# HOW NOT TO SOLVE A CRISIS

Mistakes by policymakers and regulators accelerated the financial crisis, argue **Bill Stacey** and **Julian Morris**

For more than a year, financial markets have been in turmoil. Banks have been refusing to lend to one another. Companies and individuals have found it increasingly difficult to borrow money. Investors and pension holders have seen the value of their assets collapse. And government intervention has been largely counterproductive, making matters worse and turning a financial crisis into an economic catastrophe. As the bailouts continue and calls for more regulation are heard around the world, we seek to review the origins of the crisis and consider which policies might better address the underlying problems.

## The roots of the crisis

From 2000 onwards, and especially in and after 2005, huge amounts of money were loaned as mortgages to people in the United States with poor credit records. These loans were then purchased and repackaged in traditional mortgage backed securities (MBS) as 'collateralised debt obligations' (CDOs) and other structured investment vehicles (SIVs), many of which were given inappropriately high credit ratings. When US house prices began to fall, loan default rates increased, funding dried up, and these leveraged structured finance vehicles turned sour. But with no transparent market for the off balance sheet SIVs, financial institutions did not know what exposures each other held and, fearing the worst, stopped lending to one another.

But why were so many such loans made? Five related factors intersected:

First, monetary policy, especially in the United States. On successive occasions between 1998 and 2003, in response to financial shocks, the US Federal Reserve reduced its funds rate to exceptionally low levels and held it there for extended periods. The search for yield began in earnest, largely driven by the need to meet guaranteed liabilities in pension and insurance funds.

Second, sharply divergent capital rules for banks, securities companies, and special purpose vehicles (SPV) led to 'regulatory arbitrage.' By purchasing asset-backed securities (ABS) through an SPV, banks were able to minimise capital and boost return on equity.

Third, two US government sponsored entities, Freddie Mac and Fannie Mae, were required to buy up, securitise, and resell hundreds of billions of dollars of mortgages, with an increasing proportion coming from people on low incomes. Meanwhile, bank lenders were prohibited, under the well-intentioned *Community Reinvestment Act*, from discriminating against applicants on the basis of the location of a property, further increasing mortgage risk.

Fourth, federal deposit insurance and other explicit and implicit government guarantees led to the mispricing of counterparty risk. Under the

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Financial abbreviations and definitions

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| **ABS** | **Asset-backed securities** | Securities based on a pool of specific assets. |
| **Basle 2 (Or Basel II)** | | An international agreement on banking capital regulations. Named after the Swiss city of Basel (German spelling)/Basle (English spelling). |
| **CDO** | **Collateralised debt obligations** | A type of asset-backed security issued in different tranches according to risk. |
| **CDS** | **Credit default swaps** | A form of insurance against default on asset-backed securities. CDS speculation can occur when, for example, a CDS is bought on the expectation that an ABS will go into default. |
| **GSE** | **Government sponsored enterprises** | Financial services corporations created by the American government, such as Fannie Mae and Freddie Mac. |
| **LVR** | **Loan to valuation ratio** | The amount of a loan as a percentage of the lender's assessment of the asset's value. |
| **Mark to market** | | Valuing an asset based on current market prices. It can be contrasted with 'fair value,' an estimate of the asset's worth. Uncertainties during the financial crisis may have led to the market valuing securities at less than the long-term value of their underlying assets. |
| **MBS** | **Mortgage backed securities** | A type of asset-backed security based on bundling mortgages. |
| **SIV** | **Structured investment vehicles** | An investment fund that profits by issuing short-term securities to purchase long-term securities at higher interest rates. |
| **Securities** | | Tradeable instruments giving the owner a right to future payments. |
| **Short selling** | | Selling securities that the seller does not own at the time of the transaction in the expectation that the price will decline. |
| **Sovereign risk** | | Risk exposures to governments. |
| **SPV** | **Special purpose vehicle** | A legal entity established to separate risk from a large entity. For example, a bank may put mortgage-backed securities into an SPV to remove them from its balance sheet. |
| **Synthetic credit** | | Using a combination of credit derivatives, leverage and debt securities to design a credit exposure with characteristics desired by investors. |

presumption that certain companies (such as major banks and insurers) would not be allowed to fail, banks and other financial companies bought credit default swaps (CDSs), thereby insuring themselves against the failure of less privileged companies. Moreover, these CDSs, created opportunities to create synthetic credit structures, again purchased through SPVs, that added substantially to leverage in the financial system.

Fifth, governments granted privileged roles to certain ratings agencies, leading to over-reliance on those agencies in determining the risk of ABS, CDOs and other SIVs. Meanwhile, unbeknown to many purchasers of these assets, the ratings agencies consulted closely with issuers to create the desired ratings. Indeed, we now know that a AAA rating in structured finance does not mean the same default risk as in corporate debt, that serious errors were made in some ratings models, and that liquidity and counterparty risks embedded within these structures were underestimated.

A final factor, which was in part a consequence of the over-supply of liquidity, was the massive build-up of central bank dollars by Asian exporters and oil producing countries—dollars that were searching for a home.

## The jingle mail and the initial response

The easy credit led to a dramatic rise of house prices in many parts of the United States, which further fuelled demand, as borrowers sought to 'flip' properties and lenders, assuming that prices would continue to rise, offered 100% (and higher) loan to valuation ratio (LVR) mortgages. With lax underwriting standards, borrower fraud increased sharply. Then, in 2007, prices began to fall and some borrowers with high LVR mortgages, whose homes or investment properties were worth less than the nominal value of the mortgage, decided it was time to do the 'jingle mail'—handing the keys back to the mortgage originator and walking away.

Suddenly, vast swathes of allegedly AAA CDO tranches looked less than healthy. It was soon clear that the assets upon which banks had been lending to one another were of questionable value. The result: lending to SIVs and then between banks dried up.

Among the first victims of this desiccated credit market was Northern Rock (NR), one of Britain's top five mortgage lenders, which was more reliant than any European bank on securitisation markets. In August 2007, NR was suddenly unable to borrow in short-term credit markets. After attempting unsuccessfully to find a buyer, NR went to the Bank of England (BoE) to borrow money.

Unfortunately, as soon as NR's troubles became public, tens of thousands of savers queued round the block to withdraw their money. By reducing its capital base, this run forced NR to increase its borrowing from the BoE. Shortly after, it was taken into public ownership. This set a precedent not only in the United Kingdom but globally that banks considered 'too big to fail' would be bailed out by governments.

Had NR been placed in administration rather than nationalised, its assets might have been transferred in an orderly fashion to a larger bank able to benefit from its substantial mortgage book and deposit base. In other words, such crises can be prevented—if those skilled in interpreting and responding to market signals are permitted to do their jobs without government interference.

Unfortunately, when Bear Stearns began to stumble in the spring of 2008 under the weight of its mortgage heavy business model, the US government quickly stepped in and brokered a bailout, transferring the bank lock, stock and subprime barrel to JP Morgan—along with a multibillion-dollar injection of cash and guarantees.

The bailout of Bear Stearns added to the expectation that some institutions were simply too important to fail. This reduced the pressure on some companies to raise new capital. It also delayed recognition of counterparty risk issues.

As property values continued to fall through the year, fixed income markets progressively priced higher risks. On 8 September Freddie Mac and Fannie Mae were placed under 'conservatorship.' The biggest non-sovereign fixed income issuers in the world were now subject to the massive uncertainty of ill-defined rules that saw some residual equity left for shareholders, effectively wiped out value for preference shareholders who would have dividends suspended, but preserved the position of senior debt holders. The confusion in debt markets triggered a 'flight to quality' of US treasury bonds.

The Lehmans bankruptcy followed on 15 September, after talks with a few parties about a buyout failed. Early talks apparently failed because management held out for a higher price. Later talks failed because the government refused the guarantees sought by potential purchasers. The consequences of failure were large, with unsettled trades and frozen collateral disrupting markets everywhere. The Bear precedent had led many market participants to believe that Lehman would not be allowed to fail. Markets quickly priced the swing in policy, leaving all securities companies vulnerable.

The popular view among market participants is that Lehman should not have been allowed to fail. Yet if Bear had not earlier been rescued, Lehman would likely have raised funds earlier, counterparties would have more quickly protected themselves from risks, and underlying problems would have been recognised sooner.

## From creative destruction to wanton destruction

Then, on 16 September, just as markets were beginning to price the risk that banks and other finance companies might fail, AIG was rescued. The bulk of AIG's insurance business was essentially healthy. The problem was the credit default swaps (CDSs) it had written on CDOs. As the values of CDOs were written down, holders of these CDSs began to demand collateral to cover the difference between the nominal market value and the hold to maturity value. With the value of CDOs spiralling downwards, these collateral demands spiralled upwards.

Had AIG proceeded into a conventional bankruptcy, it seems highly likely that its main insurance business would have swiftly been sold off intact, with little to no impact on insured parties. Meanwhile, the CDSs would then have traded at an appropriate discount. It is even conceivable that the previously opaque CDO and CDS market might have been subject to the illumination of open market transactions.

Instead, lines of credit were offered in exchange for punitive interest rates and massive dilution of equity holders—presumably in order to protect the holders of CDSs written by AIG. (The restructuring of the AIG rescue on 10 November would move closer to addressing the underlying issues—facilitating repurchase and netting off of CDS exposures.)

The day after the AIG bailout, the SEC introduced new prohibitions on 'abusive naked short selling.' This was followed, two days later by a ban on short-selling 719 financial stocks. This probably had the opposite effect to that intended. A primary reason market participants sell stocks short is to hedge positions, either in that stock or in related stocks. So, perversely, the ban on short-selling undermined the incentives to hold various long positions and contributed to further declines in stock prices, as investors sought to liquidate both long and short positions. Related markets, such as those for convertible bonds were also drastically undermined. Moreover, the potential to use equity markets to raise capital for banks was—at least in the short-term—eliminated, as investors exited the sector.

In spite of the evident damage done by the US ban, regulators around the world followed suit imposing bans on short-selling of financial stocks (Hong Kong was one of the few major markets to maintain its existing rules). This introduced a new wave of uncertainty for investors to manage. And to top it off, a 'sweeping investigation of market manipulation' was launched by the SEC, threatening legal sanctions for investors who may have done little more than position correctly for financial sector weaknesses.

## Morally hazardous

On 19 September, the US Federal Reserve initiated guarantees of money market funds in response to a flood of money out of funds and the second order illiquidity to which this contributed. This measure had the perverse effect of discouraging investors from discriminating between money market funds and, thereby, reduced incentives to manage the funds conservatively. Overall, it drove money out of the very markets it was intended to keep liquid, as conservative investors switched into treasury securities.

Making for a dramatic day, the US government introduced the first draft of the Troubled Asset Relief Program (TARP). TARP 1 sought congressional authority to purchase 'troubled assets' from banks. The initial plan would have had one of two unintended consequences: If the government bought the troubled assets at market prices, it would have caused crippling mark to market adjustments across the market; on the other hand, paying elevated 'hold to maturity' prices would be an unjustifiable use of taxpayer funds, given that realistic values would entail a fairly substantial (but difficult to quantify) discount.

The depressing reality is that a market for distressed mortgage assets had actually begun to form earlier in the month, with sales by Merrill Lynch. Indeed, several major private equity groups had set aside tens of billions of dollars specifically in order to purchase these assets. This market might plausibly have fairly quickly resolved many of the problems associated with the mortgage-backed securities that had plagued the finance industry and inhibited interbank lending. But with the prospect of the government stepping in as a buyer, this market was stopped in its tracks.

As TARP 1 was being debated by Congress, on 25 September, Washington Mutual (WaMu), one of the country's largest mortgage lenders, was taken over by the Federal Deposit Insurance Corporation (FDIC). (This happened despite the fact that its regulator, the Office of Thrift Supervision (OTS) had recently issued assurances that WaMu had adequate liquidity and capital.) WaMu's main operating assets were immediately sold on to JP Morgan. Equity holders were wiped out, while debt holders were left as residual claimants on the rump company, though they have practically no prospect of a return. Note the seemingly arbitrary difference in treatment compared to debt holders in Freddie/Fannie and AIG. Arguably, debt holders would have been much better served by orderly liquidation, since the company clearly had positive net asset value. This adds to turmoil in debt markets.

Contrast also the 29 September treatment of Wachovia. Under FDIC guidance and financial support, a complex proposed buyout from Citigroup would preserve the position of senior debt holders. However, as shown by the subsequent bid from Wells Fargo, the regulators had pre-empted a superior offer and market solution that would have been better for shareholders.

TARP 2 is the congressional version of the original Treasury plan (formally the *Emergency Economic Stabilization Act 2008*). In its final form, TARP 2 included constraints on executive pay, foreclosure assistance provisions, higher deposit insurance, and an open-ended requirement for participating firms to issue warrants to the government granting equity. The equity warrant provision created substantial problems, since potential equity investors in banks had no idea what dilution they might face. It also, inevitably, undermines the potential for solutions through private capital raising.

On 30 September, the Irish government offered to guarantee all bank deposits. The following day, UK depositors began moving funds from UK to Irish banks. Governments around the world then introduced a series of 'beggar thy neighbor' deposit guarantees, to prevent depositors shifting their funds into foreign banks with government guarantees. Euro-dollar markets floundered, with USD funding drying up for the large European banks with large dollar assets and no dollar deposit base. Dramatic currency moves also amplified during the month, with Iceland under particular pressure.

By early October, Iceland's banking system, already tottering as a result of exposure to subprime assets and the now-generalised liquidity problems, fell apart. On October 6, Iceland's government nationalised the Glitnir. The final straw came on 7 October when the UK government used anti-terror laws against Iceland's largest bank, Landsbanki, in order to seize assets. The Icelandic payments system froze and shortly thereafter the banking system collapsed. The Icelandic government subsequently nationalised its other main banks.

On 8 October, the UK government announced plans for partial nationalisation of four of the country's five main banks. Unlike Iceland, however, the banks were not forcibly nationalised; instead, they were offered some flexibility in how they would meet stiffer capital requirements.

On 14 October, the US government announced plans (under TARP 3) to provide capital to the country's nine largest financial institutions, regardless of their risk or need for capital. The measure would punish stronger firms, who would not have any need to participate. By harming the shareholders in those stronger, better managed firms, the measure would undermine the incentives for investors and counterparties to discriminate between financial institutions.

Debates over how to implement the various versions of TARP continued throughout October and into November. On 11 November, the US government announced that it was no longer planning to purchase troubled assets directly and would instead take direct stakes in banks. The preference for direct capital injections to banks followed the UK model—without any strong justification. Subsequent events would show that the UK rescue model did not work very well.

The injection of equity into banks has led to demands for government support to an increasingly wide array of institutions, many of which have no systemic importance. Widespread conversion of non-bank financial institutions (for example Morgan Stanley, Goldman Sachs, American Express, CIT, and GMAC) to banks looks more like an artifice to access Federal Reserve liquidity support than a strategy addressing underlying causes. Massive government support to the finance company subsidiaries of large industrial groups has contributed to wider protectionist sentiment globally.

In sum, the series of policy actions taken between September and November 2008, successively undermined money markets, term debt markets, equity markets, and markets for distressed debt. These markets were fragile, but private solutions were emerging. However, these private alternatives were undermined, moral hazard problems created or compounded, expectations perturbed, and uncertainty increased. The 'rescues' seem to show indifference to due process and existing contractual rights in favour of rapid and reactive solutions.

## Groundhog Day—a new administration revisits old plans

On 23 November, the outgoing administration cooperated closely with the Congress and president elect as Citigroup, apparently experiencing a spiralling loss of confidence, was given a large new capital injection and provided with massive guarantees capping losses on some bad assets. No rationale was provided for the different treatment of Citigroup, compared to Washington Mutual or Wachovia.

US government support for Bank of America in early 2009 (following larger than expected losses at Merrill Lynch) followed the CitiGroup precedent, with more capital and specific asset guarantees. With these two interventions, the rescue plans moved back towards the model of TARP 1 of quarantining bad assets.

Ironically the UK government took a similar approach when, on 19 January 2009, they acknowledged that their initial rescue measures had not worked, converted preferred shares in RBS to ordinary equity (increasing their controlling stake) and established an 'asset protection scheme' to insure bank losses on some troubled exposures. Details of the asset protection scheme have not been announced. The UK plan looks to have decreased confidence and increased uncertainty.

Government intervention in the United States and United Kingdom seem to have converged—but not because a good solution has been found. As government involvement has increased, the focus of debate has shifted to the management of the public 'investment.' Bank nationalisation, directing banks to increase lending, executive salary details, and micro management of 'luxury' expenses have moved to the centre of policy debate.

This is dangerous ground. Nationalisation lacks due process in treatment of creditors and shareholders. It does not provide a solution to managing existing businesses and troubled assets. Partial nationalisation through government capital injections has not proved successful to date in stabilising companies. New proposals to stress test bank resilience and likely capital needs do add some rigour to the recapitalisation process, but come very late.

Directing increases in lending by existing banks and recipients of government aid risks compounding problems or at best delaying their resolution. The lenders best placed to increase lending are most likely to be precisely those that do not need government aid.

If the supply of credit by banks is restricted, the answer is not to depress prices, prevent realisation of collateral, mandate effective lending quotas, and reduce returns on lending. If those measures do deliver more supply of credit, it is likely to be high risk and unsustainable when interventions reduce. Rather, governments should allow the price of credit to adjust to supply and new capital to be attracted to the industry.

The role of central banks in providing liquidity to the banking system has been dramatically increased. The Federal Reserve has moved well beyond providing liquidity to banks against collateral to direct provision of credit to industrial companies through the commercial paper market and extensive purchases of lower quality assets from bank and non bank balance sheets.

The new Financial Stability Plan brings together these threads. It offers a 'stress test' for major banks as a basis for recapitalisation by the government, but with the unintended consequence, that until the test is done, it erodes confidence in those banks. It returns to the initial TARP theme of buying distressed assets from banks, but this time in partnership with the private sector. However, using government provided leverage, the plan is again likely to undermine private distressed debt alternatives.

The new administration is reconfiguring, but not changing the essentials of the approach already taken. Formalising processes for bank recapitalisation may reduce uncertainty to some extent. However, the extensive regime of new requirements for supported banks and the ambiguous ownership status of supported institutions leave a lot of room for administrative discretion and little room for entrepreneurs to try to reconfigure the industry.

## What should be done?

In considering what action might be taken, it is important to recognise that there are clearly lessons for companies in the financial sector. Managements are paid to handle risks, yet in many cases they have failed adequately so to do. Boards need to think about how to rectify poor incentive structures and information flows to top executives. Management of highly technical product areas and counterparty risks must be improved. Growth aspirations should be managed according to organisational capabilities. Having said all that, there is no single answer as to how to best manage financial risk. What is needed is vigorous competition to drive genuine innovation rather than regulatory arbitrage.

That last point cannot be overemphasised. The danger of creating further incentives for counterproductive regulatory arbitrage is large. But the solution is not global regulation. Indeed, many regulatory problems have arisen from attempts to create more universal rules, such as Basle 2. It appears that regulators in Hong Kong, Canada and Australia have done better than those in the United States or the European Union. This emphasises the importance of encouraging rather than restricting competition in regulatory regimes. As a corollary, global regulations should be avoided.

To this point our core critique of the international government response to the financial crisis has been that it has increased uncertainty, added risks and, with unintended consequences, made problems worse. However, this leaves two questions. What could have been done better? What should be done from here?

Firstly, financial institutions need to be able to fail. Clients need to be able to get from failed institutions money or securities held on a custodian or trustee basis, and other creditors need to be appropriately treated. Recognition of losses and distribution of assets will allow reinvestment in alternatives. Of course many assets will take years to work out and complex trades may be best resolved by trading positions or holding to maturity. Bankruptcy is the normal process for dealing with these issues and is applied to equally complex industrial companies.

However, the desire to protect depositors and prevent 'runs' has led to either attempts to prop up banks or sometimes premature seizure of banks by governments. The need to do this suggests that in practice, deposit guarantees are no longer effective. Deposit runs have continued in many cases, despite the guarantees in place. In many countries, the size of financial institutions has reduced the credibility of government commitments. Banks are no longer as reliant on individual deposits, which are now less a source of systemic risks.

The new environment suggests that private, actuarially calculated insurance is likely to prove more effective for depositors than open-ended and ill-defined government guarantees. It is probably also time to revisit structural separation of deposit businesses from other parts of financial institutions to ensure lower risk for depositors. Deposits could be isolated in vehicles with tighter capital, liquidity and investment rules. However, whilst governments might facilitate structural separation with new rules, it should not mandate that. In practice, depositors have often preferred higher returns to lower risks, and we are not sure that structurally separate low risk deposit and transactional specialist institutions would pass the market test with customers.

In practice, it is often difficult to distinguish between a liquidity and a solvency crisis. Keeping illiquid companies operating will often be better than forcing closure. Creditors are usually best placed to make this distinction. When governments substitute for creditors on the pretext of avoiding systemic risk, we are left with institutions where the structure of balance sheets is unknown. Revisiting the rules to create dedicated 'Chapter 11' procedures for banks should be a priority. New rules should allow transparent determination of financial position and allow negotiation between all creditors, active management of assets, and transition to supervision of management that would protect all these interests.

Secondly, capital rules for financial institutions need reform to reduce regulatory arbitrage opportunities. Basle 2 tried to address this with complex calculations of economic risk and capital requirements. Many prudential regulators overlaid this with more simple rules for banks under their jurisdiction. However, the jurisdiction of regulators is always bounded. Bank-owned special purpose vehicles, non bank intermediaries, and insurance companies with different views of risk will always seek to work around limits at odds with economic reality. Further, risks change over time and unexpected outcomes will always produce shocks.

We think it is instructive that hedge funds do not have any capital rules imposed by regulators at all. Leverage is dictated by what their investors and counterparties are comfortable with. Leverage varies by fund strategy and within strategies over time. This market-based regulation of capital requirements should form a model for larger financial institutions. It would seem to us that institutions with the largest transactional flows and a very large retail deposit base would be likely to need more capital than has been common under existing rules.

Thirdly, competition has been constrained by proscriptive regulation across the industry and needs to be re-emphasised. Rating agency competition is a primary case of failed preference for a small number of providers. Reform in this area is widely supported by market participants. New banks are rarely created in most countries. The barriers to entry are high, with capital and regulatory requirements steep. This leads to less innovation and a flight of activity to less transparent and less regulated structures. Without the competitive pressures of new entrants, large financial institutions generate economic rents that extend the desire to diversify from core capabilities and pursue consolidation. Lower barriers to entry and consistent light touch regulatory rules in banking could reduce systemic risks.

Fourth, monetary policy has played a crucial role in the causes of the crisis and contributing to uncertainty through the crisis. Limits on the role of central banks need to be strengthened. A return to a rules based approach to monetary policy will be necessitated by central banks confronting the need to withdraw from the emergency measures taken recently. From a longer term perspective, the Euro project, the 'dollar block,' and many national currencies have buckled under stress. 'Denationalisation' of money is likely to get a boost. Countries with floating exchange rates show evidence of more effective adjustment to changing markets.

Finally, mortgage markets in the United States have been sources of more risk than in many other countries, although the United States has not had as much property price adjustment. This is in large part caused by the extensive involvement of the government in the mortgage business, particularly through the government sponsored enterprises. The mortgage market has such wide impact on voters that it will always be a target for political intervention. However, the dominance of that market by the GSEs made such intervention more hazardous. Although there are many changes in the mortgage market that should be made, moving to a private system without government supported institutions underwriting credit and interest rate risk is essential.

Free markets thrive on creative destruction. Irrespective of the underlying causes of the property market disruption, financial markets should have been able to manage through the crisis, despite the failure of many institutions. Mistakes by policymakers and regulators contributed substantially to the acceleration of the crisis.

The better solution to the problems that continue to plague the financial system would be to reduce the regulatory burdens that contributed to the crisis. If financial markets were governed by simple, clear rules, there would be less incentive for regulatory arbitrage and more incentive to generate innovations that create genuine benefits for people.