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Financial Market Trends

Financial Market Highlights – May 2008: The Recent Financial Market Turmoil, Contagion Risks and Policy Responses*

I. A retrospective on the origins of the crisis

The current crisis joins a list of crises triggered by a collapse in asset prices

No two episodes of severe financial distress are exactly alike, but they can be analysed in terms of the same three core elements: some type of triggering event, the propagation of the resulting shock, and its wider impact. Shocks may be triggered by sudden or marked changes in macroeconomic conditions or may instead be financial in origin. In that context, the current crisis joins a list of crises triggered by a collapse in asset prices. Many such episodes have been linked to the real estate sector and to declines in prices of land and commercial or residential property, typically after a period of rapid and sharp appreciation. Experience shows that these declines in real estate values, if unchecked, can induce a wave of defaults if borrowers end with negative equity, with flow-through effects on consumption and aggregate economic activity.

Steep declines in the value of collateral historically have meant a major impairment of banks' capital

Given banks' predominance as lenders in real estate credit markets, steep declines in the value of collateral used to secure loans historically have meant a major impairment of their capital. It is difficult for institutions so-weakened to raise new capital and, thus, the typical response has been for them to extend fewer new credits, require additional collateral against outstanding loans, and perhaps even cut their balance sheets by calling in outstanding loans. In the case of serious difficulties affecting numerous banks, a widespread credit crunch might

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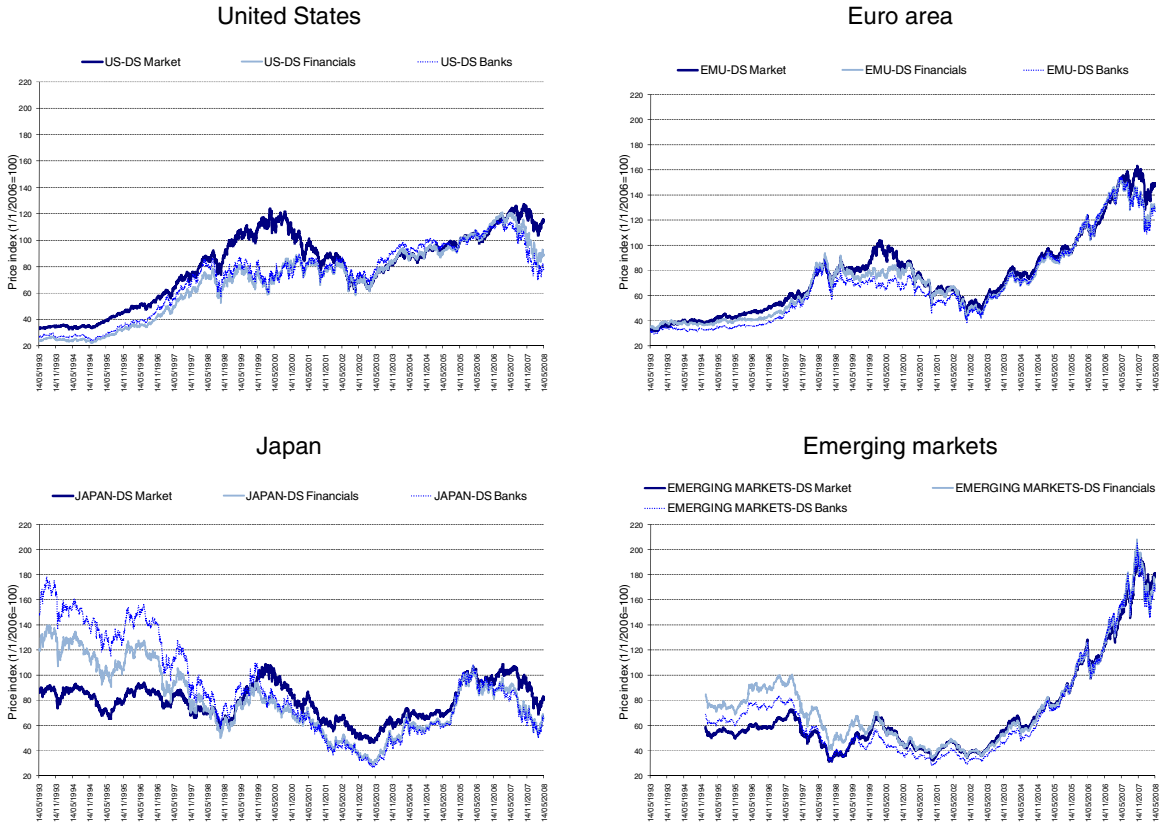
ensue whereby even creditworthy borrowers may be denied credit. These problems may propagate from one financial institution or market to another through various channels, including payments systems, security settlement systems, and inter-bank and other funding markets.

Figure 1. **Equity markets plunged**

Datastream total market and sector indices, 1/1/2006=100



Note: Daily data until 14 May 2008.

Source: Thomson Financial Datastream.

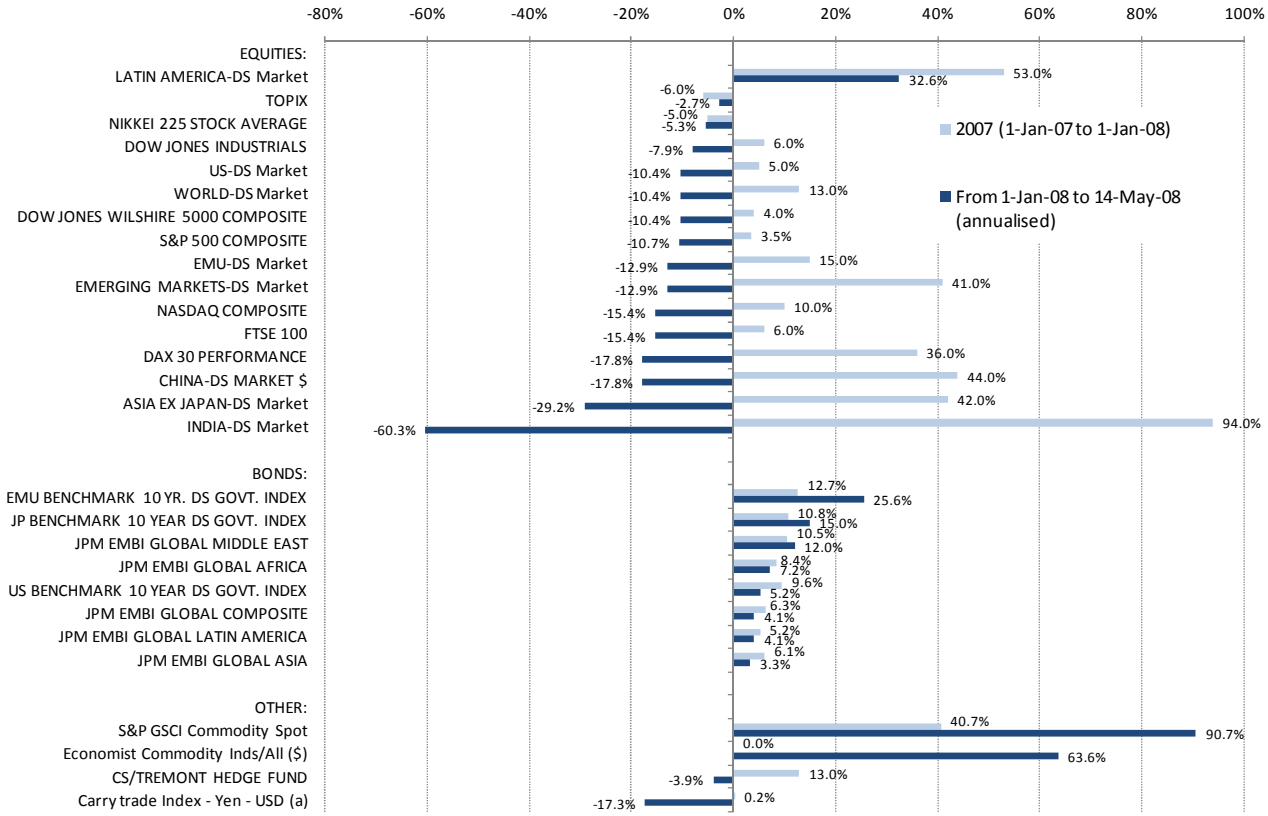
The current crisis has featured some of the same elements as in other recent episodes

The current crisis has featured some of the same elements as in other recent episodes:

- Stock prices plunged (Figure 1).
- There was a 'flight to quality' as investors reoriented portfolios toward low-risk assets and out of riskier classes (Figure 2).
- Volatility, as implied by futures and options prices rose markedly to levels last seen around the time of the events of 11 September 2001 (Figure 3).

Figure 2. **Returns of selected investment alternatives**

Per cent changes over period, annualised, in US dollar terms



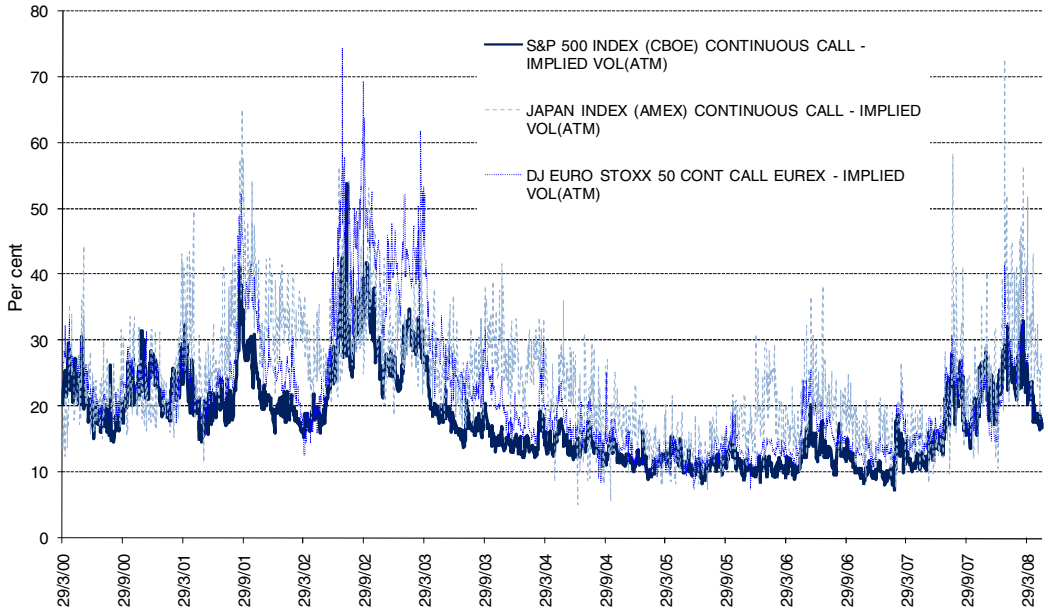
Notes: a) The carry trade return index is calculated based on the assumption of one-month investments in the respective currencies, borrowing in yen, applying 1-month eurodollar interest rates and central exchange rates, without taking into account bid/ask spreads and transaction costs.

Source: Thomson Financial Datastream, and OECD.

- Market liquidity has been severely impaired, with diminished trading in some cases even for the highest-grade bonds, while IPO activity slowed to a virtual halt (with the notable exception of the successful debut of Visa).

- While in overnight funding markets, demand for liquid assets shot up, spurred in part by fears of withdrawals and concerns about counterparty risk, and the price of cash surged well above targeted rates, despite efforts by monetary authorities to provide markets with ample liquidity.

Figure 3. **Implied volatilities of major markets**



Note: Daily data until 14 May 2008.

Source: Thomson Financial Datastream.

The turmoil in this case was triggered by the subprime mortgage crisis

But there are some ways in which the present crisis differs from previous ones. One notable feature of this bout of financial turmoil is that the particular triggering event did not occur in a core market segment. The turmoil in this case was triggered by significantly higher-than-expected defaults on subprime residential mortgage loans in the United States, and while the crisis is far from ended, it will likely be remembered – once the turmoil has ceased – as the subprime mortgage crisis. Even so, defaults on subprime mortgages are not the cause of the crisis, they are one of its symptoms, which partly explains why the financial costs appear to be more widely dispersed.

A major contributing factor was the marked compression in risk premiums…

For a crisis that continues to evolve and remains in a serious state, it is premature to attempt a *post mortem* to identify the causal factors. There are, however, some major contributing factors that have attracted the attention of industry observers and policymakers. One such factor was the marked compression in risk premiums observable on a variety of otherwise risky assets, in many cases to historical lows.

…raising concerns among financial authorities

Concerns about the apparent under-pricing of risk had for some time been on the radar screens of financial authorities, linked most often to discussions about the longstanding 'search for yield' by institutional and retail investors. Faced with a decline in interest rates on traditional low-risk investments over much of the early part of this decade to very low nominal levels, many investors moved out the credit risk spectrum. The broad-based quest for higher yielding assets was evident in a number of

notable developments, including the increase in 'carry trades', the growth in alternative investment vehicles such as hedge funds, and strong demand for relatively new and higher risk assets such as subprime residential mortgage-backed securities and various other types of structured financial products, such as collateralised debt obligations.

Strong demand for higher yielding assets supported the rapid growth of the "originate-and-distribute" model

The strong demand for higher yielding assets, in turn, supported the rapid growth of the "originate-and-distribute" model of credit intermediation, in which underlying credit risk is first unbundled and then repackaged, tiered, securitised, and distributed to end investors. Various entities participated in this process at various stages in the chain running from origination to final distribution. They include, in addition to primary lenders, mortgage brokers, bond insurers, and credit rating agencies. And while the subprime mortgage problem itself is limited largely to the United States, the originate-and-distribute strategies were international.

Securitisation facilitates risk transfer, but the underlying risks need to be properly assessed…

In principle, there is nothing wrong with securitisation *per se*. Securitisation enables the separation of a pool of assets from the credit and insolvency risk of the originator. There are many circumstances in which this arrangement works to the benefit of the end investors. However, most, if not all of them, are based on the assumption that the cash flows associated with the underlying assets are either known or predictable with a reasonable degree of certainty. A key requirement for this condition to hold is that the underwriting criteria used to originate the underlying loans are fairly standardised.

.. and market discipline needs to be ensured

That is how off-balance sheet securitisation worked in the past. Primary lenders whose loans failed to meet established underwriting criteria lost access to the secondary market. In the recent incarnation of the securitisation model, however, this component of market discipline seemed to have disappeared.

Opacity of many structured products makes them difficult to value

The apparent disconnect between the true credit quality of the underlying assets and the promised performance of the structured instruments backed by them proved eventually to be a major flaw. The current market dislocations partly reflect a lack of knowledge as to who is bearing the ultimate risk of loss. The opacity of many structured products makes them difficult for investors to fully understand and for third parties to value. In this environment, banks and securities firms have found themselves being forced to back-stop risks that supposedly had been transferred to other investors.

Uncertainty about the distribution of losses led to a complete drying up of liquidity

Widespread uncertainty about the distribution of losses and the financial situations of various associated participants led to a complete drying up of liquidity in markets for structured products and asset-backed commercial paper programmes, which are used to fund a number of securitised products. With growing concerns about counterparty risk, banks became reluctant to lend, even at very short horizons, and rather,

seemed inclined to hoard liquidity. History provides many examples whereby this curtailment in bank lending flows through to diminished aggregate economic activity at a minimum and many times to recession.

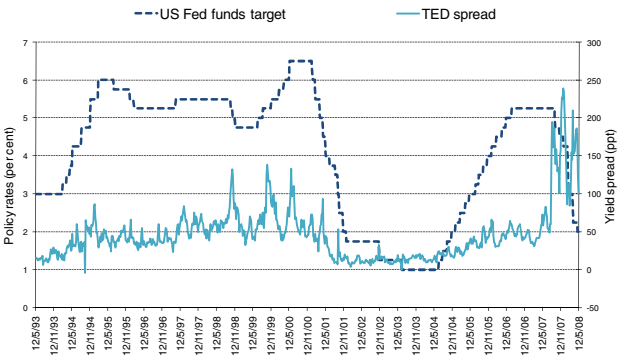
II. Financial market outlook and impact of the crisis

Central banks have taken action ...

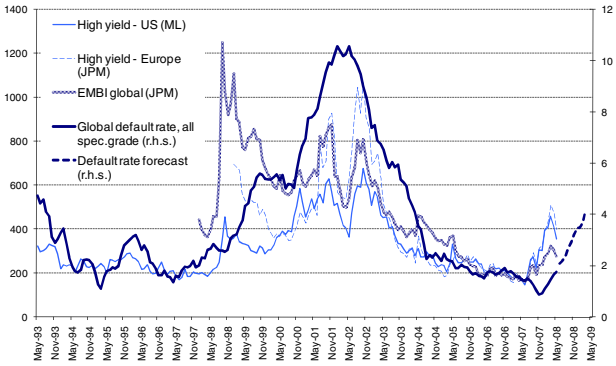
Central banks have worked to address the continuing liquidity pressures, not only through traditional facilities, but by increasing the frequency and amount of funds offered, by expanding the types of eligible collateral, by engaging in swap facilities with other central banks, and by expanding the types of accepted counterparties.

Figure 4. **Risk spreads have risen**

(A) Fed funds target and TED spread[a)]



(B) High-yield and emerging market bond spreads *vs.* default rates[b)]



Notes: a) Weekly data until 14 May 2008. The TED spread is the difference between the T-bill interest rate and LIBOR.
b) Monthly data until 14 May 2008.

Source: Thomson Financial Datastream.

...and money market tensions have eased, but concerns remain as the subprime crisis is affecting a broader set of markets and institutions

While these actions have helped to ease money market tensions somewhat, in many cases conditions have not returned to historical norms. Indeed, spreads, even though they recently have come down a bit, remain high as credit and liquidity risk concerns prevail (Figure 4) – more so as the subprime crisis has now come to affect a broader set of markets and institutions. A number of banks already revealed large subprime related losses in their preliminary earnings reports for the third and fourth quarters of 2007, and more for the first quarter of 2008. But the market appears not to be convinced that all losses have been acknowledged and fears remain of further bad news as final audited reports for 2007 are being released. Moreover, with mortgage defaults continuing to rise, housing prices continuing to fall sharply, and resets for variable rate mortgage loans still in the pipeline, more write-downs can be expected for 2008.

The financial crisis weighs on the global economy, and the likelihood of a US recession has by most accounts increased

Having to take such losses on their balance sheets, banks have tightened lending conditions. There is a growing expectation that both turmoil in financial markets and other factors will have an impact on the US economy. The US housing market is plunging, and recent data show that US household wealth has – for the first time in more than 5 years – declined in the fourth quarter of 2007.[1] This decline, rising foreclosures, increasing unemployment and precautionary saving may lead consumers to rein in spending and further tip the US economy over the brink into recession, the likelihood of which has increased according to many forecasts.

Other economies may not easily remain decoupled from the effects of the subprime crisis

It remains to be seen to what extent other economies will remain decoupled from the market turmoil and the slowing in the United States. Among particular pockets of risks outside the United States that are becoming apparent are deteriorating housing markets in some European countries, especially in Spain and the United Kingdom. While mortgage lending may have followed more prudent standards than in the US, banks in Europe are more directly exposed to mortgage risks than their US counterparts, and a retrenchment in the housing markets could have more direct effects on the sector.

Furthermore, some banks from Sweden, Austria and Italy have been expanding their market shares in eastern Europe. To the extent that these banks become affected by credit market pressures (as they tend to rely largely on wholesale funding) there could be ripple effects on these economies. Adding to these risks are the exposure to foreign currency loans in emerging Europe and equity derivative products which are more widespread in Europe than in the United States.

The Fed, the Bank of Canada and the BoE have lowered policy rates…

To cushion the economy from the negative effects of the financial market crisis the US Federal Reserve began a concerted easing cycle on 18 September 2007, lowering its policy rate in six subsequent steps (the last one so far taken end of April 2008) by a total of 250 basis points, to 2 per cent. A few other monetary authorities have also reduced their target rates. Among the major central banks, the Bank of England and the Bank of Canada followed suit over the past few months, easing however more hesitantly than their US counterpart.

… but most other central banks have not followed

But most other central banks have not followed the Fed in lowering policy rates, reflecting differences in economic conditions across OECD economies and less fall-out thus far from the financial market turmoil. The ECB, for example, has left policy rates unchanged, and so did the Swiss National Bank. At the other end of the spectrum, Sveriges Riksbank, the Swedish central bank, surprised financial markets in mid-February by raising its policy rate, thus continuing a tightening cycle that started back in mid-2005.[2]

One development that is complicating the task for monetary authorities is the continued rise in commodity prices. Central banks are

Commodity price increases continue to pose problems for monetary policy

under pressure in some cases to stimulate sluggish or faltering economies, but rising inflationary pressures tend to force a more restrictive monetary policy than might otherwise be suggested by the business cycle, in particular among those central banks with explicit inflation targets. Thus, short-term interest rate levels are still expected to remain substantially different across the Atlantic.

III. How is the financial sector coping with the crisis?

Issues related to monoline insurers

Specific concerns about monoline insurers have added to the financial crisis

One of the factors contributing to the market downturn in January were developments with respect to bond insurers.3 The exposure of bond insurers to subprime mortgage debt came into the central focus of the financial press after rating agencies were considering downgrading some of the major financial guarantors.

Bond insurers have played a crucial role in the mortgage risk transfer process…

Financial guarantors or bond insurers are now estimated to guarantee USD 2 400 billion of bonds, the bulk of which being municipal bonds. But they have also played a crucial role in the transfer of mortgage risk by enhancing structured products ratings. Many of these monoline insurers that essentially lend their credit rating (typically triple-A) for a fee, have grown rapidly over the past few years and moved from their traditional business of insuring municipal bonds to guaranteeing payment of interest and principal in structured financial products.

… and have been warily watched by investors…

These companies' share prices have fallen rapidly and their credit default swap premiums risen since the beginning of the financial turmoil. Perceptions of the risk implied by financial market indicators (in particular the level of credit default swap premiums) have been increasingly out of line with the triple-A rating awarded to these companies by credit rating agencies. This suggests that investors have been increasingly concerned that losses on structured financial products will be so large that they reach the highly rated tranches of these products.

… as their downgrading can have wider systemic effects

The credit rating downgrade of a big financial guarantor is important because such a demotion should lead to downgrades of a significant part of bonds that such companies guarantee. The rating of a guaranteed tranche of a structured financial product could not be higher than the rating of the guarantor.

Recapitalising banks

Recapitalisation of banks is now the major task

Throughout the past months of the financial crisis, the revaluation process of structured financial products has been slow and there has been much uncertainty related to the extent of subprime related losses at financial institutions. How to recapitalise the banking system remains one of the most important issues to be solved in order to rebuild investor confidence.

Loss estimates are between USD 300 to 400 billion and beyond

Estimates of subprime-related losses mostly range from USD 300 billion to 400 billion, but some estimates are as high as USD 1 trillion.[4] The recent falls in banks' market values reflect, in a way, investors' estimates about such losses (Table 1). In the course of 2007, G10 banks have lost about USD 570 billion in market value, and another USD 184 billion year to date. However, losses in market value in this situation of crisis and uncertainty are an unreliable measure of underlying balance sheet losses (due to panic reactions etc.). In fact, changes in market value have fluctuated widely over the past few months since January, attaining the range of USD 500 trillion in March (measured from the beginning of the year).[5]

Table 1. **Banks' losses: the market view**

Change in market value of largest G10 banks (in USD billion)[a)]

	2008[b)]	2007	2006	2005
United States	-58.8	-358.1	187.8	-20.8
Japan	20.2	-112.2	-49.1	204.2
United Kingdom	-61.9	-108.4	130.5	-17.5
Switzerland	-35.9	-44.5	55.6	22.0
France	-14.6	-31.6	108.6	13.1
Sweden	-4.3	-4.3	26.7	0.7
Germany	-7.6	-3.6	34.3	14.8
Netherlands	-0.1	0.5	0.5	0.1
Belgium	-1.3	5.5	54.0	20.0
Canada	0.5	12.2	31.1	37.2
Italy	-19.7	73.1	61.9	46.8
G10 total	-183.5	-571.4	641.9	320.8
Global[c)]	-327.3	-134.0	1 225.2	522.9

Notes : Sorted by 2007 losses.

a) Based on banks contained in respective countries' Datastream bank indices.

b) From 1-Jan-08 to 14-May-08.

c) Based on banks in Datastream worldwide bank index.

Source: Thomson Financial, Secretariat calculations.

While substantial, losses would seem relatively manageable if related to the total size of the sector…

Such losses are quite substantial, but relating them to the size of the banking sector more generally they seem less burdensome. If we estimate G10 banks' assets at roughly USD 38 trillion (and global banks' assets at roughly USD 50 trillion),[6] losses of USD 300 billion to USD 1 trillion would correspond to something like 0.8 to 2.6 per cent of these G10 banks' assets (and 0.6% to 2% of global banks' assets). Furthermore, previous growth in banks' total assets has been substantial, USD 2.5 trillion in 2005 for G10 banks, and USD 4 trillion for global banks.

Also, a USD 400 billion loss would correspond to less than 2% of the USD 22 trillion US equities outstanding, and to a not very abnormal daily decline in the US stock market.[7]

...but the special role of banks and the concentration of these losses make them systemically important

However, the special role of banks as providers of credit to the economy and their highly leveraged structure render these losses systemically important. Given the typical leverage of financial institutions, the impairment on bank lending could be tenfold the losses.[8] Furthermore, given that this crisis is particularly linked to mortgage securitisation, the subprime losses are having further and crucial damaging effects on securitisation. The potentially economy-wide damaging effects have already been felt, and the confidence – if not liquidity – crisis on money markets is already an indicator of banks' distress.

Investors need certainty about the size and the way of recapitalising the losses

As mentioned above, some of these tensions have been eased by central banks providing liquidity and opening their discount windows, but this is more a cure for the pain and does not address its origin. Some easing of tensions should be expected over the next months when audited as well as new preliminary income statements will provide more transparency on subprime related losses, and perspectives to recapitalising banks hit by the crisis become more concrete.

The role of SWFs and other market players

So far, SWFs have stepped in to bail out the banking sector...

So far, some significant contributions for recapitalising institutions suffering from subprime-related losses have come from sovereign wealth funds (SWFs) (Table 2).[9] Out of the fifteen largest M&A deals from 1986 to date involving SWFs, eleven have targeted financial sector and real estate companies, and all of these were announced or completed in 2007 and early 2008.

...at a time when such investments were particularly risky

This is even more remarkable as in the current crisis environment and with heightened uncertainty these investments were particularly risky, evidenced by the fact that SWFs have, so far, lost from their investments in large financial companies as their values have further dropped (Table 2, with GIC's UBS investment as one exception as of date). However, such investments may be seen as strategic and long-term, with the perspective of substantial gains should market and sector conditions improve. But then again, it remains to be seen how much longer and further these investors are willing to share with the (mainly US and European) financial sector the burden of adjustment to this current crisis. As other, more profitable options to invest (in other sectors or countries) are opening up their interest in the financial sector may tail off.

SWF investments are set for future growth

With currently estimated assets under management (AUM) of 2.3 trillion (2006/2007), SWFs are among the new global financial players which can provide liquidity when needed most.[10] Given that much of SWF liquidity comes from oil exports, it is worth looking at the future potential of these players. At an oil price of USD 100 per barrel, and at the current pace of production and exports, petrodollar incomes could increase by USD 2.1 trillion per year.[11]

Table 2. **Major financial sector acquisitions by SWFs**

Top 10 acquisitions by SWF in the financial and real estate sector[a)]

Date announced	Date effective	Acquiror	Target	Target Sector/Industry	Value of deal (USD mill.)	Per cent acqu-ired	Target's share price change[b)]
2008 (Jan-Apr)							
15-Jan-08	-	Government of Singapore Investment Corporation (GIC)	Citigroup Inc	Commercial Banks, Bank Holding Companies	6 880	-	*-13.7%*
15-Jan-08	-	Kuwait Investment Authority (KIA)	Merrill Lynch & Co Inc	Investment & Commodity Firms, Dealers, Exchanges	2 000	-	*-7.8%*
15-Jan-08	-	Korea Investment Corp. (KIC)	Merrill Lynch & Co Inc	Investment & Commodity Firms, Dealers, Exchanges	2 000	-	*-7.8%*
2007							
24-Dec-07	-	Temasek Holdings(Pte)Ltd	Merrill Lynch & Co Inc	Investment & Commodity Firms, Dealers, Exchanges	4 400	-	*-9.3%*
19-Dec-07	-	China Investment Corp. (CIC)	Morgan Stanley	Investment & Commodity Firms, Dealers, Exchanges	5 000	-	*-6.2%*
10-Dec-07	05-Mar-08	Government of Singapore Investment Corporation (GIC)	UBS AG	Commercial Banks, Bank Holding Companies	9 760	9	6.0%
26-Nov-07	-	Abu Dhabi Investment Authority	Citigroup Inc	Commercial Banks, Bank Holding Companies	7 500	-	*-22.0%*
17-Jul-07	17-Jul-07	GIC Real Estate Pte Ltd	WestQuay Shopping Center	Real Estate; Mortgage Bankers and Brokers	612	50	-
20-Jun-07	20-Jun-07	GIC Real Estate Pte Ltd	Chapterhouse Holdings Ltd	Investment & Commodity Firms, Dealers, Exchanges	954	100	-
20-May-07	27-Jun-07	China State Investment Corp.	Blackstone Group LP	Investment & Commodity Firms, Dealers, Exchanges	3 000	10	-34.8%

Notes: a) Counted from the beginning of January 1986 until the end of April 2008.
b) As of 14 May 2008, since date effective; since date announced (in italics) if not yet effective.

Source: Thomson OneBanker.

Hedge funds have also suffered and fared worse than in previous downturns…

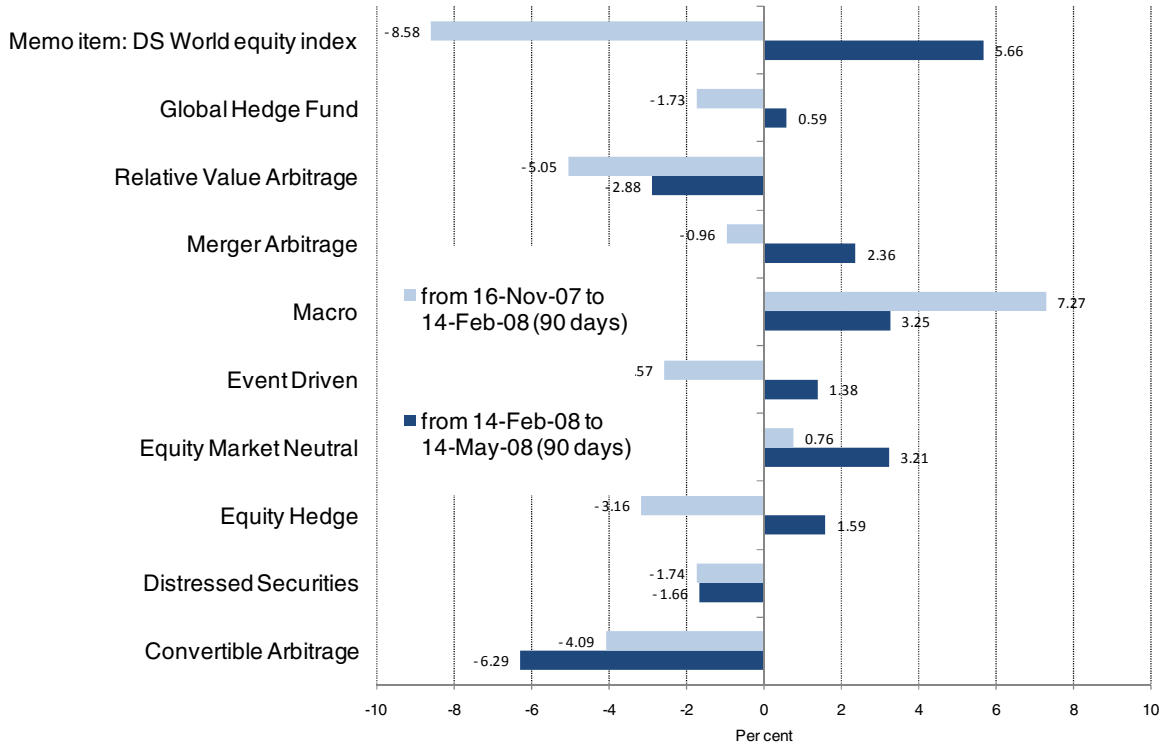
Hedge funds have been playing an ambiguous role during the recent turmoil. While some observers had attributed some of the rapid market correction which happened in July and August of 2007 to hedge funds' so-called "quant-strategies", some had later come to the rescue of institutions in distress by taking contrarian bets. However, such bets did often not play out well, and hedge funds' returns remained comparatively modest over the last year and have often been negative (Figure 5). Several funds, especially those specialising in credit, had to shut down their operations. Macro strategies seem to have fared relatively well during the downturn, but more recently, some traditional (*e.g.* equity) investments' returns have picked up more strongly.

…perhaps leading investors to more realistic expectations

Investors' expectations with respect to hedge funds' positive, absolute returns – providing a financial shield during a downturn – may have somewhat cooled. However, over the past few years, hedge funds have become entrenched also in more traditional investors' (*e.g.* pension funds') portfolios. In fact, institutional investors have contributed much to hedge fund growth over the past few years. But it remains to be seen how large a share these investors will allocate to these alternative investments in their portfolios in the future.

Figure 5. **Returns on various hedge fund strategies**

HF-research price indices, per cent changes over period



Source: Thomson Financial Datastream.

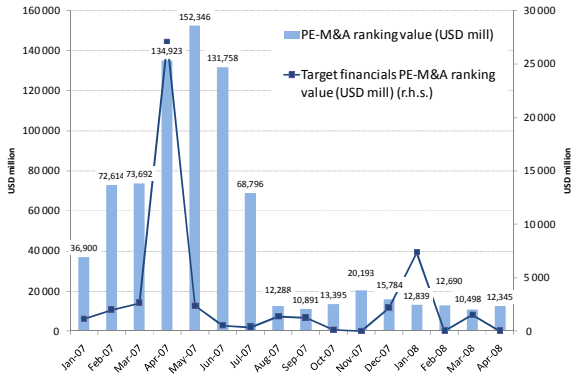
The recent private equity boom has stalled, but less leveraged deals have begun targeting the financial sector

Leveraged private equity deals, which were at a high until early 2007, have cooled since, in particular those targeting the financial sector (Figure 6A), and many planned deals had been cancelled. While private equity deals helped to fund some financial institutions' balance sheets, and provided fee income for major investment banks, private equity companies are now suffering from higher financing costs and from the deteriorating financial environment more generally, as reflected in tumbling share prices of listed private equity firms (Figure 6B). Adding to this picture is the recent insolvency of Carlyle Capital Corporation, after the fund had received substantial margin calls and default notices from its lenders. However, some funds backed by the still ample global liquidity are making a comeback, and less leveraged deals have begun targeting the financial sector for opportunities arising from the bottoming out of the adjustment.

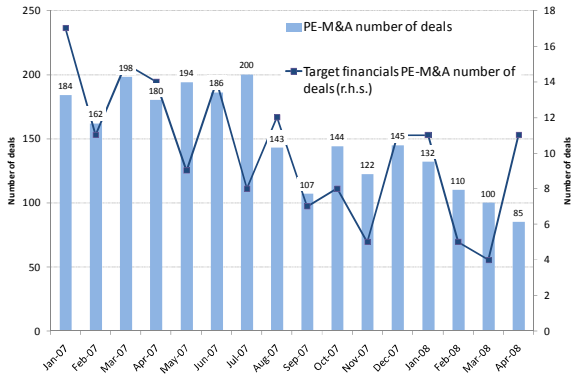
Figure 6. **Private equity (PE) is cooling off**

(A) Total PE deals vs. PE deals targeting the financial sector

Ranking values, in USD million



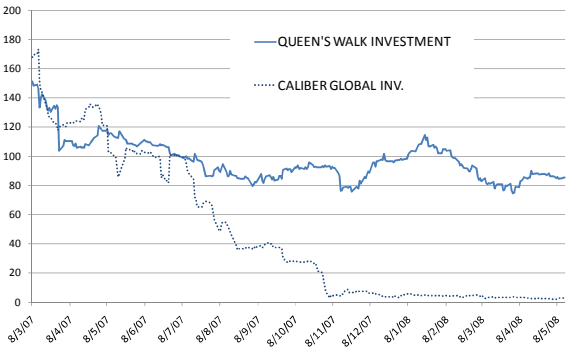
Number of deals



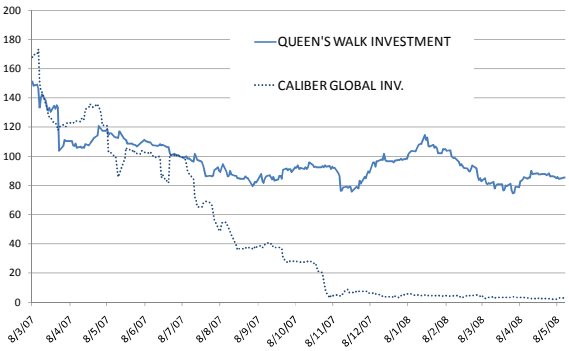
(B) Selected listed private equity firms

Share prices relative to respective country's total market, index, 4/1/2007=100, daily until 14/5/08

US-listed companies



UK-listed companies



Source: Thomson OneBanker and Thomson Financial Datastream.

Some opportunities could lie in financial sector consolidation

In recapitalising balance sheets of banks that have suffered from the subprime losses, other, relatively healthier financial institutions may come to the rescue. The crisis in the financial sector may thus provide opportunities for further financial sector consolidation, as M&As between financial institutions may be a means to strengthen banks' balance sheets for the long run. However, in the current market environment, financial sector M&As have declined (Figure 7A). Not only funding problems, but also protectionist tendencies and the fear of potential targets to have to offer their assets at fire sale prices have led to several withdrawals of announced M&A deals, in particular of very large ones (Figure 7B). The deal value ratio of withdrawn to completed deals attained 65% in 2007, the highest value since 1992 (when that ratio reached 120%).

As fears of big bank failures begin to recede, the cost of protection against default (via Credit default Swaps – CDS), which had risen to

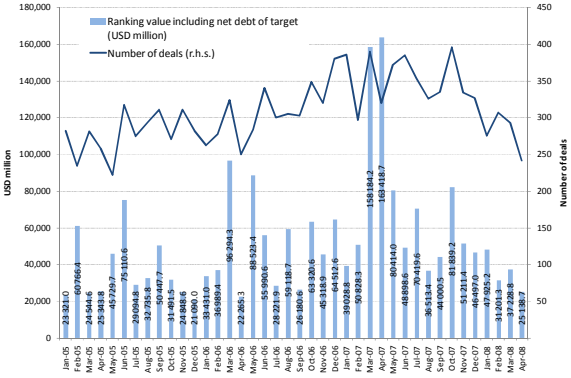
As fears start receding, banks have successfully started to tap capital markets

record levels, has come down recently (Figure 8). Market observers date the turning point for the CDS market as March 17, the date of the US Fed-lead bail-out of Bear Stearns which signalled the willingness of policy makers to step in to avert a systemic impact of the crisis, underlined also by (preceding and subsequent) liquidity operations by major central banks.

This climate of waning uncertainty has also allowed banks to successfully raise new capital from their investors, which in the middle of the turmoil may have signalled weakness and may have weighed on share valuations. In April, about USD 30 billion were raised in capital markets by big US financial groups. A concern however, highlighted by some rating agencies, is that new funds came from a record amount of preferred shares and other hybrid securities which could weaken banks' balance sheets further down the road.[12]

Figure 7. **M&A in the financial sector**

(A) Target and acquirer in financial sector, global



(B) Selected financial sector M&A deals

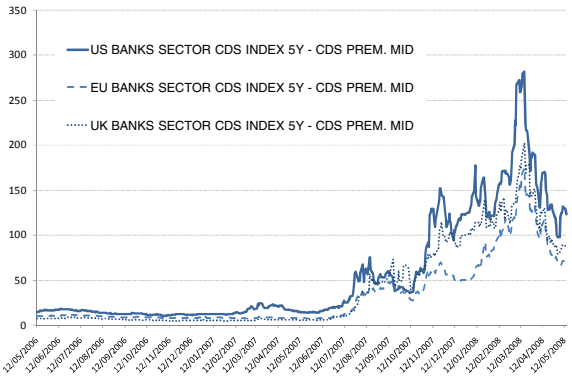
Deal value above USD 10 billion, 1/1/2007 to 14/5/2008

Date announced	Target	Acquiror	Value of transaction (USD million)
Status: Withdrawn			
19-Mar-07	ABN-AMRO Holding NV	Barclays PLC	92 607
16-Apr-07	SLM Corp	Investor Group	25 537
25-Oct-07	Banco Comercial Portugues SA	Banco BPI SGPS SA	16 587
15-Mar-07	CBOT Holdings Inc	IntercontinentalExchange Inc	11 260
15-Oct-07	Resolution PLC	Standard Life PLC	10 095
Status: Pending			
12-May-08	St George Bank Ltd	Westpac Banking Corp	17 933
08-Nov-07	Banca Antonveneta SpA	BMPS	13 212
28-Jan-08	NYMEX Holdings Inc	CME Group Inc	11 072
20-Feb-08	Bovespa	BM&F	10 309
Status: Intended			
17-Dec-07	Goldman Sachs Group Inc	Goldman Sachs Group Inc	12 640
24-Jan-07	Bank of America Corp	Bank of America Corp	10 664
Status: Completed			
25-Apr-07	ABN-AMRO Holding NV	RFS Holdings BV	98 189
15-May-07	Capitalia SpA	Unicredito Italiano SpA	29 528
23-Apr-07	ABN AMRO North America Holding	Bank of America Corp	21 000

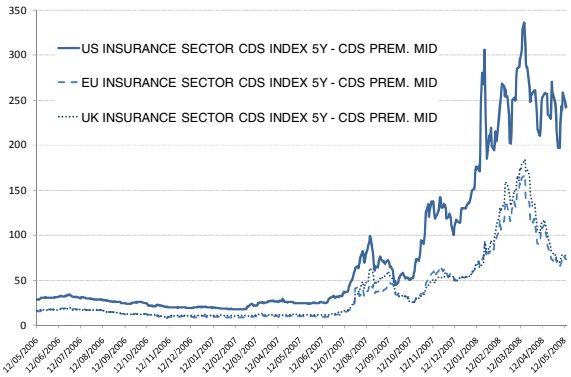
Source: Thomson Financial Datastream, and Thomson OneBanker.

Figure 8. **CDS spreads**

(A) Banking sector



(B) Insurance sector



Note: Daily data until 14 May 2008.

Source: Thomson Financial Datastream.

Risk management and the future of asset-backed structured products

Risk transfer through mortgage securitisation increased lending

At the core of the US subprime mortgage crisis, and its global repercussions, lies financial innovation, transferring mortgage risk through securitisation from mortgage lenders' balance sheets to other parts of the financial system and to other investors globally. Years of low interest rates with easy financing, innovative, non-traditional mortgage products and risk transfer through mortgage securitisation generated a rising volume of loans that had been extended increasingly to sub-prime borrowers.

The "originate-to-distribute" model led to riskier behaviour …

This "originate-to-distribute" model not only has lead to lower underwriting standards but has also tended to increase loan volume as substantial (and upfront) fees at all stages, from origination to securitisation, have been involved. Long-run performance of the loans and related securities was not a concern at the originating level, so risk-management standards would be relaxed. Many borrowers with poorer records have stretched their financial capacities too far, leading to record-high default rates with negative effects on mortgage securities and structured products, CDOs and SIVs based on such securities.

… with wider repercussions as risks materialise

Spread of mortgage bonds are still at record highs, and issuance has declined rapidly. Liquidating the overhang of bad, outstanding securities (and entities that have taken on such securities), is the major task at hand. Liquidating structured credit instruments has increased demand for credit default swaps which provide protection for the buyers of bad debt, and has driven up the cost of protection (Figure 8). This and narrowing markets, where small trades can lead to large movements, can potentially trigger a major chain reaction hitting other market segments and the wider economy. Thus, further deleveraging, margin calls and fire sales of assets may lead to a self-sustained downward spiral towards a full-blown credit crunch, stalling economic growth or resulting in outright contraction of the economy.

Alternatives to mortgage securities are becoming more important , and simpler and higher quality structures will dominate a shrinking market for synthetic products

As investors have become more aware of the risk involved in mortgage-backed and structured products, they also seem to be better at discerning such risks. As risk spreads are rising, gaps are opening up between spreads of various asset classes. While risk transfer and securitisation are very likely here to stay, the future of structured products and related financial innovations is as yet uncertain. Simpler products with less leveraged structures and backed by assets of superior quality will certainly dominate, while it seems inevitable that the market will have to shrink more permanently. Some money market funds in Europe had been big buyers of ABS recently, but some 60-70% of investors have left the market, perhaps for a long time, if not permanently. Investors may certainly apply more careful scrutiny and choose alternatives with a more appropriate incentive structure as regards the security originator. Alternatives to MBS and ABS are also likely to become more important, for example the (European type) covered

mortgage bonds where the mortgage risk stays on the balance sheet of the originator.

IV. Some policy lessons from the downturn

Mortgage market reforms would involve the private sector

Excessive mortgage lending, which led to the crisis, has added calls for more scrutiny on the US mortgage market. While such calls may entail tighter regulation, it has been argued that current legislation, if properly enforced, should be sufficient to deal with cases where lending has been fraudulent. Proposals for reforms include expanding federal backing of mortgages, and enhancing financial literacy of borrowers. Many of these initiatives would involve the private sector, particularly at the mortgage lender level.

Basel II under scrutiny…

The growth of SIVs and conduits may be partly attributed to the first (1988) Basel Accord, which established minimum capital requirements to bank balance sheets and required more capital protection for riskier assets. The creation of these off-balance sheet vehicles allowed banks to reduce the capital associated with the underlying loans, thus encouraging banks to shift risky activities to such entities, which were less transparent and under weak regulatory scrutiny.

… and reforms are being proposed

Basel II, in operation since the beginning of this year, was designed to amend some of these problems. The new agreement bases capital requirements on a more comprehensive risk assessment, taking into account a bank's overall portfolio, including contingencies, which should reduce a bank's incentives to off-load risk. However, risk assumptions in portfolio models and prevailing accounting standards still provide loopholes for underestimating capital requirements.[13]

In order to address such problems, the Basel Committee on Banking Supervision issued in mid-April proposed regulations that seek to impose higher capital charges for banks that manage asset-backed securities. By closing close loopholes that let banks off-load risks in entities such as SIVs, more banking activity would be pulled back in into the regulated sphere.

Procyclicality of capital adequacy requirements and mark-to-market valuations may need to be attenuated…

Another concern is the procyclicality inherent in capital adequacy requirements, and the procyclicality inherent in the mark-to-market valuations introduced by reforms in accounting systems. During a downturn, requirements to set capital aside and book losses as asset prices decline, may unduly restrain lending and weaken balance sheets of institutions that might otherwise more easily weather a storm, and thereby amplify and spread crisis effects. Various proposals have been made to attenuate such procyclicality,[14] but none of these proposals are without problems of their own.

... especially in cases where markets become illiquid or for institutions with high systemic significance

While a moratorium on marking to market could be counterproductive if it results in a loss of confidence in basic accounting rules, the issue must be addressed over the longer term. As the crisis has shown, there are many instances where the market has not been coping well with this accounting rule which does not factor in what has become a significant liquidity premium or the role of a fear factor. Specifically, there can be dramatic effects for monoline insurers which do not hold traded portfolios and cannot be forced to sell. Monolines occupy a pivotal position in some markets, and further downgrades would have flow-through effects on these segments. Mark-to-market techniques regarding the timing of when losses occur can thus have widespread effects.

Incentive structure of intermediaries should be reconsidered

A problem with loan securitisation is the incentive structure for intermediaries, in particular traders of such securities, who sometimes take undue risks with their employers' capital because of the way they are rewarded. Bonuses based on revenues generated during a year are a single-sided bet, as banks will have to bear credit and trading losses that may appear later. Such risk can be contained by paying the bonuses in restricted shares and options and with a delay. But trading also means that risks may be transferred outside the institutional base of the trader, posing a valuation problem if information is asymmetric.

Liquidity crises needs coordination between market participants, besides policy action

The liquidity crisis, last year's bank run on Northern Rock, and the recent Fed liquidity support for Bear Stearns (to help a buyout by JPMorgan), have shown that central banks' role in crisis solution is crucial, but ambiguous. Injection of money into the market is a two-edged sword, and helping out banks may increase moral hazard. While it helps to ease a temporary credit crunch, it may also be to the disadvantage of banks that are flagged as needing access to the central bank's resources.

In the UK, the tripartite regulatory structure was blamed for the difficulties in arranging an interbank solution to the liquidity crises, under the heading of the central bank. While this is a valid argument, it should also be mentioned that private sector associations exist that could help bringing the relevant stakeholders to the table without government or central bank co-ordination. If the industry favours self-regulation, it could take a lead in such co-ordination efforts.

With regard to the monoline insurance industry, options discussed so far have included spinning-off the structured-products business from the municipal bond business, and there were also policy efforts to organise concerted action by major financial institutions to recapitalise bond insurers.

Valuation of new products by rating agencies need to be enhanced

Structurally, MBS risks have been undervalued,[15] and the sudden rerating and defaults of mortgage backed securities over the past months brought to the fore such inherent problems. While financial supervisors may also be blamed for not having adequately recognised the problem, rating agencies have been the focus of the discussion.

While a private sector approach is favoured by some, initiatives enhancing the transparency of rating methodologies and facilitating more competition in the market for credit assessments are seen as necessary. It has also been highlighted that the closeness of the relationship between credit rating agencies and banks they rate and from which they earn their fees, may pose a problem of dependence, introducing a bias into the ratings.

Some rating agencies have responded by enhancing their risk assessment by creating tools to address liquidity and market-value issues, making rating models more conservative and broaden the definition of subprime mortgages.[16] The idea of introducing liquidity ratings has also been welcomed by regulators with whom major rating agencies have engaged in a dialogue to discuss how to restore confidence in the structured credit sector.

More transparency of complex financial instruments is needed to restore market confidence in the long run

In order to address the valuation problem of structured products, a standardisation (perhaps including an "official seal of approval") of such products has been proposed. Such a step would not only increase transparency, but also facilitate the participation of a wide range of investors in these instruments, enhance their liquidity and improve (risk) pricing in the respective markets.

In their efforts to step up transparency in the structured finance universe, various policymakers called for more transparency. In the United States, the president's working group on financial markets met with the various stakeholders of the private sector, investors and asset managers, to formulate a private sector-led response to concerns about the activities of hedge funds, and balance the diverse requests for transparency and regulation. In the United Kingdom, the Hedge Fund Working Group has reviewed industry standards and best practices in relation to valuation, risk management and disclosure in a report also welcomed by the Financial Stability Forum (FSF).[17]

Market sources to repair damaged balance sheets are hardly sufficient, thus further policy action may be needed

Substantial capital injections to restore financial institutions' balance sheets have come from market sources, but so far they have not proven sufficient – in particular in cases where emergency funding has been needed to restore market confidence and liquidity to avoid major disruptions with more widespread repercussions. As the crisis is still playing out, many banks are yet many months away from going back to "business as usual". In order to restore bank lending and banks' and other financial institutions' earnings capacity (also to cover previous losses), additional policy action may be needed, including regulatory forbearance, tax relief measures, direct funding and explicit guarantees. Most helpful in this respect could be a "Resolution Trust Corporation" (RTC) mechanism[18] or a "good bank/bad bank" approach as applied in previous crises. In any case, while authorities should allow the banks to solve the problem, it is important to deal with weaknesses at the system level, not just in individual institutions.

Notes

1. Falling share prices and dropping house prices added to a decline of total household wealth by USD 533 billion in 2007q4, to USD 57,718 billion.
2. The ECB left the repo rate unchanged at its June 2007 levels of 4%, and the Swiss National Bank has left its target range for the three-month Libor unchanged at 2.25–3.25%. Sveriges Riksbank raised its policy rate by 25 basis points to 4.25% on 20 February 2008.
3. For more detail, see the related article in this issue by Sebastian Schich, "Challenges Related to Financial Guarantee Insurance", *Financial Market Trends* vol. 2008/1, No. 94.
4. See the article in this issue, Adrian Blundell-Wignall, "The Subprime Crisis: Size, Deleveraging and some Policy Options", *Financial Market Trends* vol. 2008/1, No. 94. For a spectrum of different approaches and estimates, see also David Greenlaw, Jan Hatzius, Anil K. Kashyap, and Hyun Song Shin, *Leveraged Losses: Lessons from the Mortgage Meltdown*, paper presented at the U.S. Monetary Policy Forum, New York, NY, February 29, 2008. For an estimate at the high end of the spectrum, see IMF, *Global Financial Stability Report*, April 2008.
5. It should be noted, however, that the changes in market values as shown in Table 1 apply to banks only, thus do not include losses of other, non-bank financial institutions that have been directly affected by the subprime crisis.
6. Summing up total assets of banks in the Datastream G10 and global bank index (as of beginning 2006, a date for which most total asset data were available), yields USD 37.67 trillion and USD 50,24 trillion, respectively; these estimates for G10 and global banks' assets certainly represent a lower limit as they exclude smaller and non-listed banks.
7. See Frederic S. Mishkin, *Comment on "Leveraged Losses: Lessons from the Mortgage Meltdown"*, presented at the U.S. Monetary Policy Forum, New York, NY, February 29, 2008.
8. If the leverage ratio for financial institutions is estimated at 10:1; see David Greenlaw, Jan Hatzius, Anil K. Kashyap, and Hyun Song Shin, *Leveraged Losses: Lessons from the Mortgage Meltdown*, paper presented at the U.S. Monetary Policy Forum, New York, NY, February 29, 2008. The authors, assuming that have of the losses could be neutralised by raising new capital, they estimate a contraction of domestic lending in the range of USD 1 trillion.
9. For more detail on SWFs, see the related article in this issue by Adrian Blundell-Wignall, Yu-Wei Hu and Juan Yermo , "Sovereign Wealth and Pension Fund Issues", *Financial Market Trends* vol. 200/1, No. 94.
10. See also McKinsey Global Institute, *The New Power Brokers: How Oil, Asia, Hedge Funds, and Private Equity Are Shaping Global Capital Markets*, October 2007.
11. Crude oil production can be assumed at about 85 mill barrels/day, and exports at roughly 70 per cent of production; see International Energy Agency, Medium-Term Oil Market Report, July 2007; see also Stephen Jen, "Petrodollar tsunami will be at expense of euro and dollar", *Financial Times*, March 4, 2008.
12. Hybrid securities give holders ownership while paying a fixed interest rate. Ratings agencies would normally require companies to have less than 25-30 per cent of their total capital in hybrid securities, a limit now surpassed by some institutions. Such securities also enable banks to increase their regulatory capital requirements without diluting their existing shareholder base by issuing common equity. Another concern would be that the high interest rates offered by preferred shares may have attracted less sophisticated retail investors who are less aware of the equity risks entailed when companies decide to eventually exchange these securities for shares, with no further (fixed) interest payments. This lack of information may also let issuers achieve better prices at the retail than at the institutional level.

13. See also Barry Eichengreen, "Ten questions about the subprime crisis", *Banque de France Financial Stability Review – Special issue on liquidity*, No. 11, February 2008.
14. See also C. A. E. Goodhart, *The Regulatory Response to the Financial Crisis*, CESifo Working Paper No. 2257, March 2008.
15. See Frank Partnoy and David A. Skeel Jr., "The Promise and Perils of Credit Derivatives", *University of Pennsylvania Law School Paper* 125 (September 11, 2006).
16. See, for example, Moody's *International Policy Perspectives*, "Stress-testing the modern financial system", September 2007.
17. Hedge Fund Working Group (HFWG), *Hedge Fund Standards: Consultation Paper*, October 2007.
18. See the article in this issue, Adrian Blundell-Wignall, "The Subprime Crisis: Size, Deleveraging and some Policy Options", *Financial Market Trends* vol. 2008/1, No. 94.