead banks to even raise the risks assumed. The correction for this – insurance premia for banks that depend on the risks – has been discussed for many years and it would be very beneficial to implement such measures.

10 Besides the excessive weight given to efficiency over stability priorities there are several other deficiencies of Basel II (see Buiter, 2007). Two of these aspects are the fact that the capital requirement under this regime works in a pro-cyclical way and that a bank can (by using its own model of risk measurement) determine to a significant degree how much capital it has to hold.
6. Monetary policy

The present crisis is not the first to teach lessons to policy makers. Important insights were gained by earlier experiences particularly by detailed analysis of the great depression. In the early 1930s, the Fed aimed at an expansionary monetary policy in order to tame the recession. However, as Friedman and Schwartz (1963) have documented, this policy failed. A monetary contraction occurred as a result of the vast number of bank insolvencies and because of changes in the behavior of banks and depositors. This monetary policy mistake leading the global economy deeper and deeper into recession has to be seen against the background of the gold regime that dominated the thinking in central banks of the time. Today’s policy makers avoid these mistakes. Many central banks have markedly lowered their policy interest rates since the beginning of the crisis. We can also see the consequences of this change in policy in the course of monetary aggregates. Fig. 2 shows the money supplies (measured by M2) of two countries. Both in the U.S. and in Switzerland the money stock has strongly expanded. The case of Switzerland is particularly interesting because it is a country which has significantly eased its monetary policy after a period of restrictive monetary policy.

The easing of monetary policy is particularly necessary because the flight to liquidity is one of the main drivers of the current crisis. If central banks had failed to generously supply liquidity then stock prices would have declined much further and could have triggered a surge of bankruptcies worldwide. Central banks as lenders of last resort are the ultimate players to confine financial crises. If a country’s price level embarks on a downward trend (a recession is currently not very probable) then a set of further mechanisms could set in and deepen the economic crisis. Central banks are well aware of this danger. They are also conscious of the problem that sooner or later the recession will be over. When this happens the liquidity generously provided will have to be siphoned off again, otherwise an inflationary scenario will ensue. With the current financial crisis the discussion in monetary policy circles about the prevention and management of financial bubbles will set in again. So far central banks – with the support of many academic researchers – have resisted demands to fight bubbles with the argument that it is very difficult to identify an ongoing bubble. However, this objection that was particularly important in the debate of the 1990s has lost much of its force with the crash of the Internet bubble and that of the housing bubble. In the competition of ideas the concepts for empirical identification of bubbles a la Robert Shiller have gained much strength in comparison to the ideas of efficient financial markets. Monetary policy also has to become more alert with respect to the driving forces behind speculative bubbles. There will be a set of new conditions (both regulatory and from the competitive situation) after the current crisis. Many financial players are currently restructuring and will come out the crisis with an urge to position themselves. This is exactly the environment in which – despite changes in regulation – a new credit boom can triggered. In the future, monetary policy has to prevent such boom–bust financial cycles and must develop the necessary tools for this purpose. Credit targets for the management of credit crunches (see e.g., Akerlof and Shiller, 2009) and the monitoring of credit aggregates during economic upswings would be steps in the right direction.

7. Which combination of growth and stability?

In order to be able to choose the right mix of possible policy measures for the taming of future financial crises it is important to recognize the options available and to compare them. A first element in such an analysis is the notion that in an economy there is a choice between different combinations of the banking sector’s contribution to growth and to stability. The contribution of the banking sector to an economy’s output consists of different components. Banks produce services and thus contribute directly to national income. However, the contributions of banking go beyond this creation of direct value. The financing of industry and trade increases the productivity of the real economy and the role banks play in the payment process simplifies the making of transactions.

The contributions of the banking sector to stability are quite complex. We could measure stability as the inverse of the variance of output. Even financial services like simple credit can contribute to the stability of production. Imagine a world without credit where all investments would have to be financed by the savings of the owner of the investment project. A slow-down in sales of such an enterprise would then directly lead to a decline in the scale of its investment and employment. Banking can, however, also contribute to the instability of the economy. The banking system is subject to tendencies to over-extend credit in good times and to under-extend credit in bad times. Here, the remarks on the credit cycle in Section 2 are particularly relevant. With their financing decisions banks also decide whether more or less risky investments are realized. The higher the targeted return of investments the higher is, typically, the risk (i.e., the unpredictable return variations) that goes with it.

Fig. 3 displays the relationship between the contribution of banking to the level and to the variance of national income. The curved line shows the combinations of income and stability attainable. The combinations represented by points on the curve are only attainable if the relevant decision makers (bankers, bank regulators, bank supervisors, monetary policy makers and law makers) work optimally together. In order to understand this curve, let us imagine that we start at point X. This marks the situation with-

![Fig. 2. Money stock M2 in the U.S. and in Switzerland. Federal Reserve Bank of St. Louis und Swiss National Bank.](image-url)
out a banking system. If an economy starts from this situation and builds up banking and the relevant policy framework in an efficient way then – over some range – the economy can achieve both a higher output and more stability. The curve points to the northeast. Beyond a certain critical size of the banking sector a further increase in income has to be paid for by a decline in stability. This means the curve turns to the north-west. In this range the higher the contribution of banking to income the more we have to sacrifice stability.

The evidence currently available clearly documents that bankers and policy makers have made mistakes over the recent years. This indicates that arguably no country with a major financial sector has operated on its efficiency frontier. Hence, economies have not achieved efficient combinations of income and stability. They have stayed short of their possibilities.\footnote{This diagnosis has parallels with the concept of X-efficiency (see, Leibenstein, 1966; Altman, 2006).} Furthermore, evidence suggests that countries with large financial sectors (e.g., the U.S., the U.K., or Switzerland) have seen a course over the last 20 years that has taken them from a point A to point B in Fig. 3. This means that the banking sector has increasingly contributed to output but at the cost of a decline in stability. Where should the journey go from here? The opponents of financial capitalism appear to want to head for a point X with a minimal financial system. In contrast, some bankers would prefer the extreme solution of Z with maximal income opportunities accepting high income volatility. Neither direction seems advisable. Rather, steps that lead economies somewhere on the curve between points C and D appear to be in order. In order to achieve this measures as discussed in Sections 3–6 of this article should be combined and implemented.

The decision where to go has to be settled by political debate. Clearly, the limits set by globalization need to be considered in this process. Nevertheless, within these limits countries can opt for different combinations of output level and output stability. While consensus on this central issue may be elusive it appears that public discussion supported by an active and transparent information policy makers have made mistakes over the recent years. This indicates that arguably no country with a major financial sector has operated on its efficiency frontier. Hence, economies have not achieved efficient combinations of income and stability. They have stayed short of their possibilities.\footnote{This diagnosis has parallels with the concept of X-efficiency (see, Leibenstein, 1966; Altman, 2006).} Furthermore, evidence suggests that countries with large financial sectors (e.g., the U.S., the U.K., or Switzerland) have seen a course over the last 20 years that has taken them from a point A to point B in Fig. 3. This means that the banking sector has increasingly contributed to output but at the cost of a decline in stability. Where should the journey go from here? The opponents of financial capitalism appear to want to head for a point X with a minimal financial system. In contrast, some bankers would prefer the extreme solution of Z with maximal income opportunities accepting high income volatility. Neither direction seems advisable. Rather, steps that lead economies somewhere on the curve between points C and D appear to be in order. In order to achieve this measures as discussed in Sections 3–6 of this article should be combined and implemented.

The decision where to go has to be settled by political debate. Clearly, the limits set by globalization need to be considered in this process. Nevertheless, within these limits countries can opt for different combinations of output level and output stability. While consensus on this central issue may be elusive it appears that public discussion supported by an active and transparent information culture on the part of business and government will go far in making this strategy choice a democratic process. This, after all, is what is needed to prevent the future developments in banking to lead to increasing conflicts between winners and losers.

8. Conclusions

Skeptics have frequently asked over recent years where the record low American savings rate, the high indebtedness of U.S. households and that country's enormous external debt, will lead. Today we know the answer. These developments lead into crisis. This does not mean that the American consumerist mentality is the root cause of the present distortions. As indicated earlier the policy of supporting home ownership and many financial market factors were important drivers toward the excesses. With all the current signs of crisis we should keep in mind that functioning financial markets are decisive for growth and can help distribute income more evenly (see Rötheli, 2009). Financial markets are not only important for the highly developed economies. Capital is needed for development and industrialization worldwide. Similarly, international trade requires a functioning credit system (see Eichengreen, 2009) and international policy cooperation is particularly important to account for the important global effects of national policies.

There are many steps governments and the private sector can take to improve financial stability. From the perspective of behavioral economics the following points are particularly relevant: there is a need to curb the banks' drive for growth and for excessive risk taking. Here, more information and capital requirements that, particularly for larger banks, are more demanding will help. Further, there is a need to install more effective risk management policies in banks. Finally, there is a need for monetary policy to restrain financial boom–bust cycles in the future.

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References


