

## OPINION

# Financial market meltdown and a need for new financial regulations

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### 1. Introduction

The financial crisis, triggered by the subprime and real estate crisis in the US, has become global. It is deeply rooted in a decade-long misuse of the financial market for rent-seeking. The financial industry has largely abandoned its role as a service industry, supposedly charging reasonable fees for the services of spreading risk and allocating capital and credit. Instead it provides a market for speculation, corporate control – mergers and acquisitions – and a casino for betting on or hedging practically any kind of risk – the derivatives market. Finance, broadly understood, has gone from a low share in GDP of the American economy to 20% since the early 1990s – yet there is little or no evidence that the value of its services to consumers and businesses are worth one-fifth of GDP; for details see Nell and Semmler (2009). The growth of finance seems to be largely due, on the one hand, to

deregulation, leading to liberalization of capital accounts all over the world, and to financial innovations on the other. But this innovation has led to the development of new financial instruments that are not well understood by their users or even their initiators. Financial derivatives, Mortgage Backed Securities (MBS), Collateralized Debt Securities (CDS), Collateralized Debt Obligations (CDOs), and so on, have clearly been misused. But besides that, some critics argue that they were misconceived as well: there was substantial mis-pricing, since the formulas for pricing and using them rested on relative pricing and unacceptable assumptions about the distribution of probabilities; see Platen and Heath (2006); Platen and Semmler (2009) and further literature discussed there.

After capital market liberalizations since the 1980s, many countries experienced major episodes of financial instability, sometimes with devastating effects on economic activity, resulting in boom and bust cycles. These tended to bring about declining economic activity, large output losses and a terrible impact on the low income segments of the population and small businesses, indeed, all those unable to insure themselves against large financial and real shocks; for details on the earlier financial crises, see Mishkin (1998), Miller and Stiglitz (1999), Stiglitz *et al.* (2007), Aghion *et al.* (2004), Corsetti *et al.* (1998), Schneider and Tornell (2004), Flaschel and Semmler (2006), Proano *et al.* (2005), Kato and Semmler (2007), and Roethig *et al.* (2007). The bursting of the real estate bubble in the US, Spain, and the UK since 2007 and the world-wide fall-out for the US and Euro-Zone credit and banking system is another example of a financially triggered real crisis. The financial meltdown since 2008 has severe real effects, triggering what may be a long and deep recession in the US and many other economies.

It was in order to prevent just such events that many countries instituted financial regulation after the Great Depression of the 1930s. The new regulatory institutions provided public screening and monitoring of the financial markets, and required firms and banks to adhere to strict standards of accounting and to publicly reveal information on assets, debt and earnings. The theory was that more and better information tamed exuberance and made prices conform to the risks banks were taking relative to their capitalization. Fast unravelling of these long-standing regulations -- starting in the 1990s -- allowed extreme leveraging on an unprecedented economic scale with untested instruments.<sup>1</sup> With insufficient financial market regulation this leveraging carried great and poorly understood risk.

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<sup>1</sup> With high leveraging risk will be extreme with (1) inexperienced and loose supervision; (2) no disclosure requirement; (3) no screening and monitoring of financial institutions and (4) no secure safety net for the financial institutions (for example, insurance for bank deposits as enacted for US banks in the 1930s and in Britain and Ireland in the midst of the credit crises in October 2008). MacAvoy and Millstein (2004) pointed out the excessive risk as far back as 2004. Additionally, politicians, regulators, financial economists and financial market modellers

The earlier as well as the more recent collapses have roots in a typical boom-bust cycle dynamics that was predicted by the work of Minsky a while ago (see Minsky, 1975; 1982 and 1986). Yet, the most recent one was accelerated by an inadequate understanding of the new financial instruments, especially subprime mortgages and securitized mortgage instruments. The flaws in these instruments magnified into a credit crisis and a global financial market meltdown. The use of these terms is not hyperbolic. The attempts of the central banks, since the end of the middle of the year 2008, to help the private the banking sector with an extraordinary injection of liquidity (and purchase of bad assets, for example from Bear Stearns, and purchase of a huge amount of treasury bonds by the US Fed) to alleviate the contagion of financial panic did not properly work to stop the financial meltdown. The G-7 had anticipated some consequence to the active financial markets and met in April 2008 to consider recommendations of the Financial Stability Forum. This was solely a declaration and also had no effect. Then the G-20 in London in April 2009 on financial regulation and worldwide fiscal stimulus packages had only mild effects stopping the downturn. The Obama administration had enacted a stimulus package of almost \$800 billion, Europe stimulus packages of several hundred billion euros and China and Japan join in with huge stimulus packages as well. The rapid decline of the world economy has been stopped, but the turnaround has not been seen yet.

In the US, in the September 2008, Treasury Secretary Paulson brought to the Congress a \$700 billion rescue plan to bail out failing investment banks by buying their bad assets, which was, after a first rejection (accelerating the stock market downturn), accepted by Congress in modified form. In Europe, in Fall 2008, the EU Parliament had required the EU Commission to draft new directives for strengthening and harmonizing financial regulations in Europe. Yet, the contagion from the US had already spread, first to the UK and then to Europe. The guarantee of bank deposits by the Irish Government had then put the UK and other EU countries under pressure to do the same. The electronic bank runs became too dangerous. The 27 head of states of the EU met in Paris at the beginning of October 2008 to suggest a joint rescue plan for Europe and the global economy. The G-7 followed this up and put forward the suggestion of a new international financial architecture to be decided by a summit meeting in December in New York. Although some core European countries (i.e. UK, France and Germany) had already decided on national guarantees for the lending operation across banks and deposit guarantees, the stock market stayed volatile and the credit market continued to dry out. Then in April the G-20

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now admit that the financial dynamics of the global economy and its markets has not been sufficiently understood so far.

made a new regulatory and fiscal policy effort in London in April 2009 the effect of which is still to be awaited for.

Yet, as those actions took place credit around the developed world had become frozen. To build up confidence an additional action by the US Treasury to purchase stocks of investment firms and banks, threatened by bankruptcy, helped to calm down a bit the stock market and improved the credit market. But now a real recession is coming with further feedback effects on the financial sector: the financial and real sectors pull each other down; for details, see Nell and Semmler (2009).

The focus should shift now to the long run, to a new financial architecture. What we want to discuss further in this paper are some points of agreement among concerned academics and policymakers regarding the causes of the financial market bubbles, new regulations and possibly new financial architecture.

## 2. The background of the current financial market bubble and meltdown

To start with there are good grounds to distrust the market valuations of financial assets, both before the collapse and now, after the bursting of the bubble. The (imperfectly understood) financial innovation of re-packaged and securitized subprime mortgages resulted in both significantly overpriced houses and securities. The risky loans were sold because they were securitized through CDOs – which were supposed to make the economy safer by spreading risk. Instead, their widespread use in the mortgage market contributed to a typical financial and real estate market bubble very similar to others that the US and other advanced macro economies have seen.<sup>2</sup> These bubbles have tended to happen more frequently, the more the financial market has been deregulated.<sup>3</sup>

Usually, as a financial bubble develops, asset price inflation and credit expansion move in tandem. Overvaluation of asset prices, overleveraging and undervaluation of risk usually go hand in hand. The bubble is usually particularly pronounced when the financial sector expands more rapidly than the rest of the economy, as has happened in the US starting in the early

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<sup>2</sup> These go back a long time: there was the Florida real estate bubble in the early 1920s, the stock market bubble in the late 1920s, the tech stock bubble in the late 1990s, the real estate bubble in the UK in the early 1990s, and the US since 2000, and the bubble in the futures market for oil and other resources, in recent times.

<sup>3</sup> The Glass–Steagal Act was introduced in the 1930s, to prevent this sort of bubble. It restricted banks from holding financial assets other than treasury bonds and prohibited a bank holding company from owning other financial companies. But it was repealed in 1999 by the Gramm–Leach–Bliley Act. There is a debate as to whether the weakened controls were a chief cause of the current crises, because investment banks with commercial insured deposits are in better health than those without. But both are in trouble. A major contribution of the 1999 deregulation to the bubble is that it helped expand leverage by creating large actors such as Citibank.

1990s. This pattern can be seen in the subprime market: with a low cost of borrowing (low interest rates) and expected prices of subprime assets rising (due to expected adjustable interest rate, etc.), incentives developed to hold an excessive amount of subprime CDOs. This also created incentives for banks to finance such holdings through loans (even though the collateral might be suspect): eventual sales of such securities seemed to promise huge profits. Yet, the data on returns from CDOs is scarce, and there were only a few academic studies on how large the expected margins might be, as compared to returns on other assets.

Furthermore, the pricing of these assets compounded through a pattern of interaction known as 'relative pricing'. As soon as one investment bank placed a new credit product in the market, other financial market players built on that price, even though it may well have been arbitrary, drawing on their models, to extrapolate the prices of even more complex products, for details see Platen and Heath (2006) and Platen and Semmler (2009). Since there was no specific, well established market to evaluate such assets – or the actual profitability of CDOs and their more risky tranches – the initial prices did not have a sound basis. It is now clear that the practice of relative pricing was all along inadequate and dangerous. Moreover, the models used to price credit derivatives were based on artificial default intensities that had no link to the real potential risk of large-scale default if the real estate market went through its natural cycles. So the credit market went down due to unanticipated higher default risk and lower recovery rates. It is now clear that the entire industry severely overpriced credit derivatives, so that it sold these products to customers that are now suffering losses.

Financial bubbles have negative effects, in addition to the immediate damage they inflict when they burst. For example, they may produce or enhance uneven income distribution (financial tides lift yachts, but not all other boats) and they may lead to misallocation of resources (e.g. the huge build up of optical fiber in the US). And even before it bursts, the bubble creates financial instability; other sectors may be pulled into unwarranted booms. When a bubble bursts, it generates huge externality effects: falling asset prices in the bubble will pull down other asset prices, the value of collateral will fall, and loans will be called in; credit markets will contract, and financial institutions will suffer. Many 'innocent' agents – who made no unwarranted or speculative decisions – will be dragged down, and this will spill over significantly onto the real side of the economy, reducing employment and output.

In sum, what usually is going wrong in boom-bust cycles is: overvaluation of asset prices, overleveraging and undervaluation of risk. As to risk, the contours of a bubble emphasize the two risks that, without a coordinating agent to manage them, feed into one another and make the financial system particularly fragile. A striking aspect of the turmoil has been the extent of weaknesses in risk management, especially in regard to two components which are always present. Two major types of risk have

arisen that are currently also addressed by the Obama regulatory policy attempts: i.e. specific (or idiosyncratic) risk and general (or systemic) risk.

### *2.1. Specific or idiosyncratic risk*

This applies to the *individual financial institution*. It is the risk arising from high expected margins, based on cheap sources of funding for extremely leveraged speculative or Ponzi positions, often compounded by lack of adequate internal risk assessment in the financial institution itself, and lack of diversification where all parties in an industry follow the same strategies. We also tend to find problems such as lack of sufficient capital requirements, underrated risk by rating agencies, and lack of accountability. An recent example involving most of the above is the way many financial firms selling Lehman Brothers debt insurance against its bankruptcy. These swaps were assets held by investors for returns and by financial institutions to meet capital requirements and for hedging purposes. Since the risk to Lehman was underappreciated, the swaps' value were not known (their value was estimated at \$600 billion), and the size of the losses on these swaps and how they will affect various institutions is unknown. Then, the sudden bankruptcy of Lehman Brothers triggered risk at counterparties and triggered systemic risk.

### *2.2. General or systemic risk*

Frequently, general or systemic risk arises from movement of *the entire market*, such as higher interest rates, falling consumption and investment demand, sudden increases in risk aversion or perception (emerging credit defaults, swaps and spreads rising), correlated risk through the entire market when extreme events (liquidity drought) happen. Particularly concerning is the non-robustness of the pricing of complex securities due to a change in macroeconomic conditions, delinquency rates, recovery rates, sudden interest rate changes and default correlations, as visible during the current financial crisis, triggered by the subprime crisis. On the non-robustness problem of the pricing of complex securities, see Semmler and Bernard (2009).

Widespread build-up of overpricing of securities can lead to the emergence, even the sudden emergence, of a dangerous level of common risk. In other words the build up of specific risk can lead to a common risk. As was experienced in the Summer 2008, the fear of Lehman swap downgrades can lead to more widespread bank runs and credit problems.

Economists note that bubbles can have good effects depending on their character. For example some bubbles can leave the economy significantly better off as firms invest in productive capacity, which might even include better labor relations with job training and higher wages and

income in the long run.<sup>4</sup> The recent financial bubble is coincident with slow productivity growth, stagnating US household income, and higher poverty rates, and measures of increased innovation are not readily available, therefore it is likely that except for the larger than average growth in office buildings and housing stock, this bubble went too far and caused, as it burst, tremendous costs in lost output. The other cost of a bubble burst is a wariness about financial institutions. Such scepticism can result in a “lost-trust overhang.” We are already seeing the effects since the middle of the year 2008, as people move away from all financial instruments towards cash, and blame or even picket Wall Street financial stewards. Even banks move away from each other as the LIBOR rate soars and risk premia rise. As middle class people flee from financial markets, they may stop accumulating financial assets while we see banks becoming chary of lending.

In sum, bubbles in some form may be unavoidable, but overly swollen bubbles will burst in a very costly way; but bubbles can be contained, and if they are, they may have some positive effects, even enough to outweigh the negatives.

### 3. Should one regulate boom-bust cycles?

Economists now often state that modern macro economies are characterized more and more by boom-bust cycles. As concerning regulation common themes of the current discussions among national governments and the G-7 and G-20 meetings are: greater transparency, greater disclosure, and stricter risk management by firms. Yet the discussion should go beyond these easily agreed upon characteristics for an adequately functioning financial system.

A set of beliefs and political structures evolved that caused regulation to fail to keep up with the institutional changes over thirty years that transformed financial markets from an intermediary to a rent-seeker. Regulators assumed that the financial sector was a lot more competent than it was. Regulators assumed that firms and the industry really had the dazzling technical skills that they displayed in their quantitative risk models, and that these supposed skills were relevant to real world markets and enabled them to price and manage risk better than the regulator could. CEO salaries – some the size of the budgets of medium sized towns and large school districts – were surely paid for value received; this added to the assumption of competency.

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<sup>4</sup> An example of a good bubble with beneficial effects: the technology bubble in the US in the late 1990s. The bubble burst in 2000/2001, but the expansion lasted ten years with significant economic and wage growth. It is worth-observing that recent financial market innovations did enhance economic growth and facilitated the purchase of houses for the low income sector, as well as providing credit for small and medium sized enterprises.

Yet, it is clear now the industry did not have the proper pricing and risk management tools. In addition, necessary market corrections had been suppressed by deliberate actions of central authorities removing regulation and creating, for generations of market participants, a firm belief that asset values could keep growing. We are now witnessing serious discussion of the best practices for long term financial management, financial market regulation and adequate, long-term oriented tools, and on the regulation and oversight of other financial institutions. This discussion should not be directed toward entirely removing or avoiding financial bubbles or banning speculation, for example short selling or leveraging. First, this may be too much to ask of any government, but second, bubbles don't have to be *suppressed*, but they do have to be *contained*.

### *3.1. What academics have proposed for a financial regulatory framework*

a) The early reforms emphasized personal **accountability** of the executive decision-makers only with long term incentives, particularly the top CEOs of financial institutions (see the 2002 Sarbanes-Oxley Act).

b) Academics have been consistent in advocating proper **pricing and risk management**. Risk analysis should always take the possibility of a major crisis into account. Prices need to be fair and transparent to all market participants under all circumstances, so that the payoffs of contracts can be realistically expected to be recovered. Derivative trades off the counter do not have those properties. Inside financial institutions risk control divisions should be set up, assessing also system-wide breakdowns of trading. Proper risk assessments should not only be made through independent rating agencies, which typically consider single firms, but also through federal and international agencies, which should assess the likelihood of a major market meltdown based on serious research (as was available before the current crisis -- international and federal oversight of rating agencies as introduced by the Sarbanes-Oxley Act).

c) **Capital requirements** should be increased significantly for financial institutions - in particular those that are not required by law to hold reserves at the Central Bank. Leverage has to be limited to a reasonable level. It has also been suggested to enforce procyclical capital requirements (as Charles Goodhart from the London School of Economics has proposed). This means that the banks are forced to build up liquidity in a boom in order to be able to use it in a recession. When the capital requirement is raised in a recession, this will accelerate the downturn since it may accelerate a credit crunch or make credit more expensive. Capital requirements, in particular, should be increased for new financial products, such as certain complex credit products. Mark-to-market has to be substituted by mark-to-fundamental value.



d) Strong incentives should be provided to financial institutions for a **diversification of capital**, so that financial institutions are discouraged to follow the same strategies -e.g. all holdings promising subprime CDOs with high expected margins- and instead try to invent new instruments to service the economy better.

e) Better and faster **enforcement of Basel II agreements** (which do not seem to have been enforced much in the US), taking the global nature of the financial market fully into account so that international corporations cannot escape global regulation. According to State regulatory agencies, Basel II has been approved through the Federal State, at the time of the agreement, but not by the regulatory agencies of the States (which appear to act independently).

f) There should be **more transparency**, for example, quarterly reports to regulators, transparency of build-ups of risky exposure by banks, investment firms, hedge funds, private equity firms, industries, groups of companies, and households. Independent scholarly work on absolute pricing of contracts in new areas of financial innovations has to be undertaken and made known publicly. The magnitude of returns from assets are roughly known - for example equity returns, bond returns, returns from currency and future markets - but there are no similar studies for new financial instruments, which industry prices in a consensus using relative pricing and marking to market when measuring risk. Similar to the pharmaceutical industry, the finance industry should go through an approval and testing process before launching new complex product lines on a massive scale.

### *3.2. What the financial stability forum (FSF) has proposed*

In the US, the Fed had, under Greenspan, attempted to intervene in the asset price bubbles (e.g. tech bubble), but credit and banking crises and a crisis in the bond market are a different matter. A judgement on the real preemptive regulatory potentials of central banks, the Fed in the US and the ECB in Europe, is still out. In particular, because the capital market liberalization and the new communication technology have set in motion a much greater contagion effect than trade liberalizations (through electronic “bank runs”), international cooperation in this area, in order to avoid the contagion effects of financial crises, is strongly needed.

Already in April 2008 the G-7 meeting had accepted a proposal by the Financial Stability Forum (FSF) which has suggested actions to “Enhance Market and Institutional Resilience”. The FSF focused on (1) increasing the capital requirements (in particular for complex structured credit products) and strengthening liquidity and risk management (specially for off- balance sheet entities), (2) enhancing and improving transparency and valuation through credit rating agencies, (3) increasing the authorities’ responsiveness to risk (translating risk analysis into action), and (4) extension of the arrangements to deal with financial stress and disruptions (extending Central

Banks' policies to asset purchases and liquidity provisions for the private sector). So far, at least what the press has reported, the increase in capital requirements seems to be high on the agenda. Europe has now undertaken numerous actions to prevent the financial meltdown from spreading to Europe, such as interest rate decrease, liquidity provision by the ECB, rescue operation of the banking system through loans and liquidity provision. Governments have made loan guarantees and improved deposit insurance, and one is planning an EU supervisory board for the credit system in Brussels. But as above argued, this is not enough for a new financial architecture.

### *3.3. Proper practices of risk management and stress testing*

The recent financial market bubble can, in part, also be attributed to a lack of understanding of the nature of underlying forces driving risk. Current risk-management processes for market, credit and liquidity risk make a number of simplifying assumptions about the behaviour of those forces, in order to facilitate analytical tractability and to reduce mathematical and computational burden. The most troublesome simplification in prevailing risk-management models is the hypothesis that fluctuations asset prices over time can be described by a simple mathematical model, the "geometric Brownian motion" (GBM), which tends to greatly underestimate risk due to fat tails (see, for example, Rachev and Mitnik, 2000).<sup>5</sup> In view of the blatant inadequacies of these models, their use is unacceptable. Financial firms' risk management processes, vendors of risk-analysis software, rating agencies as well as regulatory agencies should be required to adopt more realistic and empirically substantiated models for risk assessment.

The need for so-called stress tests, which attempt to assess the consequences of—typically isolated—extreme events, arises largely from the fact that common risk models practically assign a probability of zero to extreme events. Risk-management and stress-testing tools need to be integrated to a single, holistic process, which not only assesses the risk exposure for an individual institution, but also allows for the high degree of industry-wide linkages among the institutions. These linkages -arising from the reliance on similar risk-management processes and identical external rating expertise as well as being subjected to the same regulatory rules and macroeconomic forces- tend to "synchronise" firms' misjudgements and

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<sup>5</sup> Assumptions of this nature have not only the consequence that they trivialize the risk present on financial markets. Widely observed phenomena, such as fat tails (i.e., a much larger loss potential than the GBM model implies), asymmetries (i.e., higher than expected downside risk), correlation breakdowns (i.e., nonlinear dependencies across assets and markets), and volatility clustering (i.e., a strong temporal dependence in the propagation of risk), are largely ruled out in current risk measurement processes.

faulty business decisions and, thus, potentially amplify the consequences for the individual company and the financial system as a whole.<sup>6</sup>

In view of these deficits and necessities, the financial industry as well as regulatory agencies have to devote substantially more resources and efforts to develop sound risk-assessment processes.

### *3.4. Hedge funds and private equity*

There are other potential dangers lurking. In spite of the implosion of private equity funds and hedge funds, which has had a significant impact on the structure of US and global markets, the industry is largely unregulated in the US<sup>7</sup> The above-average returns of private equity funds and hedge funds are in part attributable to over-leverage, use of derivatives and hedging, and participation in highly complex financial transactions inaccessible to other regulated market participants. The systemic risks associated with these characteristics (increased market volatility, liquidity issues, effect of potential fund collapse on the global financial system) need to be addressed. The US Security and Exchange Commission (SEC) has sought to establish greater transparency through mandatory registration of hedge fund advisers.<sup>8</sup> Under this proposal, advisers would have had to adopt record-keeping procedures subject to periodic audits by the SEC, and to supply information (financial statements) to investors concerning their results of operations. The SEC was eventually struck down for lack of statutory grounding by a DC circuit decision on June 23, 2006.<sup>9</sup> A new comprehensive regulatory approach for the industry is needed to manage systemic risk. Several bills have been introduced in the 110th Congress (2007-08), but none has really been seriously considered yet. Some guiding principles should include greater disclosure of portfolio diversification, transparency and accountability, risk profile and trading strategies, and restrictions on over-leveraging.

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<sup>6</sup> For example, the industry-wide leverage rate directly affects a firm's liquidity risk. Similarly, the counterparty risk for a buyer of credit default swaps (CDS) can only be assessed if the seller's overall exposure is known.

<sup>7</sup> There are two key statutes designed to regulate investment fund practices: the Investment Company Act of 1940 and the Investment Advisers Act of 1940. These statutes, which were designed for investment companies such as mutual funds are outdated in light of recent financial innovation and capital markets developments. Hedge funds and private equity funds rely on exemptions (mainly through avoidance of public offerings) to avoid being caught by the statutes.

<sup>8</sup> Under the Investment Advisers Act [Rule 203(b)(3)-2].

<sup>9</sup> *Goldstein v. SEC*, 371 US App. D.C. 358; 451 F.3d 873. Interestingly enough, the Fed was opposed to this mandatory registration proposal. The SEC subsequently tightened restrictions on investors who can invest in both hedge funds and private equity funds (investors must own at least \$2.5 million in investments). This measure fails to address systemic risk and is only concerned with individual risk to investors.

### *3.5. Liquidity, insolvency and the role of the banking system*

From the above it follows that there should not be any commitment to ‘bail outs’. The public should not bear the cost of a bail out when insolvency arises, but the public should bear the cost of providing liquidity so that no insolvency arises due to a lack of liquidity, often resulting from the feedback effects to the two types of risk discussed in point (1) above. The form of liquidity should come from the Central Bank, in form of new liquidity injection, swaps of new liquidity for bad assets (as collaterals), swap of equity for debt or bridge loans. Bridge loans given by the central bank or Treasury should be given against collaterals, and when the loans are paid back the collaterals are transferred back to the original owners.

Beside the Central Bank the banking system plays important role for the provision of liquidity. Some remarks on the banking system are needed. A safe banking system is needed for the operation of the real economy and the financial market. Yet, banking cannot exist in its modern form without regulation and supervision; the idea of ‘free banking’ is a myth – or rather harks back to an era in which banks provide safekeeping services, but did not provide the greater part of the money supply. Money is a public good; taking deposits and making loans is a business, but the fact that deposits are the basis of the payments system constitutes a major externality. The day to day working of the economy depends on the payments system. If the smooth working of that system is undermined the effect on the economy is likely to be disastrous.

Banks depend on trust, and trust in turn is greatly strengthened by effective regulation and enforcement of well-designed rules. Banking customers and money market participants must be certain that banks and financial institutions will behave honestly; if they do not they will be penalized.

Ineffective or ill-designed rules and regulations, on the other hand, will not support trust, may permit unfair and dishonest practices, but worst of all, may not prevent the build-up of excessive risk. When such risk comes home to roost, a lot of businesses and consumers that had nothing to do with the decisions to take on that risk will end up paying a heavy price. So ‘deregulation’ is dangerous, and has, indeed, proved unwise. The changes in regulations allowed for more risk taking by banks and money market funds, with the result that a large fraction of the credit essential to running the economy has dried up, creating problems for businesses and households that had nothing to do with the taking on of excessive risk. This is a major ‘negative externality’, which is neither fair nor reasonable.

Why should the institutions that manage the payments system be allowed to take on risks in the pursuit of profits – profits which they do not share with the rest of the economy - at the expense of the general public? The payments system should be recognized as a public good, and should be managed, not for profit, but in the public interest. Private enterprise may

have a role in banking, but the pursuit of private profit must be carefully subordinated to the public interest. Market forces in banking may well tend to bring about the public good, in banking as in other areas, but they may also run out of control, as we are seeing now. So it is essential that the operation of the payments system, and related institutions, be subject to careful supervision and control.

Overall, it has to be made sure that lessons from this crisis will be firmly implemented to the benefit of generations to come, who will forget about the 2008/9 market crash and recession as today's younger generations forgot about the Great Depression.

## 5. Conclusions

The causes of the present crisis are largely to be found in the typical dynamics of boom-bust cycles, yet this time encouraged by unregulated development of new financial products and in the over-expansion of the financial sector, in particular the shadow-banking sector, the investment banking sector, which has emerged since the 1990s precisely to avoid regulation. These changes led to lower risk perception, overvaluing of assets, overleveraging, and then to higher actual risk and instability. But the development of this instability, bringing on a crash, has also led to a collapse of the real side of the economy. Now the financial and the real sectors pull each other down.

To prevent this happening again, new financial arrangements and new types of regulation are needed. These will require a good deal of thought, with particular emphasis on rethinking the relationship between "public" and "private." Deregulation has evidently gone too far, leading not only to financial instability, but bringing huge costs to all sectors of the economy. Along with deregulation, privatisation has perhaps also gone too far, for it has contributed as well to instability (think of Enron and electricity pricing); moreover, it also seems to promote inequality, though that is another story.

However, the first step is to get out of the present mess, and for that strong measures will be needed. Because the financial crash has brought the real side of the economy down, more than easy money and improved credit conditions will be needed. There is no point in a business borrowing money – even if the terms are easy – if the business can't sell the products it is borrowing to make. So policies have to move beyond monetary policy and easy credit to fiscal policy. The Obama transition team has presented a strong case for fiscal stimulus, and the new administration has undoubtedly moved forcefully to increase spending. The proposed package includes both tax cuts and extensive spending measures, which appear to advance most of Obama's long-stated policy aims. This is excellent in many ways, but so far the program is open to the criticism that it does not seem to have enough *immediate* punch. There is widespread agreement among economists that tax cuts are likely to be saved and used for debt reduction, providing little

stimulus. Tax cuts will also erode and narrow the financial space of government in the future. The spending proposals do include a number of “shovel-ready” infrastructure projects, and funds for hiring supplemental help in health-care and education. But how many jobs? Green investment, it is claimed, can create up to half a million jobs within the year. Not everyone is convinced. Over the longer haul, these projects *will* create 3 to 4 million jobs. But that is only a start. Over 4 million jobs are required to get us back to ground zero, replacing what has been lost in the “great recession” as it is being called now. Those jobs are needed to bring the employment back to pre-recession level, and more will be required to keep pace with labor force growth. As noted above, the funding and financial management of those projects could be organized through a public development and investment bank.

As regards the financial meltdown and financial regulatory efforts two types of corrective activities are taking place. On the one hand, restoring order in the short term – recovery and re-regulation, and on the other, rethinking the financial architecture for the long term. Both the new US administration as well as the EU have moved forward in long term regulatory efforts. There are many points of discussion, and some agreement, regarding financial market bubbles, new financial architecture and regulations. We have discussed those in the paper . Let us summarize this in a few points here:

(1) Boom-bust cycles cannot be totally controlled, but they should be constrained, in particular those ones that have negative externalities that should be avoided.

(2) There should be tests, regulation and licensing of new financial tools, such as complex securities. The Obama administration is moving in this direction by not allowing over the counter derivative trades any longer.

(3)The banking regulations and oversight should be stricter and extended to the shadow banks. In particular hedge funds and quasi-hedge funds (such as the Madoff investment firm) need registration at the SEC, regulation and strict oversight.

(4)The leveraging should be restricted and guidelines enforced. Many investment firms had, in the boom period, a leveraging ratio of 40 to 1 (measured as total assets to own equity) with little risk management. The externalities of those leveraging practices have substantially contributed to the current financial market meltdown .

(5)The capital requirements should be increased in particular for complex securities and the provisions for loan losses should be countercyclical: in a boom the loss provision should be increased, in a recession relaxed.

(6)The personal responsibility in the banking (and shadow) system should be increased, as was introduced by the Sarbanes-Oxley Act of 2001, and oversight boards should be established to screen and

monitor balance sheets of the financial sector and banking system, in particular when tax payers money is involved in rescue operations.

Finally, we think the overall size and scope of the financial sector should be limited, and that government – the public sector – should be much better represented, for example by a public development and investment bank, for details of such proposal see Nell and Semmler (2009). The financial sector has a huge public impact, and this cannot be “optimized” by private markets. Private markets do not advance the public interest in areas where there are large externalities, networks, increasing returns, inequalities and indivisibilities – all of which are evident in the existing private financial sector.

So what can we expect in the coming year, in particular what can we expect from the Obama Administration? Clearly, things may get worse before they get better, but we are seeing a reasonably strong stimulus package from the new administration and other parts of the world, together with new efforts on regulations, regulatory institutions and public institutions and oversight of idiosyncratic as well as systemic risk. The recently proposed oversight board to watch the major US regulatory agencies is supposed to control and pre-empt systemic risk. In June 2009 the current US administration has moved forward with endowing the Fed with more regulatory power, setting up a single oversight board and a consumer protections agency as regards to securing and monitoring households’ credit flows and conditions. Though some critics (such as Krugman and Stiglitz in the US) state that this does not go far enough in taming the financial sector, this new regulatory architecture is a first step. Yet, it still has to be brought through Congress, and it will certainly be watered down as the economic situation improves. Yet, long term reforms and new international financial architectures are urgently needed.

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