

Willi Semmler* and Brigitte Young**

Lost in Temptation of Risk: Financial Market Liberalization, Financial Market Meltdown and Regulatory Reforms

Abstract

The current meltdown of the financial markets in the US, which triggered world-wide financial crisis and staggering declines in global growth rates, challenges the assumptions of fast capital market liberalization (CML). Whereas the discussion in previous years has concentrated on the benefits of financial market liberalization, the focus has now shifted to the cost of fast and excessive financial liberalization. In contrast to the theory of perfect capital markets, the paper starts from the more realistic assumption of imperfect capital markets. We deal with the benefits but also the potential shortcomings of CML. Too fast liberalized capital markets, with risk assessments solely left to the market, can trigger boom-bust cycles, the busts precipitated by financial instability, entailing contagion effects and strong negative effects on the real side of the economy. The financial meltdown has created not only new challenges for the Central Banks around the globe, but has also produced initiatives on new financial regulations. We discuss here the most important recommendations put forward by the G20, the US, UK and EU policy proposals for the financial market reforms triggered by the recent financial market meltdown. No final verdict is possible at this time, since the proposals and recommendations issued by the various bodies have to go through the political process. Nevertheless, the regulatory policy fragmentation is already evident between *liberal market economies* and their tendency to rely more on market modes of coordination and the European countries with *coordinated market economies* and their trust in non-market coordination. The challenge for the multilevel governance system of finance is to find a way to *regulate without refragmentation* both at the European and the global level.

*) Department of Economics, New School, 79 Fifth Ave, New York, NY 1003,
email:semmlerw@newschool.edu

***) Department of Political Science, University of Muenster, Germany, email: byoung@uni-muenster.de

I. Introduction

This paper addresses some major issues that are involved in the financial market liberalization, the recent financial market meltdown and policy reactions. Whereas the discussion in the last decade has concentrated on the benefits of the financial market liberalization (see Council on Foreign Relations, 2002), due to recent credit and financial market events the cost and externalities of fast and excessive financial liberalizations have come into focus. The literature on Capital Market Liberalization (CML) demonstrates that the issues of CML are more complex than for example in trade liberalization of goods and services. In contrast to the theory of perfect capital markets, the paper starts from the more realistic assumption of imperfect capital markets. Financial intermediation is usually undertaken by imperfect markets and this often leads to failures, dis-intermediation and market meltdowns. This is frequently observable as boom-bust cycles. We suggest that from this perspective possible benefits as well as costs of CML can be more accurately evaluated.¹

The paper analyzes the recent financial market meltdown, which first started in the US subprime market and subsequently spread world-wide, causing a global crisis in the real economy. Our starting point is that financial market liberalisation and the change of macroeconomic conditions have led to financial boom-bust cycles: the boom period triggered overconfidence, overvaluation of assets, overleveraging and underestimation of risk. Yet, in addition the recent boom-bust cycle starting in the real estate sector has been re-enforced, not only by the typical mechanisms of boom-bust cycles, but also by new financial innovations, that have led to the development of new financial intermediations through new complex securities, such as mortgage backed securities (MBS), collateralized debt obligations (CDO) and credit default swaps (CDS). It is our hypothesis that the complex securities, which were supposed to outsource idiosyncratic risk, have, jointly with the change of macro economic environment, accelerated the boom, but also the bust. These innovations provided the micro mechanism through which the asset price boom and busts were fuelled.

One of the main challenges of the financial meltdown is to provide a new national and international framework of regulation. Yet, one can predict that there will be a variation of regulatory responses corresponding to the “varieties of capitalism” (Hall and Soskice 2001) which stipulates that *liberal market economies* (LME) tend to rely more on markets modes of coordination in the financial sphere, while those with *coordinated market economies* (CME), such as the European countries, rely more on the existing institutional governance structures of non-market institutions.

¹ For a more detailed study of financial boom-bust cycles, see Semmler (2006).

The remainder of the paper is organized as follows. Section II of the paper briefly introduces a historical overview and theoretical discussion of the successes and negative externalities of CML, which is then followed in Section III by an analysis of the causes and effects of the current financial market meltdown and its effect on the real side of the economy. The focus in this section is on the complex securities and how they accelerated the boom-bust cycle. Section IV outlines the different actions of the Central Banks across the Atlantic and illustrates how far they had to turn from their traditional inflation fighting to an interventionist policy in order to contain the financial meltdown. We also discuss here whether financial bubbles are always “bad”. Section V provides an analysis of the proposed financial market reform proposals triggered by the recent financial market events, as suggested by the G20, the US, UK and the EU. Our main prediction here that the most likely outcome will be a *light touch regulation* championed by the dominant US and British rule makers in finance. Section VI contains concluding remarks.

II. Capital Market Liberalization and its Pitfalls

1. Financial Market Liberalization: A Historical Note

Financial markets are supposed to mediate the flows of financial funds. The financial market, traditionally financial intermediaries such as banks, performs the essential role of channelling funds to firms that have potentially productive investment opportunities. Moreover, they also permit households to borrow against future income and allow countries to access foreign funds and, thus, accelerate economic growth. As financial markets expand across borders, they have a significantly impact not only on economic growth, but also on employment and economic policy as well.

Since the 1980s financial market were increasingly liberalized. Capital market liberalization (CML) has actively been advocated by such organizations as the International Monetary Fund (IMF) and the World Bank (WB) and has been pursued by many governments since 1980s. Even under the Clinton government, CML has been the strategy, in particular when Larry Summers became Undersecretary of Treasury and when NY Wall Street rose to an influential institution within the Clinton Administration, especially after the appointment of Robert Rubin as Secretary of Treasury. At the same time, the Governor of the Federal Reserve, Alan Greenspan, strongly promoted globalization, in particular globalization of the capital markets. After the fall and break up of the Soviet Union, Greenspan believed that an era of expansion of the world economy due to the establishment of global markets for products and financial services was on the horizon (Greenspan 2008).

Others have maintained that it is not surprising, that the rapid enlargement of the financial market has led to more financial instability which, in turn, had some devastating impacts on the real economy of some countries, in particular emerging markets, see Stiglitz et al (2006). For example, the financial crisis in Mexico (1994), in Asia (1997/8) and in Russia (1998), demonstrated the degree to which a too-rapid market liberalization can lead to a currency crisis, in which a sudden reversal of capital flows was followed by financial instability and a consequent sharp decline in economic activity.

Another example was the information technology boom-bust cycles of the 1990s. In the US, and also in Europe, during the period from 2001 through 2002, the financial markets experienced a significant decline in asset prices, commonly referred to as the bursting of the Information Technology (IT) Stock Market Bubble. Overvaluation of asset prices and lowering of the risk perception, in combination with a decade of dubious accounting practices, short-sighted investment, and outright fraud (as in the Enron case, for an evaluation of the latter events, see MacAvoy and Millstein, 2004) led to a situation where suddenly equity valuations declined, subsequently with high volatility of asset prices. Yet the new IT boom and the asset price rise and fall was accompanied with increasing globalization of the markets, new financial products and new excitements in these markets. Already then, the operations were undertaken with little or un-checked collaterals on the borrowers side. From this followed another financial market crash, the subprime and credit market crises starting in 2007, still continuing today, which is the topic of this paper.

Yet, we want to recognize that liberalization of financial markets has been seen more positively by others. Champions of the benefits of financial globalization, in general, are found among the American business and financial community, and also the Council on Foreign Relations. The Report by the Council on Foreign Relations, for example, has emphasized the positive effects of CML. The Report advocates CML in particular, transatlantic liberalization, citing mainly the possible benefits of free capital mobility such as: 1) reducing trading costs, and in particular low costs of financial transaction, 2) increase of investment returns, 3) lowering the cost of capital when firms invest, 4) increasing liquidity in the financial market, and 5) increasing economic growth and positive employment effects on both sides of the Atlantic.

Surely, CML has benefits. Whereas part of the academic profession continues to see benefits outweighing the costs of market liberalization for goods and services, other see problems in this approach and are more critical about CML. As indicated before, there are also costs of fast CML, in particular CML with inappropriate sequencing.

2. The Negative Externalities of fast CML

Capital market liberalization -- at least in the short run-- does not necessarily show the same beneficial effects as product market liberalization. Too fast liberalized capital markets, for example with a wrong sequencing and without proper regulation, can trigger financial instability, contagion effects and strong negative external effects on the real side of the economy. Negative externalities of fast CML are cited in the recent publication by Stiglitz et al. (2006). This book gives a fair account of the pro and cons of fast CML. The major argument of the authors is that too fast a CML leads to financial instability and boom and bust cycles, hampering economic growth in the long run. Taking the view that capital markets are basically imperfect, they argue that CML might not produce the promised benefits as Stiglitz et al (2006) summarize:

- National fiscal and monetary policies become difficult to pursue, since national government have to exclusively respond to the signals of the capital market, when pursuing policy objectives
- Boom and bust cycles may be emerging instead of steady development (booms in housing sector, in land prices and equity prices as well as consumer purchases of imported good lead to distortions of balanced growth, and are usually corrected by periods of busts)
- Financial instability and credit crises, leading to general contractions of credit and higher risk premia for loans, hamper economic development
- There are strong contagion effects of financial busts, since capital movements (the inflow and outflow of capital) are fast as compared to the change in trade flows
- The low income segment of the population as well as small businesses cannot insure and protect themselves against the risks that arise when bubbles burst and recessionary periods occur (or are prolonged). Indeed, it is those groups which are mostly affected by bubbles.

Thus the proponents of (fast) CML generally overlook the imperfectly working of capital markets and attribute too much of a self-correcting mechanism to the capital markets. Frequently, there is also a lack of regulatory or supervisory institutions for the banking system, the stock market or real estate market such that there are no stabilizing forces or safety nets for certain countries. This holds in particular, as the recent history of financial events has shown, for emerging markets and developing economies. Yet, even advanced countries with a long tradition of regulatory institutions, such as banking and stock market

regulations, are not protected from the negative externalities of financial crashes and busts either --- as the recent history has shown.

We want to note that the negative externalities of fast CML have mainly been pointed out by Keynesian tradition, as revived by Hyman Minsky (1975, 1982, 1986) and James Tobin (1980). They have been very influential in studying the interaction between financial markets and economic activity. There is, currently, also another important insight on this interaction represented by Robert Shiller's (1991, 2001) overreaction hypothesis. This latter research is also influenced by the Keynesian tradition. Another non-neoclassical traditions, also stressing those negative externalities originates in the work by Stiglitz and co-authors. They draw upon recent developments in information economics, wherein systematic attempts have been made to describe how actual financial markets operate by referring to the concepts of asymmetric information, adverse selection and moral hazard.

III. Capital Market Liberalization, Changing Macroeconomic Environment and Complex Securities

Whereas studies on the financial crises of the 1990s seem to converge that they were mostly triggered by a sudden drop in confidence in the stability of emerging markets and sudden capital flights, the currently evolving crises, starting in advanced countries, in particular with the US real estate boom-bust cycle, has not been sufficiently analysed and modelled. We want to put forward the hypothesis that there was a dangerous interaction of a change in the macroeconomic environment, such as financial liberalization, a low interest rate regime, international imbalances -- that led to an excessive inflow of fund into the US -- as well as the application of new financial engineering tools, e.g. new complex securities which were extensively used in the mortgage and financial markets to outsource risk.

As we know from financial history, deepening is usually accompanied by waves of financial innovations. Recent new financial innovations are hedge funds and options and derivative instruments. Collateralized debt obligations (CDOs) and Collateralized loan obligations (CLOs) are financial instruments where households' and companies' loans are turned into tradable securities. These are relatively new financial instruments that outsource and diversify risk for the issuer of households' mortgages or commercial credits. The numbers of such innovative financial products have grown rapidly. In fact, credit derivatives in the form of credit default swaps, mortgage-backed securities, and loan backed securities have expanded exponentially, but so have financial markets for them which have also expanded. Financial intermediation has become indirect and potential for actual dis-intermediation has

emerged. It was the dangerous interaction of the macro trends with financial market micro mechanism that produced the boom as well as the sudden collapse of the boom.²

1. Causes and Effects of the Current Financial Market Crisis

Before going into more details of the above mentioned interaction of macro and micro changes in the financial market, we will first summarize the financial market meltdown, particular in the US, how it evolved and how it created contagion effects for Europe and other regions of the world. Let us survey briefly what has led to the financial market meltdown since the middle of last year (2008).

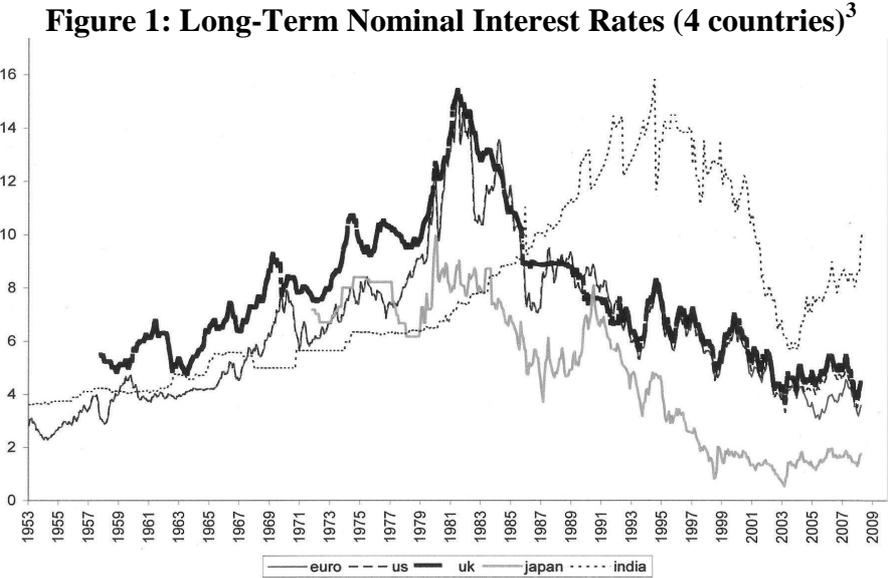
As recent events have shown, reflected also in academic debates, there are large externalities and contagion effects arising from financial instabilities. The evolution of the subprime crisis in the US and its effect on the financial sector can roughly be described as follows:

- the current financial market crisis originated in low interest rates, rapidly rising household debt, and a bubble in the housing market (high housing prices compared to fundamentals)
- the bubble is accelerated by the outsourcing of risk due to the securitization of mortgages (that have been packaged and sliced in risky securities of different types, (CDOs) and further extensive use of complex securities such as CDS
- expectation of returns from investment in real estate and MBS and CDOs have risen (due to low interest rates, low default rates and high discovery rates),
- liquidity in the housing sector (and financial market) was pumped up by capital inflows which brought the interest rate down on the long end of the yield curve,
- the burst of the bubble was triggered by Bear Stearns` hedge funds` failure, accelerated through the bankruptcy of Lehman Brothers, triggering a credit crunch in the entire banking sector,
- suddenly default risks and risk premia were shooting up resulting in a credit crunch (as in all beginning cycles of financial down-turns)
- feedback to the real sector causes the growth rate of the GDP to fall, with further feedback effects from the real to the financial side, both pulling each other down.

² For details of such an approach, see Semmler and Lucas (2009).

Often a stock market crash triggers the downturn. Yet, this time, the stock market reaction came late, responding to the credit crunch. When the investors in subprime mortgages faced the first fall out, the holders of those securities felt a massive credit crunch. Subsequently many big investment banks in the US –and in Europe-- were threatened by insolvency (see Bear Stearns, Merrill Lynch, Citibank, Morgan and Stanley, and Lehman Brothers actual went bankrupt). But there were also UK banks, such as Northern Rock and German banks affected, Hypo Real Estate and IKB as well as several of the German *Laenderbanken*). As the credit crisis worsened it spread to Europe and other parts of the world.

First, let us look at some of the above mentioned macroeconomic trends. Shiller (2007) notes that although it is popular to explain the recent boom in housing prices as the result of low interest rates, the rise did not actually begin until the mid-1990s, long after nominal interest rates had retreated from their highs in the 1980s. Yet the long run down-ward trend of interest rates resulted in low mortgage rates. For a number of countries, the interest rates are shown in Figure 1.



The historically exceptional rise of home prices is demonstrated in Figure 2, including treasury rates and population growth, where the Case- Shiller index is shown since roughly 1900.

³ Source: Global Financial Data

Figure 2: Long-Term Home Prices

Inflation-adjusted US home prices, Population, Building costs, and Bond yields (1900-2005)

(R. Shiller "Irrational Exuberance", 2nd ed.)

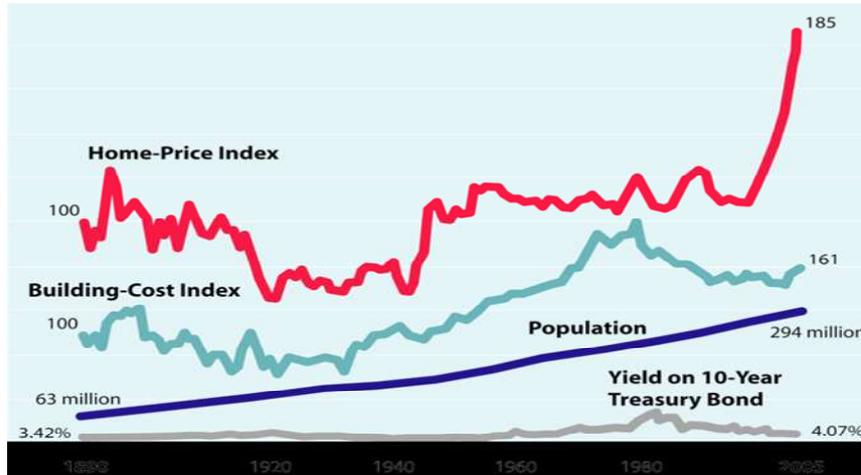
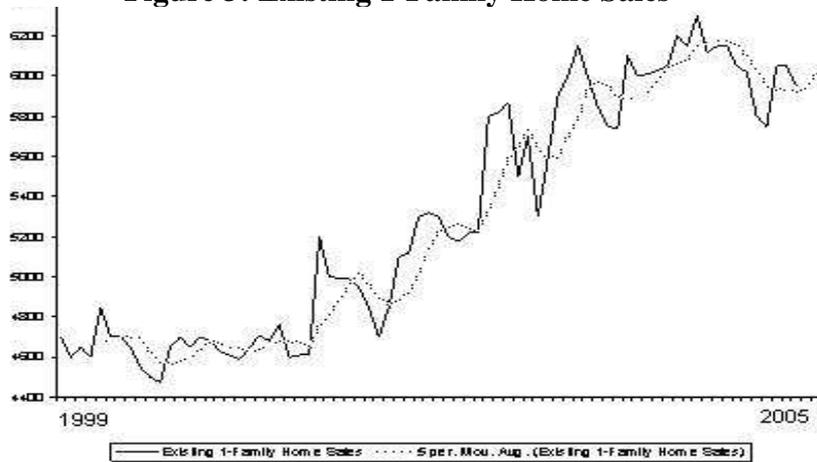


Figure 3 depicts the rise in 1-family home sales, and demonstrates the huge increase starting after 2001.

Figure 3: Existing 1-Family Home Sales⁴

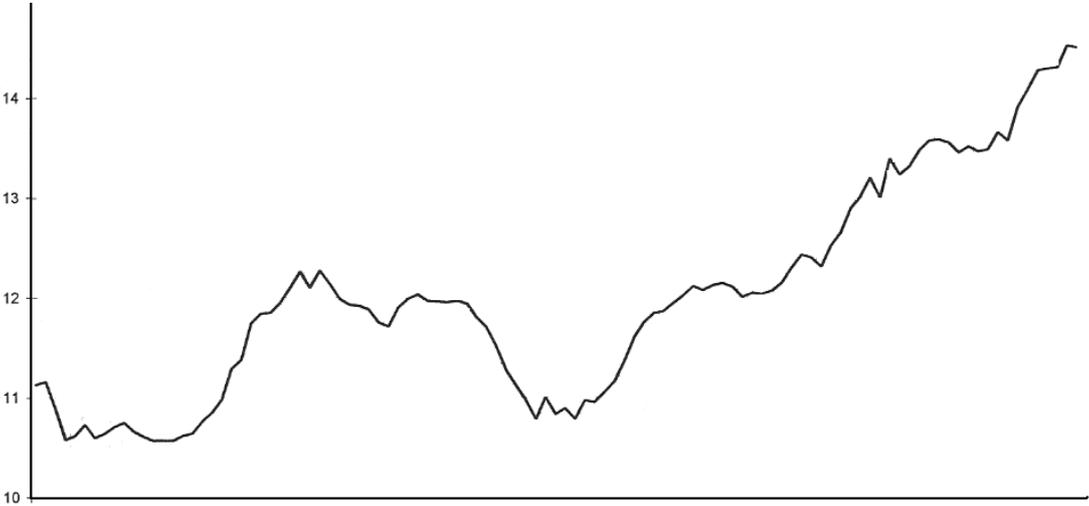


These phenomena were not limited to the United States. In fact, many other countries have experienced a similar upward trend in housing prices. In fact, Ayuso and Restoy (2006) have estimated that Spanish housing prices were overvalued by as much as 32% as of 2004. Often economists use the price rent-ratio as indicating the overvaluation of housing asset. The price rent ratio diverged hugely from historical averages.

⁴ Source: National Association of Realtors/Haver Analytics

A particular factor in the housing price boom is the consumer debt. According to Hudson (2006), American households are now deeper in debt than at any point in history. In fact, mortgage loans now constitute close to 90% of the increase in debt since the 1990s and make up fully 50% of bank loans in general. This trend can be seen to be driven by a combination of factors, including record low interest rates, which increase the borrowing capability of home buyers, favorable tax treatment of mortgage interest, and the “wealth effect” (the increased spending caused by the recognition of the value of one’s home) benefits to the general economy (Montgomerie/Young 2009). In the following Figure 6, we can see the increasing debt-service ratio.

Figure 4: Debt Service Ratio⁵



There is another trend, ostensibly, independent of interest rate trends. First, the alarming rise in mortgage delinquencies as shown in Figure 5; second, the rapid growth of Collateralized Debt Obligations during the same period, see Figure 6.

⁵ Federal Reserve; the ratio is the sum of interest and minimum contracted principle to disposable income.

Figure 5: US Mortgage Delinquencies

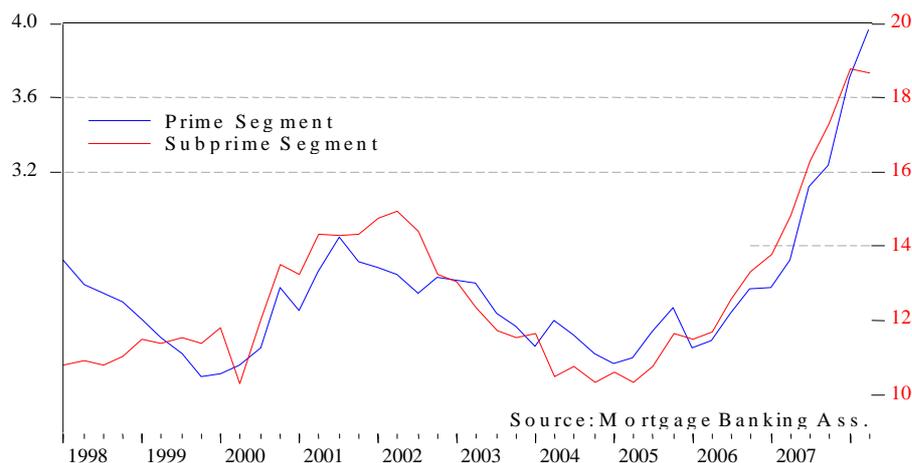
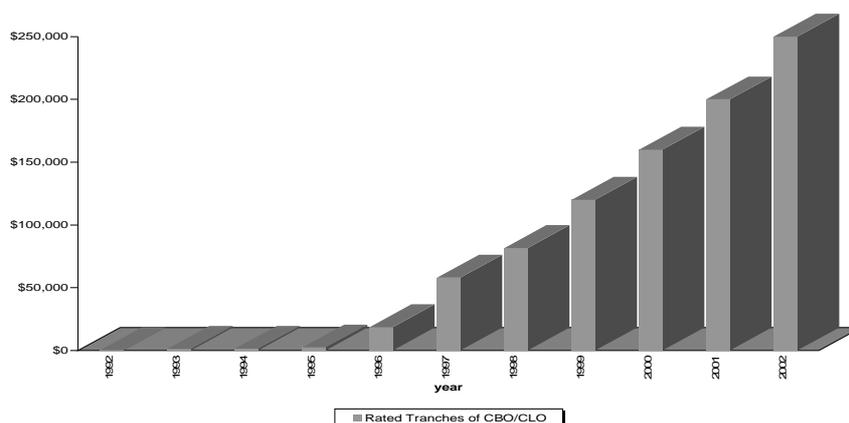


Figure 6: Rated CDO Volume (\$millions)⁶



2. The Link from Complex Securities to the Boom-Bust Cycle

Our hypothesis is that for the last boom-bust cycles in the US, starting from the housing market, there was a significant micro-macro link that accelerated both the boom as well as the bust. Though the feedback effects are complex, the mechanisms are quite simple to understand, for details see Semmler and Bernard (2009).

With complex securities, such as the CDOs, there is a bundling of risky assets, re-assigning the risks into different classes, called tranches. The tranches generally consist of 1, 2, 3 or 4 assets defaulting. A clever trader could take a long position in a risky tranche and go short in another tranche. Yet, for example, the different assets might not, in fact, be independent of each other. In other words, one asset defaulting makes the chances of others defaulting more or less likely. This phenomenon is called *default correlation* and, along with

⁶ Source: Moody's Investor Service

default risk, is an important driver of the overall structure. Further complications can be introduced by mixing different risky assets of different types, taking more complex positions within the tranches, and by investing in multiple products. All of this is usually simulated with computers, which can keep track of the details.

To put it another way, a Mortgage Backed Security (MBS) is a type of Collateralized Debt Obligations (CDO) – see the rapid rise in figure 6 -- in which the defaultable assets are mortgages instead of bonds or Credit Default Swaps. The rise of this industry has exactly mirrored the housing boom as shown in Figure 3 earlier. These securities are simply another example of the scheme described above. MBSs operate by grouping together mortgages and using the interest income produced to compensate investors for taking positions in which varying levels of default, called tranches, are guaranteed. The incentive to form such a structure is motivated primarily by the surplus cash generated – that is not used to compensate investors.

The regular interest payments from those mortgages are income to the Special Purpose Vehicle (SPV), an entity designed for this purpose. Different tranches are assigned with appropriate attachment points. If the number of defaults remains below the lower attachment point, the investors in that level simply collect the pre-arranged premium. However, once the percentage exceeds the lower attachment point, defaults are paid out of the capital posted by the investors of that tranche. Once the upper attachment point is reached, the next tranche takes over since the lower tranche is effectively exhausted. Investors in the MBS will demand compensatory interest commensurate with the assumed default risks and recovery values. These are paid from the interest income from the mortgages. The difference between the two cash flows is profit to the SPV investors. As long as it is profitable to construct these instruments, liquidity in the mortgage market will only be limited by the default probabilities, recovery values, and the rates obtainable elsewhere. Interested readers can find out more about this in Semmler and Bernard (2009).

Figure 7 shows the actual collapse of the housing price in the US. It should be pointed out that the housing market, unlike many other markets, is highly dependent on the banking system. Most homes are purchased through debt financing. Actual delinquency rates are shown in figure 5. When those rise, default correlation becomes a critical component in the burst of the bubble. This mechanism is simulated in a model by Semmler and Lucas (2009). It demonstrates how underlying financial market instruments can influence prices and macro-phenomena in extreme ways and can produce such a severe collapse in housing prices. Here

the role of high debt, delinquency rates and the correlation in the default process are taken into account.

Figure 7: The Collapse of House Prices

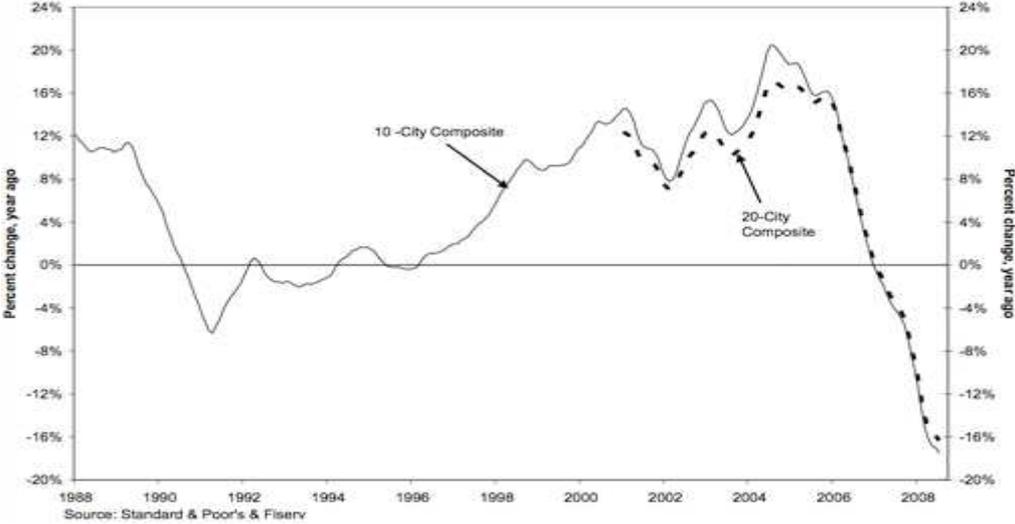
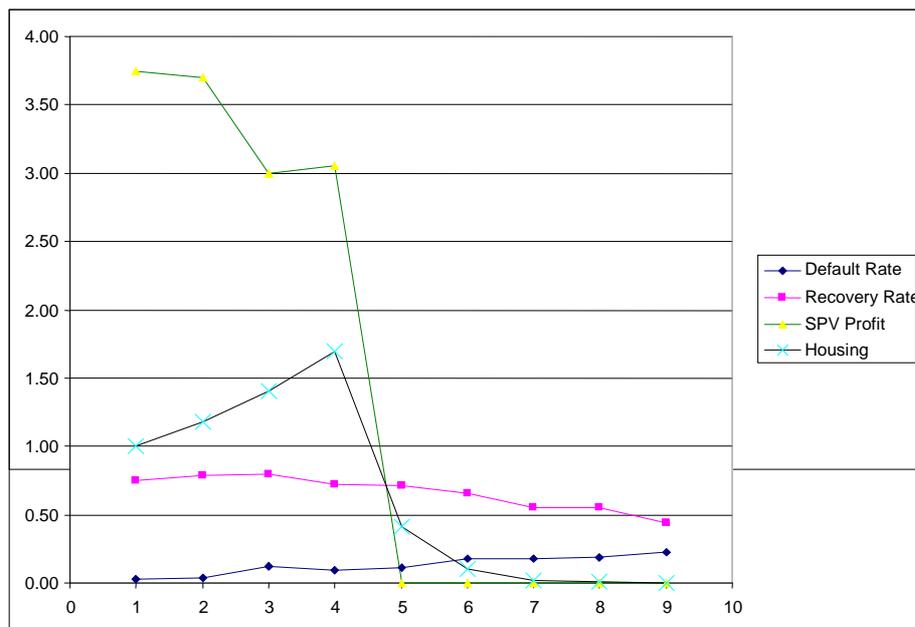


Figure 8, taken from Semmler and Lucas (2009), shows how the housing price collapse can be replicated by simulating the asset prices from MBS. The simulation demonstrates the extreme sensitivity of SPV profits and home prices. As discussed and analyzed in Semmler and Lucas (2009), there is an extreme sensitivity of both the asset price of complex securities as well as the housing prices to delinquency rates of mortgages, time varying interest rates, default correlation and recovery rates. It explains why, given the fragile macroeconomic environment, this led to such an accelerated downturn in the US in 2008.

Figure 8: Simulation Results on CDO Pricing⁷

⁷ Semmler and Lucas 2009.



Surely, overconfidence, undervaluation of risk and overleveraging played an important role accompanying the above non-robust pricing process. But these facts are only understandable against the empirical background and the sketched micro mechanism arising from the pricing of the new complex securities, as demonstrated in our simulations.

IV. Asset Price Boom-Bust Cycles and Central Bank Policies

An important question is thus whether central banks can control boom-bust cycles. As the financial meltdown evolved in the US, the asset price bubble and bust became a great challenge to the central banks. The central banks were forced to heavily intervene in the financial markets. Although traditionally only inflation targeting was the proclaimed goal of the central banks, both the Fed and the ECB have moved away from this and were forced to intervene with non-traditional means.

1. Asset Price Bubbles and Monetary Policy

This was not entirely new, since a strong sporadic intervention had already taken place under Alan Greenspan, since the 1990s. A detailed evaluation of the central banks' action with respect to the stock market, during the technology bubble, and their potential success/failure can be found in Greenspan's recent book (2008). It was well understood at the time, of course, that monetary authorities can and should not target specific levels of asset prices. There are fundamentally justified movements in asset prices, as for example for bond prices, credit costs, stock prices and exchange rates. Although asset price misalignments are

difficult to measure as are potential output, future inflation rates and equilibrium interest rates, nevertheless these movements should not be ignored. For a more detailed analysis of these issues, see Cecchetti, Genberg, Lipsky and Wadhvani (2000), as well as Semmler and Zhang (2002), and Semmler et al. (2006). Monetary authorities should help to provide stability for the financial market and reduce the likelihood of financial instability. In the earlier literature, with a view to the 1990s, this was discussed with respect to the extreme changes in asset prices, in particular stock prices.

Now, with the outbreak of the credit crisis triggered by the subprime sector and the subsequent financial meltdown, in particular in the credit sector, central banks' intervention in the credit sector became a major issue. As mentioned above, traditionally only inflation targeting was the proclaimed goal of the central banks, yet both the Fed and the ECB undertook drastic actions, also coordinating world wide measures to prevent the credit crisis from spreading and to avoid a financial market meltdown. In November 2007, joint actions of Western central banks were undertaken to provide more liquidity for the private sector, in particular for the banking sector. Moreover, the US Fed provided more liquidity in the first quarter of 2008, first with a plan to inject \$200 bill and then actually assisting in bailing out Bear Stearns by JP Morgan in the middle of March 2008. Moreover, up to the time this paper was written in June 2009, the short term interest rate in the US had been reduced from 5.25 % to 0.25%. Finally, in the second quarter of 2009 the Fed undertook a drastic action to buy \$700 bill worth of treasury bonds to inject liquidity into the market.

For the interested observer, this change in direction of monetary policy from inflation targeting to heavy intervention in the financial market did not come without surprise. Ben Bernanke, now the Fed Chair, had already written several academic papers that advocated a strong intervention of the central bank in case of a financial market meltdown, see Bernanke et al (2004). Already in his earlier papers, Bernanke and co-authors had put forward the idea that the central bank should buy private assets if interest rate policy no longer worked. This not only would prevent a further fall in asset prices, but in particular drive down the long term interest rate. Though the paper originally was written with an eye on the Japanese long period of stagnation, starting in the 1990s, when the zero inflation rate and almost zero interest rates did not leave any room for monetary policy, Bernanke and co-authors had hinted of a possible US application. Now, in fact the US central bank did apply this non-traditional monetary policy, albeit the success awaits future evaluation.

In contrast to the Fed, the European Central Bank, the ECB, was always more conservative in its monetary policy stance, first by applying the two pillar concept and second

giving more attention to the inflation rate than to output or the financial markets and its possible externalities to the real economy. The two pillar concept means that the ECB pursues the tradition of controlling the money supply, as advocated by the Bundesbank, but at the same time it pursues direct inflation targeting through discretionary interest rate setting. Further development in the financial market sector and spillovers of the financial meltdown to the EU had also tested the ECB. In response to the financial crisis, it mainly focused on interest rate reduction and provision of liquidity.

Overall, the claim of the recent monetary concept, that the central banks should restrict themselves to inflation targeting, giving some weight to output targeting, came under stress not only in the 1990s, but particularly since the outbreak of the subprime crisis, the ensuing credit crisis and the financial meltdown. It would indeed be too easy a concept to suggest that the modern central bank undertake some fine-tuning of the economy, engineering interest rate changes in some direction and steering the economy toward some steady employment. The boom-bust cycle, this time a finance fuelled boom-bust cycle with wide spread financial instability and meltdown, has become the central challenge for central bank policy.

2. Are Bubbles Always Bad?

It is a mistake to think that all bubbles are bad; in fact some bubbles leave the economy significantly better off - with higher productive capacity, which might even include better labour relations with job training and higher wages and income in the long run. A good example is the technology bubble in the US in the late 1990s. The US had a bubble and strong growth --- Europe had no bubbles and no economic growth. Recent financial market innovations also enhanced economic growth and facilitated the purchase of houses for the low income sector. But the latest financial bubble coincides with slow productivity growth, stagnating US household income, and higher poverty rates. Except for the larger than average growth in office buildings, creation of new financial instruments, and an increase in housing stock, this bubble does have more negative effects, even apart from the costs in lost output. In general, bubbles can produce or enhance uneven income distribution (tides do not lift all boats, but mainly yachts) and they may lead to misallocation of resources (e.g. the huge build up of optical fiber in the US). And even before bubbles bursts, they create financial instability; other sectors may be pulled into unwarranted booms. As above discussed, with bubbles bursting there are huge externality effects, since falling asset prices after the bubble will pull down other asset prices, the value of collateral will fall, loans will be called in; credit markets will contract, and financial institutions will suffer. Many completely 'innocent'

agents – who made no unwarranted or speculative decisions – are dragged down, and this will spill over into the real side of the economy, thus leading to a negative impact on employment and output.

The latest boom–bust cycle had all the making of a bad one. The fast liberalization of the financial market in the two previous decades, a decrease in risk perception, an increase in risk taking, overleveraging and relaxed financial market regulation, inexperienced and loose supervision, relaxed disclosure requirements, the lax screening and monitoring of financial institutions and weak accounting standards were not only found in emerging markets, but also in the US and other advanced countries.

V. The Fragmented Global Regulatory Response to the Financial Crisis

At the start of the crisis in 2007, few would have expected that the latest financial market meltdown would trigger such a world-wide debate on the need for new financial regulation and oversight. Not only the US responded with recommendations for an overhaul of the financial regulatory structure, we witness a global response to this truly historic event.

1. A Fragmented Global Response

Due to the huge financial losses of US investment banks, mortgage firms and commercial banks, regulatory institutions, governments, commissions (such as the SEC) and the Congress have put forward new ideas on the oversight and regulation of the financial markets. A similar discussion has started in the European Union, in many of the member states of the European Union, the emerging economies through the G-20 summit, the International Monetary Fund, the Bank for International Settlement (BIS), and the UN-Commission of Experts on Reforms of the International Monetary and Financial System (also known as Stiglitz Commission).

Although members of these bodies strongly agree to improve the regulatory framework of financial markets, but serious differences remain on whether regulation should be of a *light touch* market oriented approach or whether more public authority is needed in the wake of the international financial crisis (Helleiner & Pagliari 2009). While the US and EU play the dominant role in global financial markets as both the largest and most liquid financial markets worldwide, they operate under quite different regulatory regimes (Hall and Soskice 2001; Lütz 2002).

These national differences were played out at the start of the G20 meeting in London in April 2009. French President Nicolas Sarkozy and German Chancellor Angela Merkel (*l'axe franco-allemande*) called for an encompassing state regulation including regulation for hedge-funds and tax heavens, going as far as threatening to walk out of the G20 meeting if agreement on strict regulation of financial products among the G20 members should not be forthcoming. In contrast, US President Barack Obama and the British Prime Minister Gordon Brown came to the meeting to gain consensus primarily on further financial stimulus to provide liquidity for the banking system (FT 25.3.2009). A few days before the G20 meeting, the Anglo-Saxon strategy was strongly rebuffed by the then holder of the EU-presidency, the Czech Prime Minister, Mirek Topolanek. He referred to the massive injection of liquidity into the economy as a “road to hell” (Barber/Luce, FT 26.3.2009). Similarly, Angela Merkel, in an unusually stern attack on the *unconventional* monetary policies of the Fed, Bank of England and ECB, warned that “(W)e must return to independent and sensible monetary policies, otherwise we will be back to where we are now in 10 years’ time” (FT 3. June 2009).

Now two years into the crisis and despite the severity of the financial meltdown, the worst since the Great Depression of the 1930s, there is little momentum to create a new and global *Bretton Woods II* system as championed by Nicolas Sarkozy prior to the first G20 meeting in Washington, D.C. Fragmentation and great variation among and across national political economies have emerged in the areas of accounting and prudential rules, oversight of rating agencies, personal accountability, levels of capital requirements, transparent pricing and risk management, and regulating and licencing new financial products (Helleiner & Pagliari 2009; Smaghi 2009). These differences in regulatory responses are not new nor surprising. The variation in regulatory responses at the macro level is due to the different regulatory models exemplified in the “varieties of capitalism” approach, which stipulate that *liberal market economies* tend to rely more on markets modes of coordination in the financial sphere, while those with *coordinated market economies*, such as the European countries, rely more heavily on the existing institutional governance structures of non-market coordination (Hall and Soskice 2001).

At another more meso and institutional level, conflicts of interests between individuals and collective interests also plague financial markets. Financial markets are essentially global, while regulation and supervision remain in largely national competences (Smaghi 2009). This latter point is all the more problematic in the European Union between the EU regulatory bodies and the member states. While cross-border banking integration at the European level has increased since the creation of the European single market and increased coordination has

been achieved by the creation in 2004 of the Committee of European Banking Supervisors (CEBS) in the framework of the so-called Lamfalussy architecture for financial regulation, nevertheless the supervisory control remains firmly under national competence (Véron 2009; Mügge 2008; Padoa-Schioppa 2004). The present crisis has “exposed the fact that financial supervision has not kept pace with market integration”(Lannoo 2008: 1). The inadequate response to the crisis is further aggravated by the regulatory competition among EU-member states created by the leeway left to national regulators to interpret European directives. The incentive to compete among its members on regulatory and oversight tasks is thus much greater than the need to cooperate concerning the supervision of large and complex institutions in Europe as well as at a global level (Smaghi 2009).

2. The More Specific Regulatory Responses So Far

a) The Group of 20 and the UN-Commission of Experts on Reforms

The *Group of 20* (G20) summits, starting with the first meeting in Washington on November 15, 2008 and continuing in London on April 2, 2009 signalled for the first time that global financial governance can no longer be restricted to the G7/8 (created in 1975), but need to be more inclusive of developing countries at the leader’s level. Accepting a widening governance framework in finance in the wake of the present crisis is perhaps the most significant result of the G20 summit (Helleiner & Pagliari 2009). However, the United Nations Commission (Stiglitz Commission), which presented its report prior to the G20 summit argued that the G20 needs to even further broaden and include the G192 in order to deal with impacts of the crisis and responses to the crisis on poverty and development. In particular, the Report points to the global instability caused by the current dollar based reserve system and advocates a greatly expanded role of Special Drawing Rights of the International Monetary Fund. “Short term measures to stabilize the current situation must ensure the protection of the world’s poor, while long term measures to make another recurrence less likely must ensure sustainable finance to strengthen the policy response of developing countries” (UN Commission, 2009: 2).

While the G20 Summits did pay, at least lip-service, to the plight of the developing countries hit by the impact of the financial crisis, the major focus of the summit was on the reforms of the global financial architecture. Despite the initial cross-Atlantic strident verbal exchange prior to the G20 Summit in London in April 2009, the final declaration was regarded as a remarkable success. The members agreed to enhance the role of the Financial Stability Forum (FSF) for financial oversight in the successor organization, the Financial

Stability Board (FSB), with a strengthened membership and mandate. It includes all the G20 countries and other FSF members, as well as the European Commission as the rule-making body of the EU, in cooperation with the Bank for International Settlement (BIS) and the International Monetary Fund (IMF). The purpose is to enhance better coordination, including macro- and micro-prudential supervision, between the international and national levels. It includes the creation of an early warning system of macroeconomic and financial risks and a supervising structure to prevent regulatory arbitrage. Two additional points gained strong backing at the G20. It was agreed that there is need for greater personal accountability of the executive financial decision-makers and that compensation schemes should be linked to the firm's long term goals. This action was in response to the world-wide public outcry to the huge bonuses being paid to CEO's as compensation for focusing on risky and short-term financial gains (Lannoo 2009). Furthermore, the G20 recommended quite stringent actions against tax heavens, an issue particularly important to the Germans. It was agreed to enforce disclosure and economic sanctions against banking secrecy (Group 20, 2009). The results on financial reforms are thus better than anticipated, but it remains to be seen between now and the Summit to be held in Pittsburgh in September 2009 whether real actions follow these recommendations.

b) US-White Paper on Financial Reforms

On June 17, 2009, US President Barack Obama unveiled the long awaited White Paper on financial market reforms prepared by the Secretary of the Treasury, Tim Geithner. Financial media pundits speculated that the Gramm-Leach-Bliley Act of 1999, abolishing the Glass-Steagall Act (separating commercial banks from investment banking), would be reversed. Namely, the abolition of this act has been blamed by many of some of the market turbulence that led to the financial crisis. Others speculated that there would be some consolidation of the multi-layered batchwork of regulatory federal and state institutions which have evolved over more than a century in response to financial crisis, market innovations and regulatory reforms. There are five federal banking regulators, including the Federal Reserve, which monitor commercial banks. The SEC monitors the securities market while the Commodity Futures Trading Commission regulates futures. Insurance, on the other hand, is supervised almost entirely at the state level. But as the FT (June 18.2008) noted, the White Paper represents the "art of what is politically possible" between "a diverse galaxy of regulators, Capital Hill barons and industry lobby groups" (FT 18.June 2008: 3). The most important reforms mentioned in the White Paper address four major areas.

First, the white paper grants supervision of financial companies and new systemic risk regulatory powers to the Federal Reserve. Banks are required to hold more capital and hedge funds have to register with the SEC. A newly created *Council of Regulators*, chaired by Tim Geithner as Secretary of the Treasury, is to advise the Fed on its tasks to monitor the systemic risks. The *Council* consisting of the leaders of the top eight regulators, including the new Consumer Financial Protection Agency, would coordinate policy and prepare a report to Congress once a year. However, this new body has no enforcement powers, nor can it veto any of the Fed's decision. The idea behind the strongly expanded role of the Fed to monitor financial institutions is the belief that macro-prudential regulation is needed to avoid systemic risks rather than supervising individual banks. Prior to the financial meltdown, the focus was on micro-prudential oversight assuming that if bank supervisors ensured the safety of individual banks, systemic stability would follow (Plender, FT 22.June: 5). The second important reform is the creation of a special insolvency regime for financial firms, a solution to the *to big to fail problem* witnessed after the Lehman Brothers demise in September 2008, which so devastatingly demonstrated that the government did not have the legal authority to seize and wind up failing complex financial firms. Under the new proposal, the Treasury secretary would have the power to invoke a special bankruptcy regime and "sell or transfer all or any parts of the assets of the firm in receivership to a bridge institution or other entity" (US- Dept of the Treasury 2009:). Creating the insolvency regime recognizes the fact that Lehman Brothers, as a non-bank financial institution, was only subject to the bankruptcy Chapters 11 and Chapters 9 designed for industrial companies. This new insolvency regime would apply to both banks and large non-bank financial firms.

Third the President also targeted to reign in excessive risk taking on the securitization markets by forcing lenders to retain at least 5 per cent of the credit risk of loans that are securitised. Asset-backed securities including the over-the-counter derivative market will have to register and face new reporting rules. The Fed's consumer protection role as a fourth issue is to be transferred to a New Consumer Financial Protection Agency. The Office of Thrift Supervision, which was the primary regulator of federal savings associations (thrifts) is to be shut down. The new Consumer Financial Protection Agency is to ensure that any company that provided financial products or services related to consumer lending, such mortgage brokers, debt collectors and credit counsellors would adhere to strict rules. Finally, the White Paper emphasizes also the international role of coordination on the supervision of large global financial firms and stresses higher overseas standards on capital requirement (US-Dept of the Treasury 2009).

In the meantime, members of the US-Congress and financial media pundits have critiqued the vagueness on crucial details and the practical implications of the white paper (Tett, FT 26.Jun 2009). There are two major points which could lead to a regulatory turf war in the coming months. Many in the US Congress, in particular the Senate, do not want to see the Fed increase its power to include the macro-prudential supervision of large financial firms. Some Republican Senators have argued that the Fed does not have the expertise as a systemic risk regulator, and that the Fed should not be rewarded with additional regulatory power when in fact the Fed is held responsible for creating easy money and thus contributing to the asset bubble in the first place. As a result, the Fed should adhere to its exclusive role of setting monetary policy (Luce, FT 18. June 2009). On the opposite side are academics and former members of the Board of Governors of the Federal Reserve, such as Frederic Mishkin, who argues "that we desperately need a systemic regulator and the Fed is the only logical choice" (Mishin, FT June 23. 2009: 9). Another turf war brewing over which agency will control the derivatives is between the SEC and the Commodity Futures Trading Commission (CFTC). The SEC, which was severely criticized for neglecting its oversight responsibility in the Bernard Madoff investment fraud as well as its failure to intervene in the investment banks of Lehman Brothers and Bear Stearns, is targeted to gain new powers to oversee the credit derivative markets. However the CFTC continues to be responsible for regulating interest rate, foreign exchange and commodity derivatives. Thus similar financial instruments are regulated by both agencies, which could in the words of the former SEC chair, Harvey Pitt, lead "to more regulatory overlap, gaps and arbitrage" (Pitt, FT 2009: 2).

c) The EU-de Larosière Report and the Turner Review (UK)

There is shared agreement across the Atlantic that the new regulatory framework has to include macro-prudential oversight to ensure systemic stability. As already set forth in the White Paper of the US-Treasury Department, both the Turner Review, chaired by Lord Turner, chairman of the UK's Financial Services Authority (FSA) and the EU-Larosière Report, chaired by Jacques de Larosière, the former managing director of the International Monetary Fund, echo the critique of the micro-prudential regulatory approach which has contributed to an unbalanced regulatory regime prior to the crisis (de Larosière Report 2009; Turner Review 2009). The EU-Commission accepted the main recommendations of the de Larosière Report (EU Commission 2009) in May 2009 which rests on two pillars: macro-prudential supervision and micro-supervision. To upgrade macro-prudential supervision, the EU recommends establishing a new body called *European Systemic Risk Council* (ESRC), to

be chaired by the ECB president, and set up under the auspices of the European Central Bank. The purpose of the ESCR is to pool and analyse all information, relevant for financial stability, pertaining to macro-economic conditions and to macro-prudential developments in all the financial sectors. Furthermore, it should facilitate a better flow of information between the ESRC and the micro-prudential supervisors, and to put in place an effective macro-prudential risk warning system, the *European Systemic Risk Board (ESRB)* (de Larosière Report, 2009: 46). That the ECB should chair the ESCR was - as soon as this news hit London - received with much apprehension by the British. A second core recommendation focuses on the creation of a *European System of Financial Supervision (ESFS)* for micro-prudential supervision of large cross-border institutions. The *ESFS* will have a direct impact on cross-border fund managers which are to be created out of the present advisory bodies (CEBS for banks, Ceiops for insurers, and Cesr for securities). These so-called Level 3 Committees created under the Lamfalussy framework in 2004 (see Muegge 2008) designed to ensure national watch-dogs have proven quite insufficient to ensure financial stability in the EU and its Member states (Smaghi 2009). As a result, the de Larosière Report suggests that these bodies should be transformed with real binding powers, to coordinate the application of supervisory standards and guarantee strong cooperation between the national supervisors. The Committee of European Securities Regulators (Cesr) which presently covers regulation for fund management will become the new *European Securities and Markets Authority (Esma)*. While colleges of supervisors will be set up for cross-border institutions to function as linchpin in ensuring a balanced flow of information between home and host authorities, the power to carry out day-to-day supervision will continue to remain in the hands of national supervisors (de Larosière Report 2009: 46-48).

In summary, policy actors across the Atlantic have fundamentally converged on the need for systemic regulation in finance, but huge differences remain in *how* to formulate a prudent policy response. Differences are primarily due to the varieties of the regulatory environment and the conflicts of interests within the multilevel governance system of the US and the EU, the European member states and the members of the Euro-area, and the EU member states and Brussels. Differences are also visible in the primary targets selected for regulation. The US has so far focused on banking regulation and consumer protection, the EU (particularly France and Germany) is eager to reign in hedge funds and private equities. Another conflict has opened up in regard to the EU draft on Alternative Investment Fund (hedge funds and private equities). The Americans agree with the British that funds themselves should register and not require alternative fund managers to seek authorization. Both countries strongly

oppose the leverage cap suggested by the EU-draft, which would put limits on the amount hedge funds can borrow. Particularly London sees its hedge fund dominance threatened (3/4 of Europe's hedge fund assets are managed in the UK) by the EU proposal (FT 15.7.2009). A further area of difference has emerged in the how to regulate rating agencies. The EU parliament has already approved legislation that requires credit rating agencies operating in the European Union to register and be supervised. The proposed legislation by the US Treasury would not fundamentally change the business of ratings. Credit rating agencies opinions are protected under the First Amendment of Free Speech in the US and thus their recommendations are protected. The new legislation would not change this situation (FT 23. July 2009).

No final verdict on the outcome of the regulatory structure is possible at the moment, since the proposals and recommendations issued by the various bodies have to go through the political process and in many cases will be amended before enacted around 2010. Nevertheless, the fragmentation is quite evident between *liberal market economies* and their tendency to rely more on market modes of coordination in the financial sphere, while the European countries with *coordinated market economies* rely more heavily on the existing institutional governance structures of non-market coordination. Yet the financial crisis has made visible another conflict line in the EU between national supervision and the freedoms of the single market. Three objectives are in conflict: financial integration, financial stability and national supervisory autonomy (Smaghi 2009). The three cannot be achieved simultaneously. In order to achieve more financial stability there is either the road to increase national powers over finance, meaning a less integrated EU market, or a greater degree of European integration. Thus the challenge is to find a way to *regulate without refragmentation* (Véron 2008) both at the European and the global level.

VI. Conclusions

The current meltdown of the financial markets in the US, which triggered world-wide financial crisis and staggering declines in global growth rates, challenges the assumptions of fast capital market liberalization (CML). Whereas the discussion in previous years has concentrated on the benefits of financial market liberalization, the focus has now shifted to the cost of fast and excessive financial liberalization. In contrast to the theory of perfect capital markets, the argument presented in this paper starts from the more realistic assumption of imperfect capital markets. Boom-bust cycles have always existed, but they had largely been contained by public sector oversight, financial market and industry regulation, elements of

planning (for example in the post-war period) and responsible control of risk through the financial intermediaries. Recent capital market liberalization and financial dis-intermediation, where control has shifted to market self-regulation through new financial engineering tools, has created the worst boom-bust cycles since the Great Depression. The latest crisis arose from a combination of a change in the macroeconomic environment interlinked with an aggressive use of imperfectly understood financial market innovations. Central was the outsourcing of risks by traditional banks and investment banks. This was done through the securitization of credit risks through MBS, CDOs and CDS-- which were supposed to diffuse the risks, but instead build up systemic risks.

The financial meltdown has created not only new challenges for the Central Banks around the globe, but has also produced global initiatives on new financial regulations. No final verdict is possible at this time, since the proposals and recommendations issued by the various bodies have to go through the political process. Nevertheless, the regulatory policy fragmentation is already evident between *liberal market economies* and their tendency to rely more on market modes of coordination and the European countries with *coordinated market economies* and their trust in non-market coordination. The challenge for the multilevel governance system of finance is to find a way to *regulate without refragmentation* both at the European and the global level.

References

Aghion, P., Bacchetta, P. and Banerjee, A. 2004, 'A Corporate Balance-Sheet Approach to Currency Crises', *Journal of Economic Theory*, vol. 119, pp. 6–30.

Ayuso, J. and F. Restoy 2006: House Prices and Rents in Spain, Documentos de Trabacho, no. 9, Banco de Espana.

Barber, Tony and Edward Luce 2009: EU leader condemns US 'road to hell', *Financial Times*, 26. March, p. 1.

Bernanke, B. (1983), "Non-Monetary Effects of the Financial Crisis in the Propagation of the Great Depression", *American Economic Review*, 73, June: 257-276.

Bernanke, B., and M. Gertler (1994), "The Financial Accelerator and the Flight to Quality". *Review of Economics and Statistics*, vol. 78, no. 1: 1-15.

Bernanke, B., Gertler, M. and S. Gilchrist (1998), "The Financial Accelerator in a Quantitative Business Cycle Framework", NBER working paper, no 6455, forthcoming in J. Taylor and M. Woodford (eds), *Handbook of Macroeconomics*, Amsterdam, North-Holland

Bernanke, B., V. R. Reinhard, and B.P. Sack (2004), Monetary Policy Alternatives at the Zero Bound: An Empirical Assessment, Federal Reserve Board, Washington. D.C. no 48.

Bernhard, L. and W. Semmler (2008), Credit Derivatives in the Housing Markets and its Collapse, mimeo, New School.

Burnside, C., Eichenbaum, M. and Rebelo, S. 2001, 'Hedging and Financial Fragility in Fixed Exchange Rate Regimes', *European Economic Review*, vol. 45, pp. 1151–1193.

Cechetti, S.G., H. Genberg, J. Lipsky and S. Wadhvani (2000), "Asset Prices and Central Bank Policy", Geneva Reports on the World Economy, no. 2, International Center for Monetary and Banking Studies and Center for Economic Policy Research.

Council on Foreign Relations (2002), Building a Transatlantic Security Market, authored by Benn Stein.

Corsetti, G., P. Presenti and N. Roubini (1998), "What caused the Asian Currency and Financial Crisis", NBER paper no. 2633.

Diamond, P. and P. Dybvik (1983), "Bank Runs, Deposit Insurance and Liquidity", *Journal of Political Economy*

Deutsche Bank Research (2008). EU-US financial market integration a work in progress. Financial Market Special. EU Monitor 56.

European Central Bank 2009: Financial Stability Review (June 2009). www.ecb.int/pub/pdf/other/financialstabilityreview200906en.pdf

European Commission 2009: "Driving European Recovery", Speech by EU Commission President presenting the EU-Commission's contribution to the Spring Council, (March 4), www.europa-eu-un.org/article_8434_en.htm

Financial Times (2007). Transatlantic talks 'to tackle barriers' (27. June 2007).

Financial Times 2009: Brown asks for Europe to back global stimulus, 25. March, p. 2

Financial Times 2009: Merkel mauls central banks, 3. June, p. 1.

Flaschel, P. and Semmler, W. 2006, 'Currency Crisis, Financial Crisis, and Large Output Loss', in C. Chiarella, P. Flaschel, R. Franke and W. Semmler (eds), *Quantitative and Empirical Analysis of Nonlinear Dynamic Macromodels*. Contributions to Economic Analysis (series editors: Baltagi, B., Sadka E. and D. Wildasin), Elsevier, Amsterdam, pp. 385–414.

Greenspan, Alan 2008: The Age of Turbulence, London: Penguin, 2nd edition.

Group 20, 2009: G-20 Working Group 1, Enhancing Sound Regulation and Strengthening Transparency, Final Report, March 25 (www.g20.org/documents/g20_wg1_010409.pdf)

Hall, A. Peter and David Soskice (eds.) 2001: Varieties of Capitalism. The Institutional Foundations of Comparative Advantage. Oxford: Oxford University Press.

Helleiner, Eric and Stefano Pagliari 2009: Towards a New Bretton Woods? The First G20 Leaders Summit and the Regulation of Global Finance, in: *New Political Economy*, Vol. 14:2: 275-287.

Hudson, N. 2006: The New Road to Serfdom, *Harpers Magazin*, May.

International Monetary Fund 2009: Global Financial Stability Report Responding to the Financial Crisis and Measuring Systemic Risks, April 09, www.imf.org/external/pubs/FT/6FSR/2009/01/index.htm

Kato, M. and W. Semmler (2005), "Currency Crises and Monetary Policy Rules", www.newschool.edu/gf/cem.

Krugman, P. 1999, 'Analytical Afterthoughts on the Asian Crisis', mimeo. Princeton University.

Krugman, P. 2000, 'Crises: The Price of Globalization?', *Global Economic Integration: Opportunities and Challenges*. Federal Reserve Bank of Kansas City, pp. 75–106.

Lannoo, Karel 2009: What's next after the London G-20? Centre for European Policy Studies, CEPS Cometary. (9. April) www.ceps.eu

Lannoo, Karel 2008: It's high time to create a truly European System of Financial Supervisors, Centre for European Policy Studies, Commentary (26. June), www.ceps.eu

Larosière, Jacques de 2009: The High-Level Group on Financial Supervision in the EU, Chaired by Jacques de Larosière, Brussels, 25. February, http://ec.europa.eu/internal_market/finances/docs/de_larosiere_report_en.pdf

Luce, Edward 2009: White Paper sets out skilful compromises, *FT* 18. June 2009: 3.

Lütz, Susanne 2002: Der Staat und die Globalisierung von Finanzmärkten. Regulative Politik in Deutschland, Großbritannien und den USA, Frankfurt/Main: Campus.

MacAvoy, P. and I. Millstein (2004), "The Recurrent Crisis in Corporate Governance, Stanford: Stanford University Press.

Merkel, Angela and Jan Peter Balkenende 2009: Road map out of crisis, in: *International Herald Tribune*, 21.-22. March, p. 7.

Minsky, H. P. (1975), John Maynard Keynes, Columbia New York University Press.

Minsky, H.P. (1982), "Can it Happen again?", Armonk: ME Sharpe.

Minsky, H.P. (1986), "Stabilizing an Unstable Economy", New Haven: Yale University Press.

Mishkin, Frederic 2009: Why all regulatory roads lead to the Fed, *FT* 23. June 2009: 9.

Mishkin, Frederic (2008). "[Monetary Policy Flexibility, Risk Management, and Financial Disruptions](#)," speech delivered at the Federal Reserve Bank of New York, New York, Jan. 11.

Mishkin, F.S. (1998), "International Capital Movement, Financial Volatility and Financial Instability", NBER working paper, no. 6390.

Montgomery, Johnna and Brigitte Young 2009: Home is where the Hardship is: Gender Dimension of Indebtedness and Homeownership (under review).

:

Mügge, Daniel (2008). Widen the Market, Narrow the Competition. The Emergence of Supranational Governance in EU Capital Markets. (Unpublished Dissertation, University of Amsterdam).

Padoa-Schioppa, Tommaso 2004: The Euro and its Central Bank: Getting United after the Union, Cambridge: MIT Press.

Plender, John 2009: Analysis: Respinning the web. FT June 22.2009: 5.

Proaño, C.R., Flaschel, P. and Semmler, W. 2005, 'Currency and Financial Crises in Emerging Market Economies in the Medium Run', *Journal of Economic Asymmetries*, vol. 2, pp. 105–130.

Reszat, Beate (2003). How has the European Monetary Integration Process Contributed to Regional Financial Market Integration? Hamburg Institute of International Economics, Discussion Paper 221.

Roethig, A. W. Semmler and P. Flaschel, (2007) Corporate Currency Hedging and Currency Crises, *Australian Economic Papers*, pp. 225-.233.

Rogoff, K. (1999), "International Institutions for Reducing Global Financial Instability", NBER working paper 7265, Cambridge.

Schneider, M. and Tornell, A. 2004, 'Balance Sheet Effects, Bailout Guarantees and Financial Crises', *Review of Economic Studies*, vol. 71, pp. 883–913.

Semmler, W. (2006), *Asset Prices, Booms and Recessions: Financial Economics from a Dynamic Perspective*, Heidelberg/New York, Springer Publishing House, 2nd edition.

Semmler, W. and Lucas (2009), Banking, Complex Securities, and the Credit Crisis, *Economic and Political Weekly*, March 28, vol. XLIV, no 13, 133-149.

Semmler, W., Greiner, A. and W. Zhang (2006). *Monetary and Fiscal Policy in the Euro-Area*, Elsevier.

Semmler, W. and W. Zhang (2002), "Asset Price Bubbles and Monetary Policy Rules: A Dynamic Model and Evidence", CEM, Bielefeld University, working paper.

Shiller, R. J. (1991), *Market Volatility*, Cambridge: MIT Press.

Shiller, R.J. (2001), *Irrational Exuberance*, New York: Random House.

Smaghi, Lorenzo Bini (2009): Conflicts of Interest and the Financial Crisis, in: *International Finance* 12:1: 93-106.

Stiglitz, J. , A. Ocampo, S. Spiegel, R .FFrench-Davis, and Deepak Nayyar (2006), Stability with Growth, Oxford, Oxford University Press.

Tett, Gillian (2009), Insight. Schapiro gets troops ready for regulatory turf war, FT 26. June 2009: 23.

Tobin, J. (1980), "Asset Accumulation and Economic Activity", Oxford: Basic Blackwell.

Turner (The) Review 2009: A regulatory response to the global banking crisis. Financial Services Authority (March), www.fsa.gov.uk/pubs/other/turner_review.pdf

United Nations 2009: The Commission of Experts on Reforms of the International Monetary and Financial System (Chairperson: Joseph Stiglitz), 19. March 2009 http://www.un.org/ga/president/63/commission/financial_commission.shtml

United States, Department of the Treasury 2009: Financial Regulatory Reform. A New Foundation: Rebuilding Financial Supervision and Regulation, http://www.financialstability.gov/docs/regs/FinalReport_web.pdf

Véron, Nicolas 2009: Europe's Banking Challenge: Reregulation without Refragmentation, in: CESifo Forum 4/2008: 51-59.