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The sub-prime crisis, the credit squeeze, Northern Rock and beyond: the lessons to be learnt

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The sub-prime crisis, the credit squeeze, Northern Rock and beyond: The lessons to be learnt

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THE SUB-PRIME CRISIS, THE CREDIT CRUNCH, NORTHERN ROCK AND BEYOND: THE LESSONS TO BE LEARNT

by

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January 2009

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ABSTRACT

On 14 September 2007, after failing to find a 'White Knight' to take over its business, Northern Rock bank turned to the Bank of England ('the Bank') for a liquidity lifeline. This was duly provided but failed to quell the financial panic, which manifested itself in the first fully-blown nationwide deposit run on a UK bank for 140 years. Subsequent provision of a blanket deposit guarantee duly led to the (eventual) disappearance of the depositor queues from outside the bank's branches but only served to heighten the sense of panic in policymaking circles. Following the Government's failed attempt to find an appropriate private sector buyer, the bank was then nationalised in February 2008. Inevitably, *post mortems* ensued, the most transparent of which was that conducted by the all-party House of Commons' Treasury Select Committee. And a variety of reform proposals are currently being deliberated at fora around the globe with a view to patching up the global financial system to prevent a recurrence of the events which precipitated the bank's illiquidity and the wider financial instability which set in towards the end of 2008.

This article briefly explains the background to these extraordinary events before setting out, in some detail, the tensions and flaws in UK arrangements which allowed the Northern Rock spectacle to occur. None of the interested parties – the Bank, the Financial Services Authority (FSA) and the Treasury – emerges with their reputation intact, and the policy areas requiring immediate attention, at both the domestic and international level, are highlighted. A review and assessment of both the House of Commons Treasury Committee's Report on Northern Rock and the Tripartite Authorities' proposals for reform are also provided before analysis of the subsequent measures taken to stabilise the UK financial sector – involving further nationalisation of banks, the brokering of takeover

rescues of banks and building societies, a £400 billion bailout of the deposit-taking sector and a subsequent bank bailout scheme – is undertaken.

Accordingly, this paper represents an update, covering developments until end-January 2009, of my earlier paper on the Northern Rock affair (Working Paper No. WP 2008-09), which was published in September 2008. Specifically, it covers the latest *domestic* (i.e. UK) developments on a number of fronts. The text, for example, provides updates on the reform proposals of the Tripartite Authorities, amendments to deposit protection arrangements, and the emergency funding initiatives adopted by the Bank of England. **Table 2** (where, along with Table 1, most of the new material is located), meanwhile, provides updates and analysis of the following: the latest developments in the UK housing market; the latest developments in the real economy; the latest financial statements of the major banks; the latest nationalisation moves;* the latest inflation figures and interest rate decisions of the MPC; the latest government bailout plans for deposit-takers; the latest official support packages introduced for the housing market, mortgage borrowers and small businesses; the latest fiscal stimulus plans (e.g. as contained in the Pre-Budget Report of November 2008); and the latest domestic financial and regulatory developments. Meanwhile, **Table 1** provides up-to-date information on: emergency funding initiatives undertaken by the Fed, the ECB and other major central banks; financial institution takeovers/bailouts in the US and Europe; interest rate developments in the major economies; financial and regulatory developments in the US and Europe; developments in the real economies of the US and Europe; the financial statements of banks in the USA and Europe; the evolution of official bailout plans in the US ('TARP') and Europe; deposit protection developments in the US and Europe; fiscal stimulus packages adopted in the

*A more detailed discussion of these developments is provided in Hall (2008).

US, Europe and the wider international community; G7/EU plans to tackle the worsening financial crisis; IMF 'bailouts' of beleaguered countries; and the Basel Committee's proposals for revamping Basel II in the light of the crisis.

JEL Classification:E53; E58; G21; G28

Key words: Sub-prime crisis; credit crunch; banking regulation and supervision; failure resolution; central banking; deposit protection.

INTRODUCTION

Of all the spillover effects from the US sub-prime crisis, the run on Northern Rock, the first in the UK for over 140 years, is by far the most transparent and worrying for the UK authorities. It exposed the tensions between central banks with respect to the appropriate line to be taken on the provision of liquidity support facilities, the difficulties inherent in the UK's "tripartite arrangements" for dealing with banking crises, defects in UK banking regulation/supervision and the glaring flaws in UK deposit protection arrangements. It also revealed just how fragile the UK banking system actually is today – witness the necessity for a £400 billion bank bailout in October 2008 and a further bailout package in January 2009 - thereby shaking the complacency of politicians, bankers and regulators alike and undermining confidence in the UK financial system, with potentially calamitous effects for the broader UK economy. For these reasons, it is extremely important to analyse why these events unfolded and what can be done to prevent a repetition.

THE US SUB-PRIME CRISIS : SPILLOVER EFFECTS FOR THE UK

The downturn in the US housing market, the connecting collapse in security prices associated with the sub-prime sector of the market [i.e. those securities, such as residential asset-backed mortgages (RABM) and collaleralised debt obligations (CDOs), contaminated by defaults arising from "self-certificated" mortgages or mortgages otherwise granted on the basis of a high multiple of earnings or as a generous proportion (often 100 per cent plus) of the market valuation] and the subsequent global loss of confidence in asset-backed securities (ABS) and other markets[i] have had ripple effects in the UK. The direct exposure of UK banks and other financial institutions, however, has been fairly limited.[ii] But this has not allowed the UK financial system to emerge unscathed. The prime source of contagion has come through the international interbank market where banks have proved very reluctant to lend to each other, even at penal rates. This situation has arisen because of the banks' need to hoard cash to meet the contingent liquidity claims of their off-balance-sheet vehicles which now find they are unable to fund themselves in the traditional wholesale markets (e.g. the asset-backed commercial paper (ABCP) market) because of the uncertainty about their solvency given their exposure to sub-prime securities. Additionally, given the lack of transparency in the market place about where the sub-prime risks actually lie, and concerns about the likely scale of losses being nursed by prospective counterparties, mutual distrust has set in, causing the market to seize up. These severe liquidity shortages are reflected in abnormally high spreads between three months money and official Bank Rates, and have led to central banks around the globe providing additional liquidity to the markets through a variety of special funding initiatives (*see* Table 1). Their intention is to limit the potentially-wider damage that could be wrought upon the real economy as liquidity shortages give way to a credit

squeeze and lending rates edge up and lending volumes fall, and not just in mortgage markets. Tighter liquidity can also threaten insolvency for institutions over-exposed to the wholesale markets as a source of funds; and individual insolvency[iii] can soon spread to a wider community if depositor/investor panic sets in. Such then were the forces which were to wreak so much damage on the UK financial system and expose its inherent fragility.

THE NORTHERN ROCK CRISIS

The events leading up to and encapsulating the Northern Rock crisis are chronicled in Table 2. According to its mid-term balance sheet for 2007, the assets of the UK's eighth largest bank and fifth largest mortgage lender stood at £113.5 billion at the end of June, with mortgages comprising £87.9 billion. Revealingly, only £30.1 billion of liabilities was represented by customer deposits; and shareholders equity amounted to £1.95 billion. The balance sheet starkly reveals the strategy of the bank which distinguished it from the other UK mortgage lenders. With only 72 branches to its name, its retail customer base was limited, causing it to rely heavily on wholesale markets for its funding.[iv] As an arch exponent of the "originate and distribute" school, Northern Rock's business model was to expand[v] through the use of securitisation (of its mortgage pool) and other secured borrowing. Whilst such a strategy delivered an industry-beating cost-to-income ratio of around 30 per cent, it always represented "an accident waiting to happen".

Investor concerns over Northern Rock soon came to the surface once the sub-prime turmoil hit the US financial system, with astute investors correctly predicting the subsequent trading woes that were to hit Northern Rock as the interbank and covered bond markets ground to a halt. Massive short-selling of Northern Rock's stock – at one stage there was no physical stock left to borrow to facilitate such transactions – and an end-June profits warning saw the share price halve from its February 2007 peak. By August the bank knew the game was up, with no immediate prospect of the credit squeeze ending. As noted above, banks hoarded cash in the expectation that they would be called upon to honour the contingent lines of liquidity previously agreed with their off-balance-sheet conduits which were now denied funding,[vi] and due to uncertainty about where the sub-

prime losses lie.[vii] Accordingly, it entered into negotiations with a number of potential buyers, duly keeping the Bank of England and the FSA fully informed. Failure to secure a firm bid,[viii] however, drove it into the arms of the Bank of England, with the latter announcing, on 14 September 2007 (the original intention was to make the announcement on 17 September but leaks on the impending announcement necessitated bringing the date forward), that it was providing an emergency line of credit to Northern Rock to allow it to continue operating. Following confirmation from the FSA that the bank was solvent, the decision to offer official assistance was taken to reassure the bank's depositors and prevent a wider systemic crisis. Under the open-ended facility (the original facility agreed on 14 September was replaced by a wider facility on 11 October), the bank is charged a (undisclosed) penal rate and is able to use mortgages and mortgage-backed securities and other assets as collateral to access the loan. The Bank, in turn, is indemnified against any losses and other liabilities arising from its support by the Treasury.

In the event, however, such action proved insufficient to reassure depositors – the mentioning of "last resort" funding appeared to induce just the opposite response – thereby threatening wider contagion. As a result, on 17 September 2007, the Treasury announced a full guarantee of all existing Northern Rock deposits in an attempt to stem the nationwide run on the bank which had seen over £2 billion (later increased to over £12 billion) withdrawn in a matter of days, and restore financial confidence. The guarantee (which was extended to include existing and renewed unsecured wholesale funding on 20/21 September and covered bonds and derivatives not backed by mortgage collateral on 18 December – *see* House of Commons, 2008a, p.131-132, para.350 for further details) is due to last for as long as the current financial turmoil persists, and will be extended to other depositors if any further UK banks encounter similar difficulties. Thus, not only is

Northern Rock continuing to operate as a commercial entity with a state guarantee, but the whole of the UK banking system's deposit base has now been effectively underwritten by UK taxpayers. The belated provision of the blanket guarantee duly caused the queues to quickly disappear[ix] with the Chancellor subsequently announcing, on 1 October 2007, an increase in the level of depositor protection to £35,000[x] and a review of deposit protection arrangements (HM Treasury, FSA and Bank of England, 2007).

Whilst all this has been happening, the House of Commons' Treasury Select Committee has held hearings into the affair, interrogating, in turn, the major protagonists. The first to endure their wrath and ire were senior officials from the Bank of England, including the Governor Mervyn King. The Governor was asked, *inter alia*, to explain his *volte face* on the provision of liquidity to the market – *see* below – and the background to the Northern Rock fiasco, and to give his views on the workings of the tripartite arrangements. Subsequent to this, senior FSA officials received a similar grilling but, whilst accepting that their monitoring of Northern Rock was, in some ways, "inadequate" (*see* below), they too refused to criticise the workings of the tripartite arrangements. Finally – the interrogation of the Treasury is considered below - senior Northern Rock officials themselves were hauled, and mauled, before the Committee but they offered few apologies for their actions arguing that their business model was a "good one", their stress testing was "sufficient" and that they were the victims of "wholly unexpected events".[xi] They also suggested that had the Bank been willing to extend the liquidity lifeline subsequently agreed for Northern Rock to a potential suitor (i.e. Lloyds TSB), the bank would not be in the position it finds itself in today. The Bank subsequently (on 17 October 2007) released a statement claiming that the suitor had demanded a penalty-free loan of up

to £30 billion for a period of up to two years, something which the Bank argued could not be provided, even if it wanted to, given current EU rules on State aid.

IMPLICATIONS FOR CENTRAL BANKING AND BANK REGULATION AND SUPERVISION IN THE UK

What, then, do these events and revelations imply for central banking and bank regulation/ supervision in the UK? Conveniently, analysis can be structured under three headings, namely central bank liquidity provision and the lender of last resort, the tripartite arrangements and deposit protection arrangements, and each area will now be addressed in turn.

Central Bank Liquidity Provision and the Lender of Last Resort

Conventional wisdom, as espoused as long ago as 1873 by Walter Bagehot, suggests that, faced with a liquidity crisis, central banks should stand prepared to lend, at will, to solvent banks, at a penalty rate of interest and against "good" collateral, until the crisis subsides.[xii] The actions taken by the US Federal Reserve ('the Fed') and the European Central Bank (ECB) in the second week of August – *see* Table 1 – satisfy these requirements apart from their failure to impose a penalty rate of interest on borrowers. The Bank, however, initially refused to offer additional liquidity to the market other than through the "standing facility" under which banks can borrow (against eligible collateral), without limit, beyond their "target reserve balance" at a penalty of 100 basis points above the official Bank Rate, under the modifications to official money market operations introduced in 2006.[xiii] The Bank's stance was eloquently explained in a letter the Governor sent to the House of Commons' Treasury Select Committee on the 12 September 2007. Whilst emphasising the Bank's difficulty in balancing the needs of (short run) financial stability against the fear that a wider provision of liquidity would 'undermine the efficient pricing of risk' and hence long run stability, the Governor went on assert that proper management of "the current

turmoil, which has at its heart the earlier under-pricing of risk … should not threaten our long-run economic stability." Hence the reason for the Bank's relatively sanguine approach. Additionally, the Governor argued that to go further would only increase moral hazard and raise the likelihood and intensity of a future financial crisis. As he put it:

> "The provision of large liquidity facilities penalises those financial institutions that sat out the dance, increases herd behaviour and increases the intensity of future crises." And,
>
> "The provision of greater short-term liquidity … would undermine the efficient pricing of risk by providing ex-post insurance for risky behaviour … encourages excessive risk-taking and sows the seeds of a future financial crisis."

In other words, a tough line is needed *pour encourager les autres*.

The first sign of the Bank retracting from this principled approach came on the 5 September when, in addition to accommodating the UK commercial banks' increased demand for target reserve balances – they increased by around six per cent, to £17.6 billion, compared with the previous month's figure – it announced that it would allow the banks to bid for an additional £4.4 billion of cash the following week, *without payment of a penalty*, if overnight rates remained high. The move was designed to narrow the gap between secured overnight rates and the official Bank Rate (5.75 per cent), which had peaked at around 75 basis points, and to stimulate interbank lending by increasing the banks' liquidity cushion. Unlike the ECB's earlier move on 22 August – *see* Table 1 – it was not intended to influence the three months' rate which, the Bank argued, was beyond their control, comprising both liquidity and credit risk premia. In the event, the full £4.4 billion was taken up by the market on 13 September.

Despite this action, the Bank was criticised in some quarters for not doing more to ease the market's liquidity crunch. Buiter and Sibert (2007), for example, pleaded for the Bank to follow the example set by the Fed and the ECB and to extend the terms of its lending from overnight to at least 30 days, and to extend the range of collateral accepted at the discount window or in its open market purchases, subject to appropriate 'haircuts'. Finally, they argued for an extension in the range of eligible discount window counterparties. The inconsistency in central bank policy also led to the ludicrous situation of some UK institutions accessing the ECB's more generous facilities through their EU offices (which Northern Rock could have done had it acted earlier to put in place the necessary legal documentation and collateral in its Irish branch); and some (e.g. HSBC) were even able to access the Fed's facilities, through repurchase agreements, as designated "primary dealers" (Kane, 2007).[xiv] [For the more recent actions by the Fed (the Term Auction Facility is analysed in detail by Armantier *et al.*, 2008) and the ECB *see* Table 1 and for a comparison with the Bank's operations *see* Bank of England, 2008, pp.58-60.] Clearly, more international co-ordination is necessary on this front.

Having initially stood out from the crowd, the Bank was always on a 'hiding to nothing' if unfolding events necessitated a change of tack. And, unfortunately for the Bank, just such a change was deemed necessary only two days after publication of the Governor's letter to the Treasury Select Committee. For, on the 14 September, following assurances given by the Financial Services Authority (FSA) that the bank remained solvent, the Bank provided emergency funding to Northern Rock. [Additional lending facilities were also made available on 9 October – *see* House of Commons, 2008a, p.127, para.341.] The move was taken to allow the bank to continue operating, to reassure depositors of the bank and to prevent wider contagion should a bank run spread. Under the

arrangements, the bank has access to an unlimited amount of funding (subject to the provision of "suitable" collateral) which can now include mortgages and mortgage-backed securities for as long as the turmoil persists,[xv] although a (unrevealed)[xvi] penalty rate is imposed. By the end of December the scale of the Northern Rock's indebtedness to the Bank had risen to over £25 billion, the UK taxpayers' total exposure had risen to over £55 billion (because of the extension in the Treasury's guarantee – *see* p.6) and there was no end to the bank's plight nor the credit crunch (*see* Table 1) in sight.

Subsequent to this, on 19 September, the Bank announced that it would, after all, lend to banks for periods of up to three months and against a wider range of collateral than hitherto (to include, as in the Northern Rock case, mortgages for example) under a new emergency facility. An initial £10 billion injection of cash, via public auction, was to be made the following week, with weekly auctions to follow thereafter until the market turmoil subsides. Unlike the Fed however – *see* the entries in Table 1 for the 18 September and 31 October – the Bank (i.e. the Monetary Policy Committee) resisted the temptation to cut interest rates early, preferring to wait until the likely impact of the credit crunch upon the real economy, and hence future inflation, became clearer. As noted in Table 2, this was not deemed necessary until 6 December, when Bank Rate was cut by 25 basis points to 5.5 per cent. And, following a further 25 basis points cut on 7 February 2008, the Committee declined to cut rates again at its March 2008 meeting, citing concerns about the possibility of above-target inflation rates in the medium term, which duly materialised with the publication of a CPI figure of 3 per cent for April 2008 on 13 May 2008. [An improved medium-term inflationary outlook, however, did allow the Monetary Policy Committee to join in the co-ordinated central bank action of 8 October 2008 which saw an emergency interest rate cut of 50 basis points.]

Given this remarkable *volte face* in such a short space of time it was inevitable that questions would be raised about the Governor's judgment, thereby threatening to damage the credibility of the central bank.[xvii] The first opportunity to cross-examine the Governor in public came with his appearance before the Treasury Select Committee on the 20 September, just a day after the announcement of the latest initiative. Lacking his usual self assurance, the Governor argued that changing circumstances necessitated a new approach. As outlined in a letter released the previous day by the Bank, the new policy stance arose "because the situation has changed – there has been a run on a bank … which threatened the reputation of the British banking system" and there is a need "to alleviate the strains on the longer-maturity money markets". He went on to argue that the *volte face* was his decision (i.e. not taken under Treasury duress) and that the moral hazard created by the second initiative would be limited by the provision of a cap on the scale of funding the Bank proposed to supply, both in aggregate and to individual banks, and by the charging of a penalty rate of interest (of at least 100 basis points above Bank Rate).

With respect to the Northern Rock liquidity lifeline, the Governor argued that his preferred course of action [not universally shared and deemed impractical by the FSA (House of Commons, 2008a, p.56, para.123), although the Chancellor has since announced he will consider revising the regulatory framework to allow for such a possibility – this is considered in more detail in FSA, 2008b - and the Treasury Committee has endorsed its use in specified circumstances (House of Commons, 2008a, p.86, para.215)] was a covert rescue operation by another bank but this had been stymied by a serious of legislative obstacles. Specifically, the Takeover Code, given a legislative footing in the Companies Act 2006, and the EU's 'Market Abuse' Directive (2005) prevented a secret takeover; whilst the insolvency regime enshrined in the Enterprise Act 2002 (which requires the

freezing of bank accounts in the face of insolvency, thereby delaying compensation to depositors) and the Financial Services Compensation Scheme of 2001 (which only provided full protection on the first £2,000 of a depositor's funds) conspired to make a nationwide run on Northern Rock rational.

Whilst you have to have some sympathy with the Governor's predicament, many argue that the Governor's initial 'high brow' approach was naïve and always likely to be overtaken by events. Moreover, his preferred solution for handling the Northern Rock crisis has been openly challenged, even accepting the legitimacy of the legal advice he apparently received.[xviii] Additionally, there are those who argue, including the senior management of Northern Rock, that had the Bank adopted the tactics revealed on 19 September much earlier in the day, like its counterparts in Europe, Northern America and Asia, Northern Rock's very need for a liquidity lifeline would have been obviated; a clear case of "too little, too late". The Bank has since refuted the latter claim arguing that a "massive" injection of liquidity would have been necessary to achieve this result. Finally, the Bank has also rebutted the claim that it blocked Lloyds TSB's attempted takeover of Northern Rock pointing out that it was, in fact, the Chancellor (albeit with the agreement of the Bank) who took the decision.

Whatever the respective merits of the arguments debated, the Treasury Select Committee was unconvinced by the Bank's explanations[xix] and announced a formal enquiry into the Northern Rock affair, the results of which were published on 24 January 2008 (*see* below). Moreover, in the event, there were no takers for the newly-proffered funds at either the auction held on 26 September or in subsequent weeks. Whether this

reflected an underlying improvement in banks' liquidity positions, the costly nature of the funding or a reluctance by borrowers to be stigmatised by taking advantage of it, nobody is too sure. But it is clear some small banks still faced funding problems in the wholesale markets; and the market's appetite for the auction of three-month money announced on 12 December – *see* Table 2 – suggests that funds, at the right price, are still widely needed and that borrowers' fears of being stigmatised if they avail themselves of the special funding facilities may be waning. Indeed, this appears to be one of the positive outcomes of the co-ordinated central bank action announced on 12 December, together with a narrowing of the spreads between three-month inter-bank rates and official rates, although some (e.g. Buiter, 2007) regard the event as providing "empty gestures".

The Tripartite Arrangements

The so-called 'tripartite arrangements' (Bank of England, 1998) relate to the arrangements put in place in October 1997 to deliver financial stability by ensuring close co-operation and co-ordination between the interested parties (the Bank, the Treasury and the FSA), especially in the event of a financial crisis, following the Labour government's decision to strip the Bank of responsibility for banking supervision (Hall,1997). The involvement of the Bank is necessary because of its continuing lender of last resort function and its responsibility for "maintaining overall financial stability",[xx] whilst the FSA's presence is obviously required as the main regulatory/supervisory authority and the first port of call for any financial firm which gets into difficulties. Finally, the Treasury is primarily responsible for the international structure of regulation and the regulation which governs it, and has to be consulted if there is a perceived need for an official "support operation". Basically then, in the case of the liquidity lifeline thrown to Northern Rock, the FSA's role was to determine whether or not the bank was solvent, following an appeal for help from the bank; the Bank, as well as the FSA, had to determine whether its failure posed a systemic threat; and the Treasury, as keeper of the nation's purse strings, had to decide, following the receipt of advice from the former bodies, whether to authorise a support operation.

Although both the FSA and the Bank[xxi] were at pains not to criticise the working of the arrangements during their interrogations at the hands of the Treasury Select Committee, outside commentators took a different view. Moreover, the Treasury, in its evidence before the Committee (given on 25 October), has indicated that it will seek clarification, in a future draft, of its power to ultimately determine the outcome of tripartite talks in a wider

set of circumstances than it believes is currently covered by the agreements. (Should the Bank have bowed to FSA/Treasury pressure to provide additional liquidity earlier?) Additionally, like the Bank, it is keen that the central bank is involved more directly in the monitoring of individual banks' financial health, notwithstanding the FSA's broader remit in this area.

Intriguingly, the challenge to the tripartite arrangements posed by the Northern Rock episode suggests that one of the main reasons for separating monetary policy from banking supervision – to protect the integrity of the monetary authority in the face of inevitable bank failures (Hall, 2001a) - may have been overplayed. This is because the handling of its residual role of lender of last resort is open to challenge, as in this case, exposing the Bank to a possible loss of credibility through this route. Moreover, there are those central banks who continue to argue (e.g. the Fed and the Bank of Japan, although they both have vested interests!) that continuing central bank involvement in banking supervision is essential, not least because it provides *direct* access to important market information that can prove invaluable in crisis situations. Would the Bank's earlier knowledge of problems at Northern Rock have precipitated an earlier change of heart on its behalf?[xxii]

Supervision by the FSA

As the body currently responsible for UK banking supervision, the FSA clearly had a number of questions to answer in relation to its treatment of Northern Rock, as it acknowledged before the Treasury Select Committee (FSA, 2007b). First and foremost, given what the FSA now recognises as an "extreme" funding model where around 75 per

cent of its resources are accessed from the wholesale money market, why didn't the FSA force Northern Rock to carry out a stress test for a market shutdown of the type which materialised in August? Did the FSA insist on additional safeguards being met given the bank's clear violation of liquidity norms concerning the diversification of liquidity sources?[xxiii] If so, what were they? Why didn't the FSA know that Northern Rock had only secured $2.3 billion of liquidity insurance (House of Commons, 2008a, p.17, para.26)? Did the FSA ever raise with the management of the bank the wisdom of growing their mortgage book so rapidly in a maturing market? And why didn't the FSA spot that Northern Rock was not only a "high impact" bank but also a high risk operation (an "accident waiting to happen"), requiring full scale reviews more frequently than every three years (the next one was due in 2009)?

Given their expression of concern earlier in the year about a possible tightening of credit conditions and the Bank's similar public warnings, the conclusion must be that, in the case of Northern Rock, the regulator took its eye off the ball. Clearly, the regulation and supervision of bank liquidity will have to be looked at again and its importance raised to parallel that of bank capital adequacy assessment, the subject of years of development under the Basel II process (Hall, 2004).

Deposit Protection Arrangements

The final area of controversy, admirably highlighted by the nationwide run on Northern Rock, concerns the operation of UK deposit protection arrangements. Although these were reformed back in 2001, their current operation under the guise of the UK Financial Services Compensation Scheme is still deeply flawed. As was pointed out long ago (e.g. Hall, 2001b and 2002), this is due in part to the long-standing objection to the implementation of such arrangements by the clearing banks (Why should they, as conservatively-managed organisations, subsidise their less conservative brethren?) and, more recently, to the introduction of the EU guiding Directive[xxiv] on the subject. The latter, for example, placed restrictions on the use of deposit insurance information in advertisements (because of fears that this would distort competition), failed to mandate the risk-adjustment of premium contributions and set the maximum period for depositor compensation at three months, in normal times, without suggesting a minimum. The first flaw means that very few people in the EU actually know about the existence of deposit protection until a crisis occurs, thereby destroying its potential as a stabilisation device.[xxv] Moreover, once they become aware of the limited *de jure* protection they actually enjoy, they have every incentive to be at the front of the queue. The second flaw, meanwhile, results in cross-subsidies occurring (as argued by the clearing banks) and a failure to minimise moral hazard (or excessive risk-taking) on behalf of the banks, thereby storing up future trouble for the banking system, as is only too well illustrated by the savings and loans crisis which struck the US in the 1980s (Kane, 1985). Finally, the third flaw means that, because of the excessively high liquidity costs imposed by the enforced wait for compensation, depositors again have every incentive to join in deposit runs, as again proved to be the case in the Northern Rock fiasco.

Of course, EU Member States have always had the freedom to improve upon the Directive's arrangements, which only stipulated *minimum* requirements, but all too few have bothered. As regards the UK, for example, public awareness of the Scheme is (or was!) extremely low, risk-related premium are not imposed and compensation delays are likely to exceed the normal three month maximum, because of our insolvency arrangements. Moreover, in an attempt to limit the moral hazard for depositors (i.e. to ensure they have an incentive to monitor, however difficult, the recipient banks) UK policymakers decided to apply the principle of co-insurance, only offering 100 per cent protection on the first £2,000 of deposits, with the next £33,000 being subject to a 10 per cent haircut. Whilst this is desirable on efficiency and long-term stability grounds it is inimical to short-run stability, as the Northern Rock saga so clearly demonstrated. Whilst the Government's subsequent decision to do away with co-insurance may reduce the likelihood/intensity of future deposit runs, a more carefully thought out reform, addressing in particular the issues of moral hazard and agency/principal conflict (Hall, 2003), is urgently required. This must also embrace a reconsideration of our insolvency arrangements, as the authorities recognise (HM Treasury, FSA and Bank of England, 2007), and examination of the merits of linking deposit insurance arrangements to "prompt corrective action" – type programmes, as is undertaken in the US and Japan (Hall, 1993). [*See* also Nieto and Wall, 2006.]

THE UK AUTHORITIES' RESPONSE

Response by the Bank of England

As noted earlier, the Bank has been widely accused of tardiness, at least compared with its central bank counterparts elsewhere in the World, in the provision of emergency liquidity to the UK banking system and of a lack of imagination in the conduct of its open market operations. It has also faced the charge of failing to co-ordinate its actions with those of other central banks and was ridiculed for its abrupt *volte face* in September 2007 with respect to the terms on which it was willing to provide emergency liquidity. The Bank's initial defence of its actions has also already been noted; its tardiness to act was driven, in part, by a desire to limit moral hazard, and due to a belief that the situation was manageable with traditional tools. Once it became clear, however, that the picture was darkening, and especially after Northern Rock's appeal for liquidity support, it acted decisively and imaginatively by extending the period for emergency lending from overnight to three months and widening the range of acceptable collateral beyond the traditional prime (i.e. with a minimum credit rating of "Aa3") public sector securities. [It subsequently introduced a new 'Special Liquidity Scheme' under which it is willing to swap up to £50 billion – later increased to £200 billion - of Treasury Bills for illiquid securities backed by mortgages or credit card loans for a period of up to 364 days – *see* the entry for 21 April 2008 in Table 2 for further details.] Moreover, it increased the flexibility of its reserve balance management regime, not least by widening the ranges around banks' reserves targets within which reserves are remunerated at Bank Rate. If this is perceived as an embarrassing *volte face*, so be it. Additionally, as claimed by the Bank's Governor before a hearing of the Treasury Select Committee on 29 November, the Bank can be shown to have been marginally more successful than the ECB, and certainly more

successful than the US Fed, in keeping LIBOR rates close to policy targets; and its actions (accommodation of banks' increased demand for reserves was offset, to a degree, by smaller short-term open market operations) have resulted in a significant increase (i.e. over 42 per cent between August 2007 and April 2008) in the cash reserves held by reserves scheme participants, unlike in the Eurozone and the US. And finally, its willingness to tackle a perceived year-end funding problem and to participate in the co-ordinated central bank action announced on 12 December (*see* Table 1), but agreed, in principle, at the G20 meeting held in November in Cape Town – involving a further widening in the range of acceptable collateral and a willingness to allow the market to determine the price of money, with no minimum rate applying – is evidence of its desire to refute the charge of aloofness. [But at the cost of diluting its own balance sheet quality and subsidising the weak/reckless relative to the strong/conservative.] Whatever one's views on the strength of the Bank's defence, the Bank itself felt sufficiently concerned to announce a wide-ranging review of its money market operations on 18 December 2007.

As for its role in the decision-taking of the tripartite authorities, the Bank, again, has been accused of naivety, not least because of the Governor's apparent attempt to shift the blame for blocking Lloyds TSB's takeover of Northern Rock on to the Treasury – at least that's how the market perceived the comments made in a television interview – and the apparent Bank briefing that it was the Treasury which was mainly responsible for the delay in reforming the deposit protection arrangements. Away from this "blame game", the Bank is supportive of a review of the tripartite arrangements and has no desire to retake responsibility for banking supervision.

Response by HM Treasury

As discussed earlier, the Treasury has already taken action to amend the deposit protection arrangements and to put in train, with the other tripartite authorities, a wider review of such arrangements. [Under the proposals announced by the FSA in November 2007 for adoption in April 2008, the Financial Services Compensation Scheme's annual capacity to pay out depositors was increased from £2.7 billion to £4.03 billion, to be funded through *ex-ante* contributions from financial intermediaries. And, in response to instability in world banking markets, the *de jure* limit of protection afforded UK depositors was raised, yet again, in October 2008 from £35,000 to £50,000.]

As for its participation in the "blame game", the Treasury has made it abundantly clear that the decision to block Lloyds TSB's takeover had the full backing of the Bank. Moreover, it is unaware of any overtures from the Bank, at least before August 2007, demanding immediate reform of the deposit protection arrangements.

Finally, and apart from its desire to improve the workings of the tripartite arrangements (*see* p.14), the Chancellor has aired his general views about the nature of desired reforms in an interview given to the *Financial Times* on 3 January 2008 (to the consternation of certain MPs!). He is looking for legislative reform in May 2008 to deliver the following: enable the FSA (rather than a newly-created body) to intervene promptly in the case of a failing bank and allow it to seize and protect depositors' cash in such a scenario; provide the FSA with greater powers with respect to the gathering of information thereby allowing for effective liquidity adequacy assessment; and create a Cobra-style arrangement whereby the Bank and the FSA would advise the Treasury in crisis situations

but HM Treasury would possess the clear and unambiguous power to make the final decision. The formal tripartite proposals for reform were revealed on 30 January 2008 in the shape of a consultation paper (*see* HM Treasury, FSA and Bank of England, 2008a); and two further consultation papers were subsequently issued in July 2008 (*see* HM Treasury, FSA and Bank of England, 2008b and 2008c). The new Banking Bill was, in turn, introduced to Parliament on 7 October 2008.

Response by the FSA

Apart from endorsing the moves to reform the deposit protection, failure resolution, and tripartite arrangements, the FSA has also published a discussion paper reviewing liquidity requirements for banks and building societies (FSA, 2007c) in the light of its earlier acknowledgement of flaws in its assessment regime (*see* p.15). A consultative paper on the subject, with firm proposals, is envisaged for mid-2008 – it materialised in December 2008 (*see* FSA, 2008b). It intends to develop UK policy in line with the international work being undertaken by the Basel Committee and the Committee of European Banking Supervisors but currently envisages the continued use of some form of quantitative liquidity requirement and an intensification in the supervision of individual firms' stress testing and contingency funding plans as well as their off-balance-sheet vehicles. [Further insights into the need for reform are contained in Goodhart, 2007b.]

Further to this work, the FSA is currently monitoring all wholesale and retail banks and deposit-taking institutions more closely under a continuing principles-based philosophy, whilst reviewing its risk-assessment and risk-mitigation practices. Its internal audit division also delivered a report on the lessons to be learnt from the Northern Rock

affair, as promised in December 2007 (FSA, 2007d), although the Treasury Committee much preferred an independent inquiry (House of Commons, 2008a, p.104, para.268). The conclusions were subsequently made public in March 2008 (FSA, 2008a), precipitating the adoption of a 'supervisory enhancement programme' by the FSA.[xxvi] And, finally, the FSA revealed a shake-up in its operating model (*FT*, 11 January 2008), partly in anticipation of the Chancellor's demand for an enhanced role for the regulator in bank failure resolution policy and banking supervision more generally.

A REVIEW AND ASSESSMENT OF THE HOUSE OF COMMONS TREASURY COMMITTEE'S REPORT

The Treasury Committee's report on Northern Rock (House of Commons, 2008a) was published on 24 January 2008. Its main findings (*see* pp.3-4 of the Report) can be summarised as follows:

- the directors of Northern Rock were the principal authors of the bank's difficulties because of the 'reckless business model' which they pursued;
- the FSA 'systematically failed in its regulatory duty to ensure Northern Rock would not pose a systemic risk';
- the Chancellor was right to view Northern Rock as posing a systemic risk to the financial system and to authorise the Bank of England's support facility but the Tripartite authorities failed to prepare adequately for that support operation and to plan in advance for the deposit guarantee eventually introduced;
- new bank failure resolution policies are needed to insulate taxpayers and small depositors from the risks of bank failure;
- new deposit protection arrangements are needed to ensure, *inter alia*, prompt release of depositors' funds protected under the scheme;
- reform of the UK's system of bank liquidity regulation is urgently required and cannot wait for international agreement;
- the Tripartite arrangements need reforming to provide clearer leadership and stronger powers to the authorities; and
- a single authority, other than the FSA (because of a need for 'creative tension' within the regulatory system), should be given the new powers for handling banks together with responsibility for arranging the new Deposit Protection Fund (the Committee's

preference is for these duties to be performed by a new Deputy Governor of the Bank of England responsible for Financial Stability).

As regards the *supervisory performance of the FSA*, the Committee was scathing in its criticisms:

- the FSA was guilty of systematic failure in its regulatory duties (p.3);
- it failed to act on warning signs (i.e. rapid growth and share price falls from February 2007 onwards), failed to tackle fundamental weaknesses in Northern Rock's funding model and did nothing to prevent the problems that came to the fore from August 2007 onwards (p.24, para.42);
- it was wrong to allow Northern Rock to weaken its balance sheet [via a 'waiver' allowing the bank to adopt the 'advanced approach' to assessing capital adequacy under Basel II, which subsequently led the bank to increase its dividend payments to shareholders] at a time when it itself was concerned about problems of liquidity that could affect the financial sector (pp.25/6, para.45);
- it failed in its duty to ensure that the Board of Northern Rock undertook adequate stress-testing (p.29, para.52); and
- it 'should not have allowed nor ever again allow the two appointments of a Chairman and Chief Executive to a "high-impact" institution where both candidates lack relevant financial qualifications' (p.33, para.63).

In summary, the Committee concluded that:

> 'The FSA did not supervise Northern Rock properly. It did not allocate sufficient resources or time to monitoring a bank whose business model was so clearly an outlier; its procedures were inadequate to supervise a bank whose business grew so

rapidly … The failure of Northern Rock, while a failure of its own Board, was also a failure of its regulator … In the case of Northern Rock, the FSA appears to have systematically failed in its duty as a regulator to ensure Northern Rock would not pose such a systemic risk, and this failure contributed significantly to the difficulties, and risks to the public purse, that have followed.' (p.34, para.66).

With respect to the *actions taken by the Bank of England* during the crisis, the criticism was more muted. The Bank, nevertheless, was censured for:

- its pre-occupation with moral hazard concerns during August 2007 (p.44, para.90);
- its failure to broaden the range of acceptable collateral at an earlier stage in the turmoil (p.47, para.97);
- its failure to properly consider the possibilities for covert support action much earlier (p.63, para.42); and
- its failure to hold high level discussions with Northern Rock about the support facility prior to 10 September.

Moreover, along with the other Tripartite authorities, it was condemned for not:

- preparing adequately for the support operation (p.3);
- planning in advance for the announcement of the deposit guarantee (p.3 and p.71, para.165);
- preparing the groundwork to allow for the announcement (that a deposit guarantee would be introduced) to be made the morning following the day the decision was taken (Sunday, 16 September) before the markets opened (p.72, para.166);
- acting with sufficient rigour to address weaknesses (i.e. in relation to the handling of failing banks) in the legislative framework (ultimately the responsibility of HM

Treasury) first identified in 2005 and deemed significant enough to require "urgent action" by late 2006 (p.109, para.280).

The Bank, however, was cleared of the charge of unnecessarily blocking a proposed takeover of Northern Rock by Lloyds TSB (p.52, para.112); and the Committee was non-committal on whether the Bank's wider provision of market liquidity earlier in the day (i.e. in August) would have obviated Northern Rock's need for emergency support in September (p.45, para.95), and on whether more might have been done prior to 10 September to facilitate a private sector takeover (p.54, para.118).

In relation to the establishment of a *new bank failure resolution regime*, the Committee endorsed the Bank's earlier call for a new bank insolvency regime but also recommended the introduction of "prompt corrective action" (PCA)-type measures – *see* above. The former is necessary to overcome the obstacles to a speedy payout of depositors' funds in the event of bank insolvency which currently apply under corporate insolvency law; and the latter is required to ensure intervention is more pro-active, thereby reducing the likelihood of a distressed bank moving towards insolvency and triggering a call on the deposit protection scheme and facilitating the orderly resolution of banks which do fail. As regards the former, the Committee favours the introduction of the US-style "Bridge Bank" scheme, involving the ring-fencing of insured deposits at a failing bank and "least cost" (to the taxpayer!) resolution (*see* Hall, 1993, ch.5) [House of Commons, 2008a, p.83, para.201]. And, with respect to PCA arrangements (*ibid.*, p.80, para.193), the Committee calls for the relevant authority to supplement its judgement with a set of quantitative triggers (or tripwires) when deciding how and when to intervene in a failing bank. Possible contenders for tripwires, as outlined by the British Bankers Association (*ibid.*, p78,

para.186), are deterioration in financial condition with respect to liquidity, capital, earnings and asset quality, suspected or actual fraud, and significant growth in business or shift in strategic business planning. The Committee explicitly ruled out a request for official support from a bank as a useful trigger, as suggested by the Chancellor, as this would occur too late in the day to allow for effective remedial action to be taken. Moreover, the Committee recognised that the successful operation of PCA in the UK would require improved information-sharing amongst the tripartite authorities (*ibid.*, p.79, para.189) as well as the provision of significant additional powers to the relevant authority to allow for the prompt collection of all relevant information (*ibid.*, p.80, para.192).

As for its views on how to reform *deposit protection arrangements*, the Committee argued for the following:

- the creation of a new Deposit Protection Fund, to cover deposits held with "large" deposit-taking institutions, to be funded on an *ex-ante* basis by contributions from such institutions (initially, the Government would set up the Fund, to be re-imbursed by the institutions in subsequent years) [*ibid.*, pp.101-102, para.263];
- the size of the new Fund should be sufficient to deal with failures of medium-sized and even larger banks (from April 2008, the reformed FSCS will still only cover losses of up to £4 billion) [*ibid.*, p.77, para.183];
- as currently, the non-application of coinsurance on depositors below the *de jure* limit of protection (the moral hazard consequences can be mitigated by the adoption of PCA and a new bank insolvency regime and by the application of a modest compensation limit) [*ibid.*, p.91, para.227];

- continuation, albeit subject to indexation for inflation, of the current *de jure* limit to protection of £35,000 [*ibid.*, p.93, para.233], as should remain the case for the FSCS which would continue to deal with all other deposit-taking intermediaries;
- repayment of insured deposits within a matter of days of the deposit protection scheme being called upon [*ibid.*, p.93, para.240];
- the introduction of risk-related premia for participating institutions once the Fund has been established at the requisite level [*ibid.*, p.103, para.266];
- enhanced advertising of the new Scheme, at both the national and regional level, and through the display of posters in individual bank branches [*ibid.*, p.96, para.242]; and
- a re-design of the Scheme to prohibit the offsetting of deposits against customers' illiquid liabilities [*ibid.*, p.97, para.251].

Finally, with respect to the *operation of the Tripartite arrangements*, the Committee refused to accept that the system worked well, as argued by the FSA, the Chancellor and the Governor of the Bank of England. It duly reasoned that a run on a UK bank is not only unacceptable but clearly represents 'a significant failure of the Tripartite system' [*ibid.*, p.107, para.276]. Notwithstanding this, however, it went on to argue that despite current arrangements lacking both a clear leadership structure [*ibid.*, p.110, para.284] and a strategy for effective communication with the general public [*ibid.*, pp.111-112, para.289], the financial system in the UK would not be well-served by a dismantling of the Tripartite arrangements [*ibid.*, p.107, para.277]. Rather it wants to see it reformed, with clearer leadership and stronger powers being provided.

An Assessment

Whilst in agreement with most of the Committee's findings and recommendations – *see* earlier sections to this paper – especially on the reform of failure resolution policies where I have long championed the introduction of PCA and changes to the deposit protection arrangements similar to those suggested by the Committee (*see*, for example, Hall, 2002), I cannot agree with the allied structural changes proposed [elaborated at length in Chapter 8 of the Committee's Report]. To my mind, to create a new post at the Bank of England where the incumbent is responsible for both deposit protection and the handling of bank failure is a retrograde step. I firmly believe the decision to remove banking supervision from the Bank of England was a sound move (*see* Hall, 2001a), and the failure of the Tripartite authorities to come up to scratch with respect to the operation of the Memorandum of Understanding in the Northern Rock case is not an indictment of the new arrangements themselves but rather of the people involved [as accepted as a possibility by the Committee (p.107, para.276). Rather, I favour the introduction of a new agency to function as an independent Deposit Protection Agency to be responsible for insuring the depositors of *all* deposit-taking intermediaries – the deposit sub-scheme of the FSCS would go or alternatively be used to cover just credit unions – and the resolution of failed banks, as in the US. The FSA would receive the new PCA mandate. Appropriate mechanisms would, of course, have to be put in place to deal with the potential principal/agent conflict and communication problems thereby created (*see* Hall, 2002) within a four-agency structure.

A REVIEW AND ASSESSMENT OF THE TRIPARTITE AUTHORITIES' PROPOSALS FOR REFORM

The Tripartite Authorities' consultation document of January 2008 (Bank of England, HM Treasury and FSA, 2008a) sets out their reform proposals within the confines of five key objectives:

- to strengthen the financial system (both at home and abroad);
- to reduce the likelihood of banks failing;
- to reduce the impact of bank failure should it happen;
- to improve the effectiveness of compensation arrangements; and
- to strengthen the Bank of England and improve co-ordination between the relevant authorities.

The main reforms proposed under each heading will now be addressed in turn.

To Strengthen the Financial System

To secure this objective, the Authorities' focus is on strengthening banks' risk management (e.g. through better stress testing and improved management of liquidity) and improving the functioning of securitisation markets (including measures to improve valuation techniques and to address the problems – e.g. conflicts of interest, the information content of ratings and over-reliance on ratings by investors – arising from the operation of credit rating agencies). The prudential regulation of banks' off-balance-sheet vehicles is also addressed under this heading. The Authorities' formal proposals in this area embrace the following (Chapter 2, pp.35-36):

1. In relation to stress testing:
    - the FSA will intensify its work with banks to improve stress testing in light of recent events;
    - the Authorities will work with international partners to encourage a stronger consensus on the importance of stress testing, in particular at group level and by multinational banks; and
    - the Authorities will work to consider whether the stress-testing standards under Basel II are sufficiently robust.
2. In relation to liquidity regulation:
    - the Authorities will work with international partners to ensure that liquidity regulation standards are consistently high across banking groups, and encourage more consistent approaches to liquidity regulation.
3. In relation to accounting and valuation of structured products:
    - the Authorities will work with their international counterparts to ensure that firms' valuation approaches are consistent with the relevant accounting standards and the Capital Requirements Directive (CRD) Basel II prudent valuation guidance; and
    - the Authorities will work with their international counterparts to ensure that firms' valuation approaches are consistent with the relevant accounting standards and the Capital Requirements Directive (CRD)/Basel II prudent valuation guidance;
    - the Authorities will work with their international counterparts to ensure accounting standards require adequate disclosure about the uncertainties around valuations, their significance for the entity and how these risks are being managed; and
    - the Authorities will encourage markets to find ways to increase transparency of valuation methodologies and, to the extent appropriate, move towards greater standardisation of methodologies for valuation.

4. In relation to credit rating agencies (CRAs):
    - the Authorities will work with international counterparts in the Financial Stability Forum (FSF) and the EU to look at the role of CRAs in structured finance. The Authorities will also support the work of the International Organisation of Securities Commissions' (IOSCO) taskforce on CRAs, which has recently been reviewing the applicability of its Code of Conduct for CRAs to structured finance business;
    - the Authorities will keep the development of investor practice in relation to structured products under review to determine if further measures are needed to assist markets to achieve an appropriate outcome; and
    - the Authorities will consider the implication for investors in structured products of the recommendations of the advisory groups established in September 2007 by the US President's Working Group on Financial Markets to improve best practice in the operation of hedge funds and the hedge fund working group in the UK chaired by Sir Andrew Large.
5. In relation to transparency of banks and exposure to off-balance-sheet vehicles:
    - the Authorities will work with their international partners in the FSF and the EU to identify whether there remain incentives under the CRD/Basel II framework for banks to minimise their regulatory capital requirements by holding assets in SIVs and other funding vehicles, and if so whether this might reduce the total amount of regulatory capital in the financial system below the level that the Authorities consider desirable; and
    - the Authorities recommend that the International Accounting Standards Board (IASB) consider in particular whether reputational risks are properly taken into account in decisions about consolidation.

To Reduce the Likelihood of Banks Failing

Here, the focus is on strengthening the regulatory and supervisory framework in the UK and improving the framework governing the provision and disclosure of liquidity assistance provided by the Bank of England. The former is deemed to require the imposition of new information disclosure requirements on banks to allow the FSA to collect the information necessary to allow it, and the other Tripartite authorities, to adequately discharge their supervisory/stability obligations. Additional powers of intervention are also being sought for the FSA, as well as improved oversight of the payment systems. As far as the Bank's provision of emergency liquidity assistance is concerned, the authorities are seeking powers to allow the Bank to delay disclosure of such action in certain circumstances. Moreover, to facilitate the Bank's operations in the financial stability area, the Authorities are seeking statutory immunity for the Bank in carrying out such responsibilities as well as the effective realisation of any collateral arising from such operations.

The Authorities' formal proposals in this area comprise the following (Chapter 3, pp.46-47):

1. To improve the regulatory and supervisory framework:
    - the FSA intends to consult on new rules to require banks to be in a position to provide additional evidence to the FSA at short notice that they are meeting the "threshold conditions" (as set out in Schedule 6 to the Financial Services and Markets Act, 2000) on an ongoing and forward-looking basis;
    - the Government proposes legislation to ensure that there is no statutory impediment to the FSA obtaining information that the Bank of England and HM Treasury require for purposes related to financial stability; and

- the Government proposes legislation to provide for a flexible framework for oversight of payment systems. The Authorities intend to consult further on the detail of the regime to be implemented under this framework.

2. To ensure the Bank of England is able to lend in an effective manner:
   - the FSA will come forward with a proposal to make a limited clarification to the guidance in the Disclosure and Transparency rules;
   - the Government is seeking views on whether the requirements for a company to put charges over its assets on to a register of its own and to register them at Companies House should be dis-applied for banks in receipt of liquidity assistance;
   - the Government proposes legislation to remove the requirement for the Bank of England to release weekly returns and will consider other statutory reporting requirements related to the Bank of England that have the effect of disclosing operations;
   - the Government proposes legislation granting the Bank of England statutory immunity from liabilities in damages arising from acts or omissions in carrying out its responsibilities in relation to financial stability and central bank functions; and, to the extent necessary, to extend the immunities currently available to the FSA and the FSCS in line with their additional powers proposed in this reform;
   - the Government proposes legislation to ensure that realisation of any collateral provided to the Bank of England in connection with carrying out its responsibilities in relation to financial stability and central bank functions, is fully effective whenever carried out;
   - the Government proposes legislation so that funds provided by the Bank of England are exempted from the calculation of the proportion of building societies' funding which arises from wholesale funding; and

- the Government proposes legislation to allow building societies to grant floating charges to the Bank of England as security. [Statutory barriers to the Bank of England lending to building societies, where financial stability is threatened, were removed in June 2008 with the approval by Parliament of the Building Societies (Financial Assistance) Order 2008 under the Banking (Special Provisions) Act 2008.]

To Reduce the Impact of Bank Failure

To enable failing banks to be dealt with in a way which minimises the potential impact on financial stability, the Authorities propose fundamental changes to the institutional, legal and insolvency arrangements currently applying in the UK. Mirroring the recommendations of the Treasury Committee, they duly propose the introduction of a 'special resolution regime' including, *inter alia*, a 'bridge bank' scheme and a bespoke 'bank insolvency procedure'. [They also focus on the practical measures that the banks themselves can take to lessen the impact of their failure.] Their detailed proposals are as follows (Chapter 4, pp.64-65):

1. In relation to a special resolution regime, the Government:
    - proposes legislation to introduce a special resolution regime for banks;
    - proposes legislation to give the Authorities the power to direct and accelerate transfers of banking business to a third party, in order to facilitate a private sector solution;
    - proposes legislation to allow the Authorities to take control of all or part of a bank (or its assets and liabilities) through a 'bridge bank', as is possible in the United States and Canada;

- is also seeking views on whether, building on the FSA's existing power to appoint an expert, the Authorities should have the power to appoint a suitable person or 'restructuring officer' to carry out the resolution;
- would welcome views as to whether the tools above achieve sufficient control of a failing bank, or whether legislation to allow the Authorities to take a bank into temporary public sector ownership as a last resort should be introduced;
- proposes legislation, should it become apparent that pre-insolvency resolution is not feasible, or that immediate closure of the bank was appropriate, to introduce a 'bank insolvency procedure' to facilitate fast and orderly payment of depositors' claims under the FSCS;
- would welcome views on how best to control a bank's entry into insolvency proceedings (the latest ideas on a modified bank insolvency process are set out in HM Treasury, FSA and Bank of England, 2008c, Chapter 4); and
- is consulting on whether all the tools within the special resolution regime should be available to building societies as well as banks. [HM Treasury, FSA and Bank of England, 2008c (Chapter 5) sets out the modified proposals for building societies following confirmation that they would indeed be covered in HM Treasury, FSA and Bank of England, 2008b.]

[More details on the Authorities' proposals, especially those relating to the treatment of creditors and the protection of shareholders' rights in the event the regime is activated, are contained in HM Treasury, FSA and Bank of England, 2008c. High-level statutory objectives for the regime are also set out therein – *see* paras 2.2 to 2.4.]

2. Setting out requirements on banks:
   - the Government is seeking views on whether banks should contribute to funding the special resolution regime. As part of this, it is considering whether to amend

the FSMA to allow the FSCS to contribute to the funding of the special resolution regime;

- the FSA intends to work with banks to ensure that agency banks have contingency plans in place in the event that their sponsor banks fails; and
- the Government proposes to introduce a power enabling it to make secondary legislation in relation to financial collateral arrangements.

To Improve the Effectiveness of Compensation Arrangements

The focus of attention under this heading is a desire to improve consumers' confidence in and understanding of the compensation arrangements as well as to increase their cost-effectiveness. The search for remedies duly addresses, *inter alia*, the issues surrounding compensation limits, coverage, and speed of repayment of depositors' funds as well as measures designed to increase consumer awareness, as set out immediately below (Chapter 5, pp.83-84):

1. In relation to compensation limits and coverage:
    - the FSA intends to consult on changes to the FSCS compensation limit and other factors used in the compensation calculation;
    - the FSA will consider the appropriate FSCS coverage for client accounts and similar arrangements; and
    - the FSA to explore with the financial sector ways for customers to cover amounts above the compensation limits.
2. In relation to faster compensation payment:
    - the Government proposes legislation to enable the FSA to collect the information the FSCS requires, and share it with the FSCS at the first sign of difficulties in a

bank, and to enable the FSCS to obtain information from firms at the earlier of when a firm is declared in default or the date a claim is made;

- the FSA intends to consult on new rules to simplify the eligibility criteria for FSCS payments;
- the FSA intends to consult on a move to gross payments and for compatible provisions on set-off to be included in the new bank insolvency procedure;
- the Government proposes legislation and the FSA intends to consult on new rules to remove the need for consumers to make formal claims for compensation and to remove the need for claimants to make a formal assignment of their rights to the FSCS in all cases when they receive compensation;
- the Government is seeking views on ways to ensure that the FSCS has access to immediate liquidity, including pre-funding; and
- the Authorities to work with banks and appropriate trade bodies to ensure that consumers can open a new account quickly enough to facilitate FSCS payments.

3. In relation to consumer awareness, the FSA intends to consult on how consumers can be better informed about the FSCS.
4. In relation to other protection for consumers:
    - the Department of Work and Pensions (DWP) and HM Revenue and Customs (HMRC) will introduce contingency plans to ensure that consumers can receive benefits and tax credits in the event of bank failure; and
    - the Government proposes legislation to strengthen the arrangements underpinning bank banknote issuance by commercial banks in Scotland and Northern Ireland and to bring the law in Scotland relating to the treatment of cheques into line with that in the rest of the UK.

5. In relation to other changes to compensation arrangements:
    - the Government proposes legislation to ensure that the FSCS has the management flexibility it needs to manage a wide range of claim volumes (this proposal was subsequently dropped – *see* HM Treasury, FSA and Bank of England, 2008b, para.1.64); and
    - the FSA is seeking views on the advantages and disadvantages of introducing risk-based levies or other ways of bringing behavioural factors into levy calculations.

To Strengthen the Bank of England and Improve Co-ordination between the Relevant Authorities

Under this final heading, the authorities analyse the workings of the current Tripartite arrangements and cross-border co-operation. Whilst concurring with the Treasury Committee's view that the former set of arrangements are appropriate for the UK they, nevertheless, argue that they could be improved through, for example, providing a statutory basis for the Bank of England's financial stability role and improving governance arrangements within the Bank to support the new statutory obligations. Moreover, they go on to argue for a strengthening of the Memorandum of Understanding, applying lessons from the application of COBR during 'crisis' situations, and for improvements in external communications. And, with respect to cross-border co-operation, there is a perceived need to improve the co-ordination of approaches adopted towards international financial stability issues, to introduce an early warning scheme on global financial risks, and to improve cross-border crisis management.

Specifically, in relation to the objectives and governance of the Bank of England, the Authorities propose (Chapter 6, p.87):

- legislation to formalise the Bank of England's role in the area of financial stability – it will be given statutory responsibility for "contributing to the maintenance of financial stability within the UK - and to give its Court a formal role in overseeing the Bank of England's performance in this area;
- to support the Bank of England's enhanced statutory role in financial stability, legislation to amend the provisions governing the size and composition of the Court; and
- that the Bank of England modernises the arrangements for meetings of the Court.

Additional legislation for the creation of a "Financial Stability Committee", which would be a sub-committee of Court, to support the Governor and the Bank of England, drawing upon external expertise, has since been announced (HM Treasury, FSA and Bank of England, 2008b, para. 1.72).

And, with respect to the desire to improve co-ordination between the Authorities, the following proposals were made (Chapter 7, pp.97-98):

1. In relation to the Tripartite arrangements:
    - the Authorities intend to apply some of the lessons from the operation of COBR to the working of the tripartite arrangements:
    - the FSA and the Bank of England will consider the scope for greater combined initiatives to develop common understanding; and
    - the Authorities propose to clarify responsibilities within the Memorandum of Understanding, setting out the roles and responsibilities of the Treasury, the FSA and the Bank with regard to financial stability, including the relevant roles and responsibilities in relation to the special resolution regime (*see* HM Treasury, FSA and Bank of England, 2008c, paras 2.7 to 2.24).

2. In relation to international co-ordination:
    - the Authorities will work with international counterparts to pursue changes to improve the effectiveness of the Financial Stability Forum (FSF);
    - the Authorities propose that the IMF considers how to improve further the focus of its financial sector surveillance;
    - the Authorities propose that the FSF and IMF enhance their co-operation to bring together the intelligence gathered from IMF surveillance and from FSF members; and
    - the Authorities will continue to work with international counterparts to improve international crisis management arrangements and ensure the UK authorities are well prepared to respond to international financial crises, building on on-going initiatives in the EU and FSF, and working bilaterally with key partners who share exposures to specific risks.

The Authorities also fully support the FSF recommendation (FSF, 2008) that international colleges of supervisors for each of the largest global financial groups be established by the end of 2008 (HM Treasury, FSA and Bank of England, 2008b).

An Assessment [The Treasury Committee's views are set out in House of Commons, 2008c.]

Whilst I have no quarrel with the eminently sensible set of proposals set out to deliver the first two key objectives, once again, I disagree with the suggested structural solution to the problems posed by the introduction of a 'special resolution regime' under attempts to reduce the impact of bank failure. The Authorities favour the FSA triggering activation of the new regime, despite the risk of 'regulatory forbearance', following consultation with HM Treasury and the Bank, although they are still consulting on which body should

oversee the scheme's operation once triggered – the Treasury, the Bank, the FSA or the FSCS. [It has since been confirmed – HM Treasury, FSA and Bank of England, 2008b – that the Bank will be given operational responsibility for the special resolution regime, although the Chancellor has to authorise any action which has implications for the public finances or involves the temporary public ownership of an institution. For the Bank, this will involve, following consultation with the FSA and the Treasury, the choice of stabilisation tool – a transfer to a private sector purchaser or bridge bank (including, in both cases, partial transfers), temporary public ownership (subject to Treasury authorisation) or insolvency – and the subsequent implementation of the tool (excluding temporary public ownership, the preserve of the Treasury).] Moreover, the Authorities argue credit unions should not be subject to the new regime. My own view, as outlined earlier, is that a new Deposit Protection Agency should be established to conduct both insurance operations (all deposits other than, maybe, those of credit union customers should be protected) and to implement the new failure resolution measures. In this way, monetary policy (the primary function of the Bank, although it cannot avoid some responsibility for financial stability given its control of the money supply and its lender of last resort responsibilities) would be separated from supervision (the preserve of the FSA, with added responsibilities under a PCA-type regime – which the Authorities do not explicitly mention, unlike the Treasury Committee) which, in turn, would be separated from the deposit insurance and failure resolution functions.

With respect to the Authorities' proposals for depositor protection arrangements, much remains to be confirmed. [Although, as noted earlier, the compensation limit was raised to £50,000 in October 2008.] The Authorities are firmly of the opinion that the maximum period for compensation, providing depositors with access to at least a proportion of their

funds, should be reduced to seven days from the date of a bank failing (this would still be well in excess of the one day norm in the US, however), that co-insurance for depositors should not be re-introduced and that the deposit protection body's resources should be augmented, in the event of a crisis, through access to Government/Bank of England funding (necessary to enhance the credibility of the scheme given its limited resources). Their original support for an element of pre-funding, however, has since waned, given the banking industry's opposition in the face of mounting pressure on their balance sheets – *see* note 37. The Government now only intends to include in the forthcoming legislation powers which would allow it to introduce pre-funding of the FSCS "if it was considered appropriate to do so in the future" (HM Treasury, FSA and Bank of England, 2008b, para. 1.67). The FSA will continue to consult on a possible extension of coverage (e.g. to corporate customers, collective investment schemes, governmental bodies and pension and retirement funds), on the merits of switching from a net (where customers must net off outstanding debts against their deposits to determine the size of their claims) to a gross payments basis, and on the best ways to enhance customer awareness of the existence and nature of the scheme.

Whilst I have no disagreement with the decisions already announced - apart from the postponement of the introduction of pre-funding, which even the Governor of the Bank of England is on record as supporting - I again return to the optimal structural arrangements necessary to allow for the delivery of a cost-effectiveness deposit protection framework. I simply reiterate my preference here for the establishment of a new deposit protection agency to cover the deposits held in all deposit-taking institutions other than, maybe, credit unions (where the current deposit sub-scheme of the FSCS would apply). As

recommended, the FSA would then have to collect and share with this body the information necessary to allow the latter to carry out its allotted tasks.

Finally, in connection with the Authorities' desires to strengthen the Bank of England and improve co-ordination between the Authorities themselves and with their overseas counterparts, there is little which is contentious. The proposed legislation to formalise the Bank's role in the area of financial stability and to give its Court a formal role in overseeing the Bank's performance in this area, for example, seem eminently sensible – although the decision to make the Financial Stability Committee a sub-committee of Court, chaired by the Governor himself, dilutes the degree of external oversight secured (*see* House of Commons, 2008c, pp.83-89, for the Treasury Committee's latest proposals in this area) - as are the proposed changes to the size and composition of the Court and to the arrangements governing the Court's meetings. Similarly, the determination to improve the workings of the Tripartite arrangements through measures designed to increase common understanding and to clarify responsibilities under the Memorandum of Understanding for decisions surrounding the provision of support to firms, particularly in the form of emergency liquidity assistance, are to be welcomed (although the benefit of importing insights from the operation of the UK's COBR remains to be seen). Indeed, the recommended changes imply a recognition that the Tripartite arrangements did not work particularly well in the case of Northern Rock, the strong belief of the Treasury Committee, but something denied by the Authorities in their testimony to the Committee yet reinforced by the recent spats over the filling of senior positions at the Bank and the precise role to be played by the Bank in reformed financial stability arrangements which betrayed a worrying degree of disharmony between the Bank and the Treasury. Such public disagreements do little to re-assure nervous investors and nothing to enhance the

credibility of the monetary authority. And finally, the measures aimed at increasing international co-operation in the area of financial economic stability, particularly with respect to cross-border crisis management, also deserve unequivocal support.

WIDER REGULATORY ISSUES

Apart from the parochial difficulties facing the UK authorities, there is a range of regulatory issues facing the wider international community [pre-March 2008 action is summarised in House of Commons, 2008b, Section 5]. The perennial problem surrounding the operations of *rating agencies* is again to the fore given the inherent conflicts of interest they face (e.g. they are paid by the issuers they rate rather than the investors they serve; and their consultancy fees can dwarf the ratings fees earnt). With respect to the sub-prime crisis, the rating agencies have been castigated for not foreseeing the problem early enough, for not reacting quickly enough once higher than expected defaults arose, for making errors in their computer models, and for being so closely involved with their investment banking clients in the structuring of complex, high-yielding securities [e.g. RMBSs and CDOs] so as to secure the 'Triple A' ratings which are required to attract investment from pension funds and others. Whilst the agencies argue that they are only giving an opinion on the likelihood of default and/or likely size of expected losses, and caution that further due diligence is necessary on behalf of investors before making decisions, they have, nevertheless, admitted that some of their "opinions" proved wide of the mark and that some computing errors were made [i.e. in respect of the rating of 'constant proportion debt obligations' (CPDOs)]. Accordingly, most have moved to amend their ratings methodologies for sub-prime securities, and some (e.g. Moody's) are considering adding indications of "liquidity" and "market value" to their usual credit ratings. [Other suggested improvements are contained in Bank of England, 2007a, at p.57, and in House of Commons, 2008b, Section 7, pp.67-74.][xxvii]

Despite these developments, some investors are keen to test their apparent immunity from prosecution in the law courts; and many bodies, including the SEC, IOSCO, the European Community, the US President's 'Working Group on Financial Markets' and the US Congress, are currently embroiled in debates about what can be done to improve matters. [In May 2008, IOSCO unveiled a revised 'code of conduct' for the rating agencies focussing on, *inter alia*, improving transparency and reducing potential conflicts of interest. In contrast, the EU Commission is seeking a tougher regulatory response – in the shape of a registration system and formal external oversight – whilst the SEC is seeking to reduce the extent to which ratings are "hard-wired" into regulatory rules and investment processes.]

The questioning of the roles and performance of the rating agencies conveniently leads into the second general area of concern, namely the possible need to modify the *Basel II arrangements* for bank capital adequacy assessment. Apart from formally embracing the agencies' ratings within the so-called "standardised" approach (*op. cit.*, Hall, 2004), the banks' widespread use of off-balance-sheet vehicles, such as 'conduits' and 'structured investment vehicles' (SIVs),[xxviii] represents the latest form of "regulatory capital arbitrage" (Jones, 2000) undertaken by the industry. Whilst it is true that Basel II reduced the banks' incentive to engage in such activities via securitisation compared with Basel I, and that Basel II, unlike Basel I, does levy a capital charge against contingency risks (such as those arising from the provision of contingent liquidity lifelines to conduits), scope for regulatory capital arbitrage remains. Moreover, there may be a case for levying a capital charge against some off-balance-sheet activities even when legal opinion attests to the lack of a residual exposure, if only to tackle reputational risk. Finally, given the failure of the banks' models to predict the recent sub-prime losses – the seizing up of the wholesale

markets signalling, once again, the problems in dealing with fat-tailed distributions – the Basel Committee needs to look afresh at the whole use of models for setting regulatory capital charges. [The case for additional disclosure requirements is made in Bank of England, 2007a, at p.61.][xxix]

The use of *off-balance-sheet* vehicles to reduce tax is another issue that requires scrutiny, as well as the more obvious abuses that have become apparent concerning the use of securitisation to drive the banks' "originate and distribute" models. Whilst securitisation has long been regarded as a highly-useful form of financial innovation that increases economic efficiency, with benefits for borrower and lender alike (Rosenthal and Ocampo, 1988), and spreads risk, thereby reducing banking fragility, only now are policymakers waking up the problems posed by lack of transparency and complexity. No one is sure where the risks reside and too many end investors fail to appreciate the true nature of the risks they run because of the complexity of the products involved. Belated recognition of these problems has created fear and investor panic, resulting in the implosion of wholesale markets and the spread of the very contagion the innovation was designed to avoid. Possible solutions being considered are measures to ensure that those (including banks) who securitise assets retain an incentive to monitor their subsequent performance, greater scrutiny of both regulated and unregulated entities which originate loans (brokers' main concern is to maximise fees not the welfare of the borrowers),[xxx] and plans to ensure greater transparency and standardisation in the industry. Pressure is increasing to force banks to reveal more about the conduits and other off-balance-sheet vehicles they have established, the performance of structured products, the composition of assets inside complex instruments and the prices at which the securities trade in private. Likewise, hedge funds have to accept responsibility for disclosing more about their activities and

exposures and possibly endure restrictions on their activities as a *quid pro quo* for the *de facto* support they are likely to enjoy in the event of a crisis (as proved to be the case with Long-Term Capital Management in the US in 1998) as a result of their capacity to damage the banking and wider financial system.

In summary, the emerging consensus, as for example outlined in Bank of England (2007a, Section 4) and, more recently, in Bank of England (2008a, pp.12-14, and 2008b, Section 6), IMF (2008a and 2008b) and Group of Thirty (2009),[xxxi] is that the world needs to do more to address the weak points in the global financial system so cruelly exposed by the fallout from the US sub-prime crisis. This requires, *inter alia*, the development of centralised structures for an array of the over-the-counter instruments and measures to improve credit risk assessment, strengthen banks' capital, increase transparency, address weaknesses in banks' liquidity risk management practices and limitations in its regulation (*see* Geneva Reports on the World Economy, 2009), improve stress testing and contingency planning within firms to guard against extreme and correlated stocks, and to improve financial crisis management arrangements. Beyond this, and equally importantly, measures need also to be taken to ensure compensation packages secure a closer alignment between the interests of managers/brokers/traders on the one hand and those of shareholders/regulators/taxpayers on the other. With respect to bonuses, this will require design features seeking to address the predilection towards the creation of short-term gains and "tail" risks, suggesting the greater use of risk-related and deferred bonuses. And finally, the frequency and severity of financial crises might be reduced if "macro-prudential" policies focussed more on excessive credit growth and asset price inflation, as recently argued by both the BIS (BIS, 2008) and the Bank of England (Bank of England, 2008b, p.5).

CONCLUSIONS

Whilst the level of UK financial institutions' direct exposure to the US sub-prime market was fairly limited, the shockwaves eventually transmitted through the international financial market place soon revealed stresses and weaknesses in the UK's arrangements for handling financial/banking crises. The *modus operandi* of each of the main players involved – the Bank, the FSA and the Treasury – has been called into question, along with the mechanisms in place for protecting depositors and ensuring co-ordination and co-operation between the parties involved in delivering financial stability. The nationwide run on Northern Rock served to highlight most of these deficiencies and the fragile nature of the UK banking system, which had to be rescued from collapse by a massive (£400 billion) public sector-financed bailout in October 2008 (*see* Table 2). The post-mortems into the affair, not least that conducted by the House of Commons' Treasury Select Committee, have served to focus minds on how best to deal with the evident shortcomings, and the authorities themselves have duly responded with proposals for reform; but a wider debate needs to be held into the best way to proceed. No less than the reputation of the UK financial system and its integral components is at stake, a highly disconcerting fact given the enormous contribution it makes to the health of the UK economy. The analysis and recommendations contained in this article are offered up as a contribution towards and stimulant of this wider debate which is urgently needed given the continuing threats faced by the domestic and international financial system.[xxxii] For, although the cumulative action of central banks around the world (not least that taken by the Fed in promoting the 'Troubled Asset Relief Programme' – *see* Table 1) may well have eased liquidity conditions[xxxiii] - albeit at the expense of a weakening in their own balance sheets[xxxiv] - and reduced systemic risks, and despite some earlier signs[xxxv] that the worst of

the crisis may be behind us, there are sufficient grounds[xxxvi] for believing that we are not out of the woods just yet![xxxvii]

Endnotes

[i] The unfolding of these developments is well documented in Bank of England (2007a), at pp.6-9, and explored in more detail in Goodhart (2007a).

[ii] This is reflected in the scale of UK bank writedowns on sub-prime-related business relative to those of their overseas counterparts. For example, Barclays' writedown of £1.3 billion (announced on 15 November 2007), Alliance and Leicester's £55 million (announced on 29 November 2007 but followed, with an announcement made on 29 January 2008, by another £135 million writedown). Royal Bank of Scotland's £1.5 billion (announced on 6 December 2007) and Lloyds TSB's £200 million (announced on 10 December 2007) contrast sharply with those made for the third quarter of 2007 by the likes of Merrill Lynch ($8 billion, followed by a fourth quarter writedown of $14.6 billion), Citigroup ($3.3 billion, followed by a further $18.1 billion in January 2008) and Morgan Stanley ($9.4 billion). And, elsewhere in Europe, UBS heads the list of sufferers with writedowns of $3.4 billion and $10 billion announced in November and December 2007 respectively, followed by a further $4 billion in January 2008 (full-year losses of $18.4 billion were subsequently revealed). Unsurprisingly, as at Merrill Lynch and Citigroup, the CEO at UBS was also forced out of office.

More recently, end-of-year reporting has revealed the full scale of related writedowns for 2007: Bradford and Bingley, £226 million; Barclays, £1.635 billion; Alliance and Leicester, £185 million; Lloyds TSB, £280 million; Standard and Chartered, $300 million; HBOS, £227 million; RBS, £2.9 billion; and HSBC, $17.2 billion. [For 2008-related writedowns *see* Tables 1 and 2.]

[iii] The solvency of individual institutions is also adversely affected by the conservative writedowns called for by auditors wary of litigation post-Enron, further deterioration in structured finance markets, accelerating credit downgrades of CDOs, SIVs and "monoline" guarantors and re-intermediation following the consolidation of SIV balance sheets. The last-mentioned refers to the action taken by banks (e.g. HSBC, $45 billion; Standard Chartered, $3 billion; Rabobank, €5.2 billion; Société Générale, €4.3 billion; and Citigroup, $49 billion) to rescue their SIVs in this way in order to reduce reputational risk. The subsequent scramble for new equity has led a growing number of banks to tap sovereign wealth funds for the necessary finance. For example, UBS has raised SFr 13 billion from the Government of Singapore Investment Corporation and an un-named Middle Eastern investor; Citigroup has raised $7.5 billion from the Abu Dhabi Investment Authority, $9 billion from the China Investment Corporation, £4 billion from the Kuwait Investment Authority and $6.86 billion from the Singapore Investment Corporation; Morgan Stanley has raised $5 billion from the China Investment Corporation; and Merrill Lynch has raised $4.4 billion from Temasek Holdings (the Singapore state investment company), $2 billion from the Kuwait Investment Authority and $3.4 billion from the Korean Investment Corporation.

[iv] No other UK mortgage provider came near to operating a 75 per cent / 25 per cent wholesale/retail funding mix, with the Alliance and Leicester and Bradford and Bingley, the next most heavily dependent on wholesale funding, running ratios of nearer 50 per cent / 50 per cent. Ironically, this didn't protect them from speculators on the hunt for further victims, causing extreme volatility in their respective share prices.

[v] Its residential lending in the UK rose by 55 per cent in the first eight months of 2007 at a time of slowing house price rises. And its share of net new lending in the UK housing market rose to 19 per cent by mid-2007.

[vi] The world's banking system is estimated to have around $1.4 trillion of exposures to such conduits. Two of the worst affected – Germany's IKB and Sachsen LB – have already become casualties (*see* Table 1) as their conduits' funding dried up.

[vii] Banks have been hit directly as a result of their own investments and indirectly because of failed syndications, the downward pressure on asset prices arising from investment vehicles' firesale of assets and exposure to the leveraged buyout industry.

[viii] The preferred solution of all concerned is an outright sale, preferably to a larger bank. Despite its relative attractions – low cost operator, better than average quality loan book, continuing access (but at penal rates) to the Bank's liquidity lifeline for as long as EU rules allow – however, formidable problems remain for potential bidders. The business is currently running at a loss (i.e. the yield on the mortgage book is lower than the funding cost). The bank's franchise value has been greatly reduced by the reputational damage caused. The scale of the funding burden (the Bank, which has already lent over £25 billion, would also have to be repaid) is enormous. And no one is sure how long the liquidity crunch will last for.

In the event, only two "approved" private sector bidders were left in the race following the withdrawal of the US private equity group J.C. Flowers and Co. on the 6 December 2007. This comprised the Virgin-led consortium, which had earlier acquired "preferred bidder" status, and the private equity firm, Olivant.

The former group, which includes AIG and hopes to secure funding from Deutsche Bank, RBS and Citigroup amongst others, planned to take a majority stake (55 per cent) in the bank, which it would merge with Virgin Money, the latter name usurping the Northern Rock brand. The proposed takeover involved the injection of £1.3 billion in cash, £650 million coming from a rights issue (which will secure 45 per cent of the new company for existing shareholders) and £650 million from the consortium. Virgin Money, valued at around £250 million, would also be merged with the new entity. The consortium also planned to repay £11 billion of the Bank of England's loan immediately, with the rest being repaid by the end of 2010. It hoped to retain the Treasury's guarantee during this period, and would rank the Bank of England's claims equally with private sector creditors.

Olivant, however, was offering to install new management to manage the bank in return for a minority stake (15 per cent). Under the terms of its revised offer (revealed on 7 December 2007), it would repay between £10 billion and £15 billion of the Bank of England's loan immediately with the balance being repaid by end-2009. The provision of warrants would also give the Bank a 5 per cent equity stake if Northern Rock's share price recovered sufficiently. A cash injection of £150 million was also promised with the expectation that existing shareholders would stump up between £450 million and £650 million collectively. It also expected to enjoy the Treasury's guarantee until the Bank is fully repaid.

In the face of doubts about either party's ability to raise the necessary funding – they also have to gain shareholders' approval – the Treasury secured the services of Ron Sadler to act as Executive Chairman in waiting in case the (temporary) nationalisation route was chosen by the Government. The necessary legislation was also prepared in case this was the outcome. In the event, however, the Government decided to try one last time to facilitate a private sector solution, duly backing Goldman Sachs' plan (*see* the entry for 21.1.08 on Table 2) to convert Northern Rock's loan from the Bank of England into government-guaranteed bonds, to be fed to the market as circumstances allow. Although avoiding the political embarrassment associated with nationalisation, the decision meant that UK taxpayers could be burdened with a £58 billion plus exposure to Northern Rock for the foreseeable future with no guarantee that all the funds would ever be repaid to the Bank, which remains heavily exposed, on our behalf, to a rapidly-deteriorating domestic mortgage market.

As it transpired, only two bids were received on 4 February – Olivant having dropped out – leaving the Government to decide between the bids submitted by the Virgin-led consortium and Northern Rock's existing management and the option of temporary nationalisation. The latter option was subsequently chosen in February 2008 as it was deemed to offer better value for money for the taxpayer, although shrinkage of the bank – a necessity if EU Commission rules on State-aid are to be satisfied – may jeopardise taxpayer returns, especially if its securitisation vehicle, Granite, is adversely affected.

[ix] Ironically, some melted away faster than others, the laggards maybe doubting the word of ministers – not totally unsurprising given the previous Chancellor's well-documented raids on pension funds and the limited restitution on offer to policyholders in the aftermath of the collapse of Equitable Life – or otherwise questioning the credibility of such a mammoth undertaking.

[x] Under the UK Financial Services Compensation Fund protection was previously limited to 100 per cent of the first £2,000 and 90 per cent of the next £33,000, on a per customer per bank basis. Maximum protection has thus been increased to £35,000 from £31,700, and "co-insurance" (*see* text) no longer applies.

[xi] Notwithstanding the fact that both the Bank and the Treasury had prophesied just such an eventuality (i.e. of market liquidity squeezes and a tightening of lending terms) in their April 2007 'Financial Stability Report' (p.47) (Bank of England, 2007b) and January 'Financial Risk Outlook' (FSA, 2007a) respectively.

[xii] Noyer (2007) notes that such action is justified as it represents accommodation of an exogenous increase in demand for Bank money, arising from the temporary financial turbulence and uncertainty, rather than a change in medium term oriented monetary policy.

[xiii] As noted in Table 2, Barclays Bank twice accessed such funding in the Summer of 2007. Although borrowers in such situations are supposed to remain anonymous, its identity leaked out to the market causing Barclays furiously to deny that it was in need of an infusion of liquidity other than for technical reasons. Barclays' experience is likely to cause other banks to think twice before taking advantage of the facility, even if it were profitable to do so.

[xiv] Moreover, Barclays and the Royal Bank of Scotland have since been granted (collateralised) access by the Fed to $20 billion and $10 billion of funding respectively under an emergency discount window facility designed to alleviate the problems of distressed US securities customers of the banks' US operations.

[xv] Although some argue a six month limit may be operable under EU law on state aid (the Treasury is looking towards a solution being reached by February 2008), a further six months of "restructuring" (as opposed to "rescue") aid may be possible.

[xvi] The presumption is that a rate of at least 7 per cent is being charged as this would be in excess of the penalty rate (6.75 per cent) charged on drawings under the standing facility discussed earlier in the text. The size of 'haircuts' being applied to the non-standard collateral is unknown also.

[xvii] To avoid such a situation recurring some suggest that the Governor should, in future, be restricted to serving one term of office.

[xviii] Some dispute the advice (House of Commons, 2008a, pp.59-62, paras.129-137), whilst others rightly ask why it took a crisis for the hamstrung nature of the surrounding legal framework to be revealed. Couldn't this have been ascertained earlier?

[xix] Some, as a result, wonder if there is something out there that the Bank has had forewarning of, but the market has not yet spotted.

[xx] The allocation of respective responsibilities under the 'Memorandum of Understanding' was modified in March 2006, changing the Bank's remit to one of "contributing to the maintenance of stability of the financial system as a whole".

[xxi] The Bank has since acknowledged that improvements in the tripartite arrangements are required along with the other components of the crisis management arrangements (i.e. bank insolvency arrangements and deposit insurance arrangements) (Bank of England, 2007a, p.2). And the need for a review was acknowledged by the Chancellor in his statement to the House of Commons on financial market instability on 11 October 2007.

[xxii] Again, the Bank has since said that, although it does not believe it needs to take back responsibility for banking supervision, there may be a case for it to, once again, gather more information on individual banks.

[xxiii] Apart from asking for adequate diversification of liquidity sources, supervisors have long applied either a high quality liquidity stock requirement, designed to allow large UK retail banks to survive without one week of wholesale funding, or maturity mismatch limits (for all other banks) (Hall, 1999, chapter 18). Clearly the former requirement, which was presumably applied to Northern Rock, would always have proved woefully inadequate in the event of a sustained seizure in the wholesale markets. [In its defence – *see* House of Commons, 2008a, p.15, para.22 – Northern Rock argued that it had sought to diversify funding sources both by product (i.e. retail deposits, covered bonds, securitisation and wholesale deposits) and geography.]

[xxiv] The Deposit Guarantee Schemes Directive was adopted by EU Member States in May 1994 for implementation by 1 July 1995.

[xxv] The idea is that the mere provision of such arrangements helps obviate the need for their activation by reducing the incentive for individual depositors to precipitate or participate in a deposit run. If people don't know of its existence they can't possibly act in the presumed manner.

[xxvi] The FSA's bout of "navel gazing", reminiscent of the Board of Banking Supervision's review of the Bank of England's supervision of Barings plc (*see* Hall, 1999, Chapter 12), makes for painful reading. The Internal Audit review identifies four key failings in the supervision of Northern Rock (FSA Press Release, 2008):

1. A lack of sufficient supervisory engagement with the firm, in particular the failure of the supervisory team to follow up rigorously with the management of the firm on the business model's vulnerability arising from changing market conditions.
2. A lack of adequate oversight and review by FSA line management of the quality, intensity and rigour of the firm's supervision.
3. Inadequate specific resource directly supervising the firm.
4. A lack of intensity by the FSA in ensuring that all available risk information was properly utilised to inform its supervisory actions.

The Review Team's 'Executive Summary' provides further detail on these failings, which meant the supervision of the bank, classified as a "high impact" firm under the FSA's own 'ARROW' risk framework, proved deficient. A theme running throughout the Review was the difficulties posed by high staff turnover which, for example, hindered effective engagement with the firm by Heads of Department, created shortages in expertise in crucial areas (e.g. prudential banking and financial data analysis) and militated against effective FSA management oversight. Moreover, given the bank was supervised for part of the time under review by a Department whose primary responsibility was for insurance groups, one has to question the level of expertise brought to bear against Northern Rock's operations. In terms of supervisory performance, a number of instances of "bad practice" were identified. For example, contrary to ARROW standard practices, formal records of key meetings were not prepared. Moreover, although

not formally required under ARROW I procedures, it would have been most useful if formal peer group financial analysis (e.g. on asset growth, profitability, net interest margins, cost to income ratios, reliance on wholesale funding and securitisation, etc.) had been presented by the supervisory team at ARROW Panel meetings. Instances of poor judgement are also paraded for our attention, not least the ARROW Panel's decision to endorse the supervisory team's proposal not to issue a 'Risk Mitigation Programme', a mechanism, shared with the firm, designed to highlight, pursue and track contentious issues using a common framework. [Northern Rock was the only high impact firm not to have one.] Similarly, it is difficult to comprehend, even if one accepts that some of the bank's most acute risks were "low-probability" events, the ARROW Panel's decision to lengthen the period between formal ARROW risk assessments of Northern Rock to 36 months, the maximum allowed under internal procedures and 12 months longer than that proposed by the supervisory team. This meant that interim supervision, post 20 February 2006, would be carried out under the less rigorous arrangements for "Close and Continuous" supervision. In the event, only seven such meetings were ever held, five of which were held on one day (30 April 2007), a typed record of which was not even produced! Moreover, supervisors did not appear to fully understand their responsibilities under this framework.

These observations duly led the Review Team to conclude that "overall, the supervision of Northern Rock was at the extreme end of the spectrum within the firms reviewed in respect of these failings and that its supervision did not reflect the general practice of supervision of high-impact firms at the FSA". In other words, people rather than systems/procedures, were primarily to blame. Nevertheless, with an eye on the future, the Review Team makes seven high level recommendations (for further details *see* Appendix 2 of the FSA's document entitled 'Recommendations and Actions'):

- FSA senior management to have increased engagement with high-impact firms (to include an annual review of the firm's business/strategic plans);
- FSA to increase the rigour of its day-to-day supervision;
- FSA to increase its focus on prudential supervision, including liquidity and stress testing;
- FSA to improve its use of information and intelligence in its supervision;
- FSA to improve the quality and resourcing of its financial and sectoral analysis;
- FSA to strengthen supervisory resources; and
- FSA senior management to increase the level of oversight of firms' supervision.

In response to the Internal Audit Report and to the earlier (January 2008) Tripartite Authorities' proposals for enhancing the general framework for dealing with a bank failure, the FSA duly proposed a 'Supervisory Enhancement Programme' designed to strengthen its overall supervisory process. The programme will also incorporate the improvements already under way, as agreed in 2007, and will be a key component of the current three-year plan (running from 2007 to 2010) which, in terms of internal change, has as its primary objective the creation of an effective management, operational and cultural framework to deliver more principles-based regulation. The main features of the programme, which is due to be completed by December 2008, are (FSA Press Release, 2008):

- A new group of supervisory specialists will regularly review the supervision of all high-impact firms to ensure procedures are being rigorously adhered to.
- The number of supervisory staff engaged with high-impact firms will be increased, with a mandated minimum level of staffing for each firm.
- The existing specialist prudential risk department of the FSA will be expanded following its upgrading to divisional status, as will the resource of the relevant sector teams.
- The current supervisory training and competence framework for FSA staff will be upgraded.
- The degree of FSA senior management involvement in direct supervision and contact with high-impact firms will be increased.
- There will be more focus on liquidity, particularly in the supervision of high-impact retail firms.
- There will be raised emphasis on assessing the competence of firms' senior management.

[xxvii] The first rating agency to respond to the calls for reform was Standard & Poor's, which revealed a set of reform proposals on 7 February 2008. The proposed reforms aim to tackle concerns about conflicts of interest (e.g. through the enforced rotation of analysts and monitoring of the track record of analysts who leave to work for issuers), the accuracy of ratings (through increased historic review), the remit of its analysis (trading liquidity and securities valuation may accompany the traditional default risk analysis), the transparency of ratings ("identifier" marks may be used to flag up new complex securitisation processes, for example, and scenario analysis is likely to be more widely used) and investor ignorance (to be dealt with through enhanced investor education).

[xxviii] The conduits fund themselves largely by issuing asset-backed commercial paper (ABCP) and invest in highly-rated, but high yielding assets, such as CDOs. Once investors were spooked by the valuation of

CDOs, the ABCP market went into freefall. SIVs are very similar but are more highly geared. They typically lack the back-up lines of liquidity enjoyed by conduits, and invest more heavily in RMBS. Hence the need for a "super-fund" – *see* Table 1, entry for the 15 October – if firesale assets are to be avoided, although the plan has since been criticised for not clarifying the prices at which assets will be sold to the fund. The fear is that above-market prices will be paid, thereby letting SIV managers off the hook.

[xxix] The Basel Committee has recently (Basel Committee, 2008a) announced plans to strengthen the resilience of the international banking system in the light of the fallout from the sub-prime crisis. It plans to do this by boosting capital cushions, creating robust liquidity buffers, strengthening risk management and supervision, and enhancing market discipline through increased transparency.

With respect to capital cushions, the Committee plans to increase capital requirements for certain complex structured credit products (such as the so-called "re-securitisations" or CDOs of ABS), especially those held in the trading book, and strengthen the capital treatment of liquidity facilities extended to support OBS vehicles such as ABCP conduits. A further quantitative impact assessment of its new proposals is planned, and the Committee will also monitor capital buffers over the credit cycle.

In respect of liquidity buffers, the Committee published, in June 2008 (Basel Committee, 2008b), a consultation paper on global sound practice standards for the management and supervision of liquidity risks. This paper addresses, *inter alia*, stress testing practices and the management of on- and off-balance sheet activity. The Committee will also review the need for more consistency in global liquidity regulation and supervision of cross-border banks.

As regards risk management and supervision, the Committee will issue Pillar 2 guidance on the management of firm-wide risks, stress-testing practices and capital planning processes, the management of OBS exposures and associated reputational risks, risk management practices relating to securitisation activities, and the supervisory assessment of banks' valuation practices.

Finally, with respect to transparency, the Committee is determined to promote stronger industry practices in the areas of disclosure and valuation. On the former front, the Committee is seeking enhanced disclosures relating to complex securitisation exposures, ABCP conduits and the sponsorship of OBS vehicles. Further Pillar 3 guidance in this area is promised by 2009. And, on the latter front, the Committee will develop guidance that supervisors can use to assess the rigour of banks' valuation processes, thereby promoting improvements in risk management in this area.

A further consultation paper (Basel Committee, 2008c) was issued in July 2008 setting out the Committee's proposals for revising the market-risk framework of Basel II. It seeks to apply capital charges to a wider range of investments held in the trading book, improve internal value-at-risk models used to measure market risk and update the prudent valuation guidance for positions (especially illiquid) subject to market risk.

More recently (Basel Committee, 2008d), the Committee has also set out its views on the implications for supervisors (under Pillar 2 requirements) of banks' use of internal economic capital models.

[xxx] As part of the Fed's reform of mortgage regulation in the US – *see* entry for 18.1.2007 in Table 1 – some abusive practices are banned, including the offering of "no-documentation" loans and the extension of loans made without regard being paid to a borrower's ability to repay.

[xxxi] Both the Financial Stability Forum (FSF), representing major national supervisory authorities and central banks, and the Institute of International Finance (IIF), representing large banks primarily, also released reports in April 2008 outlining their proposals for reform. The former set of recommendations are set out, in detail, in Table 3. By way of contrast, the IIF opts for a set of "best-practice" recommendations, rather than a regulatory response, as the most appropriate way to prevent a recurrence of the turmoil and to strengthen the overall framework for sound risk management. The IIF intends monitoring industry compliance with the recommendations within the context of a voluntary "code of conduct". The recommendations, which will be confirmed in a final report to be released in the Summer of 2008, will cover the areas of risk management (including issues concerning risk culture, governance and stress testing), incentives (particularly the structure of compensation packages), conduits and liquidity risk, valuation, credit underwriting standards, the ratings process, and transparency and disclosure.

[xxxii] Back in 2007, the Bank (Bank of England, 2007a) highlighted, in particular, the threats posed to the equity (this first came to fruition with a global stock market crash on 21 January 2008 followed by renewed weakness in mid-July 2008) and commercial property markets and by a continued weakening in the external value of the US dollar, as well as the continuing threats posed to credit markets. Despite the sub-prime-related losses already revealed – *see* footnote 2 – the G7 has forecast total global sub-prime-related losses may exceed $400 billion with the IMF trumping this with a 'guesstimate' of nearly $1 trillion. This figure, in turn, has been trumped by the Bank of England which, in October 2008 (Bank of England, 2008b, p.12) revised upwards its estimate of mark-to-market losses on selected securitised

credit instruments and corporate bonds that have been incurred in the UK, USA and the euro area since January 2007 to $2.8 trillion. The Bank also warns of continuing financial risks to the global economy due to the acceleration in the global economic downturn (which, in turn, is exacerbated by banks' need to deleverage and return to a more 'normal' relationship between their lending and deposit bases), the spreading of contagion to emerging market economies, and continuing financial fragility due to a loss of investor confidence (particularly after the US investment bank Lehman Brothers was allowed to fail). With respect to the domestic economy, the Bank's concerns relate to the continued deleveraging of banks and other financial institutions (e.g. hedge funds), the impact of the economic downturn on bank balance sheets, the adverse impact on mortgage providers of continuing falls in house prices, the prospect of further substantial sub-prime-related losses being incurred by financial institutions and the persistent tightening of credit conditions, for corporates and consumers alike, despite the bank bailout. Moreover, three month interbank rates remain stubbornly high compared to policy rates, the ABCP market, having contracted for 20 successive weeks in the period to end-December 2007, is still moribund and further contagion is threatened via the downgrading of the so-called "monolines" (i.e. specialist bond guarantors which currently guarantee £1.2 trillion of debt), and trouble in the LBO and credit default swaps markets.

[xxxiii] Although differentials between three-month LIBOR rates and policy rates remain uncomfortably high as concerns about counterparty risk give way to "hoarding", in part a response to continuing fears that accessing special central bank lending facilities will tarnish one's reputation in the market place. Hoarding by US banks, in particular, has placed additional strains on European banks now starved of dollar-denominated interbank funds which their US counterparts, until recently, had been willing to provide (funded, in turn, by US money market funds), although the Fed has recently attempted to address this issue through currency swaps with EU central banks.

[xxxiv] In recognition of this, the ECB announced, on 4 September 2008, measures to crackdown on abuses of its special liquidity operations. The effect will be to increase the cost of using ABS to obtain ECB funding (i.e. higher haircuts will apply) and to exclude some such deals when the underlying mortgages or other loans are not denominated in euros.

[xxxv] By mid-May 2008, bank share prices were generally recovering (in recognition of the fact that most – perhaps 80 per cent or so, as argued by Fitch Ratings – of the losses on sub-prime-related assets had been written off with writedowns probably overdone, and in light of the re-capitalisation of the banking system), investors were cautiously returning to the mortgage-backed bond and distressed mortgage assets markets, and the costs of protecting against financial institution defaults in the derivative markets were falling sharply. A more sombre mood, however, had returned by July 2008. Market sentiment then remained depressed for much of August before taking a turn for the worse in the second half of September following the demise of household names on both sides of the Atlantic (i.e. Bradford and Bingley in the UK and Lehman Brothers and Washington Mutual in the US), the loss of independence of others (i.e. Alliance and Leicester and HBOS in the UK and Merrill Lynch and Wachovia in the US) and the rejection of the US investment banking model (with Goldman Sachs and Morgan Grenfell converting to bank holding companies). Whilst the massive injections of funds by central banks and the rescues of Fannie Mae, Freddie Mac and AIG offered some relief, international money markets effectively froze in advance of the negotiations in the US over the 'TARP' programme. Fear, panic and distrust characterised market behaviour at that time as the markets looked into the abyss, threatening to drag down the real economy with them and foreshadowing the end of laissez-faire capitalism as we know it. And, whilst awaiting Congress's approval of the deal hammered out by the politicians and the regulators, the market delivered its own verdict on the agreement by further slashing the share prices of financials and other stocks around the globe, presaging yet further turmoil in the real and financial sectors of national economies. In the event, a revised TARP was passed by both the Senate and the House of Representatives in the first week of October, but stock prices failed to recover their lost ground.

[xxxvi] Residual fears relate to the continuing fragility of investor confidence, following the collapse of Lehman Brothers, the slowdown in major economies (e.g. UK/US), which central banks were, until recently, hamstrung from tackling because of the resurgence in inflation and which promises to raise bank losses on consumer and corporate lending at a time when credit conditions are already tightening, and further deterioration in housing conditions. The record falls in house prices in the US foreshadow further sub-prime losses and rising re-possessions, a situation matched in the UK housing market which continues to dog the prospects of UK mortgage providers. [With the blessing of the FSA, the Nationwide Building Society announced a merger with the Derbyshire and Cheshire Building Societies in September 2008 to prevent the possible failure of the last two-mentioned from causing a wider crisis of confidence in the building society sector.]

[xxxvii] The half-year results for UK banks revealed in August 2008 portray a sorry picture of UK banking. Alliance and Leicester reported a collapse in profits to just £2 million, a few days after selling out to

Santander Bank at a knock-down price. Lloyds TSB and HBOS both reported 70 per cent plus falls in pre-tax profits whilst RBS reported a half-year loss of £691 million after making a sub-prime related writedown of £5.9 billion. Meanwhile, Bradford and Bingley was subject to an FSA-orchestrated rescue and recapitalisation after experiencing (along with HBOS) a failed rights issue, prior to reporting a first-half loss of £26.7 million, and its subsequent nationalisation. Whilst Northern Rock revealed a first-half loss of £585 million, threatening the taxpayers' investment in the bank. Finally, in the wake of the collapse of Lehman Brothers in the US, panic-stricken bankers and government officials guided HBOS into the arms of Lloyds TSB to avoid melt-down at yet another UK financial institution. Ironically, this might not have proved necessary if regulators had acted to ban short selling one day earlier! In the light of these revealed weaknesses, it wasn't really surprising to see the introduction of the £400 billion bailout package for the industry involving, amongst other things, the part-nationalisation of a number of large banks (*see* the entries in **Table 2** for 8.10.08 and 13.10.08). And, given the failure of the bailout to stimulate domestic lending, again it was unsurprising to see a second bailout package introduced in January 2009 (*see* the entry in **Table 2** for 19.1.09).

TABLE 1. THE US SUB-PRIME CRISIS AND NON-UK SPILLOVER EFFECTS: CHRONOLOGY OF EVENTS

30.7.07	Germany's IKB Deutsche Industriebank's off-balance-sheet vehicle Rhineland Funding is thrown a €8.1 billion liquidity lifeline by KfW, the state-owned bank that owns a 37.8% stake in IKB. Separately, KfW and a group of public and private German banks put together a €3.5 billion rescue fund to cover possible losses on IKB's own balance sheet.
9.8.07	The European Central Bank injects €94.8 billion into the money markets, in a 'front-loading' operation, to shore up confidence in the financial system. 49 banks availed themselves of the funding.
10.8.07	Central banks in Europe, N. America and Asia make emergency injections of liquidity, the ECB injecting another €61 billion.
13.8.07	Goldman Sachs injects $2 billion to bail out its Global Equity Opportunities hedge fund. A further $1 billion is raised from outside investors to support the fund. Action follows Bear Stearns' earlier $1.6 billion loan to its struggling credit fund.
17.8.07	Sachsen LB, a publicly-owned Landesbank, becomes the second German financial institution to be rescued via a €17. 3 billion credit facility from fellow savings banks.
17.8.07	US Fed announces a new emergency credit facility providing term loans for up to 30 days. Citigroup, JP Morgan Chase, Bank of America and Wachovia each borrow $500 million, funds which will be passed on to clients, in a largely symbolic gesture as each claims to have ample liquidity and access to funds elsewhere in the system on better terms.
22.8.07	ECB injects a further €40 billion into the three-month money market to reduce differentials vis-à-vis overnight rates.
24.8.07	US Fed announces a 50 basis point cut in its discount rate and widens the range of securities it is willing to accept as eligible collateral (e.g. to include ABCP).
6.9.07	ECB injects a further €42.2 billion to bring down overnight interest rates whilst US Fed injects a further $31.25 billion into overnight markets, its biggest intervention since 10 August.
12.9.07	ECB injects a further unscheduled €75 billion into the three-month money market (140 banks had, in fact, applied for €139 billion and agreed to pay a rate of 4.52 per cent, below interbank rates but above the ECB's target rate of 4 per cent).

18.9.07 US Fed cuts the Federal funds rate by 50 basis points, to 4.75 per cent, as well as the discount rate by 50 basis points. Moves designed to 'help forestall some of the adverse effects on the broader economy that might otherwise arise from the disruptions in financial markets'.

15.10.07 Three large US banks (i.e. Citigroup, JP Morgan and Bank of America) announce a Treasury-backed plan to create a temporary $75 billion plus "super fund" to buy assets from the banks' structured investment vehicles (SIVs) in order to free up the commercial paper market. Sub-prime asset purchases are excluded from consideration.

31.10.07 US Fed cuts the Federal funds rate by 25 basis points to 4.5 per cent.

1.11.07 US Fed injects $41 billion to try to narrow the gap between money market rates and the new Federal funds rate. This is the largest one-day cash infusion since September 2001.

8.11.07 ECB announces fresh measures to calm the markets. Will inject €60 billion of money into the market this month with a further €60 billion to be injected in December.

23.11.07 ECB announces it will inject an unspecified amount of extra liquidity into the money market next week and will continue to do so at least until the end of 2007 in order to deal with "re-emerging tensions".

25.11.07 California's Governor announces a deal with four of the state's biggest mortgage lenders to slow the rate of home loan defaults.

26.11.07 US Fed announces a new plan to avert an end-of-year funding crisis in the US money markets. A series of long-term liquidity operations spanning the New Year were revealed, starting with a $8 billion repo deal to mature on 10 January 2008. The Fed also announced a relaxation of the terms on which market participants can borrow Treasury securities from its own portfolio.

29.11.07 The banks which rescued IKB (*see* the entry above for 30.7.07) promise to cover a further $520 million of possible losses to prevent a collapse of the bank.

31.11.07 ECB announces it will, exceptionally, extend a regular money market operation by an extra one week to cover the year-end period in order to keep market interest rates in line with its policy rate.

6.12.07 US President unveils a voluntary plan to freeze interest rates on some sub-prime loans for up to five years to limit foreclosures (some 300,000 borrowers are expected to benefit).

11.12.07 US Fed cuts the Federal Funds rate by 25 basis points to 4.25 per cent and also the discount rate by 25 basis points to 4.75 per cent.

12.12.07 Central banks around the World (i.e. the US Fed, the Bank of England, the ECB, the Bank of Canada and the Swiss National Bank) announced joint plans to make term funds (the total will not change, only the maturity mix) more readily available to banks. The Fed will create a new liquidity facility involving the auctioning of term loans to banks and the acceptance of a wider range of collateral, including housing-related securities. Two auctions, of $20 billion each, of one-month loans will be held in December 2007, with a further two to be held in January 2008. The funds will go to the highest bidder and no minimum interest rate will apply.

The ECB and the Swiss National Bank, in turn, will enter into swap arrangements with the Fed to allow for the auction of $24 billion ($20 billion and $4 billion respectively) of dollar-denominated funds to European banks.

17.12.07 ECB announces it will offer unlimited funds, for a period of two weeks, at below market interest rates to head off a year-end liquidity crisis and keep market rates close to its policy rate (4 per cent).

18.12.07 ECB pumps a record €348.6 billion of two-week money into the markets. Some 390 Eurozone banks request funds, which are provided at 4.21 per cent.

18.12.07 US Fed announces tough new rules on mortgage selling in the US.

19.12.07 US Fed announces that 93 banks took part in this week's auction of one-month money with the interest rate being set at 4.65 per cent (compared with a discount rate of 4.75 per cent). The banks bid for a total of $61.6 billion.

19.12.07 ECB announces that it has auctioned $10 billion in one-month money to 39 Eurozone banks under its new swap arrangement with the Fed, at a rate of interest of 4.65 per cent.

Separately, it also reveals that the demand for three-month euro loans fell below the €50 billion it was prepared to allocate; and that it had been forced to mop up €133.6 billion of excess overnight liquidity following its record injection of 18.12.07.

21.12.07 US Fed and the ECB announce that they have jointly lent a total of $30 billion in 35-day funds over a 48-hour period. Of this amount, the ECB allotted $10 billion in funds to Eurozone banks under its second dollar tender, with 27 banks duly bidding for $14.1 billion. The Fed, in turn, in the second of its four special auctions, lent another $20 billion of one-month money at 4.67 per cent, 73 banks bidding for a total of $55.7 billion of funds. In both cases, the auction served to reduce LIBOR spreads over official target rates.

Separately, the ECB also confirmed that further "mopping up" operations had led to it re-absorbing some €141.6 billion of funds from Eurozone banks at a rate of interest of 4 per cent, thereby securing a tidy profit on its operations of the 18.12.07.

21.12.07 Plans to create a $75 billion "super fund" (*see* entry above for 15.10.07) are abandoned due to lack of support from the banking industry, many banks preferring to consolidate their SIVs on to their own balance sheets.

11.1.08 Bank of America agrees to buy the troubled (and largest) US mortgage lender Countrywide Financial for just under $4 billion.

18.1.08 The monoline, Ambac, suffers a ratings downgrade, triggering downgrades for the bonds it guarantees, thereby threatening huge losses for the companies holding the bonds. The downgrading follows the downgrading of the smaller monoline, ACA Financial Guaranty, in December 2007.

22.1.08 US Fed cuts the Federal funds rate by an unprecedented 75 basis points to 3.5 per cent at an unscheduled meeting in a bid to ward off recession in the US.

22.1.08 Ambac Financial, the World's second largest bond insurer, reports a $3.26 billion loss after writing down the value of its guarantees on sub-prime mortgage-related bonds by $5.21 billion.

22.1.08 Bank of America announces fourth quarter trading account losses of $5.44 billion, mainly as a result of reductions in the value of CDOs.

30.1.08 US Fed announces a further 50 basis points cut in the Federal funds rate, taking it to 3 per cent, in a further attempt to ward off recession in the US. The discount rate is also cut by 50 basis points.

10.2.08 G7 finance ministers forecast global sub-prime-related losses could reach $400 billion, far in excess of the $100 billion - $150 billion forecast made by the US Fed in 2007.

11.2.08 AIG, the US insurance company, raises its estimate of 2007 losses incurred on insuring mortgage-related instruments (e.g. CDOs) from $1 billion to $5 billion.

13.2.08 German Government announces that it will lead a third bail-out of IKB. The Government will contribute up to €500 million.

13.2.08 US President enacts a $170 billion fiscal stimulus package in an attempt to re-invigorate the US economy.

19.2.08 Credit Suisse announces $2.85 billion of losses on structured credit products that will reduce first quarter net income in 2008 by around $1 billion.

6.3.08 ECB holds its policy rate at 4 per cent at its latest meeting.

7.3.08 US Fed announces it will increase its emergency liquidity assistance to $200 billion *via* a $40 billion (taking the total to $100 billion) increase in the size of its auction of one-month's money and the creation of a new $100 billion

one-month repo facility (aimed primarily at investment banks). The increase in funds made available through the extended term auction facility ("TAF") and new repo facility will be offset by reduced holdings of Treasury Bills by the Fed, thereby neutralising the overall impact on bank reserves.

7.3.08 Carlyle Group reveals that Carlyle Capital Corp failed to meet a number of margin calls in the past week, triggering liquidation of its portfolio of RMBs and the suspension of the Amsterdam-listed fund's shares on the bourse.

11.3.08 A second round of co-ordinated central bank intervention is announced. US Fed is to lend, *via* an auction, primary bond dealers up to $200 billion in Treasury securities for a month at a time in exchange for triple-A rated mortgage-backed securities as collateral. The Fed, the ECB and the Swiss National Bank (SNB) also announced an increase in the size of currency swaps (extended until September 2008) put in place in December 2007 by 50 per cent. The two European central banks are to auction the dollars supplied by the Fed in the form of one-month loans, with the ECB initially offering $15 billion and the SNB $6 billion. And, finally, the Bank of Canada and the Bank of England – *see* Table 2 – also announced extensions in their liquidity support operations.

14.3.08 US Fed provides $30 billion of emergency liquidity support, in the form of collateralised discount window lending, *via* JP Morgan Chase, to Bear Stearns, the fifth largest investment bank in the US. This is the first time cash has been disbursed to a US financial institution other than a regulated commercial bank since the 1930s, and reflected the Fed's concerns with the systemic risks associated with allowing the bank to fail given its interconnectedness with the wider US financial system *via* its operations in mortgage-backed securities and the credit default swaps and other derivatives markets, and its role as prime broker to hedge funds.

16.3.08 US Fed sanctions a takeover of Bear Stearns by JP Morgan Chase – the latter offered $2 per share, payable in its own stock, to shareholders in the former, valuing Bear Stearns at a mere $230 million compared with a market capitalisation of around $20 billion just one year earlier – and extends discount window emergency support to all primary dealers, who can use investment grade securities as collateral to access the loans (under the "Primary Dealer Credit Facility").

18.3.08 US Fed cuts the Federal funds rate by a further 75 basis points, to 2.25 per cent, as well as the discount rate (by 75 basis points, taking it to 2.5 per cent).

19.3.08 The US Office of Federal Housing Enterprise Oversight announces a reduction in surplus regulatory capital requirements (from 30 per cent to 20) for the government-chartered mortgage providers Fannie Mae and Freddie Mac to allow them to pump up to $200 billion of additional liquidity into the beleaguered US mortgage market. In particular, the move was designed to allow the entities to support the market for "jumbo" mortgages (in excess of

$417,000) and increase their capacity to refinance sub-prime home loans and conduct loan modifications for struggling borrowers.

24.3.08 JP Morgan Chase raises its offer for Bear Stearns to $10 a share, valuing the latter at around $1.2 billion, and agrees to shoulder the first $1 billion of losses on the $30 billion of illiquid Bear assets the Fed agreed to fund under the assisted takeover.

24.3.08 In a further bid to support the US housing market, the US Government, through the Federal Housing Finance Board, gives the Federal Home Loan Banks permission to increase (by over $100 billion) for two years their purchases of mortgage-backed securities guaranteed by Fannie Mae and Freddie Mac, the Government-chartered mortgage financiers.

25.3.08 ECB allocates €216 billion - €50 billion more than normally required – in seven-day funds to the market in its normal weekly operation at an average interest rate of 4.28 per cent. And the US Fed, at its latest Term Auction Facility (TAF), receives bids for $88.9 billion compared with the $50 billion on offer.

26.3.08 US Treasury Secretary, Hank Paulson, calls on the Federal Reserve to formally supervise investment banks for as long as they enjoy access to discount window lending.

27.3.08 Federal Reserve Bank of New York activates its 'Term Securities Lending Facility' (TSLF) auctioning $75 billion of US Treasury securities in exchange for other securities held by primary dealers. The loan lasts for 28 days.

28.3.08 ECB announces its first injections of six-months money into Eurozone markets; €25 billion will be injected during the following week with another to follow in July 2008. These injections will complement additional injections of three-months money.

28.3.08 Head of the Office of Federal Housing Enterprise Oversight (OFHEO) confirms that Fannie Mae and Freddie Mac had agreed to raise up to $10 billion of new capital each in return for the earlier reductions made to their surplus regulatory capital requirements (from 30 per cent to 20 per cent).

31.3.08 US Treasury unveils plans for a radical overhaul of financial regulation in the US.

1.4.08 UBS announces a further $19 billion of sub-prime-related writedowns amid plans to park troubled sub-prime mortgage assets in a separate subsidiary.

1.4.08 Deutsche Bank reveals first quarter writedowns of €2.5 billion, largely on its leveraged loan portfolio.

2.4.08 Amid calls for tighter regulation, US GSEs (i.e. Fannie Mae, Freddie Mac and Federal Home Loan Banks) revealed to have taken a 90 per cent market share

of new US mortgages by end-2007 as private sector suppliers withdraw from the market place.

2.4.08 Eurozone banks bid for €103 billion of six-months money at the first €25 billion auction of six-months money by the ECB, as three-month inter-bank interest rates (Euro Libor) rise to a 74 basis point premium over policy rates.

3.4.08 Another of Germany's state Landesbanken, BayernLB, announces large writedowns on sub-prime-related securities, €2.3 billion to be made in the 2007 accounts and a further €2 billion for the first quarter of 2008.

4.4.08 EU finance ministers agree to co-operate more closely on cross-border supervision to help avert cross-border financial crises. The "accord" is due to come into force on 1 July 2008.

8.4.08 IMF warns of potential credit crisis-related losses of nearly $1 trillion worldwide, split more or less equally between banks and non-bank financial institutions, making it the most expensive financial crisis in history.

9.4.08 The Institute of International Finance (IIF) releases its interim finance industry report, promising a code of conduct for better self-regulation of the finance industry amongst other proposals for reform.

14.4.08 Wachovia, the fourth-largest US bank by assets size, announces a first quarter loss of $393 million after making a $2.8 billion provision for credit losses.

14.4.08 The Financial Stability Forum presents a report to the G7 Finance Ministers and Central Bank Governors making recommendations for enhancing the resilience of markets and financial institutions.

16.4.08 Basel Committee reveals plans to prevent a repetition of the credit crisis by, *inter alia*, requiring banks to hold more capital against exposures to OBS entities and holdings of complex debt securities.

18.4.08 Citigroup announces a first quarter loss of $5.1 billion caused, in part, by nearly $16 billion of writedowns, including $6 billion on sub-prime mortgages, $3.1 billion on leveraged loans, $1.5 billion on exposure to monoline bond insurers and $1.5 billion on auction rate securities.

30.4.08 US Fed cuts the Federal funds rate by 25 basis points to 2 per cent, taking the cumulative cut since mid-September 2007 to 325 basis points.

2.5.08 US Fed increases the size of its credit auction facility, which provides one month loans to banks, from $100 billion to $150 billion. And, together with the ECB and the SNB, it also announces a near 50 per cent increase in dollar currency swaps.

6.5.08 The Office of Federal Housing Enterprise Oversight cuts Fannie Mae's surplus capital requirement again, from 20 per cent to 15 per cent.

13.5.08 Chairman of the Federal Reserve announces that he is ready to increase the size of its credit auctions beyond the current level of $150 billion a month if stresses in the money markets warrant it.

9.6.08 Lehman Brothers, the US investment bank, announces a second-quarter loss of $2.8 billion, largely due to losses on fixed income business. Plans to raise $6 billion through common and preferred stock issues were also announced simultaneously.

17.6.08 Basel Committee on Banking Supervision releases a consultation paper on the 'Principles for Sound Liquidity Risk Management and Supervision'.

24.6.08 According to Standard & Poor's Case-Shiller Index, house prices in large US cities declined by a record 15.3 per cent in April 2008, dashing hopes of an early housing market recovery although the pace of house price decline across the country on a monthly basis eased from 2.2 per cent in March to 1.4 per cent in April.

3.7.08 The ECB raises its policy rate by 25 basis points to 4.25 per cent in the face of eurozone inflation of over 4 per cent, more than double its target of 2 per cent.

8.7.08 US Fed announces that its emergency cash facility for investment banks will be extended beyond September 2008 if market turmoil persists.

11.7.08 IndyMac Bancorp, a large Californian-based US regional bank, collapses and is subjected to a 'bridge bank' scheme by the FDIC. With assets of around $32 billion, this represents the US's second-biggest bank failure. Like Northern Rock in the UK, it also provided the spectre of queuing branch depositors.

13.7.08 US Treasury announces that it will ask Congress for unlimited authority, until end-2009, to lend Fannie Mae and Freddie Mac money and invest in their equity. At the same time, the US Fed announces that it will provide the two GSEs with access to emergency cash on the same terms as banks, if necessary, pending Congress's approval of governmental support. The decisions are taken in the light of the two groups' near 50 per cent market share of the $12 trillion US home loans market and the increasing nervousness of their private investors.

16.7.08 The CPI in the US is revealed to have grown by 5 per cent, at an annualised rate, in June 2008, the fastest rise since 1991.

22.7.08 Basel Committee on Banking Supervision reveals its proposed revisions to the Basel II market risk framework.

29.7.08 Merrill Lynch announces sales of $30 billion of CDOs for $6.7 billion, raising just 22 cents on the dollar, intensifying pressure on other banks to make further writedowns on mortgage-related securities.

29.7.08 Standard & Poor's Case-Shiller Index shows a record annualised 15.8 per cent fall in May 2008, dashing hopes of an early recovery in US house prices.

30.7.08 US Fed announces that it will offer three-month (84-day) cash loans (under its TAF) to banks and create a new $50 billion options auction facility giving bidders the right to swap illiquid securities for Treasuries over periods of likely funding stress (e.g. year-end). Investment banks and other primary dealers will also be given extended access to emergency cash and loans of Treasury securities until 30 January 2009.

At the same time, it was also announced that the ECB and the SNB will offer three-month dollar loans through the off-shore dollar facility set up in conjunction with the Fed. The Fed will increase the amount of dollars it provides to the ECB in exchange for euros by $5 billion to $50 billion.

30.7.08 Financial Accounting Standards Board votes to delay, until January 2010, the introduction of new rules forcing banks to consolidate more off-balance-sheet vehicles directly in their accounts. This means banks reporting under US GAAP rules may be able to delay consolidating up to $5 trillion of assets.

6.8.08 Freddie Mac reveals a second-quarter loss of $821 million.

8.8.08 Fannie Mae reveals a second-quarter loss of $2.3 billion.

12.8.08 US and European banks bid heavily for dollar-denominated funds at the first auctions of three-month dollar funds under the 'TAF' scheme. European banks bid for almost four times the $10 billion available from the ECB, US banks bid for more than twice the $25 billion available at the Fed and Swiss banks bid for almost five times the funds available at the SNB.

14.8.08 Publication of the latest inflation figures in the US reveals that the CPI stood at 5.6 per cent in July, the highest level for 17 years.

21.8.08 KFW, the state-owned development bank, announces it is to sell its stake in IKB to Lone Star, the US investment group. The acquisition would result in Lone Star owning more than 90 per cent of IKB.

25.8.08 Danish central bank takes control of Roskilde Bank, the country's eighth largest retail lender, to avert a systemic financial crisis. The bank had experienced a liquidity crunch following losses incurred primarily in the local property market, and no private buyer could be found.

25.8.08 FDIC reveals that its 'problem list' of banks grew from 90 institutions at the end of March 2008 to 117 by the end of June, the highest figure since 2003. Meanwhile, the agency's insurance fund fell to 1.01 per cent of insured

deposits, the lowest level since the 1990s and below the target level of 1.25 per cent.

28.8.08 Publication of the revised GDP figures reveals that growth in the US economy during the second quarter of 2008 was 3.3 per cent, at an annualised rate, and higher than most commentators expected.

4.9.08 ECB announces that, from 1 February 2009, it will change its procedures to reduce the abuse of its special liquidity operations. Accordingly, haircuts applied to ABS used as collateral will be increased; and some bonds not backed by mortgages or other loans denominated in euros will be excluded.

5.9.08 Publication of the latest employment figures in the US reveals that, in August 2008, the unemployment rate rose to 6.1 per cent, the highest level recorded for five years.

7.9.08 US Government takes control (through 'conservatorship') of the troubled GSEs Fannie Mae and Freddie Mac and pledges to inject up to $100 billion in each of them if necessary to prevent their failure. It will also buy and hold mortgage bonds issued by the two entities and extend an unlimited liquidity facility to them until end-2009. The decision to formally assume control was taken in order to bolster the US housing market – the two bodies combined own or guarantee more than $5 trillion of mortgage-backed securities – and prevent turmoil in the US and global financial markets (overseas investors, including governments and central banks, are major holders of the institutions' bonds) although the adverse impact on stockholders (common and preferred) and credit default insurers will dent short run profits for some (especially US regional banks).

10.9.08 Lehman Brothers announces a third-quarter loss of $3.9 billion after making credit-related writedowns of $7.8 billion.

15.9.08 On a tumultuous day on Wall Street, Lehman Brothers, the fourth-largest investment bank in the US, files for bankruptcy protection following a failure to find a buyer, Merrill Lynch agrees to a $50 billion takeover by Bank of America after coming under pressure from the Fed to find an immediate buyer, and AIG, one of the world's largest insurance companies, is allowed by its New York state regulators to access $20 billion of assets from its own subsidies to use as collateral for a loan in a desperate bid to stave off a liquidity crisis and avoid credit rating downgrades.

In the wake of the turmoil, the Fed dramatically eased the terms on which it lends to investment banks. Under the primary dealer credit facility it will now accept equities and sub-investment grade debt as eligible collateral; whilst, under its Treasury securities lending facility – now expanded to $200 billion – it will now accept all investment-grade debt against loans of government bonds. In addition, it supplied an extra $70 billion of overnight liquidity into the money markets to try to keep the effective Federal funds rate close to the policy rate of 2 per cent.

16.9.08 In order to ease pressures in the money market in the face of bank hoarding of cash, the Fed injected a further $50 billion of overnight money and $20 billion of 28-day funds stating it would provide further liquidity if necessary. The ECB also injected another Euro 70 billion in overnight money, although bids exceeded Euro 100 billion.

16.9.08 The rating agencies Standard & Poor's and Moody's both downgrade Washington Mutual bank to junk status, raising fears that this bank would become the next US bank to fail.

16.9.08 Goldman Sachs announces a 70 per cent (year-on-year) fall in third-quarter profits to $845 million.

17.9.08 Reluctantly, and following a failed attempt to find a private sector solution, the US Fed extends an $85 billion, two-year bridging loan to the insurance giant AIG to fend off imminent bankruptcy. In exchange for the loan, the US Government takes an 80 per cent equity interest in the firm. Existing management are to be replaced; and the loan is made at a punitive rate of interest of LIBOR plus 8.5 per cent.

The decision to rescue the firm was taken to avoid what were deemed unacceptable systemic risks associated with the firm's collapse. In particular, because of the firm's involvement in the credit default swaps – insurance was sold to banks and others eager to secure protection against default on fixed income securities (e.g. CDOs) – and other derivatives markets, to the tune of over $440 billion, failure would have wrought havoc around the world as counterparties struggled to deal with the consequences. In other words, AIG's diversification into financial services more broadly rendered it "too inter-connected to fail".

17.9.08 Shares in the two remaining US investment banks, Morgan Stanley and Goldman Sachs, crash – by 37 per cent and 23 per cent respectively – and the cost of insuring against the default of their debt soars as investors continue to question the sustainability of the investment banking model in the wake of falling profits.

18.9.08 US Fed provides $180 billion to central banks in Japan, the Eurozone, the UK, Switzerland and Canada – through an expansion in current dollar swap facilities (with the ECB and the SNB) and the creation of new swap lines (with the BoE, BoJ and BoC) – to on-lend to local banks that cannot access its onshore dollar lending facilities. It also injects $50 billion of overnight funds and $5 billion of 14-day funds into the local money markets to boost liquidity.

18.9.08 Following a clampdown by the SEC on "naked" short-selling – where the underlying stock is neither borrowed nor delivered by the short-seller – some of the world's biggest institutional investors stop lending shares of Goldman Sachs and Morgan Stanley to hinder short-selling of the stocks.

18.9.08 Following the difficulties faced by Reserve Fund, the first money market fund to fall below the par value of $1 per share, Putnam Investments closes its Putnam Prime Money Market Fund and distributes all assets because of a spike in redemption requests from clients.

19.9.08 Shares around the world rebound, including those of Goldman Sachs and Morgan Stanley, following co-ordinated action by financial regulators around the globe (including the US SEC) to temporarily ban the short-selling of financial stocks and the US administration's announcement of the planned creation of a government-sponsored vehicle to take over toxic assets from the books of banks and other financial institutions (up to $700 billion of taxpayer funding may be required to allow for this although eventual asset sales are expected to recoup much of the investment). US officials also announce a blanket guarantee of all money market mutual funds and new plans to support liquidity in this sector of the financial system to avoid a widening spread of contagion.

21.9.08 Morgan Stanley and Goldman Sachs announce they have abandoned their attempts to remain stand-alone investment banks and have secured regulatory approval to become bank holding companies. This means they now fall within the regulatory framework administered by the Fed rather than the SEC (although they will be given time to comply with the new regulatory requirements, particularly those relating to capital adequacy); but they also now enjoy the permanent and wider range of emergency liquidity assistance available at the Fed compared with that recently dispensed to investment banks.

22.9.08 Morgan Stanley announces that it is to sell a stake of between 10 and 20 per cent to MUFJ, the Japanese financial group, in a deal worth up to $9 billion.

24.9.08 Goldman Sachs announces that it has secured a $5 billion investment (in preferred shares) from Warren Buffet as well as an additional $5 billion of capital from the public markets.

25.9.08 US Fed extends (by $30 billion) emergency help to other central banks – in Australia, Sweden, Denmark and Norway – to allow them to on-lend to those local banks desperate to secure dollar-denominated loans.

25.9.08 Figures released by the US Fed reveal a $61 billion decline in outstanding volume in the US commercial paper market following a $52.1 billion decline the week earlier, making it increasingly difficult for corporates to raise working capital. The fall in market liquidity reflects the dramatic withdrawal of funds from the market by money market funds as the latter flee to safer investments (i.e. government securities).

26.9.08 Washington Mutual collapses to become the biggest bank failure in US history and the fourteenth casualty of the credit crunch this year. JP Morgan swoops to acquire the bank's assets and branches for $1.9 billion, in the process becoming the largest US bank.

26.9.08 The Belgium Government is forced to offer public reassurances to the depositors of Fortis, the Belgian-Dutch banking and insurance group, following rising market concerns about its liquidity position. The banking group's difficulties have arisen, in part, because of problems deriving from its purchase of parts of ABM Amro, its former Dutch rival, in 2007.

29.9.08 Following the House of Representatives' rejection of the US Government's $700 billion bailout plan ('TARP'),* US markets go into freefall, with the Dow Jones falling by just under 780 points on the day. The nervousness generated in Europe earlier about the likely outcome of the vote had already prompted the US Fed to increase its dollar swap facilities with other central banks from $290 billion to $620 billion to help banks in Europe fund their dollar assets, with the ECB in turn lending an additional €120 billion for 38 days. In addition, the Fed dramatically increased domestic liquidity operations, doubling the size of its credit auctions to $300 billion and tripling the amount of this offered in the form of 12-week, rather than 4-week, loans. It also said it would offer another $150 billion in one-off auctions to tide institutions over until the end of the year.

[*The original 'Paulson Plan' had been extended to embrace more extensive oversight of the Treasury's operation of the scheme, the imposition of restrictions on the remuneration of senior bankers working for institutions which accessed the scheme, the introduction of warrants to allow the Government to benefit from any upturn in the fortunes of recipient institutions, measures to ensure that financial institutions themselves paid for any losses incurred, and the phasing of the injection of funds.]

29.9.08 On the same day that the US Government's bail-out plan was voted down, another major (the sixth largest) US bank – Wachovia – had to be rescued in a government-brokered takeover by Citigroup. Under the terms of the deal, Citigroup agree to absorb up to $42 billion of losses on a $312 billion pool of loans inherited from Wachovia but, in return for $12 billion in preferred stock and warrants, the FDIC agreed to absorb any losses beyond that. In this way, the acquirer's downside risk is limited. Unlike Washington Mutual, Wachovia was not allowed to collapse because of its larger size and greater inter-connectedness with the financial system, thereby posing greater systemic risk. The acquisition, which cost $2.2 billion, will propel Citigroup to the fore in retail banking, given the $450 billion of deposits acquired and the implied trebling of its branch network to over 4,000 branches.

29.9.08 Other momentous events were also happening in Europe on this day as, apart from the UK Government's nationalisation of Bradford and Bingley, the Icelandic Government were forced to take control of Glitnir, the country's third largest bank, to prevent a systemic crisis (€600 million of equity had to be injected into the bank by the Government, which assumed a 75 per cent stake). The German Government, too, were in bailout mode, joining together with the banks to provide a €85 billion liquidity lifeline to Hypo Bank Estate, one of the country's biggest lenders in the commercial property market and to local authorities. The Governments of Belgium, Holland and Luxembourg

also joined forces to inject €11.2 billion into Fortis's national banking subsidiaries to help shore up confidence in the banking and insurance group. This capital injection provides the Governments with 49 per cent stakes in Fortis's respective national arms. And, finally, the Governments of France, Belgium and Luxembourg joined forces to bail out Dexia, the Franco-Belgium lender, with a €6.4 billion injection of funds.

30.9.08 The Irish Government guarantees all debts and savings accounts of its six largest lenders for up to two years in exchange for an unspecified charge following steep falls in their share prices on the stock market.

30.9.08 After its shares lose 30 per cent of their value in one day, the Governments of Belgium, France and Luxembourg jointly inject €6.4 billion into the Belgian-French bank Fortis that specialises in local authority finance. Under the deal: the Belgium Government and Belgian stakeholders (including three regions and three institutional stockholders) agreed to invest €3 billion in the bank; the French Government will contribute €1 billion; the French state-controlled Caisse des Dépôts will contribute €2 billion; and the Luxembourg Government will contribute €376 million, in the form of convertible bonds. A collapse of the bank was deemed unacceptable by the three governments because of the systemic risks posed for the region.

30.9.08 To alleviate stress in the money markets, central banks around the world were once again pumping in money The ECB, for example, lent €15.4 billion at its 5.25 percent penalty rate yet, simultaneously, found itself host to €44 billion of funds parked with it overnight at a rate of only 3.25 per cent under its standing facility, illustrating the unwillingness of Eurozone banks to deal with each other directly. €230 billion of additional funding was also provided. Moreover, in order to satisfy market demand for dollars, it also offered $30 billion of overnight money, securing a lending rate of 11 per cent. And, in the UK, $10 billion was taken by British banks at the morning auction, at an average rate of 5.2 per cent.

2.10.08 US Senate passes the revised (it now includes a $150 billion range of tax breaks for firms and individuals as well as a temporary increase in the level of FDIC-insured deposits from $100,000 per person per institution to $250,000) 'TARP' bill and it now passes back to the House of Representatives for reconsideration. Its potential cost now exceeds $850 billion.

2.10.08 US commercial paper market is revealed to have shrunk by another $95 billion in the previous week, taking the three-week contraction to $200 billion.

3.10.08 House of Representatives passes the revised TARP although the market is not impressed, registering further falls.

3.10.08 Wells Fargo stuns the markets with a $15.1 billion all-share offer for Wachovia to trump the earlier government-aided $2.2 billion takeover by Citigroup.

3.10.08 Dutch Government revises the terms of the inter-governmental bailout of Fortis by announcing that it will take full control of all of the troubled Belgian-Dutch banking and insurance group's operations on its side of the border at a cost of €16.8 billion. The Government move in effect means the nationalisation of ABN Amro, one of the nation's largest retail banks, a year after it was taken over in a €71 billion break-up bid.

3.10.08 ECB announces that it will throw open its "fine-tuning" operations for overnight cash auctions from next Monday to 1,700 European banks rather than the current 130 with which they deal in reaction to the paralysis of the money markets.

5.10.08 The consortium of banks which had pledged liquidity support for the German lender Hypo Real Estate – one of Europe's biggest commercial property lenders with a balance sheet of €400 billion – pulled out of the deal, leaving the Government to put together a new rescue package.

5.10.08 In the wake of the continuing uncertainty over the fate of Hypo Real Estate, the German Government announced that it would offer a 100 per cent guarantee to all private bank depositors, following the lead taken by Ireland and Greece.

5.10.08 Iceland's Prime Minister and central bankers held emergency talks with banks and pension funds in a bid to shore up Iceland's troubled financial system.

5.10.08 Following a battering of its share price on the stock market, Italy's UniCredit announces emergency plans to boost its core capital by €3.6 billion through the payment of dividends in shares rather than cash and a convertible bond issue.

5.10.08 The revised bailout plan – TARP – becomes law in the US.

6.10.08 Stock markets crash around the world, led by bank shares, in response to post-summit EU political disunity and doubts about the efficiency of the agreed 'Paulson Plan'. The FTSE 100 index in the UK falls by its biggest ever single-day amount, equivalent to a decline of 7.9 per cent and representing the largest single-day percentage fall since 'Black Monday' in October 1987.

6.10.08 Political disunity in the EU is reflected in the adoption of "beggar-thy-neighbour" policies in respect of depositor protection following the earlier Irish decision to offer blanket protection to depositors with its six largest lenders. Following the earlier response of the German and Greek Governments, which also provided blanket deposit guarantees to at least a sub-section of the local deposit market, Iceland, Portugal, Denmark and Sweden all extended the size of their explicit guarantees for depositors.

Iceland duly provided a full guarantee to all of its depositors as it struggled to maintain financial stability in the wake of a collapse in the external value of the krona and a suspension of trading in bank shares as the Government deliberated a rescue plan for the banking sector and the wider economy thought to involve widescale bank nationalisation, repatriation by pension funds of overseas assets and the sale by banks of foreign assets. The Danish Government guaranteed all bank deposits and some interbank lending in return for a pledge from the country's banks to establish a rescue fund of up to Dk35 billion. And, during the next two years, Danish banks will not be able to issue dividends, make share buybacks or establish or renew share option schemes for managers. Finally, in Sweden, the guarantee limit was doubled to Skr500,000 ($69,000).

6.10.08 As if the instability created by the rush by EU governments to increase depositor guarantees was not enough, further banking woes necessitated immediate remedial action. In Belgium, for example, following the Dutch Government's decision to nationalise the local banking and insurance operations of *Fortis*, the Government brokered a €14.5 billion takeover of the group's banking and insurance operations in Belgium and Luxembourg by the French bank BNP. This will make the latter the largest Eurozone bank both by size of deposits (€586 billion) and funds under management (€209 billion). Under the deal, 75 per cent of the Belgium Government's stake in Fortis will be sold to BNP along with all the group's insurance business in Belgium and Luxembourg. The deal will result in the Belgian Government becoming the largest shareholder in BNP, with a stake of 11.6 per cent, with the state of Luxembourg also owning a 1.1 per cent stake. Meanwhile, in Germany, a second bailout of *Hypo Real Estate* was underway after a €50 billion lifeline was thrown to the bank in a last-minute rescue attempt by the German Government and the local banking and insurance industries. The second rescue attempt was prompted by the discovery of an additional €15 billion liquidity shortfall, which prompted the original bailout conditions to be withdrawn. Hypo's problems stem from its very high reliance on short-term wholesale funding, its high leverage, and its excessive exposure to the commercial real estate market.

7.10.08 The Fed announces that, for the first time in its history, it will purchase commercial paper from US corporations directly. Using a loan from the Treasury, the Fed has set up a Commercial Paper Funding Facility to buy potentially unlimited amounts of three-months debt in order to assist companies struggling to raise funds for periods longer than overnight.

7.10.08 FDIC announces that it is to double deposit insurance contributions to cover further expected losses arising from future bank failures of about $40 billion. $45 billion of losses had already been racked up by the end of the second quarter 2008.

7.10.08 The Icelandic Government nationalises Landsbanki, its second largest bank, following the earlier part-nationalisation of Glitnir, its third largest bank, and asks Russia for a €4 billion loan after the West rejected its appeal for

assistance. The nationalisation of Landsbanki creates problems for British depositors in its internet-based subsidiary, Icesave, because, should the bank be declared insolvent – deposits are only currently frozen – the depositors will have to reclaim the balance of compensation, up to the new £50,000 limit, from the UK's FSCS above the local level of protection of, around, £16,200. This will affect around 300,000 UK depositors, and may see some (i.e. around 15,000) lose if their balances exceed the £50,000 limit per account.

7.10.08 Spain announces the creation of a €30 billion – €50 billion emergency fund to provide liquidity to the financial system by buying Spanish bank assets as well as a fivefold increase in the deposit guarantee given, from €20,000 to €100,000. The fund, which will be used to buy healthy not toxic assets, is designed to complement the emergency funding taken by Spanish banks from the ECB. The decisions follow the agreement reached by EU finance ministers in Luxembourg to allow the 27 member countries freedom to use whatever mix of policies they like – from direct recapitalisation of the banks to the purchase of bank assets and the extension of deposit guarantees- to restore financial stability.

8.10.08 In a co-ordinated action by central banks around the world (including the Bank of England, the Peoples Bank of China, the ECB, the SNB and Sweden's Riksbank), the US Fed cuts its policy rate by 50 basis points to 1.5 per cent, the ECB's policy rate falling to 3.75 per cent.

8.10.08 US regulators lift the temporary ban on the short selling of financial stocks, precipitating another speculative attack on Morgan Stanley.

9.10.08 Icelandic Government nationalises Kaupthing, its biggest and last major bank, threatening a default on overseas depositor claims.

9.10.08 Ireland extends its bank deposit guarantee to cover those foreign-owned banks in Ireland which have a "significant" operation in the country.

9.10.08 ECB switches to offering banks unlimited euro-denominated liquidity at fixed interest rates and emergency lending at a lower penalty rate. Collateral requirements are also to be relaxed, contrary to earlier announcements.

9.10.08 Belgian Government offers to guarantee all new bank financing by Dexia for one year to assist in overcoming the bank's liquidity problems.

10.10.08 With the IMF declaring that the international financial system stands close to a meltdown, the G7 meeting in Washington comes up with a five-point plan to tackle the crisis: to "take decisive action … to support systemically important financial institutions and prevent their failure"; "to take all necessary steps to unfreeze credit and money markets and ensure that banks and other financial institutions have broad access to liquidity and funding"; to "ensure that our banks and other major financial intermediaries can raise capital from public as well as private sources, in sufficient amounts to re-

establish confidence"; to "ensure that our respective national deposit insurance and guarantee programs are robust and consistent"; and to "take action, where appropriate, to restart the secondary markets for mortgages and other securitised assets". The world now awaits the action promised.

12.10.08 At a hastily-arranged summit in Paris, Eurozone governments agree on a plan, broadly in line with the UK Government's three-pronged plan of bank recapitalisation, continued liquidity infusion and the guarantee of new medium-term bank debt issuance, to address the intensifying global credit crisis. Individual countries are expected to reveal the details of their own plans from tomorrow.

Meanwhile, further developments around the world include: US officials formalising their plans for the recapitalisation of their banks and financial institutions; Norway announcing that it will provide its banks with up to $55.4 billion in government bonds in exchange for mortgage debt; Portugal promising to make up to €20 billion available in guarantees for its banks' financing operations; Australia, New Zealand and the United Arab Emirates guaranteeing all deposits; and the ECB considering providing an unsecured lending facility through the purchase of commercial paper from banks.

13.10.08 The US Fed announces that it is making unlimited amounts of dollar funds available to be distributed by the ECB, the SNB and the Bank of England. The three central banks, in turn, announced that they would be injecting whatever was demanded at a pre-fixed interest rate over periods of seven days, a month and 84 days, against the appropriate collateral requirement applicable in each area.

13.10.08 In a co-ordinated move, governments throughout the EU announce bailout plans along the lines of the three-point approach adopted in the UK. *Germany*, for instance, is to issue, for a fee, up to €400 billion in credit guarantees for new interbank lending with maturities of up to 36 months and to set up a €100 billion fund to inject capital (€70 billion) into financial institutions requesting it, purchase illiquid assets (€10 billion) from banks and cover potential credit guarantee losses (€20 billion). For those banks seeking recapitalisation, conditions will attach to executive pay and bonuses and the payment of dividends. Meanwhile, in *France*, up to €320 billion will be available to provide guarantees of new bank debt issuance of up to five years to maturity, with a further €40 billion being available to banks wishing to raise their Tier 1 capital ratios to 9 per cent (as in the UK). Again, conditions will apply to executive pay and bonus structures; and there will also be a requirement relating to the maintenance of lending to firms and households.

14.10.08 Following the lead taken by European governments, the US Government announces that $250 billion of the previously-agreed $700 billion bailout funds will now be used to recapitalise US banks. Half ($125 billion) is to be injected into just nine banks: Bank of America (including Merrill Lynch, which it is acquiring), JP Morgan Chase, Citigroup and Wells Fargo will each receive $25 billion; Goldman Sachs and Morgan Stanley will each receive

$10 billion each; and the Bank of New York Mellon and State Street will receive $2 billion and $3 billion respectively. In return, the US Government will take non-voting preference shares paying 5 per cent annual interest, rising to 9 per cent after five years, as well as warrants for common stock equal to 15 per cent of its preference share investment until 2018. Unlike the UK, recipient banks will be able to carry on paying dividends but cannot increase them (nor buy back shares) without the permission of the Treasury. All institutions will get cash on the same terms, and the cost of securing loan guarantees – new interbank lending (and more deposits) will be guaranteed by the FDIC – will be the same for all banks, irrespective of their strength. Executive pay restraints will also apply to recipient institutions. All other "healthy" US financial institutions have until 14 November to decide if they wish to participate in the scheme, which is voluntary and is designed to raise banks' tier one ratios by between 1 and 3 per cent.

As in Europe, the stock market's reaction to the announcement was positive – with the broad indices recovering and bank CDS spreads on the "Too-Big-To-Fail" banks falling – but interbank rates only decreased slightly.

15.10.08 ECB confirms that it is to relax collateral requirements, other than for ABS, by reducing the acceptable ratings threshold from "A-" to "BBB-". Eurozone assets denominated in dollars, pounds and yen will now also be accepted as collateral alongside euro-denominated assets; and dollar liquidity will also be provided in exchange for euros, under swap arrangements which will not require banks to put up collateral.

15.10.08 EU regulators agree to relax accounting rules relating to the "fair" valuation of bank assets. EU banks now have the discretion to "reclassify" certain financial instruments and shift them from their trading books, where they must be marked at "fair", or current, market prices, to their banking books, where they can be reported at amortised cost. In this way, the banks can shield their balance sheets from short-run volatility in certain asset prices. The move follows the emergency changes made by the International Accounting Standards Board and reduces the competitive benefits previously enjoyed by US banks vis-à-vis their UK counterparts by virtue of disparities in accounting rules.

15.10.08 The third-quarter reporting season for US banks opens with three of the banks due to enjoy state injections of capital reporting profits. Wells Fargo, for example, reported net profits of $1.64 billion, whilst JP Morgan Chase and State Street reported net profits of $527 million and $477 million respectively. For JP Morgan Chase and Wells Fargo, these figures represent falls of 84 per cent and 25 per cent respectively on the figures recorded one year ago, but, for State Street, the figure represents a 33 per cent increase over the year.

16.10.08 Swiss Government announces a "rescue" package for UBS involving an injection of SFr6 billion (£3 billion) to help recapitalise the bank and the setting up of a fund, backed by the central bank, to hold up to $60 billion of toxic assets, mainly in the form of US mortgage-related securities. Credit

Suisse, UBS's main local rival, meanwhile declined government assistance, instead raising SFr10 billion from a group of strategic investors, including the Qatar Investment Authority.

16.10.08 Merrill Lynch, now owned by Bank of America, reports a third-quarter net loss of $5.2 billion, largely due to $9.5 billion of write-downs and credit losses on complex debt securities. Meanwhile, Citigroup also announces a third-quarter net loss, of $2.8 billion.

19.19.08 ING, the Dutch banking and insurance group, becomes the first institution to benefit from the €20 billion fund created by the Dutch Government to stabilise its institutions when it announced that it had accepted a €10 billion capital injection from the Government. This followed a collapse in its share price on 17 October following the announcement of a third-quarter loss for 2008 of €500 million. The capital injection will boost ING's tier 1 ratio to 8 per cent (from 6.5 per cent).

20.10.08 The French Government announces that it will inject €10.5 billion into its six largest banks in order to strengthen their balance sheets and ensure they continue to lend to consumers and businesses. The funds will be distributed as follows: €3 billion to Crédit Agricole; €2.55 billion to BNP Paribas; €1.7 billion to Société Générale; €1.2 billion to Crédit Mutuel; €1.1 billion to Caisse d'Epargne; and €0.95 billion to Banqué Populaire.

21.10.08 US Fed agrees to finance up to $540 billion of purchases of short-term debt (e.g. CDs, bank notes and commercial paper of up to three months maturity) from money market mutual funds, to help them finance redemptions and continue their normal investment patterns. The scheme – the "Money Market Investor Funding Facility" – will involve the central bank in lending money to five special purpose vehicles, to be managed by JP Morgan Chase, each of which will be able to purchase assets from 10 financial institutions. The size of the programme is capped at $600 billion, with the funds selling the assets taking the first 10 per cent of losses.

21.10.08 Bayern LB, a regional pubic sector lender, becomes the first German bank to seek help under its Government's rescue fund when it announced that it wishes to receive a €5.4 billion capital injection to strengthen its balance sheet. It will also put up €1 billion of its own funds. The bank confirmed it will not pay bonuses on dividends whilst in receipt of government assistance.

22.10.08 Wachovia, the bank that is being acquired by Wells Fargo, reveals a third-quarter loss of $23.9 billion, the largest quarterly loss made by any bank during the credit crisis.

24.10.08 Iceland announces a $2 billion loan from the IMF, to be topped up by loans from Nordic countries and elsewhere to take the total borrowed to around $6 billion. The IMF's intervention represents the first time its assistance has proved necessary for a western nation since the UK was forced to borrow from the organisation in 1976.

27.10.08 US regulators reveal that 15 regional banks and savings institutions have collectively accepted over $30 billion from the Treasury under its TARP.

27.10.08 IMF announces that it is to lend $16.5 billion to Ukraine. It is also thought to be close to concluding a deal with Hungary, which has already secured a €5 billion credit line from the ECB and hopes to receive additional support from neighbouring EU countries (i.e. Austria, Germany and Italy) as well as the European Bank for Reconstruction and Development.

29.10.08 US Fed reduces the federal funds rate by 50 basis points to 1 per cent; the lowest level since June 2004, in an attempt to ward off recession, and also announces it is to set up dollar swap lines with central banks in Brazil, South Korea, Singapore and Mexico to allow them to lend up to $30 billion each to their local banks, desperate for US dollars.

29.10.08 Subject to approval by its management and executive board, the IMF proposes to lend Hungary $15.7 billion under a 17-month stand-by arrangement as part of a $25 billion rescue package for the economy (the World Bank is providing €1 billion whilst the EU is willing to provide a €6.5 billion loan). The loans are designed to shore up the country's current account deficit and restore international capital markets to try and head off market contagion in central and eastern Europe.

29.10.08 Hypo Real Estate becomes the first private sector group to ask for help under Germany's €500 billion bailout fund when it requests a liquidity injection of €15 billion.

30.10.08 Latest figures for US GDP indicate that the economy shrank by an annualised rate of 0.3 per cent in the third quarter of 2008, the economy's weakest performance in seven years.

3.11.08 Commerzbank becomes the first German bank to benefit from its government's rescue package taking an €8.2 billion capital injection. It may also take up to €15 billion of debt insurance guarantees.

5.11.08 IMF approves a $16.5 billion bailout package for Ukraine in the form of a stand-by loan, some of which will be used to restore stability to its floundering banking system.

6.11.08 ECB cuts its policy rate by 50 basis points to 3.25 per cent.

6.11.08 IMF revises sharply downwards its 2009 growth forecasts for the global economy, now expecting global growth to be 2.2 per cent (down from its previous forecast of only a month earlier of 3 per cent), with industrialised nations now expected to contract by 0.5 per cent compared with a previous forecast of 0.5 per cent growth. The UK is seen as being the most at risk of a severe recession – due to its comparatively large housing bubble, the level of indebtedness of the general public and the importance of the City to the

overall economy – now being forecast to contract by 1.3 per cent in 2009 compared with a previous forecast of only a 0.1 per cent contraction.

9.11.08 Following the US Government's lead, the Chinese Government announces a Rmb4,000 billion (US$586 billion) fiscal stimulus programme involving increased expenditure on infrastructure and social welfare over the next two years. The purpose of the policy initiative is to sustain momentum in the real economy so that annual growth does not fall below 8 per cent, although its failure to tackle imbalances in the economy – particularly the huge personal sector savings – has attracted some criticism.

10.11.08 Volkswagen plans to become the first European carmaker to tap the ECB for liquidity with its announcement that it will use €2.8 billion of securities backed by German car loans as collateral for an ECB loan.

10.11.08 US Government announces a new $150 billion bailout of AIG after the insurer posts a third-quarter loss of $24.5 billion. This follows the $85 billion loan provided earlier to the firm to prevent its collapse.

10.11.08 Fannie Mae reports a record quarterly loss of $29 billion, warning of a possible need for additional federal funding.

12.11.08 Global financial sector losses from the credit crisis surge to $1 trillion with the IMF now forecasting total financial sector losses of $1.4 trillion.

12.11.08 US Government abandons its plans to buy toxic assets, using the $700 billion TARP agreement to focus on further recapitalisation of the financial system and support the markets involved in the securitisation of credit card loans, vehicle loans and student loans and reduce foreclosures.

14.11.08 Freddie Mac asks the US Government for a further $13.8 billion lifeline after suffering a record quarterly loss of $25.3 billion as a result of credit-related writedowns.

15.11.08 IMF approves a $7.6 billion loan for Pakistan to help it finance its current account deficit and improve investor confidence.

16.11.08 Iceland announces a preliminary deal with the UK and other European countries on guidelines relating to the reimbursement of depositors of its collapsed banks, clearing the way for IMF assistance. Depositors will be protected in line with EEA law.

16.11.08 At the conclusion of its meeting in Washington, the leaders of the G20 pledge to shore up global growth, avoid protectionism and quickly move to reform financial regulation. Stabilisation of the financial system and fiscal stimuli to limit the severity of the economic downturn – the IMF had already called for a co-ordinated fiscal stimulus of at least 2 per cent of global GDP – were seen as the main immediate imperatives.

20.11.08 The Basel Committee announces plans to introduce counter-cyclical capital reserving and leverage limits for internationally-active banks once the crisis subsides.

20.11.08 Iceland's Government confirms its bailout plan. $2.1 billion will be borrowed from the IMF, up to $3 billion will be borrowed from a group of countries comprising Denmark, Finland, Norway, Sweden, Russia, Poland and the Faroe Islands, and £2.2 billion will be borrowed from the UK Government with another €1.3 billion being taken from the Netherlands Government to fund compensation of depositors in Icesave, the online arm of Landsbanki, the collapsed Icelandic bank.

23.11.08 US Government announces a bailout of Citigroup, the ultimate "too-big-too-fail" bank with assets in excess of $2 trillion and operations in over 100 countries. Under the deal, the US Treasury will inject another $20 billion under TARP ($25 billion had already been injected) via purchases of preference shares paying an annual return of 8 per cent. The US Government is also capping Citigroup's losses on $306 billion of potentially toxic assets, by shouldering 90 per cent of the residual pre-tax losses once the bank has taken the first $29 billion hit (the Treasury will absorb the first $5 billion of losses, the FDIC the next $10 billion, with the Federal Reserve standing by to provide a loan covering the remaining $227 billion of losses). In return for this insurance, the bank is being asked to provide another $7 billion of preferred stock, paying 8 per cent, and $2.7 billion of warrants. The impact of the capital injection will be to raise the bank's Tier 1 ratio to 14.8 per cent.

Whilst the markets certainly liked the bailout – Citigroup's share price recovered to over $6 following a 60 per cent fall the previous week to a low of $3.77, in part a reaction to TARP's re-focussing away from the purchase of toxic assets in favour of direct bank re-capitalisation, whilst the S&P index rose by 4.5 per cent and the FTSE 100 by 9.8 per cent (a record one-day gain) – some regard the terms as being too generous to existing shareholders. Moreover, immediate senior management changes were not demanded.

25.11.08 FDIC's list of "problem" banks revealed to have risen from 117 to 171 in the third quarter of 2008 raising fears of further US bank failures – 22 have already failed this year.

25.11.08 Goldman Sachs becomes the first US bank to issue debt under the US Government guarantee scheme when it raised $5 billion of three-year money at a yield of 3.67 per cent.

25.11.08 US Fed pledges up to $800 billion to help homebuyers, small businesses and students facing difficulty in raising credit at reasonable rates. Under one scheme, it will buy up to $100 billion of debt from Fannie Mae, Freddie Mac and Federal Home Loan Banks, starting next week, with a further $500 billion to be used to buy mortgage-backed securities from these GSEs before the end of the year. Separately, a $200 billion lending facility – the "term asset-backed securities loan facility", or TALF – for holders of asset-backed securities supported by car, credit cards, student loans or business loans is to

be launched to encourage lending at lower rates. $20 billion of the funds will come from the TARP.

26.11.08 EU Commission President proposes a €200 billion fiscal stimulus package, representing about 1.5 per cent of EU GDP, to be paid for by member states (€170 billion) and the Commission and the European Investment Bank (€30 billion). The proposals will be considered by member state governments in December 2008.

30.11.08 Poland announces a $30 billion economic stabilisation package but, like Germany, resists the temptation to try and spend its way out of trouble, the policy adopted by the UK and US governments, amongst others.

2.12.08 US Fed extends, until end-April 2009, three of its emergency lending facilities – for bond dealers, for banks buying ABCP from mutual funds, and its auction loans of Treasury securities – as credit markets remain under stress.

2.12.08 Over $25 billion is raised by US banks (including Goldman Sachs, JP Morgan, Morgan Stanley and Bank of America) under the "Temporary Liquidity Guarantee Programme" (TLGP) via FDIC-backed bonds in the first week of the scheme.

4.12.08 ECB cuts its main policy rate by 75 basis points – its largest reduction ever – to 2.5 per cent in the face of evidence of a further weakening in the real economy in euroland.

4.12.08 French Government unveils a €26 billion fiscal stimulus package, largely involving the bringing forward of planned investment in transport and energy infrastructure.

5.12.08 533,000 jobs are announced to have been lost in November 2008 in the US, the fastest monthly decline in 34 years, raising the unemployment rate to 6.7 per cent.

12.12.08 Bernard Madoff, the Wall Street trader, is alleged to have engaged in a $50 billion "Ponzi-style" fraud that threatens heavy losses for fund managers, banks (including Fortis, HSBC, Santander, Wells Fargo, RBS and Bank Medici) and private individuals the world over.

12.12.08 Japan announces a ¥4,000 billion emergency stimulus package and raises the limit on public fund injections for financial institutions to ¥12,000 billion.

14.12.08 The Dublin Government promises up to €10 billion of public funds to recapitalise its banks.

16.12.08 US Fed cuts its policy rate to between zero and 0.25 per cent, a record low, in order to guard against deflation – prices fell by 1.7 per cent in November – and limit the severity of the downturn.

16.12.08 Goldman Sachs reports its first ever quarterly loss – of $2.12 billion – as a public company, yet still expects to make a $2.32 billion profit for 2008, but down 80 per cent on the previous year's figure.

17.12.08 Morgan Stanley reveals a $2.2 billion loss for the fourth quarter of 2008 as a result of poor performance in the bank's trading, advisory and prime brokerage operations.

19.12.08 Bank of Japan cuts its policy rate from 0.3 per cent to 0.1 per cent whilst announcing that it would buy commercial paper directly from issuers and increase its outright purchases of Japanese government bonds to ¥1,400 billion a month from ¥1,200 billion a month.

19.12.08 US President announces a $17.4 billion three-year loan to General Motors and Chrysler to help them survive the next three months. The loan was accompanied by tough conditions designed to force the companies to restructure and conclude new agreements with unions, dealers, creditors and suppliers by end-March 2009 or have the loans recalled. The loans - $9.4 billion for General Motors and $4 billion for Chrysler for December and January, with the prospect of another $4 billion for General Motors in February 2009 – will come from the Treasury's $700 billion TARP fund. This move exhausts the first $350 billion tranche of funding approved by Congress under TARP.

21.12.08 Japanese Government proposes, in a draft budget, a record 6.6 per cent increase in spending to ¥88,548 billion in the year starting April 2009 to fight recession.

21.12.08 The Irish Government announces a €5.5 billion recapitalisation of its three main banks, which will result in it taking an effective 75 per cent controlling stake in the Anglo Irish Bank. The investment is in the form of perpetual preference shares, with the Government injecting €2 billion into each of the Bank of Ireland and Allied Irish Banks in return for an 8 per cent coupon. Meanwhile, €1.5 billion will be invested in Anglo Irish in return for a 10 per cent coupon. All three banks will also have to give commitments in respect of loans to first-time homebuyers and SMEs, support for an environmental fund and funding for social inclusion programmes.

8.1.09 The German state injects a further €10 billion into Commerzbank, thereby taking a 25 per cent stake, to allow the bank to safely complete its takeover of Dresdner Bank, its ailing rival.

9.1.09 Figures reveal that more than one million jobs were lost in the US in December 2008 for the second successive month taking the unemployment rate to 7.2 per cent, its highest level in 16 years

13.1.09 German Government unveils a 2-year stimulus package worth €49.25 billion (approx. equal to 1.5 per cent of GDP). At the same time, it announces new

legislation to limit the size of the state's public deficit, in "normal economic times", to 0.5 per cent of GDP, and the establishment of a "redemption fund" to repay the cost of the stimulus package by a set date. In this way, the German Government hopes to retain its image as a conservative and prudent administration.

14.1.09 Deutsche Bank announces a fourth quarter loss of €3.9 billion.

15.1.09 ECB cuts its policy rate by 50 basis points to reach a record low of 2 per cent in the face of a deepening recession in the euro area.

15.1.09 The Irish Government nationalises Anglo Irish Bank, its third largest, following a collapse in its share price and rumours of large-scale deposit withdrawals.

15.1.09 US Democrats unveil proposals for a $825 billion stimulus package comprising $275 billion in tax cuts and $550 billion of additional public spending.

15.1.09 JP Morgan Chase reveals a slump in fourth-quarter earnings (down 76 per cent on the previous year) to $702 million after being hit by a $2.9 billion mortgage-related writedown in its investment bank (partly due to losses incurred on assets acquired when the bank bought Bear Stearns in 2008) and a $4.1 billion increase in reserves against future loan losses. This brings the bank's net income for the whole of 2008 to $5.6 billion, 64 per cent lower than in 2007.

16.1.09 Bank of America posts a fourth quarter loss of $2.4 billion but a $4 billion profit for the full year. Given Merrill Lynch's (the bank it acquired in 2008) $21.5 billion pre-tax operating loss for the fourth quarter - $42.2 billion for the whole year – however, the bank is forced to accept an additional (it had already received $15 billion under TARP, with Merrill Lynch receiving $10 billion) $20 billion capital infusion from the Federal Government. In addition, the bank also receives a federal guarantee of $118 billion of troubled assets, around three-quarters of which resulted from the acquisition of Merrill Lynch. [Under the terms of the guarantee, for which the bank has to pay a fee, Bank of America has insured itself against the risk that the value of the troubled assets falls below an agreed floor – if it does, the Government picks up the tab, on behalf of taxpayers.]

16.1.09 Citigroup posts a $8.3 billion net loss for the fourth quarter of 2008 after making some $28 billion in mortgage-related writedowns and credit provisions. This leads to a full-year loss of $18.7 billion compared with a $3.6 billion profit for 2007. The bank also confirms that it is to split up its business into two new units – Citicorp, which will comprise the core business of corporate, investment and retail banking – and Citi Holdings, which will comprise the rest of the group's current business, including the US consumer finance business, private label credit cards costs and Primerica insurance

brokers. Meanwhile, the Fed pledges nearly $250 billion of loans to the group.

16.1.09 US Treasury announces it will provide a $1.5 billion five-year loan to fund lending by Chrysler Financial, the financing arm of the US carmaker. The funds will come from TARP and are additional to the recently-announced support.

18.1.09 Denmark unveils a DKr 100 billion aid package for its banks. It offered to inject this sum into banks to stimulate lending to corporates and individuals in order to boost the economy. The capital injection will take the form of hybrid core capital and an average 10 per cent return is being sought by the Government on its investment.

19.1.09 Standard & Poor's downgrades Spain's long-term sovereign debt from "AAA" to "AA+", citing "structural weaknesses" in its economy as a result of the global economic crisis as the reason. This follows the downgrading of Greece's long-term sovereign debt last week from A to A-, amid widespread fears that Poland and Ireland will follow.

20.1.09 French Government announces that it is to inject a second €10.5 billion of capital into the country's banks. This time around, the banks can choose between subordinated loans, the sole focus of the previous bailout, or preference shares without voting rights, the latter to count as "core" tier one capital but to carry an interest rate double that payable on the loans. Unlike in the previous round, however, strings will now be attached to those availing themselves of the funding; a ban on executive bonuses, curbs on dividend payments, a pledge to participate in the financing of €7 billion of export contracts and a promise to boost annual lending to the domestic economy by between 3 and 4 per cent will all be applied.

21.1.09 Portugal becomes the latest EU country to have its long-term sovereign debt downgraded as Standard & Poor's cuts its rating to "AA-".

21.1.09 Research published by the New York-based Hennessee Group suggests that investors withdrew around 20 per cent of their money from hedge funds during 2008, as industry assets shrank by $782 billion to $1,210 billion.

27.1.09 Latest figures reveal that US house prices fell by 18.2 per cent, year-on-year, in November 2008 following an 18 per cent fall a month earlier (according to the Case-Shiller index), presaging further sub-prime-related losses for investors.

28.1.09 Wells Fargo reports a $2.5 billion loss for the fourth quarter of 2008, $294 million of which arose because of loan defaults by clients who had invested in Bernard Madoff Securities. Its full year results reveal a 65 per cent fall in net income to $2.8 billion.

30.1.09 Latest GDP figures reveal that the US economy contracted by 3.8 per cent at an annualised rate in the final quarter of 2008, the worst performance since 1987.

30.1.09 Latest figures for Japan reveal a record 9.6 per cent month-on-month fall in industrial production in December 2008, a fall (from 1 per cent the previous month) in consumer price inflation to 0.2 per cent in December 2008, and a rise to 4.4 per cent in the unemployment rate in the same month. The data suggests Japan is in for a severe recession, with the return of deflation.

TABLE 2. US SUB-PRIME SPILLOVER EFFECTS IN THE UK: CHRONOLOGY OF EVENTS

29.8.07	For the second time in just over a week (£314 million was borrowed on 20 August) Barclays Bank is forced to use the Bank of England's standing facility, borrowing £1.6 billion overnight at a penalty rate. Reason proffered: a technical glitch on the payments system left the bank short of funds at the close of business.
6.9.07	Bank of England holds the official base rate at 5.75 per cent taking the unprecedented step (it last happened eight years ago for a no-change decision) of issuing a public statement to explain their reasoning.
10.9.07	Victoria Mortgage Funding becomes the first UK mortgage company to fail.
12.9.07	In a letter to the House of Commons' Treasury Select Committee, Governor of the Bank of England sets out reasons why the Bank, unlike its counterpart in the US, the Federal Reserve, and the European Central Bank is resisting pressure to provide liquidity against a wider range of collateral (i.e. other than government securities) and for longer periods of time (i.e. other than overnight).
13.9.07	Bank of England makes available to UK banks an additional (relative to UK commercial banks' target reserve balances of £17.6 billion) £4.4 billion of penalty-free cash to narrow the gap between secured overnight rates and the official base rate (of 5.75 per cent). Offer fully taken up. Move not designed to narrow gap between three month rates and the official rate, however.
14.9.07	Following assurances from the FSA that the bank is solvent, Bank of England provides emergency funding to Northern Rock, the UK's fifth largest mortgage lender and eighth largest bank, to allow it to continue operating (it is a casualty of the liquidity squeeze), to reassure the bank's depositors and to prevent a systemic crisis. Under the open-ended facility, the bank is charged a penal rate (not revealed to the market) and can use mortgages and mortgage-backed securities as collateral.
17.9.07	Treasury announces a full guarantee of Northern Rock's existing deposits in an attempt to stem the deposit run on the bank and restore financial confidence. Guarantee to last until the financial turmoil subsides and is later extended to all UK depositors.
19.9.07	Bank of England announces that, contrary to its stated position of 12.9.07, it will now, after all, lend to banks for periods of up to three months against a wider range of collateral, including mortgages. An initial injection, via auction, of £10 billion is announced for the following week. Weekly auctions to follow.

20.9.07 Bank of England defends its policy *volte face* before the House of Commons' Treasury Select Committee.

21.9.07 Confirmed that Northern Rock had borrowed around £3 billion from the Bank of England under the emergency funding facility put in place one week earlier.

24.9.07 Northern Rock bows to political pressure and cancels its proposed £59 million dividend payout.

26.9.07 Announced that the Bank had received no bids for funding at its £10 billion auction.

27.9.07 Announced that Northern Rock's debt to the Bank of England is now £8 billion.

1.10.07 Chancellor announces that the level of depositor protection available under the Financial Services Compensation Scheme is increased to 100 per cent of £35,000 (previously, it was 100 per cent of the first £2,000 plus 90 per cent of the next £33,000), on a per institution, per customer basis.

2.10.07 Second weekly central bank offering of £10 billion is spurned by the banking industry.

4.10.07 Monetary Policy Committee of the Bank of England decides to leave Base Rates unchanged at 5.75 per cent (unlike Fed's decision to cut rates by 50 basis points to pre-empt a sharp downturn in the economy).

4.10.07 Revealed that Northern Rock's indebtedness to the Bank of England now stands at around £11 billion.

9.10.07 FSA officials appear before the House of Commons' Treasury Select Committee. They admit their monitoring of Northern Rock was "inadequate" in some respects.

10.10.07 Once again, no bids were received for the third weekly auction of term loans by the Bank of England.

11.10.07 Revealed that Northern Rock's indebtedness to the Bank of England now stands at around £13 billion, and that Northern Rock is now able to use any collateral to access the Bank's emergency lifeline although, presumably, this is reflected in the costs of the loan.

11.10.07 Treasury publishes a discussion paper on possible changes to UK deposit protection arrangements. A follow-up consultation paper is promised early in 2008, informed by the response to the discussion paper.

16.10.07 Northern Rock executives appear before the House of Commons' Treasury

Select Committee. It is revealed that the Chairman and Chief Executive had twice offered to resign in the wake of the crisis; and that only £1.5 billion of liquidity insurance had been bought by the bank to cover possible funding difficulties in the wholesale markets.

18.10.07 Revealed that Northern Rock's indebtedness to the Bank of England has risen to £16 billion.

19.10.07 The Chairman of Northern Rock resigns.

25.10.07 Treasury officials appear before the Treasury Select Committee.

16.11.07 Chief Executive of Northern Rock, Adam Applegarth, resigns along with most of the Board.

26.11.07 A consortium led by Sir Richard Branson's Virgin Group is named as the "preferred bidder" for Northern Rock by the Government and Northern Rock's Board.

26.11.07 HSBC announced plans to take $45 billion of mainly complex debt instruments on to its balance sheet to rescue its SIVs.

29.11.07 Bank of England announces it will provide £10 billion of liquidity until mid-January to give banks greater certainty about their liquidity over the Christmas/New Year period. However, amount available in subsequent auctions to be reduced by this amount. In effect, the Bank is thus proposing to provide five weeks liquidity upfront rather than through weekly auctions.

6.12.07 For the first time in two years the Bank of England cuts interest rates, by 25 basis points to 5.5 per cent, as a result of a "tightening in the supply of credit to households and businesses".

12.12.07 As part of a co-ordinated action by a number of central banks to forestall any prospective tightening of credit conditions, the Bank of England announces it will auction another £10 billion of three-month money the following week without a minimum interest rate applying and against a wider range of collateral (e.g. credit card-related securities, covered bonds and mortgage-backed securities). A further £10 billion auction will follow on 15 January 2008.

14.12.07 Government hires Goldman Sachs, its advisers on the sale of Northern Rock, to help put together a re-financing package for Northern Rock in the face of funding difficulties being experienced by the two remaining "approved" private sector bidders – the Virgin-led consortium and Olivant.

18.12.07 Bank of England announces that its latest auction of £10 billion of three-month money was fully subscribed at an average interest rate of 5.95 per cent (compared with a Base Rate of 5.5 per cent). The Bank also announces a wide-ranging review of its money market operations.

19.12.07 FSA publishes a discussion paper on possible changes to the way banks' liquidity is regulated.

10.1.08 FSA reveals a re-vamped operating model to deal with the post-Northern Rock era.

11.1.08 Northern Rock sells £2.2 billion of (equity release) mortgage assets to JP Morgan. Funds to be used to reduce its debt (now standing at over £25 billion) to the Bank of England.

21.1.08 Government reveals the findings of the Goldman Sachs report commissioned on 14 December 2007. Given the inability of the two remaining "approved" private bidders for Northern Rock to find sufficient funding in the market place to allow them to deliver on their takeover proposals, the Government decides to back a Goldman Sachs plan which will see the conversion of Northern Rock's loan (now put at some £28 billion) from the Bank of England into government-guaranteed bonds which will be sold to private investors as market circumstances permit. Northern Rock will pay a fee to the Treasury for providing the guarantee, and will use mortgage redemption monies to pay the coupon and redemption payments due on the bonds. The Government has also demanded an equity stake so that taxpayers can participate in any revival in the bank's fortunes; and, for as long as the guarantee remains in place, it will impose restrictions on dividend payments and the sale of the bank. Bidders, including Northern Rock itself and "outsiders", are given until 4 February to submit their bids, indicating how they will satisfy the Government's requirements and the scale of the capital infusion they are envisaging. The Government hopes to complete negotiations by 17 March but approval from the European Commission will have to be secured before any agreed plan can be put into action. If no acceptable bid is received the bank is likely to be nationalised.

21.1.08 Figures from the Council for Mortgage Lenders reveal that gross mortgage lending in December 2007, at £22.6 billion, was at its lowest level since May 2005.

22.1.08 London Scottish Bank, the UK sub-prime lender and debt collector, reveals that it had a £13 million shortfall in regulatory capital on 31 January 2007.

24.1.08 Revealed that new mortgage approvals by UK banks fell to an historic low in December 2007 of 42,068. This figure is 40 per cent down on the preceding year's figure and the lowest figure recorded by the British Bankers Association since 1997, when records began.

24.1.08 House of Commons' Treasury Committee publishes its report on Northern Rock.

29.1.08 FSA warns of a likely dramatic rise in mortgage re-possessions as around 1.4 million borrowers come to the end of their short-term fixed rate deals.

30.1.08 Chancellor of the Exchequer announces the joint publication by HM Treasury, the FSA and the Bank of England of a consultation paper outlining proposals for strengthening the framework for financial stability and depositor protection. The consultation period ends on 23 April 2008 subsequent to which new legislation will be introduced to Parliament.

30.1.08 Mervyn King accepts a second five-year term as Governor of the Bank of England removing uncertainty over the future leadership of the Bank.

30.1.08 Bank of England figures confirm the downturn in the UK housing market with mortgage approvals falling to 73,000 in December 2007, down by 8,000 on the previous month's figure and the lowest since the data series was started in 1999.

4.2.08 Olivant withdraws from the bidding war for Northern Rock leaving just two bidders, the Virgin-led consortium and the Northern Rock's management. Their restructuring plans are duly submitted to HM Treasury.

7.2.08 Bank of England cuts Bank Rate by 25 basis points to 5.25 per cent citing a deterioration in the outlook for global growth, continuing disruption to global financial markets and difficulties faced by borrowers in securing credit as reasons for the cut.

7.2.08 The Office for National Statistics re-classified Northern Rock as a public corporation because of the degree of control exercised over the firm by the Government. The decision will add some £90 billion to public debt causing the Government to breach its self-imposed ceiling for public debt of 40 per cent of GDP.

8.2.08 The Council of Mortgage Lenders announces that repossessions rose to an eight-year high of 27,100 last year, up from 22,400 in 2006. But, at 0.23 per cent of outstanding loans, this rate is still only a third of the peak reported in 1991.

13.2.08 Bradford and Bingley announce full-year sub-prime-related losses for 2007 of £226 million.

17.2.08 Chancellor of the Exchequer announces that Northern Rock is to be nationalised, with a view to returning the bank to the private sector at some point in the future.

19.2.08 Barclays announces credit securities-related losses of £1.635 billion for 2007.

19.2.08 Emergency legislation allowing for the nationalisation of Northern Rock (excluding its Jersey-based trust, Granite) is introduced to Parliament.

20.2.08 Alliance and Leicester reveals full-year writedowns for 2007 on Treasury investments of £185 million.

21.2.08 Government agrees to allow annual reviews of Northern Rock by the Office of Fair Trading to assuage fears over potential anti-competitiveness of nationalisation in order to speed up the passage of the allied legislation through Parliament. The Bill to nationalise Northern Rock (and any other bank) subsequently receives the Royal Assent.

22.2.08 Lloyds TSB announces sub-prime-related losses of £280 million for 2007.

26.2.08 Standard Chartered announces sub-prime-related losses of $300 million for 2007.

27.2.08 HBOS announces sub-prime-related losses of £227 million for 2007.

28.2.08 RBS announces sub-prime-related losses of £2.9 billion for 2007.

29.2.08 Nationwide Building Society reports that UK house prices fell for the fourth month in a row in February 2008, slowing annual house price inflation to 2.7 per cent, the lowest level for two years.

3.3.08 HSBC announces sub-prime-related losses of $17.2 billion for 2007.

5.3.08 Peloton Partners, a London-based hedge fund, announces that its ABS fund is now worthless having lost some $2 billion in a matter of days.

6.3.08 Bank of England's Monetary Policy Committee leaves Bank Rate unchanged at 5.25 per cent.

11.3.08 Bank of England announces it will roll over the £10 billion of three-months repo money offered in December 2007 and will consider providing another £10 billion next month through a rollover of the January auction's money.

17.3.08 In the wake of the uncertainty generated by the Fed-sanctioned rescue of Bear Stearns in the US, the Bank of England, exceptionally, supplies £5 billion of three-day money to the market to tide it over until the normal weekly refinancing operation is due (i.e. on 20 March 2008). The offer, which was provided at the official 5.25 per cent Bank Rate, and was designed to keep the overnight rate close to Bank Rate, was nearly five times oversubscribed.

18.3.08 Northern Rock's new business plan, designed to secure the EU Commission's blessing, is revealed. The new Board plans to repay the Bank of England's loan within three to four years, when it will relinquish its government guarantees, to halve its balance sheet and to cut its workforce by around a third by 2011. It will also close its savings operation in Denmark. The bank's determination to increase its market share of retail deposits, whilst still enjoying the government guarantees, irked both banks and building societies, however.

26.3.08 FSA publishes an executive summary of the review carried out by its internal audit division into its supervision of Northern Rock together with recommendations for change and the management's response.

26.3.08 Governor of the Bank of England, in an appearance before the Treasury Select Committee, warns of tighter regulation, in the form of tougher capital and liquidity requirements, and more intensive monitoring as the price the banks will have to pay for enjoying access to central bank emergency liquidity support.

26.3.08 British and US Governments agree to set up a UK-US 'Working Group' to develop proposals for enhanced monitoring and regulation of the banking sector.

31.3.08 Northern Rock reports a £167.6 million loss for 2007 after making £410 million of writedowns on Treasury assets and trebling bad debt provisions to £240 million. It also announces a determination to repay £23 billion of the £24 billion outstanding loan to the Bank of England by end-2009, with the final £1 billion being repaid by end-2010. The repayment plans are predicated on the bank's ability to shed 60 per cent of its mortgage holders and cut its staff by a third, and are dependent upon the future state of the housing market. It still expects to be in the red in 2011.

3.4.08 Bank of England's first quarter Credit Conditions Survey reveals a further tightening of the credit squeeze as secured leading to both households and companies is forecast to fall further in the second quarter of 2008. On the mortgage front, the squeeze is reflected in a marked slowdown in lending and rising rates with some providers limiting loans to existing customers and/or local clients, and charging differential rates according to the size of deposit put down.

8.4.08 Bank of England announces it will raise the amount of three-months money injected into the system from £10 billion to £15 billion when it rolls over January's injection next week.

8.4.08 The Halifax, the UK's biggest mortgage lender, claims the average price of a house in the UK fell by 2.5 per cent (1 per cent on a quarterly basis) in March 2008, the first year-on-year fall since 1996 and the biggest monthly fall recorded since September 1992.

9.4.08 UK banks raise 'target reserve balances' at the Bank of England to £23.54 billion (from £20 billion) in a sign of increasing nervousness about the impact of the credit crisis.

10.4.08 Monetary Policy Committee of the Bank of England cuts Bank Rate from 5.25 per cent to 5 per cent against a background of tightening credit conditions and reduced availability of credit.

21.4.08 Bank of England reveals a new Special Liquidity Scheme under which it will swap Treasury bills for securities backed by mortgages made before 1 January 2008 or credit card debts for a period of up to 364 days. Up to £50 billion will be available (for both banks and large building societies) and the scheme may be extended for an additional two years, if required, with closure ensuing by October 2011 at the latest. The purpose of the scheme is to remove the fear of bank insolvencies arising from illiquidity, thereby stimulating interbank lending, to ease liquidity problems (the Treasury bills are readily saleable and can be used as collateral, unlike the mortgage-backed securities stuck on the institutions' balance sheets) and, as a side effect, may bring down three-month interbank rates. Contrary to government assertions, the scheme is *not* designed to boost new mortgage lending or prevent a housing market correction, nor to bail out weak banks or building societies (the capital markets should be tapped to address solvency issues). As for taxpayers, their interests are protected by forcing the banks to retain all of the credit risk on their ABS (value-impaired securities must be replaced with additional triple A-rated securities or the Treasury bills otherwise returned immediately); only triple A-rated paper will be accepted by the Bank; the ABS accepted by the Bank will be subject to a discount (or "haircut") on their market value of between 1p. and 20p. in the pound, the Bank having the right to change the size of the discounts on a daily basis; and the Bank charging the banks entering into the swap arrangements a fee, calculated as the gap between the three-month LIBOR rate and the secured three-month gilt repo rate, subject to a minimum charge of 0.2%.

22.4.08 Royal Bank of Scotland announces a £12 billion rights issue, the largest in European history, to shore up its capital in the wake of £5.9 billion of writedowns on sub-prime assets and a disappointing performance from ABN Amro, the bank acquired in August 2007.

23.4.08 British Bankers Association reports that mortgage approvals in March 2008, at 35,417, were the lowest since the series began in 1997 and represented a drop of 18 per cent on February 2008's figure and of 46 per cent on the previous year's corresponding figure.

29.4.08 Bank of England figures confirm the fall in mortgage approvals for new home purchases in March 2008. At 64,000, the figure was down by 11 per cent on February 2008's figure, and around half the peak figure recorded in November 2006.

29.4.08 HBOS announces £2.84 billion of first-quarter writedowns on complex debt securities and a £4 billion rights issue to strengthen its capital base.

30.4.08 Figures from the Nationwide Building Society confirm the first annual fall in house prices for 12 years, with average prices in April 1 per cent lower than 12 months earlier and 4 per cent lower than their peak in October 2007.

12.5.08 The HSBC announces that it has set aside a further $5.8 billion due to the credit turmoil in the first quarter of 2008.

13.5.08 The UK's CPI figure for April 2008 hits 3 per cent, right at the limit of tolerance allowed under the inflation targeting regime, underlining the Bank's limited ability to support the real economy through further cuts in interest rates.

13.5.08 The Alliance and Leicester announces a further £192 million of writedowns on its Treasury assets.

15.5.08 Market sources suggest UK banks are hoping to swap up to £90 billion of mortgage-backed assets for Treasury bills with the Bank of England under its Special Liquidity Scheme, compared with the £50 billion of swaps initially envisaged by the Bank.

15.5.08 Barclays Bank reveals debt securities writedowns of £1.7 billion for the first quarter of 2008.

30.5.08 According to the Nationwide's house price index, UK house prices suffered their biggest annual fall in May 2008, of 4.4 per cent, since December 1992, when the market was last in a downturn.

2.6.08 Bradford and Bingley announces that it would make losses of £8 million in the first four months of 2008 because of rising arrears on its mortgage book (overburdened by buy-to-let and self-certified mortgages) and a squeeze on net interest margins. It also said that, because of dramatic changes in trading conditions over the past three weeks, it has proved necessary to lower the rights issue price from 82p. to 55p. and to raise the total amount of funding sought from £300 million to £400 million, 23 per cent to be taken by the US private equity investor TPG.

2.6.08 Bank of England data show that mortgage approvals have more than halved since their peak at end-2006. At 58,000, the end-April 2008 figures are 55 per cent below the peak of nearly 130,000 and the lowest since such records began in 1999.

4.6.08 The European Commission expresses serious reservations about the Government's restructuring package for Northern Rock in its first assessment of the plan published in its official journal, the 'Official List'. In particular, it expresses concerns about the length of time the restructuring plan lasts for, the extent of state aid provided and the distortions created to market competition.

5.6.08 Chancellor of the Exchequer announces plans to establish a 'financial stability committee' comprising City experts to advise the Governor of the Bank of England on financial stability issues.

5.6.08 According to the Halifax's house price index, house prices fell for a fourth consecutive month in May 2008. The 2.4 per cent fall meant prices fell by over 6 per cent compared with one year earlier.

7.6.08 The Boards of the Cheshire Building Society and the Catholic Building Society announce their intention to merge by end-2008.

10.6.08 Governor of the Bank of England announces plans to create a permanent system of liquidity support for troubled banks, additional to the existing 'standing facility'. This will be the successor to the 'special liquidity scheme' introduced in April 2008.

17.6.08 Governor of the Bank of England has to write a second letter to the Chancellor of the Exchequer explaining why the CPI (at 3.3 per cent in May 2008 and widely expected to rise to over 4 per cent) exceeds the 'permitted' boundary of 1 per cent either side of the inflation target of 2 per cent.

19.6.08 In a Press Release (HM Treasury, 2008), the Chancellor of the Exchequer unveils proposals for enhancing the role of the Bank of England in preserving financial stability. They embrace, *inter alia*, providing a statutory responsibility for financial stability for the Bank, establishing a new Financial Stability Committee of the Court of Directors, and giving it a leading role in the implementation of the new 'Special Resolution Regime' should it be triggered by the FSA. The new legislation, in the form of a Banking Reform Bill, is expected to take effect in Spring 2009.

24.6.08 Data released by the British Bankers Association reveals mortgage approvals by the banks fell during May 2008 by 56 per cent compared with a year earlier. At just under 28,000, the figure is the lowest since the data series began in 1997.

25.6.08 Barclays announces plans to raise £4.5 billion of new capital through a share placement to boost capital ratios and finance new investments. New investors will include the sovereign wealth fund the Qatari Investment Authority and the country's Prime Minister, who will take up to 10 per cent between them, and Japan's Mitsui Banking Corporation, which will take a 2 per cent stake. Existing shareholders making further investments include Temasek of Singapore and the China Development Bank.

27.6.08 Shares in Bradford and Bingley fall by over 20 per cent following the Board's rebuffal of entrepreneur Clive Cowdery's proposed rescue deal by his Resolution vehicle.

30.6.08 Bank of England figures for mortgage approvals for house purchase during May 2008 confirm the downwards trend revealed by the narrower dataset of the British Bankers Association. The fall to 42,000, from 58,000 in April, represents a 64 per cent decrease on the previous year's figure.

1.7.08 The Nationwide's house price index reveals that, after five straight months of decline, UK house prices in June 2008 were 6.4 per cent lower than a year earlier, with all regions of England and Wales registering falls.

1.7.08 HM Treasury reveals its latest plans for financial stability and depositor protection by way of another consultation document. On the latter front, *de jure* protection is planned to rise to £50,000, on a gross basis, with no co-insurance applying; and compensation is expected to be effected within seven days of a bank being unable to repay. At least for now, banks will not be asked to fund an ex-ante scheme; and the new Scheme will have emergency access to government funding.

3.7.08 A downgrading by Moody's of Bradford and Bingley's credit rating – from A2 (the level to which it was downgraded after the profits warning) to Baa1, the lowest rating for any UK bank – throws into doubt the funding sought from TPG Capital.

4.7.08 Taking advantage of a "get-out" clause, TPG Capital pulls out of a deal to inject £179 million into Bradford and Bingley following Moody's credit downgrading of the bank a day earlier. This causes the bank to revamp its £400 million fund-raising efforts for a third time in three weeks, calling upon a group of existing shareholders to replace the £179 million investment previously sought from TPG through an enlarged (to £400 million) rights issue. Under FSA pressure, the regulator being desperate to avoid another banking casualty, Legal and General, M&G, Standard Life and Insight Investments, agreed to ride to the rescue. Shares in the bank duly fell by 18 per cent to 50p., 5p. below the rights issue price.

7.7.08 Bradford and Bingley's share price falls by a further 16 per cent to a new low of 42p., 13p. below the 55p.-a-share rights issue price, threatening heavy losses for the underwriters and sub-underwriters.

8.7.08 Shares in Bradford and Bingley fall to a new low of 33p. as investors question the bank's long-term value despite the regulator's apparent happiness with the bank's capital adequacy and funding positions.

10.7.08 Halifax house price index reveals a further fall in UK house prices of 2 per cent in June leaving them 8.6 per cent lower than a year earlier.

11.7.08 The Spanish bank, Banco Santander, makes a £1.26 billion bid for the Alliance and Leicester.

14.7.08 Board of Alliance and Leicester recommends Banco Santander's bid.

16.7.08 The number of people claiming unemployment benefit in June 2008 is revealed to have jumped by 5,500 to 840,100, the fifth consecutive monthly rise.

21.7.08 HBOS, the UK's biggest mortgage lender, reveals only 8.3 per cent of its investors took up their allocations in the rights issue, leaving the underwriters and sub-underwriters nursing hefty paper losses.

22.7.08 The Tripartite Authorities reveal their plans for the new 'Special Resolution Regime'.

29.7.08 The 'Crosby Report' on the UK mortgage market is published. No quick 'fixes' for the market's problems are recommended; the main contenders all involve undesirable subsidies and/or distortions.

29.7.08 Bank of England figures reveal that mortgage approvals fell to 36,000 in June from 41,000 in May, confirming the continued contraction in the UK residential market.

30.7.08 Lloyds TSB announces a 70 per cent fall in pre-tax profits to £599 million for the first half of 2008. A £585 million writedown on its structured portfolio was partly responsible for the fall in profits.

31.7.08 HBOS, the largest UK mortgage lender, announces a 72 per cent fall in pre-tax profits to £848 million for the first half of 2008 after making a £1.09 billion sub-prime-related writedown.

31.7.08 Alliance and Leicester announces a 99 per cent crash in pre-tax profits to just £2 million for the first half of 2008 following a £143 million sub-prime writedown and £209 million of losses on toxic securities.

31.7.08 Figures released by the Nationwide Building Society reveal that UK house price falls are accelerating. House prices were revealed to be 8.1 per cent lower in July than a year go, representing the fastest monthly fall since figures were produced in 1991.

4.8.08 HSBC announces half-year pre-tax profits for 2008 of $10.2 billion, down 28 per cent on the previous year, following a writedown of $3.9 billion on credit market exposures.

5.8.08 Northern Rock reports half year losses of £585 million due to rising arrears – up to 1.18 per cent of mortgage advances at end-June 2008 compared with 0.45 per cent at end-December 2007 – and rising repossessions (up 67 per cent to 3,710 during the same period) which contributed to a bad debt charge of £238 million. The bank also reveals that, during the first half of 2008, it has managed to reduce the Bank of England loan by £9.4 billion, from £26.9 billion to £17.5 billion, and that this will fall by a further £3 billion during the rest of 2008 once the debt is converted to equity by the Government (a further £400 million of preference shares may also be converted into equity). The debt-for-equity swap has proved necessary because of the impairment of the bank's capital, its core equity Tier 1 ratio falling to only 2.9 per cent by end-June 2008.

5.8.08 FSA figures reveal that repossessions of UK houses have risen by more than 40 per cent – from 6,471 to 9,152 – during the first quarter of 2008 compared with the same period one year earlier, with the number of home loans in arrears also increasing by nearly 40,000 to over 300,000, during the same

period. The number of loans in arrears, however, still accounts for only 2.44 per cent of total loan book balances, with just 1.97 per cent of outstanding loans being represented by repossessions.

7.8.08 Barclays announces a 33 per cent fall in first-half pre-tax profits to £2.75 billion after taking a £2.8 billion writedown on its complex debt securities.

7.8.08 Halifax's house price index reveals a 10.9 per cent fall in house prices in July 2008 compared with one year earlier.

8.8.08 Royal Bank of Scotland reveals a half year pre-tax loss of £691 million compared with a profit of £5.11 billion the previous year after taking a £5.9 billion writedown on sub-prime-related assets.

8.8.08 Council of Mortgage Lenders reveals that the number of houses repossessed by its members jumped by 41 per cent in the second half of 2008 to 18,900.

10.8.08 Figures from the Building Societies Association reveal that net lending (i.e. new loans less redemptions) was negative to the tune of nearly £700 million in June 2008, following a negative figure of £110 million in May 2008.

12.8.08 Publication of the inflation figures for July 2008 reveals that the CPI stood at a 16-year high of 4.4 per cent, more than double the Government's target.

13.8.08 Publication of the latest unemployment figures reveals that the unemployment rate rose to 5.4 per cent in July 2008 with the number of people claiming unemployment benefit rising at the fastest rate for almost 16 years.

22.8.08 Publication of the latest (revised) GDP figures for the second quarter of 2008 reveal that growth has slowed to zero, ending a 16-year run of positive growth for the UK economy.

28.8.08 According to Nationwide's house price index, figures reveal that UK house prices fell, on average, by 1.9 per cent during August 2008, taking the annual fall to 10.5 per cent.

29.8.08 Bradford and Bingley reports a first-half loss of £26.7 million following writedowns on its structured credit portfolio and a £74.6 million credit impairment charge relating to rising arrears.

1.9.08 Figures released by the Bank of England reveal that loan approvals for house purchases, at 33,000 for July 2008, are still falling, presaging further falls in UK house prices.

2.9.08 Prime Minister unveils a £1.6 billion package of measures to support the UK housing market. The package embraces a one-year increase in the zero-rate stamp duty threshold from £125,000 to £175,000, measures designed to help first-time buyers get on to the housing ladder (e.g. through shared-equity schemes with developers and a boost to social housing) and help for those

facing repossession (the waiting period before income support for mortgage interest is paid is to be shortened from 39 weeks to 13 for new claims from April 2009 and housing associations are being asked to help families in arrears stay in their homes through, for example, "sale and rent-back" schemes).

4.9.08 Halifax's house price index reveals that house prices declined by an average of 10.9 per cent in August 2008 compared with a year earlier.

7.9.08 The Nationwide Building Society confirms that it is engaged in talks to merge with the struggling Derbyshire and Cheshire Building Societies by end-2008.

15.9.08 Bank of England auctions an additional £5 billion of funds to help stabilise conditions in the sterling money markets in the wake of the collapse of Lehman Brothers in the US.

16.9.08 Bank of England injects an additional £20 billion of two-day money into the markets to ease liquidity pressures following the fallout from the Lehman Brothers collapse. £58 billion in bids were received for the money.

16.9.08 The latest UK inflation figures reveal that the CPI rose to 4.7 per cent in August 2008.

17.9.08 The latest unemployment figures reveal that, in August 2008, the number unemployed rose by 81,000 to 1.7 million, the highest level since 1999.

18.9.08 Lloyds TSB confirms a £12.2 billion all share takeover rescue of HBOS, following a sharp fall in the latter's share price the previous day because of ratings downgrades and the bank's exposure to the UK property market and excessive reliance on wholesale funding. Competition rules are waived by the Government in the national interest (i.e. for stability reasons) to allow the deal to go through and the Bank extends its Special Liquidity Scheme to end-January 2009 to further support the banking sector.

18.9.08 FSA places a temporary ban (until 18 January 2009) on the short-selling of financial stocks to support financial markets. This follows its earlier ban on the short-selling of the stock during the period of firms' rights issues.

18.9.08 Bank of England offers $40 billion in overnight funds to the market following a currency swap with the Fed; bids for $14 billion are received.

19.9.08 The Chancellor reveals that over £100 billion of mortgage-backed securities have been swapped for Treasury bonds under the Bank of England's 'special liquidity scheme' initiated in April 2008, more than double the amount anticipated.

22.9.08 The Chancellor announces a wide-ranging review of UK banking regulation to be conducted by the new Chairman of the FSA. This is additional to the

FSA's current reviews of liquidity and capital adequacy assessment and banks' remuneration schemes.

23.9.08 Latest figures released by the British Bankers Association, whose members account for about two-thirds of UK mortgage lending, reveal that loan approvals for new house purchases slumped to a record low of 21,086 in August 2008, 64 per cent down on the corresponding figure for a year earlier. These figures confirm the deepening problems in the UK housing market.

24.9.08 Bradford and Bingley, the troubled mortgage provider, downgraded to one notch above junk status by Moody's on 23 September 2008, announces that it has found a new party, in the shape of Barclays Bank, to act as a counterparty for its covered bond programme.

25.9.08 In a sign of increasing nervousness about counterparty risk in the interbank market, UK banks, as revealed by the Bank of England, now have £5.9 billion on deposit with the Bank under its standing facility, earning 1 per cent below Bank Rate as opposed to a margin above Bank Rate had the funds been deployed in the interbank market.

25.9.08 Shares in the beleaguered mortgage lender Bradford and Bingley, the UK's eighth largest bank, tumble yet further following news that it is to make further writedowns/sales of toxic assets totalling £133.8 million. It is also planning to cut 370 jobs. Rumours subsequently swirl that the bank is to be taken into public ownership following a failure to find a "White Knight" amid concerns about the scale of the bank's exposure to buy-to-let and self-certified mortgages – they comprise nearly 85 per cent of the bank's mortgage book – where arrears, at around 3 per cent, are much higher than the industry average. The bank's demise would represent the loss of the final, standalone converted building society and the fourth UK bank "casualty" of the credit crunch following in the footsteps of Northern Rock, Alliance and Leicester and HBOS.

26.9.08 In a dramatic attempt to unblock the wholesale money markets, the Bank of England announces that it will lend an additional £40 billion of funds to the market on a three-months basis and will accept a wider range of collateral – to include triple A-rated UK and European MBS – than hitherto from bank borrowers. It also extended, like its central bank counterparts in the Eurozone and Switzerland, its dollar-lending operations to cover the approaching end of quarter period. A further supply of three-months money will also be made available the following week.

29.8.08 UK Government announces the nationalisation of Bradford and Bingley following the FSA's decision that the bank was no longer a viable deposit-taking institution and a failure to find a "White Knight" from amongst the UK's five largest banks. The nationalisation process will see the banks' £42 billion mortgage book taken over by the Government and wound down but the bank's £20 billion of deposits and 197 branches are being sold to the Spanish bank Santander for £612 million. This will make Santander, which

already owns Abbey and is in the process of acquiring the Alliance and Leicester, one of the biggest UK high street banks with over 25 million customers, in excess of 1,200 branches and retail deposits of over £110 billion. All depositors (including those holding £4 billion of uninsured deposits) will be fully protected, along with the secured and some unsecured creditors (including covered bondholders). Shareholders and subordinated debt holders, which jointly account for around £3 billion of funding, enjoy no protection.

In order to protect taxpayers' interests, the Chancellor can rely upon the equity investors and subordinated debt holders to shoulder the first £3 billion or so of any losses arising from the unwinding of the mortgage book. Beyond that, by declaring itself to be a more senior creditor than the Financial Services Corporation Scheme (FSCS), which is being asked to pay £14 billion (funded by a short-term Bank of England loan shortly to be converted into a three-year government loan, on which the banks must pay interest at one-year LIBOR plus 30 basis points) to Santander to enable the £14 billion of insured deposits to be transferred to the Spanish bank, the Treasury has ensured that the next £14 billion tranch of any losses would be borne by the FSCS (funded via bank levies) rather than taxpayers. It is thus believed that arrears on Bradford and Bingley's mortgage book would have to rise from 3 to around 10 per cent before taxpayers would lose any money on the deal.

29.9.08 In the wake of the British Government's nationalisation of Bradford and Bingley, the Bank of England pumped an additional £40 billion of three-months money into the banking system to try to ease liquidity pressures.

29.9.08 Publication of the latest Bank of England figures for mortgage lending reveal that, in August 2008, net lending in the UK was only £143 million on a seasonally-adjusted basis, down from £3 billion in July and from £9.1 billion in August 2007 when the credit crunch began. The number of mortgages for new house purchases also fell to a new low of 32,000, 70 per cent lower than a year ago, whilst remortgaging activity also fell. These figures foreshadow yet further falls in UK house prices.

2.10.08 Data released by the Nationwide reveal that, according to their index, UK house prices fell at their fastest annual rate since 1991 during September, declining by 1.7 per cent during the month.

3.10.08 FSA announces that the deposit guarantees will rise next week to £50,000 per person per intermediary in the wake of the temporary blanket guarantee provided by the Irish Government to the depositors of its six biggest lenders. The FSA is also reserving the right to raise the limit yet further if circumstances demand it. The new £50,000 limit will increase the number of deposit account holders covered by the scheme to 98 per cent.

3.10.08 Bank of England announces a dramatic increase in the emergency provision of three-months money to the banking system. Starting next Monday, and to be repeated every week until 18 November 2008, it will offer £40 billion of such funding, widening the range of collateral accepted to include triple A-

rated US securities backed by student, consumer and auto loans, senior tranches of US commercial mortgage-backed securities, US covered bonds, triple A-rated tranches of corporate bonds and a wide range of other asset-backed commercial paper. Steep haircuts, however, will be applied to the weaker collateral.

6.10.08 The UK's FSA announces a fundamental review of the process of securitisation, whilst the Chancellor reveals that Northern Rock has already repaid half of its Bank of England loan and that the new Banking Bill will be introduced to Parliament tomorrow.

7.10.08 Shares in UK banks plunge in response to a lack of action by the UK authorities to deal with the banking crisis and in anticipation of a taxpayer-financed bailout that will see the significant dilution of existing shareholders' interests. Shares in RBS fall by 39 per cent on the day following a 20 per cent fall the previous day, the latter due, in part, to a ratings downgrade from Standard & Poor's; whilst shares in HBOS fall by 41 per cent.

7.10.08 Bank of England offers another £40 billion of three-months money to the market but only £30.7 billion is taken up at an average accepted bid rate of 4.55 per cent. Problems in putting together appropriate collateral – it still has to be triple A-rated – were cited by the market as a possible reason for the limited demand.

8.10.08 Government unveils a wide-ranging bailout plan for the UK banking sector designed to sustain financial confidence, stability and credit flows to UK businesses and individuals. The plan comprises three elements: (i) a massive expansion in Bank of England emergency liquidity provision (up to £200 billion will now be available under the 'Special Liquidity Scheme' and, until markets stabilise, regular auction of three-months sterling-denominated funds and of one-week dollar-denominated funds will continue, all against a wider range of collateral; (ii) up to £50 billion - £25 billion has already been committed to eight institutions (including the top five banks and the biggest building society) if they want it to assist in the boosting of their Tier 1 capital ratios – of taxpayers' funds being used to recapitalise UK-incorporated banks and building societies (and UK bank subsidiaries of overseas institutions) through the purchase of five-year preference shares, PIBS, or, at the institutions' request, as assistance to an ordinary fund-raising, although recipient institutions would be subject to restrictions on dividend payouts and executive compensation and be required to commit to lending to small businesses and the provision of mortgages; and (iii) institutions committing to making appropriate increases in Tier 1 capital will, in return for an appropriate fee (50 basis points plus 100 per cent of the institution's median five-year credit default swap spread during the 12 months to 7 October 2008), be able to access temporary government guarantees (up to £250 billion worth is envisaged) of their new short- and medium-term (up to three years) debt issuance to assist in the refinancing of maturing wholesale funding.

8.10.08 Whilst the Government is busy unveiling its latest bank rescue plan, the Monetary Policy Committee of the Bank of England cuts its policy rate by 50 basis points to 4.5 per cent as part of a co-ordinated move amongst central banks around the world. The large cut is justified in terms of an improved medium-term inflation outlook as evidence has emerged of growing weakness in the real economy, rising unemployment and collapsing commodity prices. In the short term, however, the Governor will have to continue writing his monthly epistle to the Chancellor explaining why the CPI remains above 3 per cent!

8.10.08 UK Government places £4 billion worth of the UK operations – Kaupthing Singer & Friedlander Ltd. – of Iceland's Kaupthing Bank in administration to protect retail depositors and the stability of the UK financial system. The Chancellor also confirms that *all* personal deposits – UK local authorities, with over £800 million at risk, may yet lose out – will be protected, even those in excess of £50,000.

9.10.08 The immediate market reaction to the announcement of the Government's comprehensive bailout plan is not favourable, with stock markets down again across the globe and all bar very short-term interbank rates rising.

9.10.08 House of Commons' Treasury Committee announces an inquiry into the terms of the Government's bailout plan.

9.10.08 HSBC becomes the first UK bank to meet the Government's new capital target (a 9 per cent core, Tier 1 ratio) when it injected £750 million into its UK subsidiary from group cash.

9.10.08 Latest figures from the Halifax reveal that UK house prices are falling at their fastest rate for 25 years with their index recording a fall of 1.3 per cent in September bringing the annual rate of decline to 12.4 per cent.

10.10.08 Stock markets around the world crash again with the FTSE 100 falling by 8.9 per cent, its biggest one-day percentage fall since Black Monday in 1987. Most exchange losses on the week are well in excess of 20 per cent. All eyes are now focussed on the G7 summit this weekend.

13.10.08 UK Government announces the first of its recapitalisation moves. $37 billion (£12 billion more than initially thought) will be injected into three banks, RBS, HBOS and Lloyds TSB. The capital injections take the following forms: for RBS, a total of £20 billion will be injected, comprising £15 billion of new equity and £5 billion of five-year preference shares, paying 12 per cent per annum (this is better for taxpayers than the earlier proposal, envisaging investment in non-voting preference shares only, as it allows them to benefit from any recovery in the banks' share prices); for HBOS, a total of £11.5 billion will be injected, £8.5 billion in new equity and £3 billion in preference shares; and, for Lloyds TSB, a total of £5.5 billion is to be injected, comprising £1 billion of preference shares and £4.5 billion of new equity. Assuming no "clawback" by existing shareholders – unlikely given

the restrictions imposed on dividend payments (*see* below) – this would give taxpayers, via the Government, a 57 per cent controlling stake in RBS and 43.5 per cent of the combined entity Lloyds TSB-HBOS (with HBOS shareholders holding a 20 per cent stake and Lloyds TBS shareholders a 36.5 per cent stake). Meanwhile, Barclays announced that it would not need public support, preferring to raise its Tier 1 ratio to over 11 percent via issues of £3 billion of preference shares and £3.6 billion of ordinary shares to private sector investors.

In return for accepting public sector funds, the banks have to abide by a number of restrictions. Firstly, they cannot pay any dividends to ordinary shareholders until the preference shares have been fully redeemed. Secondly, there will be restrictions placed on bonuses and executive remuneration. Thirdly, lending to small businesses and home-owners must be maintained, at competitive prices, at 2007 levels. Fourthly, the Government will have a say on the appointment of new Board members (up to three at RBS and two at Lloyds TSB-HBOS, on completion of the merger). And, finally, the Chief Executive and Chairman, at both RBS and HBOS, have been asked to 'fall on their swords' and depart without payoffs. The banks, however, will only suffer "arms length" management from the Government.

Overall, the market's reaction to the announcement was positive – with the FTSE 100 rising by 8.3 per cent on the day and CDS spreads on the large banks falling – but the share prices of the three banks affected fell further (by 14 per cent in the case of Lloyds TSB, 27 per cent in the case of HBOS and 8 per cent in the case of RBS) as investors pondered the likely impact of the restrictions imposed, leaving the Government sitting on a paper loss of over £2 billion on its acquisitions! Moreover, medium-term interbank rates barely moved.

13.10.08 Lloyds TSB announces that, given the recent changes in share prices since the proposed takeover was agreed, it has renegotiated the terms of its all-share deal for HBOS. Instead of offering 0.833 of a Lloyds TSB share for one HBOS share, it will now only offer 0.605 of a share.

13.10.08 FSA writes a letter to 28 bank and building society chief executives warning that, in future, bonuses must be more closely linked to performance and take account of long-term risk. Bonus structures which fail to do this will result in the imposition of higher capital charges.

14.10.08 Shares in the banks receiving recapitalisation funds continue to fall despite a further recovery in the broader stock market, leaving the Government now sitting on a paper loss of £2.8 billion. The banks concerned pressurise the Government into rethinking the conditions imposed on the payment of dividends.

14.10.08 Latest figures reveal that the CPI has now reached 5.2 per cent in the UK, its highest level since March 1992. The RPI, meanwhile, stood at 5 per cent in September 2008.

14.10.08 Figures from the Council of Mortgage Lenders reveal that, in August 2008, only 42,200 loans for house purchase were made, the lowest since records began in January 2002.

15.10.08 The latest unemployment figures reveal that, in the three months to August 2008, unemployment rose by 164,000 to 1.79 million, or 5.7 per cent of the working population. This is the largest three-months rise since 1991 and confirms the parlous state of the real economy. Unsurprisingly, the FTSE 100 lost 7.2 per cent of its value on the day – falls matched in the US and elsewhere – as investors' fears of impending recession were apparently confirmed.

16.10.08 Bank of England announces a new set of rules for its money market operations to replace its existing "Standing Facilities". Firstly, an "operational standing facility" will be set up to allow banks to borrow in exchange for top-quality collateral if technical problems or late payments leave a bank temporarily short of cash. To avoid the stigma associated with such borrowing, usage of the facility will not be publicised for up to a month. Interest rate penalties will also be reduced compared with current arrangements; and interest can be earnt on loans made to the Bank of England by banks temporarily flush with liquidity. Secondly, a "discount window facility" is to be set up for banks to swap their less-liquid assets for government bills for a period of a month. Again, such borrowing will remain confidential, on this occasion for at least three months. The fees charged will reflect both the size of the loan and the quality of collateral offered. And thirdly, the Bank of England has indicated its willingness to accept a wider range of collateral under its regular monthly auctions of longer-term cash. Whilst the precise design of the auctions has yet to be determined, the Bank will insist that commercial banks bid for funds based on the use of both top-quality and more risky collateral, thereby providing the Bank with an early indication of the degree of stress in the money markets. The new rules are designed to operate in both normal and crisis periods.

20.10.08 Latest figures reveal that borrowing in the first half of 2008 hit £37.6 billion, the highest figure since the Second World War in nominal terms, threatening to undermine the Government's plans to bring forward capital expenditure projects to mitigate the severity of the economic downturn.

21.10.08 Barclays announces plans for the issue of the first government-guaranteed bond under the recently-announced debt guarantee scheme.

22.10.08 FSA announces that the ban on the short selling of financial stocks is to last until January 2009.

22.10.08 The Barnsley Building Society announces that it is to be taken over by its larger local rival the Yorkshire Building Society by the end of the year to end uncertainty over the impact of a possible loss of £10 million held in Icelandic banks. As with the earlier takeover by the Nationwide of the Derbyshire and

Cheshire Building Societies, members of the Barnsley Building Society will not get a vote on the issue nor receive any windfall payments.

24.10.08 Latest GDP figures reveal that the UK economy contracted by 0.5 per cent in the three months July to September 2008, the largest quarterly fall in output since 1990. The unexpectedly large fall triggers a 5 per cent fall in the FTSE 100 and a collapse in sterling, taking it to a lifetime low against the euro.

27.10.08 HM Treasury announces that the Government will delay a revision to the "Memorandum of Understanding" until after the current crisis has ended.

28.10.08 Figures released by the FSA reveal a 71 per cent jump in the number of repossessions by the end of the second quarter of 2008 compared with one year earlier.

28.10.08 In its latest Financial Stability Review, the Bank of England's revised estimate of the mark-to-market losses on selected securitised credit instruments and corporate bonds that have been incurred in the UK, USA and the euro area since January 2007 is put at $2.8 trillion, way in advance of the hitherto most pessimistic forecast of the IMF. The Bank also warns of continuing financial risks to the global economy due to the acceleration in the global economic turndown (which, in turn, is exacerbated by the banks' need to deleverage and return to a more "normal" relationship between their lending and deposit bases) and the spreading of contagion to emerging market economies.

29.10.08 New figures released by the Bank of England show that net mortgage lending was negative in August 2008 for the first time since records began in 1993.

29.10.08 The Chancellor announces the scrapping of Labour's "fiscal rules" – to allow the Government to increase spending and borrowing during the economic downturn to mitigate the severity of the effects on the real economy – and plans for the establishment of formal external oversight of public finances.

29.10.08 HBOS becomes the second UK bank, after Barclays (which issued €3 billion of three-year senior bonds) to sell public bonds under the government guarantee scheme. Nearly £3 billion was raised via sales of two-year and three-year bonds. This follows the bank's earlier issue of several hundred million dollars of private CDs under the guarantee scheme.

30.10.08 Latest figures from the Nationwide Building Society reveal that UK house prices fell by 1.4 per cent in October 2008, taking the annualised rate down by 14.6 per cent compared with their peak in October 2007.

31.10.08 Barclays announces plans to raise just over £7 billion of new capital, largely from Middle Eastern investors. It is seeking to raise £1.5 of new capital from institutional investors through the issue of convertible notes, and £2.3 billion from Qatari investors and £3.5 billion from a member of the Abu Dhabi ruling family through the issue of convertible notes and other capital instruments.

3.11.08 Lloyds TSB's Chairman announces the bank's intention to repay all of its and HBOS's preference shares issued to the Government - £4 billion in total – by the end of 2009, thereby allowing the combined entity to resume the payment of dividends to its ordinary shareholders.

3.11.08 The Chancellor announces the creation of a new company – the UK Financial Investments Limited – to manage, at arm's length, but in a commercial manner, the taxpayers' stakes in the British banking industry. Through its role as a major shareholder, it is also expected to pressurise the banks into implementing the Government's desires with respect to moderating executive compensation and maintaining loans to SMEs and home-owners. Eventually, the company would be asked to manage taxpayers' stakes in Northern Rock and Bradford and Bingley alongside those in Lloyds TSB-HBOS and RBS, although even the first two banks will retain independent boards and management teams.

3.11.08 The Skipton and Scarborough Building Societies announce plans to merge.

3.11.08 HBOS reports £5.18 billion of writedowns for the first nine months of 2008 up from £2.46 billion for the first six months. It also announces it will make a further writedown of £150 million in the fourth quarter to cover losses associated with loans to Icelandic banks.

4.11.08 RBS announces that it has written off another £206 million of losses on complex debt instruments in the third quarter of 2008, avoiding another £1.2 billion of losses on £24 billion of toxic assets by availing itself of the recent relaxation of accounting rules which allow certain assets to be re-classified to avoid having to mark them to market. These losses suggest the bank will report a full-year loss for 2008. Like Lloyds TSB/HBOS, RBS hopes to redeem the preference shares given to the Government under the bailout plan by 2010, thereby allowing it to resume the payment of dividends to ordinary shareholders.

5.11.08 RBS becomes the third UK bank to access the Government's credit guarantee scheme, announcing that it plans to sell £3 billion of bonds in a two-part deal to include sterling and euro-denominated three-year debt.

6.11.08 In an unprecedented move, and in a belated attempt to finally "get ahead of the curve", the Monetary Policy Committee of the Bank of England slashes its policy rate by 150 basis points, from 4.5 per cent to 3 per cent, the lowest rate seen for 54 years. The move was taken in response to evidence suggesting the UK economy faced a "severe contraction" with a high risk that, in the medium term, the inflation target might be seriously undershot if less decisive action was taken. The stock market, unfortunately, reacted badly to the unexpectedly large cut – the FTSE 100 closing down by nearly 6 per cent – although somewhat surprisingly, sterling firmed up against both the euro and the dollar.

7.11.08 Following a substantial fall in the three months sterling LIBOR and under intense pressure from Government, most large banks pass on, in full, the previous day's policy rate cut to variable rate mortgage borrowers.

10.11.08 Prime Minister signals a willingness to try and "spend his way out of a recession" as he ditches his old fiscal rules, introduced whilst he was Chancellor, and prepares the population for tax cuts and increased public spending. The *volte face* is justified on the grounds that extraordinary times demand extraordinary policy actions. Moreover, he is not alone amongst world leaders in thinking that a fiscal stimulus, alongside monetary easing, is essential if the severity of the recession is to be mitigated – witness the earlier fiscal stimuli given to the US and Chinese economies, to name but two.

10.11.08 Lloyds TSB becomes the latest UK bank to raise finds using the Government's guarantee scheme when it sold €2 billion and £1.4 billion of three-year, triple-A rated bonds.

11.11.08 Sterling falls to a 12-year low against a basket of currencies and briefly to an all-time low against the euro as foreign investors dump UK fixed-income securities.

12.11.08 Bank of England's new central growth target is for a year-on-year drop in national income of 1.9 per cent in the second quarter of 2009, with the economy expected to shrink in 2009 by 1.3 per cent. At the same time, the Bank of England now expects CPI inflation to fall dramatically, with a 20 per cent change of deflation (falling prices) materialising. These pessimistic forecasts were given against a background of rising unemployment – the latest figures showing that it had risen by 140,000 in the three months to end-September 2008 to 1.8 million, its highest level since 1997 – and further falls in the external rate of sterling, to a six-year low against the US dollar of $1.49 and to an all-time low against the euro of £0.8356.

12.11.08 The Nationwide Building Society becomes the latest institution to take advantage of the Government debt guarantee, issuing £1.5 billion through three-year bond issues.

13.11.08 It is revealed that, contrary to earlier government assertions, taxpayers will not have direct representation on the boards of those banks which received state handouts.

18.11.08 Latest figures reveal that the CPI fell by 0.7 per cent, on a year-on-year basis, to 4.5 per cent in October 2008 with the RPI falling by 0.8 per cent to 4.2 per cent. These figures suggest that inflation peaked in September 2008, and that it is likely to fall substantially in the next few months, as the Monetary Policy Committee of the Bank of England predicted.

19.11.08 Shareholders of Lloyds TSB vote overwhelmingly – 96 per cent in favour – to back the proposed takeover of HBOS.

20.11.08 Northern Rock casts aside its securitisation vehicle Granite, allowing it to go into run-off, with bondholders being repaid as existing mortgages expire. The move, which is likely to be followed by other banks, is likely to mark the end of mortgage securitisation in the UK for the foreseeable future.

24.11.08 Pre-Budget Report – in effect an emergency budget – reveals a £20 billion fiscal stimulus, equivalent to around 1 per cent of GDP, for the UK economy designed to reduce the severity of the downturn (by 0.5 per cent of GDP compared with what otherwise would have happened). The main sources of the fiscal boost, designed to last for just over one year, are a cut in VAT from 17½ per cent to 15 per cent – from 1 December and to last until end-2009 – and the bringing forward of future capital expenditure, the two components contributing around £12.5 billion and £2.5 billion respectively to the fiscal expansion. At the same time, deferred tax rises and cuts in planned public expenditure were announced, conveniently kicking-in after the next General Election, to try to convince the market of the Government's determination to restore fiscal prudence as soon as circumstances allow – expected to be in 2015/16! The former will result in national insurance contributions rising, from April 2010, by 0.5 per cent for both employers and employees; and, from April 2011, those earning over £100,000 per year will pay considerably more tax, with those on over £150,000 a year facing a higher marginal rate of tax of 45 per cent. The public expenditure cuts, meanwhile, will see capital investment frozen in cash terms from 2011 onwards. Gleefully abandoning their old fiscal rules on debt and borrowing, the Government's own calculations suggest that public borrowing will rise to £78 billion in 2008/09 and then to a record £118 billion, equivalent to 8 per cent of GDP, in 2009/10 before gradually falling back to a more 'prudent' level in 2015/16. Meanwhile, Government net debt will crash through the current 40 per cent of GDP "limit", rising to 57 per cent of GDP by 2012/13, at which point it will be over £1 trillion for the first time. The Government's new ambition is to reduce the cyclically-adjusted current balance each year by 0.5 per cent once the economy begins to grow again.

There are two major problems with the Government's "jam today, pain tomorrow" strategy. Firstly, it is not clear that consumers will respond in the desired way to the VAT cut as most still feel threatened by the combined pressures of personal over-indebtedness, declining house prices (and hence personal wealth) and uncertainty surrounding future job prospects. Secondly, and related to the first, the Government's own projections for the economy are based upon what are likely to prove over-optimistic forecasts. For example, the economy is expected to contract by between 0.75 per cent and 1.25 per cent in 2009 with growth resuming in the second half of 2009 leading to growth of between 1.5 per cent and 2 per cent in 2010; few private sector forecasters take such a relatively-sanguine view about the immediate future path of the UK economy. Similarly, the delivery of additional public sector "efficiency savings" of £5 billion a year for the three years starting 2010/11 is likely to prove impossible. The likely further deterioration in public finances this will cause will further test the patience of holders of UK government debt – including foreigners – who may well baulk at maintaining, let alone raising, their holdings even if yields are raised to

compensate them for their increased concern. The spectre of a gilt buyers' strike, to match that of consumers, may yet force a government rethink in the not-too-distance future.

24.11.08 Standard Chartered, the UK's largest bank, announces plans to launch a heavily discounted £1.8 billion rights issue. New shares are to be offered at 390p, a 48.7 per cent discount on the previous Friday's closing price. Temasek, the bank's largest shareholder (with a 19 per cent stake) is helping to underwrite the issue. The fund-raising will raise the bank's core Tier 1 ratio to 7.4 per cent.

24.11.08 Barclays' shareholders approve the bank's £7 billion fund-raising strategy despite some dissent (around 15 per cent voted against the resolution) about the trampling on shareholders' pre-emption rights and the sale of nearly a third of its equity to new (largely foreign) investors at a discount.

24.11.08 Chancellor promises (but no timeframe is given) to implement the Crosby recommendation (HM Treasury, 2008b) concerning an extension of government guarantees to cover mortgage-backed securities. Remortgages and sub-prime mortgages would not be covered by the guarantees which Crosby suggests should be up to £100 billion in 2009 and 2010 if mortgage lending is to return to healthier levels.

24.11.08 As part of the Pre-Budget report, the Government promises more aid for small businesses - £1 billion in loans plus £1 billion for small exporters – and to force banks to continue lending to SMEs at reasonable rates of interest (RBS has already agreed to freeze overdraft rates for SMEs for at least a year unless changes in risk justify such a change). A new panel is to be set up to monitor banks' lending activities. In addition, home-owners struggling to meet mortgage payments after losing their jobs or facing repossession are to receive more help. Borrowers are to receive at least three months grace from their lenders before repossession procedures are initiated, and the Government is also extending its mortgage rescue scheme which allows borrowers to sell their homes and rent them back rather than moving home. Additionally, from April 2009, the Government will cover the monthly interest due on mortgages of up to £200,000 (previously £100,000) for eligible borrowers who have been out of work for at least 13 weeks.

25.11.08 Latest figures from the British Bankers' Association reveal that mortgage approvals in October, at 21,584, were over 50 per cent down compared with a year earlier, presaging further falls in UK house prices.

26.11.08 Two icons of the British high street, Woolworths and MFI, are put into administration, highlighting the depth of the recession for UK retailers and foreshadowing a huge rise in unemployment in the near term.

26.11.08 Cost of insuring against default by UK Government on its debt rises to a record 97 basis points in the credit default swaps market, highlighting investor concerns over the funding implications of the £20 billion Pre-Budget

Report fiscal stimulus. This compares with the cost of insuring against a US Government default on its debts of 52 basis points, a figure which has also risen in the wake of the bailouts announced and planned fiscal stimulus.

28.11.08 Following minimal take-up (0.24 per cent) by existing shareholders of the £15 billion share issue, the Government is confirmed as the majority shareholder in RBS with a stake of 57.9 per cent. This leaves the Government sitting on a £2.3 billion paper loss.

30.11.08 RBS, now majority-owned by the Government, announces that it will give homeowners in arrears with their mortgage repayments at least six months respite before pushing for repossession. This follows its decision of the previous week to offer small firms 12-months overdrafts which are not repayable on demand and on which rates will be fixed for the whole period.

1.12.08 Following action by the FSA to prevent the bank from taking further deposits, the Manchester-based bank, London Scottish Bank, filed for administration. *All* deposits were subsequently guaranteed by the Treasury.

1.12.08 Sterling suffers its biggest one-day fall against the US dollar since its ejection from the ERM, falling by 3.5 per cent to end the day at $1.4808. It also fell 2.9 per cent against the euro.

1.12.08 Bank of England figures reveal that, in the third quarter of 2008, secured lending by banks (mostly mortgages) grew at its slowest rate since the collection of data began in 1963.

3.12.08 Government announces a £1 billion scheme to underwrite deferred mortgage interest payments for up to two years. Under the scheme, those with mortgages of up to £400,000 and with less than £16,000 savings would enjoy deferred mortgage payments if their mortgage payments were not covered through the benefits system following a "sudden and temporary loss of income". Eight banks, representing 70 per cent of the UK mortgage market, have agreed to sign up to the scheme – HBOS, Nationwide, Abbey, Lloyds TSB, Northern Rock, Barclays, RBS and HSBC. The scheme will slow the pace of repossessions but, in many cases, will simply delay the inevitable.

3.12.08 Northern Rock announces that it will emulate the RBS and give struggling mortgage borrowers at least six months leeway before instituting repossession procedures.

4.12.08 Bank of England cuts its policy rate by 100 basis points to 2 per cent, its lowest level since 1951, in the face of further evidence of renewed weakening in the domestic economy.

4.12.08 The latest figures from the Halifax confirm that UK house prices are still falling with a 2.6 per cent average fall recorded in November 2008, the biggest month-on-month fall for 16 years. The news sent sterling to a new 6½-year low against the US dollar and to a record low against the euro.

4.12.08 FSA unveil its latest discussion paper on bank liquidity adequacy assessment.

7.12.08 HSBC announces that it is to double, to £15 billion, the amount it is making available to UK homeowners by way of mortgages in 2009.

10.12.08 Treasury clarifies its 'mortgage holiday' proposals announced on 3 December 2008. The scheme will cover loans of up to £400,000, as announced earlier, but those with savings of more than £16,000, a second home or buy-to-let property will be ineligible. The potential length of the holiday was also extended to up to four years or more, depending on individual circumstances. And, finally, leaders were informed that they would be guaranteed only a proportion of any loss, rather than the full amount, as previously implied.

12.12.08 HBOS shareholders approve the takeover by Lloyds TSB following the former bank's revelation of rising impairments (to £3.3 billion from £1.7 billion, the figure given at end-September 2008) in its corporate loan book and increased bad debts in its mortgage and unsecured loan books. Writedowns for the group of around £8 billion are expected to be taken through its profit and loss account in 2008.

15.12.08 Chancellor announces a cut in the fees charged to banks accessing the government's £250 billion credit growth scheme. Banks must still pay 50 basis points plus a rate based on the average cost of insuring their bonds against default over one year but the year has now been amended to end in July 2008, rather than mid-October 2008, thereby avoiding the worst of the turmoil. The Chancellor also extended the length of the scheme from three years to five years, and widened the range of qualifying currencies in which debt can be issued.

16.12.08 The latest CPI figures reveal a fall to 4.1 per cent in November (down from 4.5 per cent a month earlier), largely due to falling petrol prices. This is still well above the inflation target of 3.0 per cent, and precipitates another letter from Mervyn King to the Chancellor.

17.12.08 The latest employment statistics reveal that the number of people claiming unemployment benefit rose from 75,700 in November 2008 to 1.07 million, the biggest monthly rise since 1991. Total unemployment, including those on the dole, meanwhile rose by 137,000 to 1.86 million during the three months to end-October, the highest figure since Labour came to power in 1997.

23.12.08 GDP figures for the three months to end-September 2008 are revised downwards (by 0.1 per cent) to reveal a third-quarter contraction of 0.6 per cent.

29.12.08 The pound sterling falls to its lowest ever level against the euro of almost £0.98 and also on a trade-weighted basis amid signs of increasing investor nervousness about the state of the UK's real economy.

2.1.09 Latest figures paint a depressing picture of current and future activity in the UK economy. A Bank of England survey reveals that, despite the bank bailout of October 2008, credit conditions tightened further in the final quarter of 2008 and are expected to get worse in 2009. Meanwhile, other Bank figures reveal that home loan approvals in November fell from 31,000 a month earlier to 27,000, the lowest level since the series began in 1999. And, finally, data collected by the Halifax revealed that house prices fell by a further 2.2 per cent in December, taking prices in the final three months of the year 16.2 per cent below the corresponding figure the year earlier and 18.9 per cent down on an annualised basis.

5.1.09 Waterford Wedgwood is forced into receivership.

5.1.09 FSA announces that its ban on the short selling of financial stocks will expire on 16 January 2009, although those shorting financial stocks will still be required to report their positions, at least until end-June 2009. However, the FSA reserved the right to reintroduce the ban without consultation if it deemed it necessary.

6.1.09 The Nationwide house price index suggests prices fell by an average of 15.9 per cent during 2008.

6.1.09 It is revealed that the Government has swapped £3 billion of Northern Rock's Bank of England debt and £400 million of preference shares for equity in an attempt to strengthen the bank's balance sheet in the face of mounting losses on its loan book.

8.1.09 MPC of the Bank of England cuts its policy rate to a 315-year low of 1.5 per cent in an attempt to support the ailing economy and avoid the prospect of deflation.

9.1.09 Figures reveal that industrial production in the UK fell by 2.7 per cent in the three months to end-November 2008.

12.1.09 Prime Minister unveils a £500 million, two-year plan to stem the rise in the long-term unemployed by offering £2,500 to employers who recruit and train the long-term unemployed. The money will come from funds unallocated under the stimulus package. Those still unable to find work will still benefit from the funding of training.

12.1.09 Land of Leather becomes the latest retailer to be forced into administration as figures from the British Retail Consortium reveal that the value of sales fell by 3.3. per cent in December 2008 on a like-for-like basis. This represents the biggest monthly fall since the survey began in 1994.

12.1.09 Paper losses on the state's investments in RBS, HBOS and Lloyds TSB now stand at £5.4 billion. This follows the announcement of minimal take-up by existing shareholders of shares in the government-backed share offer – 0.5 per cent of the 2.6 billion shares offered by Lloyds TSB and 0.24 per cent of

those offered by HBOS – which means the Government will own 43.4 per cent of the newly-formed Lloyds Banking Group.

12.1.09 Findus, the frozen food company, becomes the latest firm to fall into administration.

14.1.09 Government unveils plans to guarantee, in exchange for a premium and promises to extend lending to other firms, over £21 billion of loans to SMEs until 2011 to help mitigate the impact of the credit crunch. The state will underwrite 50 per cent of up to £20 billion of short-term working capital for companies with turnover of less than £500 million. In addition, the Government will guarantee up to 75 per cent of loans for companies with a turnover of less than £25 million within a budget of £1.3 billion. And finally, the banks will add £25 million to the £50 million fund announced in the Pre-Budget Report to provide share capital to over-indebted small companies with high growth potential.

16.1.09 In the wake of a single-day 25 per cent fall in its share price, ironically on the first day short-selling resumed – Barclays takes the extraordinary step of declaring to the market that its profits for 2008 will be better than expected, in effect bringing forward its profits statement in an attempt to reassure investors and stem the fall in its share price. Having spurned earlier state funding in favour of more expensive market funding, mainly from overseas investors, the bank now faces the ignominy of perhaps having to call on the taxpayer after all if balance sheet strength is to be restored.

19.1.09 Shares in RBS slump by 67 per cent to 11.6p. following the bank's announcement that it expects to make a loss of between £7 billion and £8 billion for 2008 *before* goodwill write-offs (arising primarily from the bank's previous acquisition of ABN Amro), of between £15 billion and £20 billion – the actual results will be revealed next month. A £5 billion cash call is also announced by the bank, underwritten by the Treasury. The Government is almost certain to end up with the shares as the subscription price is 31.75p. compared with the current market price of 11.6p.

19.1.09 The FSA announces (FSA, 2009) that it is to relax the capital requirements – by tweaking the models banks are allowed to use to calculate regulatory capital – imposed on banks to allow them to increase their lending activities in the downturn. Treating a (post stress test) 4 per cent core tier one ratio as an "acceptable minimum" should have the same effect.

19.1.09 Government unveils a new, comprehensive bank bailout package although it is billed as a package for economic recovery – unlike the October 2008 package which is now described as primarily a bank rescue package – due to its main intended effect of stimulating domestic bank lending. The package contains six elements, as outlined below.

Firstly, the Government is planning to insure some of the risky assets held by UK banks against extreme, unexpected losses in return for a fee, which can be paid in the form of cash or preference shares, and legally-binding lending

commitments. Banks will still be liable for a proportion – likely to be around 10 per cent – of any future losses on such assets before the insurance threshold is reached. And banks which have yet to write-down assets to market prices will be asked to shoulder a higher proportion of the possible future losses. By setting a floor to the scale of losses which banks might incur on existing loans/investments, thereby increasing certainty about bank solvency, the hope is that banks will prove more willing to increase lending to corporates and individuals both because of the reduced need to hoard capital and liquidity and because of the likely stimulus given to interbank lending. The scheme will run for at least five years.

Secondly, the £250 billion Credit Guarantee Scheme relating to bank funding has been extended to end-2009.

Thirdly, a new guarantee scheme for triple-A rated asset-backed securities – involving new mortgages and corporate and consumer debt – has been introduced to commence in April 2009 in order to help re-open the securitisation markets and hence increase bank liquidity (as called for in the Crosby Report of November 2008 – *see* HM Treasury, 2008b)

Fourthly, the Government is to force Northern Rock to increase its mortgage lending activities, thereby reversing its previous policy on the bank's lending.

Fifthly, the Government is set to raise its stake in RBS from 58 per cent to 70 per cent as it prepares to exchange the preference shares received in the October 2008 bailout for common stock – thereby reducing the burden of the previous bailout as a coupon of 12 per cent was demanded on the preference shares, a figure much higher than that applying on similar schemes adopted elsewhere in the world - a move which will also hopefully act as a spur to increased lending by the bank.

And finally, the Bank of England has been given the nod to lend up to £50 billion directly to businesses through the purchase of "high quality" – investment grade and above – corporate assets (under a new "Asset Purchase Facility"). The acquisitions will be made by a new Bank subsidiary and will be financed by new issues of Treasury bills. The Bank will also be indemnified against loss by the Treasury. The move is seen as giving a green light to the Bank to engage in "quantitative easing", a practice adopted by the Fed in recent months, should it deem it necessary. The policy, involving in effect the "printing of money" as asset purchases would not be funded (or "sterilised"), might prove necessary should the effective policy rate fall towards zero, as in the US and, long ago, in Japan.

The stock market reaction to the package was immediate. Whilst the FTSE 100 fell by only 0.9 per cent on the day this was largely because of the buffeting taken by the banks' share prices. The sell off, in the case of RBS – down by 67 per cent – reflected the scale of the announced losses and fears that full nationalisation was inevitable. The 34 per cent share price fall of Lloyds Banking Group – increasing the Government's paper loss on its bank investments made last October to over £17 billion – reflected fears that it, too, might soon require further state support if losses prove bigger than anticipated and that, if it accesses the insurance scheme, it will have its lending policies dictated by the state, to the detriment of shareholders. Finally, Barclays' share price was down by a further 10 per cent on the day, reflecting fears that, eventually, it might have to access state support.

19.1.09 Bank of England announces that it is to extend, from one month to one year, the period for which it is willing to swap Treasury bills for illiquid assets under the new discount window facilities, for an incremental fee of 25 bps.

20.1.09 Bank shares fall again as investors continue to fret over the prospect of "creeping nationalisation". Shares in Lloyds Banking Group fall by 31 per cent on the day, with shares in RBS falling by a further 11 per cent.

20.1.09 Fears over the impact of bank bailouts, actual and prospective, on the pubic finances and over the outlook for the real economy led to further falls for sterling on the foreign exchanges. Sterling finished the day, having traded lower, at $1.3956 against the US dollar, down by 3.4 per cent. It also fell by 2.7 per cent in trade-weighted terms, to a record low against the yen of ¥125.16 and by 2.4 per cent against the euro (£0.9274).

20.1.09 Latest figures for the CPI reveal that, on an annual basis, it fell to 3.1 per cent in December 2008, down from 4.1 per cent the previous month, mainly due to the 2.5 per cent cut in VAT. This fall, however, was less than generally expected and triggered another missive from the Governor of the Bank of England to the Chancellor. The RPI figures, meanwhile, showed an annualised fall to 0.9 per cent (from 3 per cent in November) in December, the biggest drop in almost 30 years.

21.1.09 The slide in sterling continues as investors take fright at the latest unemployment figures – in the three months to November, before the most recent intensification in the economic showdown, the figure rose to a 10-year high of 6.1 per cent at over 1.9 million – the latest government borrowing figures – in the first nine months of the financial year public sector net borrowing almost doubled compared with the previous year to over £71 billion, the highest ever figure, whilst the budget deficit in December 2008 jumped to £11.4 billion – and continuing uncertainty over the latest banking/economy support package. The pound duly closed at a 23-year low against the US dollar, at $1.3733, and fell further against the euro and in trade-weighted terms.

21.1.09 Barclays Bank suffers a further fall – of 9.3 per cent – in its share price although the share prices of RBS and Lloyds Banking Group rise somewhat after a difficult trading day.

21.1.09 The Co-operative Financial Services Group and the Britannia, Britain's second largest building society, announce plans to merge to create a "super mutual" that will have assets of around £70 billion, with over 9 million customers and 300 branches. The new group will be created in April once Britannia members have voted in favour and is possible because of a new piece of legislation – known as the Butterfill Act, after its sponsor – which has only been laid before Parliament this week that removed current legislative impediments to mergers between mutual organisations, including building societies and mutual friendly societies and life assurers.

22.1.09 Latest figures from the FSA reveal that mortgage loan accounts in serious arrears rose by 24 per cent in the third quarter of 2008 compared with a year earlier to 340,000, whilst repossessions rose by 92 per cent to 13,161.

23.1.09 The latest GDP figures reveal that output fell in the last three months of 2008 by 1.5 per cent, taking the UK economy into a technical recession. This was the sharpest quarterly contraction in 28 years and was accompanied by a 4.6 per cent fall in manufacturing and a 1 per cent fall in services. The news drove sterling down further on the foreign exchange to reach a new 23-year low against the dollar of $1.35, down by 7.3 per cent on the week.

26.1.09 Figures released by the British Bankers Association reveal that borrowing by the UK non-financial companies fell by £2.9 billion to £345 billion in December 2008, after falling by £2.4 billion in November 2008.

27.1.09 Government announces £2.3 billion of guarantees of bank loans (from the EIB and other banks) to big car manufacturers and suppliers for investment in "green" research and development.

28.1.09 IMF forecasts that world output, measured at market exchange rates, will fall in 2009 for the first time since the Second World War, with the UK faring the worst amongst the major industrialised nations – its output is expected to shrink by 2.8 per cent during the year, with 0.2 per cent growth expected in 2010.

28.1.09 The IFS, in its 2009 Green Budget, claims that the Government's Pre-Budget Report's plans for spending cuts and tax rises, even if they worked as intended, would have to remain in place until the early 2030s before the debt returned below the 40 per cent of GDP ceiling previously imposed by the Government as one of its "golden rules". Moreover, it argues that if it is to repair public finances to the level forecast in the Budget Report of November 2008 by the end of the next Parliament, it will need to introduce new measures designed to raise taxes and/or cut public spending by an additional £20 billion annually.

29.1.09 The Nationwide's House Price Index reveals that average house prices fell by another 1.3 per cent in January 2009 taking the annualised fall to 16.6 per cent.

30.1.09 Latest Bank of England figures reveal that the growth in loans to UK non-financial companies and households slowed to 0.5 per cent in the final quarter of 2008, the slowest growth rate since 1993.

TABLE 3. THE FINANCIAL STABILITY FORUM'S RECOMMENDED ACTIONS FOR ENHANCING MARKET AND INSTITUTIONAL RESILIENCE (FSF, 2008)

I Measures designed to strengthen the prudential oversight of capital, liquidity and risk management.

1. *Capital requirements*

- The Basel Committee will issue proposals in 2008 to:

  - raise capital requirements for certain complex structured credit products such as CDOs of ABS;
  - introduce, together with IOSCO, additional capital requirements for credit exposures in the banks' and securities firms' trading books; and
  - strengthen the capital treatment for banks' liquidity facilities to OBS ABCP conduits.

- Supervisors will assess the impact of Basel II implementation on banks' capital levels and will decide whether additional capital buffers are necessary.

- Supervisors will continue to update the risk parameters and other provisions of Basel II and will rigorously assess banks' compliance with the framework. They will assess the cyclicality of the Basel II framework.

- Insurance supervisors should strengthen the regulatory and capital framework for monoline insurers in relation to structured credit.

2. *Liquidity management*

- The Basel Committee will issue for consultation sound practice guidance on the management and supervision of liquidity by July 2008 (it was actually issued on 17 June 2008 – *see* Basel Committee, 2008b). It will cover the following areas:

  - the identification and measurement of the full range of liquidity risks, including contingent liquidity risk associated with OBS vehicles;
  - stress tests, including greater emphasis on market-wide stresses and the linkage of stress tests to contingency funding plans;
  - the role of supervisors, including communication and co-operation between supervisors, in strengthening liquidity risk management practices;
  - the management of intra-day liquidity risks arising from payment and settlement obligations, both domestically and across borders;
  - cross-border flows and the management of foreign currency liquidity risk; and
  - the role of disclosure and market discipline in promoting improved liquidity risk management practices.

- National supervisors should closely check banks' implementation of the updated guidance as part of their regular supervision and take appropriate remedial action, as necessary.

- Supervisors and central banks will examine the scope for additional steps to promote more robust and internationally-consistent liquidity approaches for cross-border banks. This will include the scope for more convergence about liquidity supervision as well as central bank liquidity operations.

3. *Supervisory oversight of risk management, including of OBS entities*

- Generally, firms' boards and senior management must strengthen risk management practices according to the lessons they have learned from the turmoil. Supervisors for their part should act to monitor the progress of banks and securities firms in strengthening risk management and capital planning practices.

- National supervisors will use the flexibility within Basel II to ensure that risk management, capital buffers and estimates of potential credit losses are appropriately forward-looking and take account of uncertainties associated with models, valuations and concentration risks and expected variations through the cycle.

- The Basel Committee will issue further guidance for supervisory review over the course of 2008/2009 in a number of areas designed to:

    - strengthen guidance relating to the management of firm-wide risks, including concentration risks;
    - strengthen stress testing guidance for risk management and capital planning purposes;
    - ensure banks manage OBS exposure appropriately;
    - strengthen risk management relating to the securitisation business; and
    - strengthen existing guidance on the management of exposures to leveraged counterparties.

4. *Operational infrastructure for OTC derivatives*

Market participants should act promptly to ensure that the settlement, legal and operational infrastructure underlying OTC derivatives markets is sound.

II Measures designed to enhance transparency and valuation.

1. *Risk disclosure by market participants*

Enhanced disclosures by financial firms of more meaningful and consistent quantitative and qualitative information about risk exposure, valuations, OBS entities and related policies are necessary to help restore market confidence. By 2009, the Basel Committee will issue further guidance to strengthen disclosure requirements under Pillar 3 of Basel II for securitisation exposures, sponsorship of OBS vehicles, liquidity commitments to ABCP conduits, and valuations.

2. *Accounting and disclosure standards for OBS vehicles*

The IASB should promptly improve the accounting and disclosure standards for OBS vehicles and work with other standard setters toward international convergence.

3. *Valuation*

Given the potential weaknesses in valuation practices and disclosures, and the difficulties associated with fair valuation in circumstances in which markets become unavailable, which became apparent during the turmoil, there is a clear need for international standard setters to enhance accounting, disclosure and audit guidance for valuations. Firms' valuation processes and related supervisory guidance should also be enhanced. For its part, the Basel Committee will issue for consultation guidance to enhance the supervisory assessment of banks' valuation processes and to reinforce sound practices in 2008.

4. *Transparency in securitisation processes and markets*

In the light of recent events, it is clear that market practices regarding initial and on-going disclosures relating to structured products, both in public and private markets, need to be improved. Accordingly, securities market regulators will work with market participants to this end, with IOSCO assessing the progress made by end-2008.

III Measures designed to enhance the role played by credit rating agencies (CRAs).

Given that poor credit assessments by CRAs contributed both to the build-up to and the unfolding of recent events, there is a clear need to improve the performance of CRAs. Whilst CRAs have themselves taken action to improve internal governance and operational practices in the light of recent events, more needs to be done.

1. *Quality of the rating process*

CRAs need to improve the quality of the rating process and their management of conflicts of interest when rating structured products. To this end:

- IOSCO will revise its "Code of Conduct Fundamentals" for CRAs by mid-2008;

- CRAs should quickly revise their codes of conduct to implement the revised IOSCO code; and

- national authorities, individually or collectively, should monitor the implementation of the revised code to ensure that CRAs speedily adopt it.

2. *Differentiated ratings and expanded information on structured products*

- CRAs should clearly differentiate, either with a different rating scale or with additional symbols, the ratings used for structured products from those for corporate bonds given their differing credit risk properties.

- CRAs should expand the initial and on-going information that they provide on the risk characteristics of structured products.

3. *CRA assessment of underlying data quality*

A variety of measures are recommended with a view to ensuring that CRAs enhance their review of the quality of the data input and of the due diligence performed on underlying assets by originators, arrangers and issuers involved in structured products.

4. *Use of ratings by investors and regulators*

- Investors need to ensure that they are not overly-reliant on ratings. Ratings should not replace appropriate risk analysis and management; and risk analysis should be commensurate with the complexity of the structured product and the materiality of the investor's holding.

- For their part, authorities should check that the roles that they have assigned to ratings in regulations and supervisory rules are consistent with the objectives of having investors make independent judgment of risks and perform their own due diligence, and that they do not induce uncritical reliance on credit ratings as a substitute for that independent evaluation.

IV Measures designed to strengthen the authorities' responsiveness to risk.

Given that some of the weaknesses that have come to light were known or suspected within the community/financial authorities, there is a clear need to enhance the authorities' responsiveness to risk.

1. *Translating risk analysis into action*

Supervisors, regulators and central banks – individually and collectively – need to take additional steps to more effectively translate their risk analysis into actions that mitigate those risks. Accordingly:

- supervisors should see that they have the requisite resources and expertise to oversee the risks associated with financial innovation and to ensure that firms they supervise have the capacity to understand and arrange the risks; and

- supervisors and regulators should formally communicate to firms' boards and senior management at an early stage any concerns they might have about risk exposures and the quality of risk management and ensure appropriate remedial action by the firms.

2. *Improving information exchange and co-operation among authorities*

- The use of international colleges of supervisors should be expanded so that, by end-2008, a college exists for each of the largest global financial institutions. Supervisors

involved in these colleges should conduct an exercise, by 2009, to draw lessons about good practices in operating colleges.

- Supervisory exchange of information and co-ordination in the development of best practice benchmarks should be improved at both national and international levels.

- Supervisors and central banks should improve co-operation and the exchange of information, including in the assessment of financial stability risks. The exchange of information should be rapid during periods of market strain.

- To facilitate central bank mitigation of market liquidity strains, large banks will be required to share their liquidity contingency plans with relevant central banks.

3. *Enhancing international bodies' policy work*

- International regulatory, supervisory and central bank committees will strengthen their prioritisation of issues and, for difficult-to-resolve issues, establish mechanisms for escalating them to a senior decision-making level.

- National supervisors will, as part of their regular supervision, take additional steps to check the implementation of guidance issued by international committees.

- The FSF will encourage joint strategic reviews by standard-setting committees to better ensure policy development is co-ordinated and focussed on priorities.

- The FSF and IMF will intensify their co-operation on financial stability. The IMF will report the findings from its monitoring of financial stability risks to FSF meetings, and in turn will seek to incorporate relevant FSF conclusions into its own bilateral and multilateral surveillance work.

V. Measures designed to improve arrangements for dealing with stress in the financial system.

1. *Central bank operations*

- To meet an increased but uncertain demand for reserves, monetary policy operational frameworks should be capable of quickly and flexibly injecting substantial quantities of reserves without running the risk of driving overnight rates substantially below policy targets for significant periods of time.

- Policy frameworks should include the capability to conduct frequent operations against a wide range of collateral, over a wide range of maturities and with a wide range of counterparties, which should prove especially useful in dealing with extraordinary situations.

- Central banks should have the capacity to use a variety of instruments when illiquidity of institutions or markets threatens financial stability or the efficacy of monetary policy.

- To deal with stressed situations, central banks should consider establishing mechanisms designed for meeting frictional funding needs that are less subject to stigma.

- To deal with problems of liquidity in foreign currency, central banks should consider establishing standing swap lines among themselves. In addition, central banks should consider allowing in their own liquidity operations the use of collateral across borders and currencies.

2. *Arrangements for dealing with weak banks*

- Domestically, authorities need to review and, where needed, strengthen legal powers and clarify the division of responsibilities of different national authorities for dealing with weak and failing banks.

- Internationally, authorities should accelerate work to share information on national arrangements for dealing with problem banks and catalogue cross-border issues, and then to decide how to address the identified challenges.

- Authorities should agree a set of international principles for deposit insurance systems. National deposit insurance arrangements should be reviewed against these agreed international principles, and authorities should strengthen arrangements where needed.

- For the largest cross-border financial firms, the most directly involved supervisors and central banks should establish a small group to address specific cross-border crisis management planning issues. It should hold its first meeting before end-2008.

- Authorities should share international experiences and lessons about crisis management. These experiences should be used as the basis to extract some good practices of crisis management that are of wide international relevance.

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