

## **The Global Financial Crisis: Causes and Cures**

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### **ABSTRACT**

The massive financial instability of 2007-8 was in the main the result of lax monetary policy. Regulation compounded this error by allowing and encouraging excessive leverage and maturity transformation by banks. Innovation did contribute to reckless credit expansion and investments, but without lax money and excessive leverage, reckless bets on asset price increases wouldn't have been possible. Therefore, a repeat of this instability could be avoided by correcting those two policy faults. There is no need for intrusive rules constraining non-bank intermediaries and financial innovation. The main message is: keep it simple.

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## **Introduction**

The biggest financial and economic crisis in eighty years has naturally sparked a huge literature analysing its origins and the appropriate policy response. A remarkable feature of this burgeoning body of work is that, while the list of ingredients that contributed to the build up of the bubble and its subsequent implosion are broadly similar, there is vast disagreement on their relative importance and possible ordering along a causal chain. As a result, policy recipes tend to become incoherent and unstructured lists of what went wrong and what must be fixed.

Since the crisis began in the subprime sector of the securitized US mortgage market, the first targets for regulation in the USA were the securitization process and the ratings agencies, which failed to spot excessive risk taking. In Europe, governments and parliaments are even more keen to put a brake on less-regulated financial activity, such as hedge funds and private equity, despite little evidence that they added to the turmoil. A new wave of radical thinkers in US and EU universities wants to break up complex banking organisation, ring-fence ‘utility’ banking services (De Grauwe 2008, Buitier 2009, Kay 2009, Phelps 2009, Stiglitz 2009), and subject them to tight regulatory constraints, without much regard to feasibility or the likely disruptions from such drastic action.

In sum, there is a high risk that the legitimate pursuit of a more stable financial system will lead to a potpourri of additional restrictions and institutions. An abundance of rules and institutions have already led to an overlap between and a lack of responsibility among financial regulators in the build up to the current crisis. In order to reduce risk of repeating this mistake, this paper offers a simplified reading of the factors that have contributed to the financial crisis in order to arrive at fairly simple policy recommendations.

The paper’s structure is as follows: section I describes the main ingredients of financial crises in historical perspective, with notable reference to European developments; section II and III are devoted respectively to the analysis of the role played by the US monetary policy and

financial regulation in the build up of the imbalances that led to the crisis; Section IV looks at the role of systemic risk in the design of the new financial architecture; and the last section summarises our conclusions.

## **I. The ingredients of speculative bubbles**

In the literature on the causes of financial crises, a historical strand emphasises that bubbles and busts are recurring events and that the periods leading to large financial crises are often very similar. A second, more recent strand is quantitative and focuses on the period for which reliable data are available, trying to identify quantitative indicators of impending financial instability.

### *Historical perspectives*

This literature underlines three main ingredients constantly observed in previous bubbles in history, albeit with some technical variations (Chancellor 1999, Kindleberger and Aliber 2005, Galbraith 1954 and 1993, Eichengreen and Mitchener 2003). First, there is abundant liquidity in world capital markets, fed by large payment imbalances between the main countries and regions in the world economy, i.e. a large and persistent current account deficit in the United States financed by ample flows of capital from emerging and oil exporting countries. These ‘global’ imbalances fostered an explosion of financial activity – and would not have been sustainable for so long without the development of deep global financial markets.

Kindleberger and Aliber (2005) emphasise the role of the growing mass of financial assets accumulated by surplus countries in leading over the past three decades to a sequence of booms and busts across the world. Pauly (2009) makes a similar point, linking the origins of the current crisis to a global financial regime in which there has been no obligation to correct external payment imbalances since the breakdown of the Bretton Woods fixed exchange rate system.

The official view in the United States was, and still is, that ever-larger current external deficits were the counterpart of a global savings glut, caused by the increase in the rate of savings of Asian countries that wanted to establish large reserve cushions against a repetition of the financial shocks of the late 1990s (Bernanke 2005).<sup>1</sup> The alternative view emphasises the autonomous role of declining savings rates and cheap credit to households in sustaining strong consumer spending in the United States throughout the 1990s and 2000s despite scant income growth (Borio and Shim 2007, Visco 2009).

What is clear, however, is that given the role of the dollar as the dominant reserve currency, US monetary policy had a dominant role in governing global liquidity. Yet the Federal Reserve's goals are purely domestic and it paid little or no attention to international transmission chains. Thus, aggressive monetary expansion in the early 2000s following the end of the dot.com asset price bubble was accompanied by massive foreign exchange interventions by Asian countries to resist the depreciation of the dollar. This in turn led to huge official reserves investments by these countries in US treasury securities that kept interest rates low, notably on long maturities, and fed complacency at the Federal Reserve. As emphasised in Gros (2009), the financial flows necessary to finance US deficits led to a growing mismatch between asset supply and demand, which was not visible as long as the financial system was willing to take the risk inherent in intermediating funds between Asian central banks and US households (cf. Brender and Pisani 2009).

The second main ingredient of speculative bubbles is a credit boom leading to unsustainable leverage (Eichengreen and Mitchener 2003, Robbins 1934). In an environment of apparently ever-increasing house prices, households were encouraged by their banks to borrow up to the

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<sup>1</sup> Alessandrini and Fratianni (2009) see the “savings glut” hypothesis as a new incarnation of the benign neglect dollar policy of the 1970s and 1980s.

full value of their property, and to borrow more as soon as the value went up, with little regard to their ability to service the debt.<sup>2</sup>

The third main ingredient of every speculative bubble is financial innovation. In financial markets there is a constant game whereby banks and other agents innovate to circumvent regulation and boost returns by taking greater risks, and regulators tighten the screws to moderate risk-taking. Innovation accelerates when expected gains grow larger, that is when asset prices increase more rapidly.

One main innovation was the process of securitisation, which led to increasingly complex ‘securitized’ pools of loans promising high returns with low risk, thanks to complex techniques of pooling and tranching of underlying financing instruments and complacent mathematical models for their evaluation (Mandelbrot 2004, FSA 2009, IMF 2008). Thus in the United States ballooning mortgage loans to riskier borrowers provided the basis for an ever larger inverted pyramid of structured products.

A parallel development was the rapid diffusion of an intermediation model ‘originate to distribute’ where loans were immediately resold to other investors and monitoring of underlying credit quality was increasingly overlooked, under the collective delusion that risks had been transferred elsewhere or hedged. As it turned out, counterparty risks were in effect concentrating with a few main players (Financial Stability Forum 2008, G-30 2009). Finally, there was an explosion of derivative contracts, equally used to hedge and to take open positions through synthetic instruments (IMF 2008, Morris 2008).

With hindsight, these developments have highlighted massive distortions in incentives and risk management arrangements within financial organizations. The key point is that the

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<sup>2</sup> They were also encouraged by low interest rates and easy credit conditions to expand their credit card indebtedness, and, much as in the 1920s and in 1999-2000, to buy stock with low margins of own capital, which their brokers refinanced on their bank credit lines. The similarity with the years preceding the Great Crash is striking, as vividly described by Galbraith (1954).

innovations described above were instrumental in amplifying the increase in leverage: by offloading from balance sheets risks borne by the originator of loans, as subsequently became all too clear; by reducing capital requirements with risk mitigation techniques, including credit derivatives; and by embedding leverage in the ‘equity’ tranches of structured products (on this last aspect see Morris 2008).

Starting in 2003 financial intermediation started to grow much more rapidly than underlying credit to the economy (FSA 2009). Banks became increasingly interconnected by an intricate web of financing, investment and hedging operations that made it all but impossible to assess attendant risks independently. When asset prices began to fall, these complex interconnections worked in reverse, bringing financial organizations down together and spreading panic among investors worldwide. The systemic implications of reckless lending, leverage and securitization came to full light.

#### *Quantitative indicators*

A new literature has recently tried to identify quantitative indicators to anticipate financial crises (Borio and Lowe 2002, Adalid and Detken 2007, Alessi and Detken (2009), Gerdesmeier, Reimers and Roffia 2009). The main result of this research is that almost all major crises are preceded by a combination of two phenomena: an increase in leverage, following excessive credit expansion, and an unusual increase in asset prices.

*Credit expansion* – A higher aggregate leverage, i.e. the ratio of debt to equity, indicates in general a lower capacity to absorb losses and hence greater fragility since it entails that many agents have issued promises to pay a certain nominal amount but do not have the resources to honor these promises (cf. Minsky 2008 for the classical description of leverage schemes leading to instability). Since regular cash flows will be roughly proportional to GDP, an aggregate measure of leverage is provided by the ratio of total credit to GDP. In general it is not possible to establish an absolute benchmark for leverage, as different financial systems can support quite

different ratios of credit to GDP. However, rapid increases in this ratio have been identified as reliable predictors of financial crises.

This warning signal was certainly audible in Europe before 2007-08. Table 1 below summarizes these stylized facts. First, the increase in economy-wide leverage (measured by the debt-to-GDP ratio) has been higher in the euro area (EA) than in the United States. The increase between 1999 and 2007 was around 100% of GDP for the euro area, while in the United States it amounted to ‘only’ 80% of GDP. In both cases leverage went up very little for the corporate sector, but households’ leverage increased strongly in the United States (40% of GDP) and much less so in the euro area.

Table 1. Debt-to-GDP ratio\*

	<b>a) Economy wide</b>		<b>b) Non-Financial Corporate sector</b>	
	<b>EA</b>	<b>US</b>	<b>EA</b>	<b>US</b>
<b>1999</b>	3.51	2.66	0.67	0.46
<b>2007</b>	4.54	3.47	0.92	0.49
<b>2008</b>	4.73	3.46	0.97	0.49
<b>Change 1999-2007</b>	<b>1.03</b>	<b>0.81</b>	<b>0.25</b>	<b>0.03</b>

	<b>c) Financial Sector</b>		<b>d) Households &amp; small business</b>	
	<b>EA</b>	<b>US</b>	<b>EA</b>	<b>US</b>
<b>1999</b>	1.61	0.79	0.48	0.88
<b>2007</b>	2.32	1.17	0.61	1.28
<b>2008</b>	2.42	1.17	0.61	1.24
<b>Change 1999-2007</b>	<b>0.71</b>	<b>0.38</b>	<b>0.13</b>	<b>0.4</b>

\* For the euro area the debt is computed from the closing balance sheet liabilities provided by the ECB. Debt is the sum of securities and loans by the non-financial sector and non-monetary financial Institutions (NMFIs). MFIs debt is given by debt securities issued plus currency and deposits. Economy-wide debt includes households, non-financial companies, financial sector and government. The financial sector in the EA is defined as MFIs, insurance corporations and pension funds and other financial intermediaries including financial auxiliaries.

Sources: ECB Statistical data Warehouse, Euro Area Accounts, balance sheet & Federal Reserve Z1, March 2009.

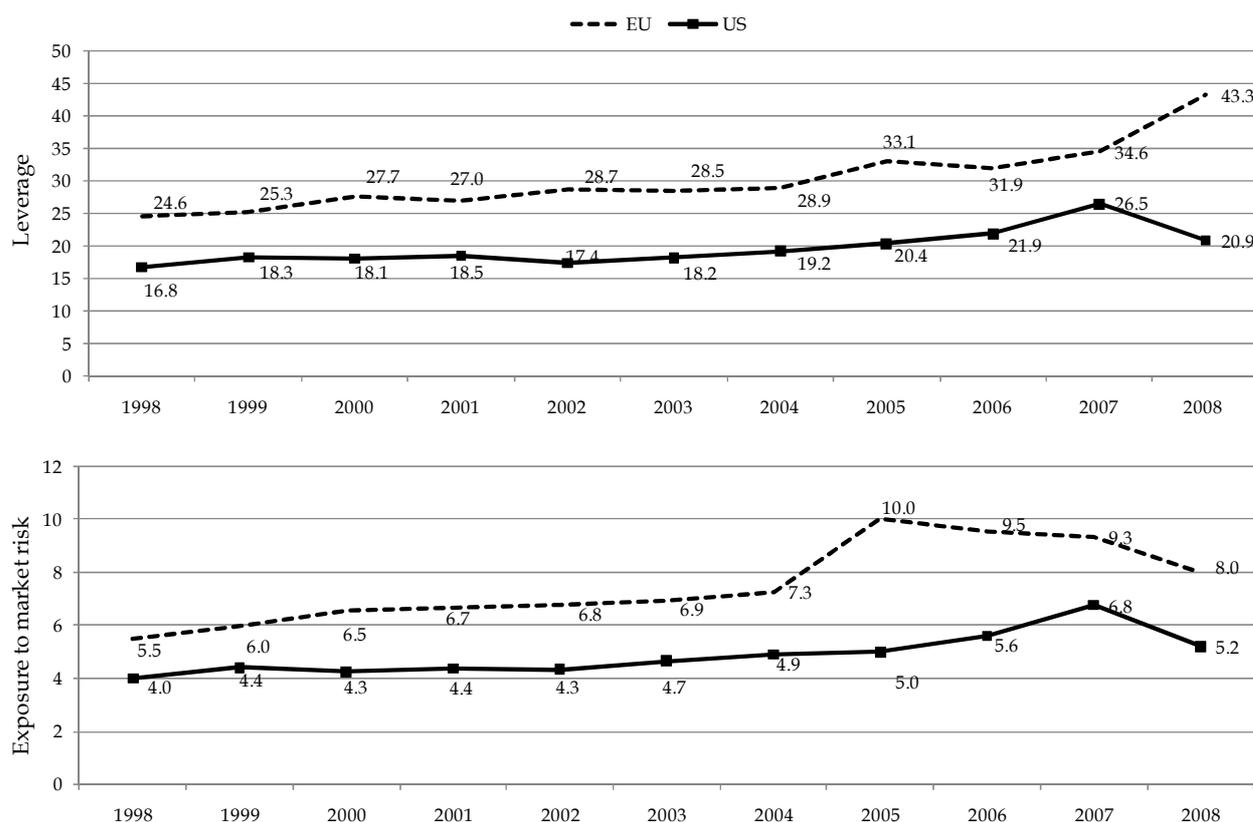
Financial sector leverage, however, increased more in the euro area (about 70% of GDP compared to 40% of GDP in the United States). This is the key underlying cause of the widespread stress in the European banking system. The crisis originated in the United States, but the European financial sector was very fragile and exposed to losses from US (and other) assets. This picture is confirmed by micro data on the degree of leverage among the largest banking intermediaries.

Among the big five Wall Street investment banks, at the end of 2007 Goldman Sachs had liabilities close to 30 times its capital (excluding goodwill and other intangibles, whose cash value in case of need is questionable), while the others showed ratios between 36 and 39. As may be seen from the upper quadrant of Figure 1, the situation of large EU cross-border banks was no better, with an average ratio close to 35 and peaks of 70 and even 80 for some British, German<sup>3</sup> and Swiss banks.

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<sup>3</sup> German banks generally appear in dire conditions, with some private commercial banks and Landesbanken showing leverage ratios between 40 and 50, and in extreme cases, e.g. Hypo Real, over 100 (Hardie and Howarth 2009, Wilson 2009).

Figure 1. Leverage and exposure to market risk of the largest EU and US banks, 1998-2008\*



\* Leverage: total liabilities/net tangible equity. Exposure to market risk: total securities/net tangible equity. Data on 2008 are estimates.

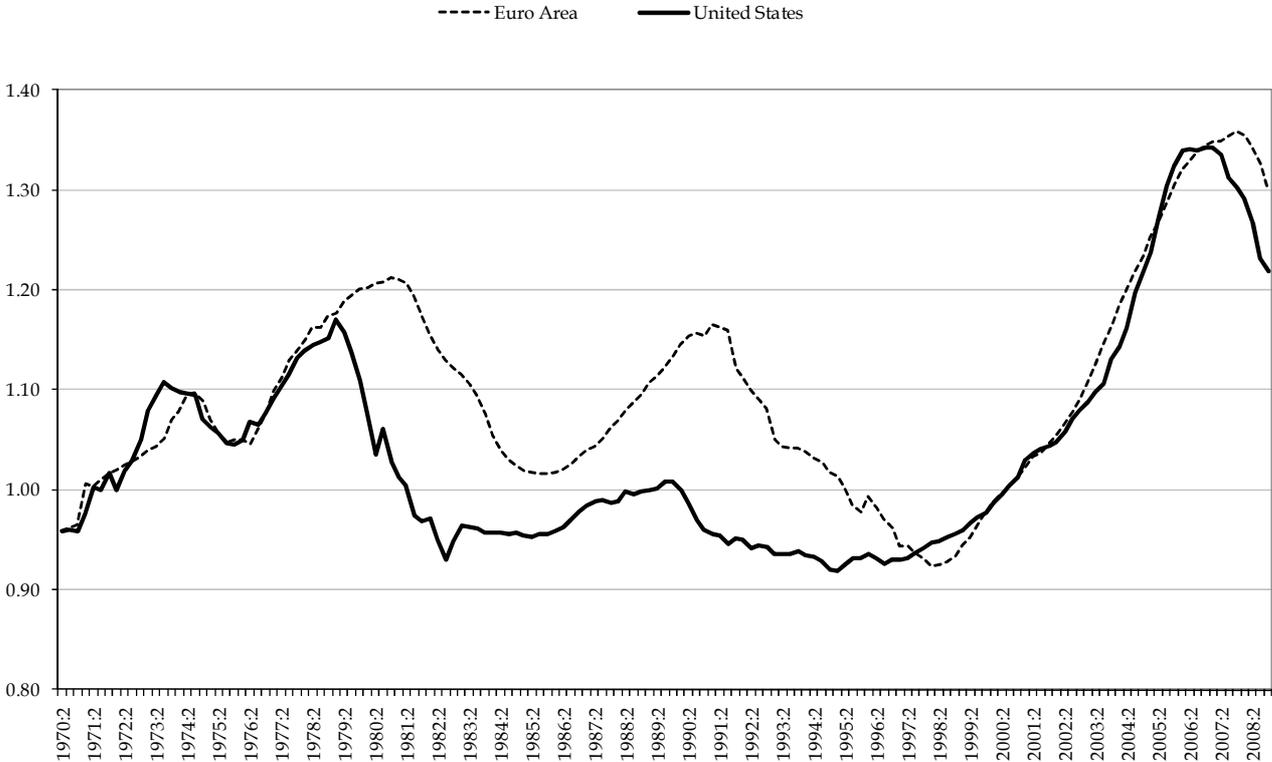
Source: R&S - Mediobanca 2009.

Large US commercial banks, which were subject to stricter capital requirements, show lower leverage ratios, although many were concealing risks and leverage by resorting to off-balance sheet vehicles kept outside the consolidation perimeter thank to indulgent accounting rules.

*Asset price bubble* - Another feature explaining why Europe was as exposed as the United States to this crisis is that Europe experienced a similar real estate price bubble (see Figure 2, the ratio of house prices to rents which, like the price/earnings ratio for stocks, should be fairly stable in the long run). The main difference between the United States and the euro area is only that since 2006-07 house prices have declined much more in the United States.

The data for the UK show similar symptoms and both leverage and house prices increased by as much as in the euro area. There are little data on house prices for the new member states, and in their case it is more difficult to establish a longer term historical norm against which to judge the housing sector. However, it is clear that in some of the smaller new member states large house price and construction bubbles emerged and have now burst, leading to very sharp contractions in economic activity.

Figure 2. House Prices: Price Rent Ratio



\* Euro Area index is defined as the weighted average (by GDP) of Germany, France, Italy, Spain, Finland, Ireland and Netherlands.

Source: OECD, May 2009, and own computation.

## II. Monetary anchors for ever rising asset prices

Monetary policy in the United States was accommodating throughout the 1990s and became aggressively expansionary in the 2000s: nominal interest rates fell below levels indicated by the Taylor rule and in 2003-04 also below inflation (IMF 2007, Taylor 2009, Visco 2009). The Bank for International Settlements has long maintained that this provides the main explanation for the speculative bubbles (Borio and Lowe 2002, Borio and Shim 2007). In their view central banks should use their policy and regulatory tools to ‘lean against’ accelerating credit and asset prices (cf. also De Grauwe and Gros 2009, ECB 2005, IMF 2000, Mussa 2003).

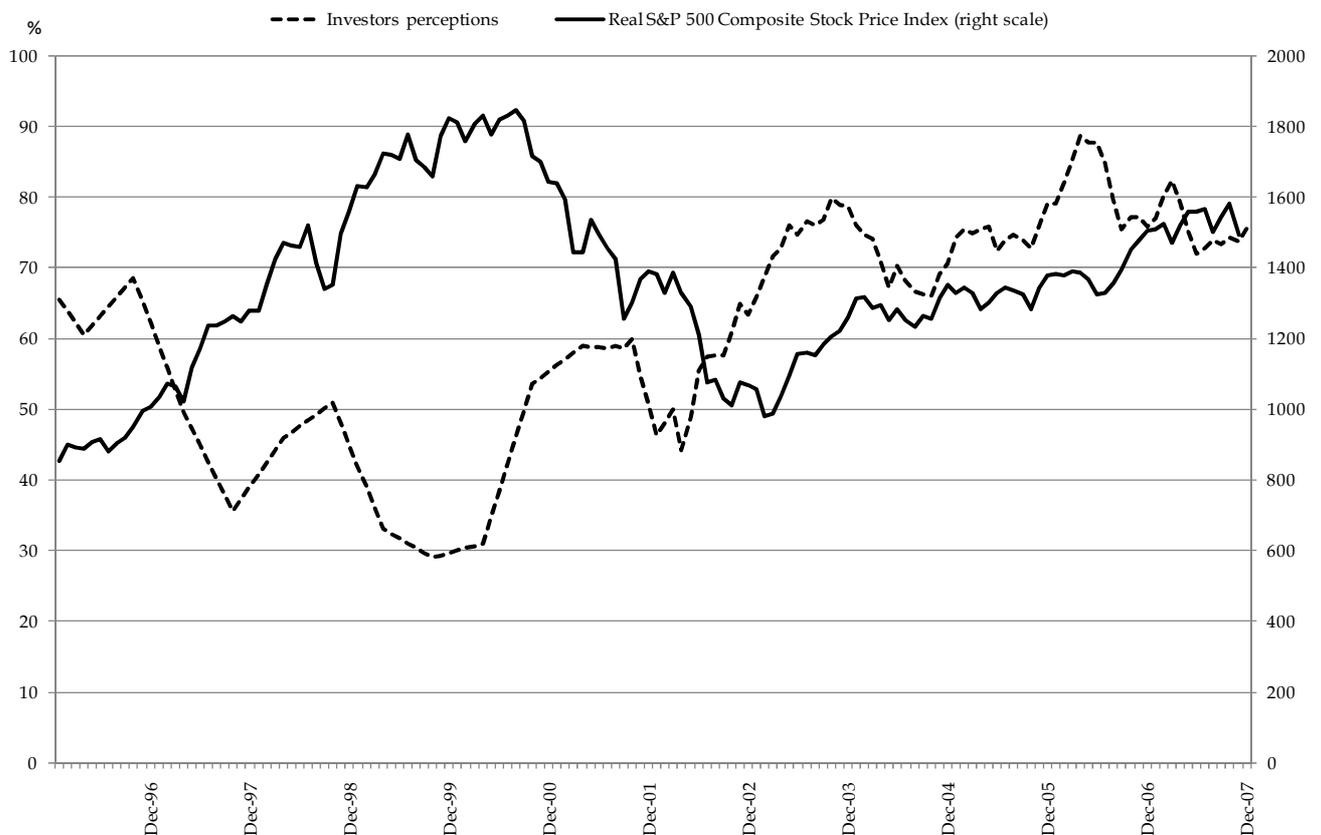
The Federal Reserve has consistently opposed this view on the grounds that bubbles cannot be identified *ex ante* since an objective definition of ‘fundamental’ asset values cannot be readily obtained (Bernanke 2002 and Bernanke and Gertler 2001). Moreover, since a stable empirical relation between monetary policy and asset prices does not exist, any attempt to halt specific asset price increases could destabilize the economy as a whole. As a consequence, monetary policy would need *‘to focus on policies to mitigate the fallout when it occurs and, hopefully, ease the transition to the next expansion’* (Greenspan 2002).

In order to understand the role of monetary policy in generating the speculative bubble that led to the global financial crisis, we identify a speculative bubble with a widespread or generalised increase in asset prices to unsustainable levels – with un-sustainability confirmed by the subsequent crash (Kindleberger and Aliber 2005). Therefore, a speculative run on one asset or a limited asset class, as in the analysis by Garber (2000), does not characterize a speculative bubble.

A key feature of a speculative bubble that we want to emphasise is the attendant anomalous convergence of expectations which occurs when a growing share of investors believe that prices can only go up and that the risk of reversal has somehow disappeared. This explains why buying

eventually becomes frenzied in a bubble and sellers all but disappear. The phenomenon of convergent expectations in the stock market is documented by Shiller's surveys of investor sentiment (Shiller 2005 and 2008). We have plotted in Figure 3 the S&P 500 index together with the percentage of investors in his survey believing that stock prices are not too high.

Figure 3. Stock prices and investors perceptions\* (% of investors believing market not too high), 1996-2007



\*Drawn from the survey of institutional investors by Shiller (available at <http://icf.som.yale.edu/confidence.index/>)

Source: Shiller 2009.

As may be seen, this percentage of investors who thought the market was about right fell in 1997 and, remarkably, it did so right after Greenspan's famous speech about irrational exuberance; it fell again in 1999, following the 1998 financial strains in Asia, Russia and

LTCM. But investor confidence recovered buoyantly as the Federal Reserve expanded in response to those events. The dot.com crash only produced a relatively small dip in the curve, which afterwards remained on a rising trend through much of 2006, indicating a broadly shared belief that shares would keep rising. Its recovery after 2001 preceded that of share prices by almost a year.

It is useful to recall that, despite their correction at the beginning of the decade, stock prices in 2003-2006 were still very high in historical terms and yet continued to increase. The price earnings ratio for the S&P 500 had fallen from its peak of 44 in December 1999 to about 21 in February 2003, which was still a fairly high valuation by historical standards. It subsequently recovered to 27.5 in May 2007.

Shiller believes that this convergence of expectations is a sort of natural, endogenous phenomenon engendered by such things as a long-established benevolent economic environment and economic innovations announcing a new era of prosperity, and the like. He agrees that monetary policy had been loose, but in his view the central bank had also fallen prey of the general delusion that asset prices would continue to go up. In other words, in his view monetary policy is driven by the same psychological forces that fed the bubble and cannot be considered exogenous.<sup>4</sup>

However, an alternative possibility is that monetary policy itself provided the anchor for the convergence of expectations, based on a consistent record that any decline in asset prices would be countered by the Federal Reserve with vigorous monetary expansion. Indeed, as may be recalled, Alan Greenspan had just arrived at the Federal Reserve at the time of the 1987 stock market crash: he promptly reacted by aggressively lowering policy interest rates. He did it again in 1998 at the time of the LTCM crisis, that followed the East Asian and Russian crisis, and

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<sup>4</sup> For example, in Shiller's view the Fed "*honestly saw the home-price increases as continuing indefinitely*" (Shiller 2008, p. 47).

even more aggressively, after the end of the dot.com bubble in 2000. In all these episodes there were no adverse effects of falling asset prices on economic activity and subsequently stock prices recovered.

The public speeches and writings of Federal Reserve governors make explicit their belief that *'after a bubble bursts and the outlook for economic activity deteriorates ... if monetary policy responds immediately to the decline in asset prices, the negative effects from a bursting asset price bubble to economic activity arising from the decline in wealth and increase in the cost of capital to firms and households are likely to be small'* (Mishkin 2008). And similarly: *'... if a sudden correction in asset prices does occur, the Fed's first responsibility is to do its part to ensure the integrity of the financial infrastructure ... If necessary, the Fed should provide ample liquidity until the immediate crisis has passed. The Fed's response to the 1987 stock market break is a good example of what I have in mind'* (Bernanke 2002). The LTCM near-bankruptcy in 1998 had also sent a clear signal that the Federal Reserve was ready to step in support of Wall Street investment banks that had become overexposed to overleveraged hedge funds.

The pattern is clear: the Fed repeatedly and systematically intervened to counter negative bubbles, while it remained passive when confronted with accelerating credit and asset prices. The Fed response to monetary and credit developments was thus perceived as, and actually was, increasingly asymmetric in favour of monetary loosening (Cooper 2008). This policy approach, long established and clearly announced for over a decade, must have played an important role in bringing about convergent expectations of ever rising asset prices, which eventually destabilised financial markets and the economy (as specifically documented by Morris 2008, pp. 64-65). Such an asymmetric monetary policy also creates a gigantic moral hazard problem, whereby all agents expect to be rescued from their mistakes, which is also bound to aggravate systemic risk, since in such an environment investors and bank managers no longer worry about the

concentration of risks and their increasing correlation. This is where excessive leverage and excessive maturity transformation become relevant: to this issue we now turn.

### **III. Banks and leveraged credit booms**

Turning to the microeconomic dimension of leverage, clearly banks play the central role, especially in Continental Europe where they provide the bulk of financing to industry and households (Howarth and Hardie 2009). A feature of banks that has traditionally justified special regulation is that deposits can be withdrawn on demand at par value. Banks normally do not keep sufficient liquidity to pay back all depositors at the same time, which exposes them to the risk of a run when depositors start to doubt their solidity (Cooper 2008 and Rochet 2008). Bank runs are contagious and may generate systemic instability.

Non-bank intermediaries do not pose an equal threat to financial stability, since their liabilities are not redeemable on demand at par. They are not exposed to the risk of customer runs since their liabilities are market priced like their assets. When financial intermediaries that raise money from capital markets by issuing securities make wrong investment decisions, their investors will lose their money, with no further repercussions for the financial system at large. Since they have capital, they can also leverage it, thus increasing the riskiness of their operations; but as long as there is no external guaranty on the value of their liabilities, investors will monitor their risk exposure and will decide whether or not to maintain their investment. Transparency obligations are legislated to ensure that this process works efficiently, preserving market integrity.

US investment banks raised a growing share of their funds in the wholesale money market—eventually, up to a quarter of their total liabilities (Di Noia and Micossi 2009, FSA 2009) – but

without banks' public safeguards and prudential constraints.<sup>5</sup> When confidence collapsed, their liquidity evaporated and pushed them over the brink, without much regard for the quality of their assets. They thus became a source of systemic instability by endangering their counterparties in the interbank market i.e. commercial banks themselves and money market funds, who had also ventured to take capital market bets.

An apparent puzzle, in this context, is represented by the behaviour of European universal banks – that combine commercial and investment banking activities within the same organization – which managed to become overexposed to toxic assets and overleveraged as much as the riskiest Wall Street investment banks, despite *prima facie* more stringent regulation (cf. lower quadrant of Figure 1, which shows holdings of securities as a multiple of net tangible equity). Partly, this is due to lax oversight by national regulators who wanted their national champions to take larger market shares and participate in the great gains of finance. However, the key factor in explaining EU banks' leverage is risk mitigation techniques made possible, and indeed encouraged, by Basel capital rules.

Their fundamental problem is that they create room for reducing capital requirements by choosing counterparties or tailoring operations to legal features so as to economise capital; moreover, once Basel requirements were met, management felt exonerated from any further scrutiny of actual risks. Capital requirements came to be wholly misinterpreted: during the long upswing in stock prices, keeping a buffer of capital over the minimum was seen as a waste of resources, so that the floor became in fact a ceiling.<sup>6</sup> Their demands for tools to reduce capital

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<sup>5</sup> This change in behavior was encouraged by regulation: in 2004 a new regulatory programme, the Consolidated Supervised Entities (CSE) programme, was enacted nominally extending to US investment banks Basel-like capital rules, but de facto lowering their capital requirements (SEC 2008).

<sup>6</sup> The de facto relaxation of capital requirements was part of the general trend whereby over time regulatory constraints on banks' geographical and functional specialization were removed to let them compete with

requirements were met by Wall Street – eager to find outlet for the new breed of structured securities – by multiplying the offer of CDSs (credit default swaps) on those securities and securing Triple-A rating of structured securities’ senior tranches. Besides, Basel capital rules directly encouraged the explosion of the interbank market, which later turned out to be a major source of instability, since they assigned a low ranking to assets such as interbank deposits and bonds held vis-à-vis other banks.

The problem was compounded by the definition of capital that recognised as eligible instruments many items with little resemblance to equity – such as subordinated debt and other hybrid capital instruments – whose actual utility in case of illiquidity or insolvency is unclear. While the target ratio between regulatory capital and risk-weighted assets for European banks was 8 per cent, the ratio between cash and equity and the same assets did not exceed 2 per cent (FSA 2009). Thus to all practical purposes, effective leverage was lightly constrained by prudential regulation.

Thus regulatory capital requirements lost much of their power in signalling risk exposure. , The IMF’s latest Financial Stability Report (2009) show not only that there is little relation between capital ratios on risk-weighted assets and overall risk exposure, but also that many banks with low regulatory (risk-weighted) leverage, but high overall leverage, were more frequently in need of state support when the financial crisis struck (cf. their Table 3.1, p. 115). In sum, the main source of systemic instability on both sides of the Atlantic was the increasing use of monetary liabilities to bet on ever larger increases of asset prices in capital markets; the paper pyramid underpinning the speculative bubble was built on a narrower and narrower base of deposits, until confidence in the banking system collapsed.

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increasingly aggressive non-bank intermediaries threatening their turf. In this sense, Calomiris (2000) has spoken of competitive liberalization as a main driving force in bank deregulation in the 1990s.

Therefore, what is key in order to avoid a repetition of recent instability is to set adequate capital requirements that cannot be circumvented for intermediaries able to raise liquidity redeemable on demand at par. The simple way of doing it is to set capital requirements with reference to total assets, with no further distinction: 8 per cent should be 8 per cent in cash and equity, with no gimmicks allowed.<sup>7</sup> The reference in Basel rules to risk weighted assets should be scrapped since it was a main source of perverse incentives for banks and misleading information for investors.

All risks effectively borne by a bank, regardless of their legal attribution or geographical location, should be included in the asset definition, and accounting principles should be modified accordingly. Moreover, full international cooperation will be required to allow supervisors full access to information on foreign operations of their supervised banks.

One objection that has been raised to this approach to the determination of capital requirements is that it would encourage banks to bet all of their capital on the riskiest investments since capital charges would not vary in response to portfolio composition. The argument is unconvincing, however, since it presupposes that banks do not properly price risks in their investment decisions.

Legal separation of commercial and investment banking activities, or prohibiting banks to undertake particular activities would also be unnecessary – even the enormous hurdles involved in implementing such separation for large cross-border banking groups could be overcome. At most, one could instead envisage higher capital charges on proprietary trading and lending to highly-leveraged financial organisations, so as to reduce their profitability, as currently explored by the Financial Stability Board.

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<sup>7</sup> There is also a clear need to overhaul risk management and compensation practices; the main remedies have already been identified by the Financial Stability Forum (2009) and do not need to be dwelt in any further here.

#### **IV. About systemic risk**

An open question is whether – once the destabilizing asymmetry in US monetary policy and regulatory loopholes that allowed excessive leverage are corrected – there is still a need for separate measures to address ‘systemic’ instability. The question seems to take two different dimensions. On the one hand, various public and private reports on the financial crisis have argued that in the new globalized world of finance the emergence of large complex organizations requires a separate layer of regulation to deal specifically with systemic risks deriving from their sheer size and particular functions (G-30 2009, IMF 2009).<sup>8</sup>

Proposals for separate rules and oversight mechanisms to preserve ‘systemic’ financial stability are already under consideration in Europe and the United States. In its May 2009 communication on reform of financial supervision, the European Commission advocates the establishment of a European Systemic Risk Council, entrusted with tasks of macro-prudential supervision, and a European System of Financial Supervisors, with powers to coordinate the day to day micro-prudential oversight executed by national supervisory agencies. However, these proposals amount mainly to better coordination of national supervisors when dealing with large cross-border institutions (Begg 2009).<sup>9</sup> A more radical approach was proposed by the US Treasury in June 2009. Its blueprint for reform envisages new powers for the Federal Reserve to regulate firms that may pose a threat to financial stability regardless of their legal nature; these institutions would be subject to more exigent capital requirements and prudential standards. The US Treasury also proposes to create a special crisis resolution regime for bank holding companies.

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<sup>8</sup> The G-30 (2009) has identified four key characteristics of systemic relevance, namely size, leverage, interconnectedness, and role in the provision of infrastructural services.

<sup>9</sup> The Commission Communication has been broadly endorsed by the Ecofin Council, but the details are still being negotiated.

A fundamental difficulty with designing rules to target systemically relevant institutions is how precisely to define in practice their domain of application, and how to do it without creating fresh incentives for regulatory arbitrage. The problem is aggravated by the fact that systemic relevance may often relate to certain functions performed by financial institutions – e.g. acting as a main counterpart for derivative contracts – rather than the institutions themselves, and the fact that legal structures and business functions often do not coincide, notably in large complex financial conglomerates (Hüpkes 2008). Moreover, as has been argued in the US by the Committee on Capital Markets Regulation (2009) in its statement on the Obama administration White Paper, identifying certain institutions as systemically relevant may create moral hazard, to the extent that financial institutions with systemic relevance would be seen as enjoying an implicit government guaranty against failure. But of course, the implicit guaranty could be offset by a ‘regulatory price’.

Specific safeguards may indeed be needed to preserve the integrity of clearing and settlement systems for securities; by and large this is the task entrusted to clearing platforms and central depository institutions. There may be a need here to concentrate existing institutions at EU level and to ensure greater coordination and interoperability between these bodies across the main financial centres.<sup>10</sup>

A new specific initiative in this domain could be the creation of regulatory incentives to move a significant share of over the counter (OTC) transactions, notably in derivatives, to organized clearing platforms with adequate capital, thus encouraging the pooling of counterparty risks with well capitalized institutions and the standardization of financial products, as first proposed by Stephen Cecchetti (2007). One may also want to penalize bank exposure to OTC transactions, notably in derivatives markets, with specific capital penalties.

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<sup>10</sup> In 2007 a code of conduct was adopted in this regard by the main market participants, under strong prodding by the EU Commission, but was not followed up by consequent action.

Insurance regulators should also be responsible to ensure that derivative contracts resembling insurance would not be written without adequate capital reserves and externally validated models to assess risk exposure. On the whole, however, it seems that such measures would suffice, and would not amount to a new regulatory layer specifically targeted at certain institutions.

On the other hand, some authors – e.g. Brunnermeier et al. (2009) – have argued that herd behaviour in financial markets during upswings and downswings in asset prices creates a systemic risk of cyclical instability that would not be eliminated by prudential rules on individual financial organizations and products. Therefore, they propose to build anti-cyclical brakes into capital rules by raising capital charges when credit accelerates and lowering them when credit decelerates. A system of ‘dynamic provisioning consistent with these recommendations has been in operation in Spain since 2000, where indeed banks avoided the excesses observed in other European countries. But the same result was also achieved in countries with no such anti-cyclical devices that maintained a conservative view of capital and strong supervision, e.g. Canada and Italy.

On the whole, a new layer of ‘systemic’ regulation appears unnecessary to the extent that systemic risk is mainly due to a destabilising monetary policy regime. It would be sufficient to ensure that monetary policy takes into account the macro-prudential dimension of financial stability, as already suggested by economists from the Bank for International Settlements (e.g. Borio and Shim 2007). Macro-prudential oversight would basically boil down to paying sufficient attention to asset price developments in monetary policy management.

## **Conclusion**

We have argued that the massive financial instability of 2007-8 was in the main the result of a lax monetary policy, mainly, but not only, in the United States. The regulatory system

compounded this error by allowing, and at times even encouraging, excessive leverage and maturity transformation by banks both in the United States and Europe. Innovation did contribute to credit expansion and instability, but in all likelihood without lax money and excessive leverage, reckless bets on asset price increases would have been much reduced.

The logical conclusion is that a repeat of this instability could be avoided in the future by correcting those two policy faults, and that by and large there is no need for intrusive regulatory measures constraining non-bank intermediaries and innovative financial instruments. For the European Central Bank this implies that it should take seriously its pretension that monetary aggregates contain important information about the economy and react if credit starts again to increase rapidly even if the general economic environment remains benign. In terms of the regulatory response, hard limits on leverage for banks seem sufficient. We have proposed that overall leverage should be constrained by a straight capital ratio and, accordingly, that Basel capital rules based on risk-weighted assets should be scrapped. Once this was done, there would be no need for complicated new rules on securitization, derivatives, hedge funds, and the like.

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### **References**

- Adalid, R. and Detken, C. (2007) ‘Liquidity shocks and asset price boom/bust cycles’. European Central Bank Working Paper No. 732, (Frankfurt A.M: ECB).
- Alessandrini, P. and Fratianni, M. (2009) ‘International monies, special drawing rights, and supranational money’. Working Papers, 2009-03, Indiana University, Kelley School of

- Business, (Bloomington: Kelley School of Business, Department of Business Economics and Public Policy).
- Alessi, L. and Detken, C. (2009) "'Real time" early warning indicators for costly asset price boom/bust cycles: a role for global liquidity'. European Central Bank Working Paper No. 1039, (Frankfurt A.M: ECB).
- Begg, I. (2009) 'Regulation and supervision of financial intermediaries in the aftermath of the financial crisis'. *Journal of Common Market Studies*, Special Issue on Europe and the Global Financial Turmoil.
- Bernanke, B. (2002) 'Asset-Price "Bubbles" and Monetary Policy'. Remarks before the New York Chapter of the National Association for Business Economics, New York, 15 October.
- Bernanke, B. (2005) 'The Global Saving Glut and the U.S. Current Account Deficit'. Remarks at the Sandridge Lecture, Virginia Association of Economics, Richmond, Virginia, 10 March.
- Bernanke, B. and Gertler, M. (2001) 'Should Central Banks Respond to Movements in Asset Prices?'. *American Economic Review*, Vol. 91, No. 2, pp. 253-257.
- Borio, C. and Lowe, P. (2002) 'Asset prices, financial and monetary stability: exploring the nexus'. Bank for International Settlements Working Papers, No. 114, (Basel: BIS).
- Borio, C. and Shim, I. (2007) 'What can (macro-)prudential policy do to support monetary policy?'. Bank for International Settlements Working Papers, No. 242, (Basel: BIS).
- Brender, A. and Pisani, F. (2009) *Globalised finance and its collapse*, (Brussels: Dexia).
- Brunnermeier, M., Crockett, A., Goodhart, C., Persaud, A. and Shin, A. (2009) *The fundamental principles of financial regulation*. Geneva report on the World Economy No. 11, (Geneva and London: ICMB (International Center for Monetary and Banking Studies) and CEPR (Centre for Economic Policy Research)).

- Buiter, W. (2009), 'Regulating the new financial sector'. Vox, 9 March. <http://www.voxeu.org/index.php?q=node/3232>
- Calomiris, C.W. (2000) *U.S. bank deregulation in historical perspective*. (Cambridge: Cambridge University Press).
- Cecchetti, S. (2007) 'A better way to organise securities markets'. *Financial Times*, 4 October.
- Chancellor, E. (1999) *Devil Take the Hindmost: A History of Financial Speculation*. (Basingstoke: Macmillan).
- Committee on Capital Markets Regulation (2009) 'Statement on the Obama Administration's "White Paper"'. 16 June. [http://www.capmktreg.org/pdfs/09-June-16\\_Statement\\_of\\_Hal\\_S.\\_Scott.pdf](http://www.capmktreg.org/pdfs/09-June-16_Statement_of_Hal_S._Scott.pdf)
- Cooper, G. (2008) *The origin of financial crises: Central banks, credit bubbles and the efficient market fallacy*. (London: Harriman House).
- De Grauwe, P. (2008) 'The Banking Crisis: Causes, Consequences and Remedies'. Centre for European Policy Studies, Policy Brief No. 178, (Brussels: CEPS).
- De Grauwe, P. and Gros, D. (2009) 'A New Two-Pillar Strategy for the ECB'. Centre for European Policy Studies, Policy Brief No. 191, (Brussels: CEPS).
- Di Noia, C. and Micossi, S., with Carmassi, J. and Peirce, F. (2009) *Keep it Simple. Policy Responses to the Financial Crisis*. (Brussels and Rome: CEPS and Assonime).
- Eichengreen, B. and Mitchener, K. (2003) 'The Great Depression as a credit boom gone wrong'. Bank for International Settlements Working Papers, No. 137, (Basel: BIS).
- European Central Bank (2005) *Asset-price bubbles and monetary policy*, Monthly Bulletin, April, pp. 47-60, (Frankfurt A.M: ECB).
- Financial Services Authority (2009) 'The Turner review: a regulatory response to the global banking crisis'. (London: FSA).

- Financial Stability Forum (2008) *Report of the Financial Stability Forum on enhancing market and institutional resilience*, (Basel: FSF).
- Financial Stability Forum (2009) *FSF Principles for Sound Compensation Practices*, (Basel: FSF).
- G-30 (2009) *Financial Reform. A Framework for financial stability*. Report of the Working Group on Financial Reform, (Washington, D.C.: G30).
- Garber, P. (2000) *Famous first bubbles: the fundamentals of early manias*. (Cambridge MA: MIT Press).
- Galbraith, J.K. (1954) *The Great Crash of 1929*. (London: Penguin Books).
- Galbraith, J.K. (1993) *A Short History of Financial Euphoria*. (London: Penguin Books).
- Gerdesmeier, D., Reimers H.E. and Roffia B. (2009) 'Asset price misalignments and the role of money and credit'. ECB Working Paper No. 1068, (Frankfurt A.M: ECB)
- Greenspan, A. (2002) 'Economic volatility'. Remarks at a symposium sponsored by the Federal Reserve Bank of Kansas City, August 30, Jackson Hole, Wyoming.
- Gros, D. (2009) 'Global imbalances and the accumulation of risk'. Vox, 11 June. <http://www.voxeu.org/index.php?q=node/3655>
- Hardie, I. and Howarth, D. (2009) 'The Financialisation of French and German Banking Systems and the Credit Crunch'. *Journal of Common Market Studies*, Special Issue on Europe and the Global Financial Turmoil.
- Hüpkes, E. (2008) 'Managing financial failure in an evolving economic and financial environment'. In Kaufman, G. and Bliss, R, (eds), *Financial Institutions and Markets Current Issues in Financial Markets*, (Basingstoke: Palgrave Macmillan).
- International Monetary Fund (2000) 'Asset prices and the business cycle'. World Economic Outlook, May, (Washington DC: IMF).
- International Monetary Fund (2007) *World Economic Outlook*. (Washington DC: IMF).

- International Monetary Fund (2008) *Global Financial Stability Report*. (Washington DC: IMF).
- International Monetary Fund (2009) *Global Financial Stability Report*. (Washington DC: IMF).
- Kay, J. (2009) *The Long and the Short of it: A Guide to Finance and Investment for Normally Intelligent People Who Aren't in the Industry*. (London: Erasmus Press).
- Kindleberger, C.P. and Aliber, R. (2005) *Manias, Panics, and Crashes. A history of financial crises* (Hoboken, NJ: John Wiley and sons).
- Mandelbrot, B. and Hudson, R.L. (2004) *The (Mis)Behavior of Markets: A Fractal View of Risk, Ruin and Reward*. (New York: Basic Books).
- Minsky, H. (2008) *Stabilizing an Unstable Economy*. (New York: McGraw Hill).
- Mishkin, F. (2008) 'How Should We Respond to Asset Price Bubbles?'. Speech at the Wharton Financial Institutions Center and Oliver Wyman Institute's Annual Financial Risk Roundtable, 15 May, Philadelphia, Pennsylvania.
- Morris, C.R. (2008) *The Two Trillion Dollar Meltdown: Easy Money, High Rollers, and the Great Credit Crash. Revised and updated*. (New York: Public Affairs).
- Mussa, M. (2003) 'Asset prices and Monetary Policy'. In Hunter, W., Kaufman, G. and Pomerleano, M. (eds), *Asset Price Bubbles: The Implications for Monetary, Regulatory, and International Policies*, (Cambridge MA: MIT Press).
- Pauly, L. (2009) 'The Old and the New Politics of International Financial Stability'. *Journal of Common Market Studies*, Special Issue on Europe and the Global Financial Turmoil.
- Phelps, E. (2009) *Letter to the G-20 Leaders*. 'Emerging from the Financial Crisis', 6th Annual Conference of the Center on Capitalism and Society at Columbia University, New York.
- R&S – Mediobanca (2009) Dati cumulativi delle principali banche internazionali. June.
- Robbins, L. (1934) *The Great Depression*. (Basingstoke: MacMillan).
- Rochet, J.C. (2008) *Why are there so many banking crises*. (Princeton NJ: Princeton University Press).

- Securities and Exchange Commission (2008) *SEC's Oversight of Bear Stearns and Related Entities: The Consolidated Supervised Entity Program*. 25 September. <http://www.sec.gov/Reports/AuditsInspections/2008/446-a.pdf>
- Shiller, R. (2005) *Irrational Exuberance*. Princeton, NJ, Princeton University Press.
- Shiller, R. (2008) *The Subprime Solution: How Today's Global Financial Crisis Happened, and What to Do about It*. (Princeton NJ: Princeton University Press).
- Stiglitz, J.E. (2009) 'Too Big to Fail or Too Big to Save? Examining the Systemic Threats of Large Financial Institutions'. Testimony before the Joint Economic Committee of the US Congress, 21 April, Washington DC.
- Taylor, J. (2009) *Getting Off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis*. (Stanford CA: Hoover Institution Press).
- Visco, I. (2009) 'The global crisis: the role of policies and the international monetary system'. G-20 Workshop on the Global Economy, 24-26 May, Mumbai.
- Wilson, J. (2009) "A darkened outlook". Financial Times, 10 June 2009.