Learning from the crisis: Is there a model for global banking?

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One of the many noteworthy features of the evolving financial and economic crisis in the world economy is the belated recognition that the financial crisis is not restricted just to Wall Street or the mortgage-periphery of the financial system, but afflicts its core: the banking system. When the subprime crisis broke, this was seen as confined to mortgage markets and to institutions holding mortgage-backed securities. It was assumed that banks were entities which had either stayed out of the markets for risky retail loans or had transferred such risks off their balance sheets by securitizing those loans and selling them on to others. Hence, the banking system, the core of the financial sector, was seen as relatively free of the disease the sub-prime crisis came to epitomise.

However, in time, it became clear that the exposure of banks to these mortgage-backed and other asset-backed securities and collateralized debt obligations was by no means small. Because they wanted to partake of the high returns associated with those assets or because they were carrying an inventory of such assets that were yet to be marketed, banks had a significant holding of these instruments when the crisis broke. A number of banks had also set up special purpose vehicles for creating and distributing such assets which too were holders of what turned out to be toxic securities. And, finally, banks had lent to institutions that had leveraged small volumes of equity to make huge investments in these kinds of assets. In the event, the banking system was indeed directly or indirectly exposed to these assets in substantial measure. Not surprisingly, it is now clear that banks too are afflicted by losses on derivatives of various kinds, resulting in write-downs that have wiped out their base capital.

This is prompting a structural transformation of the banking industry. An aspect of that transformation that has received much attention is the open or covert, "back-door" nationalization of leading banks in different countries. After having failed to salvage the crisis-afflicted banking system by guaranteeing deposits, providing refinance against toxic assets and pumping in preference capital, governments in the UK, US, Ireland and elsewhere are being forced to nationalize their leading banks by opting to hold a majority of ordinary equity shares in an expanded equity base. Most often this occurs not because governments want nationalization, but because there appears to be no option if the banks have to survive. Their survival matters not just for stakeholders in the individual banks concerned but for the economy as a whole, since their closure can send out ripple effects with systemic implications. The list of the banks subject to nationalization reads like a veritable who's who of global banking, covering among others, Citigroup, Bank of America, Royal Bank of Scotland and Lloyds Group.

This near-collapse and ongoing transformation of banking in the US and UK, even if perceived as temporary, raises not just the question of the appropriate form of ownership in the banking sector, but questions the form that banking structures, banking strategy and banking regulation took in the US and UK. From a developing country perspective this is of considerable significance because financial liberalization and reform in developing countries has been geared to homogenize financial systems and restructure the still-dominant banking sectors in these countries to approximate the "model" that emerged and came to prevail in the Anglo-Saxon world since the late 1980s. The failure of the Anglo-Saxon model is now seen as indicative of the fact that a number of features of that system which governments and regulators in the developing world had chosen to move towards have lost their legitimacy.

The original US model

The crisis makes clear what has been known for long: the model of efficient markets that successfully mobilize savings, channel them into investment in the highest-yielding projects and ensure that those resources are successfully utilized is not real. The "real" Anglo-Saxon model is the imperfect, crisis prone system that emerged and consolidated itself in the US and the UK after the 1980s. Prior to that banking in the US was highly regulated and shaped by the Glass-Steagall Act of 1933. Regulation of this kind was necessitated by the crisis that engulfed the free banking regime that characterised the US in the early 20th century. During 1930-32 alone, more than 5000 commercial banks accounting for about a fifth of all banking institutions in the US suspended operations and in many cases subsequently failed.

This was clearly unacceptable for two reasons. First, banks are at the centre of the payments and settlements system in a modern economy, or the institutions, instruments and procedures that facilitate and ease transactions without large scale circulation and movement of currencies. If there is systemic failure in the banking system, the settlements system can freeze, causing damage to the real economy. Second, banks were seen as the principal risk-carriers in an economy, because their intermediation is crucial to mobilising financial savings in relatively small lots, from depositors who have a high liquidity preference and expect to be insured against risk and channelling these savings to borrowers looking for large sums of capital to be invested in illiquid assets characterised by significant risk. Even if banks lend largely for working capital purposes, this role they play is crucial for the real economy. Unfortunately, this role implies that banks carry the burdens associated with the risk and maturity mismatch implicit in a system where household savings are being mobilised for private investment. They have to be protected from failure and therefore from competition of a kind that forces them to adopt risky strategies in search of larger business volumes and higher margins.

Underlying the 1930s crisis was the competition that characterized the free banking era in which interest rate competition to attract deposits necessitated, in turn,

investment in risky, high-return areas. This soon showed up in a high degree of financial fragility and almost routine bank closures. The Banking Act of 1933 (the Glass-Steagall Act) was aimed at addressing this fragility by imposing a strong regulatory framework. Under that framework, deposit insurance, interest rate regulation, and entry barriers limited competition and rendered any bank as good as any other in the eyes of the ordinary depositor. This preempted the tendency to push up deposit rates to attract depositors that would require risky lending and investment to match returns with costs. The regulatory framework went even further to curb risky practices in the banking industry. Restrictions were imposed on investments that banks or their affiliates could make, limiting their activities to provision of loans and purchases of government securities. There was a ban on banks underwriting securities and serving as insurance underwriters or agents, besides limits on outstanding exposure to a single borrower and lending to sensitive sectors like real estate. Finally, solvency regulation involved periodic examination of bank financial records and informal guidelines relating to the ratio of shareholder capital to total assets.

There were two consequence of this structure of regulation. First, even though this regulatory framework was directed at and imposed principally on the banking sector, it implicitly regulated the non-bank financial sector as well. It is not often recognized that that the size, degree of diversification and level of activity of the non-bank financial sector depends on the degree to which institutions in that sector can leverage their activity with credit delivered directly or indirectly from the banking system. Banks being the principal depository institutions are the first port of call for a nation's savings. So if direct or indirect bank involvement in a range of non-bank financial activities was prohibited, as was true under Glass-Steagall, then the range and scope of those activities are bound to be limited. Not surprisingly, right through the period of intensive regulation of the financial sector in the US, there was little financial "innovation" in terms of new institutions or instruments, though there were periods characterized by substantial and rapid growth in the financial sector. In the event, even by the 1950s, banking activity constituted 80-90 per cent of that in the financial sector. Even at the end of the 1950, savings accumulated in pension and mutual funds were small and trading on the New York Stock Exchange involved a daily average of three million shares at its peak. This was to rise to as much 160 million shares per day during the second half of the 1980s, when leverage became possible. (Sametz 1992).

A second consequence of the regulatory structure epitomised by Glass -Steagall was the implicit decree that banks would earn a relatively small rate of return defined largely by the net interest margin, or the difference between regulated deposit and lending rates adjusted for intermediation costs. Thus, in 1986 in the US, the reported return on assets for all commercial banks with assets of $500 million or more averaged about 0.7 per cent, with the average even for high-performance banks amounting to merely 1.4 per cent. The net interest margin (to earning assets)

was 5.2 per cent for the high performance banks (Gup and Walter 1991). This outcome of the regulatory structure was, however, in conflict with the fact that these banks were privately owned. What Glass-Steagall was saying was that because the role of the banks was so important for capitalism they had to be regulated in a fashion where, even though they were privately owned and socially important, they would earn less profit than other institutions in the financial sector and private institutions outside the financial sector. This amounted to a deep inner contradiction in the system which set up pressures for deregulation. Those pressures gained strength during the inflationary years in the 1970s when tight monetary policies pushed up interest rates elsewhere but not in the banks. The result was a flight of depositors and a threat to the viability of banking which was used to win the deregulation that gradually paved the way for the problems of today. What is clear in hindsight is that Glass-Steagall type of regulation of a privately owned banking system was internally contradictory. It would inevitably lead to deregulation.

The nature of deregulation

The regulatory breakdown occurred finally in the 1980s and after when a host of factors linked, among other things, to the inability of the United States to ensure the continuance of a combination of high growth, near full employment and low inflation, disrupted this comfortable world. With wages rising faster than productivity and commodity prices—especially prices of oil—rising, inflation emerged as the principal problem in the 1970s. The fiscal and monetary response to inflation resulted in higher interest rates outside the banking sector, threatening the banking system (where interest rate regulation meant low or negative inflation-adjusted returns) with desertion of its depositors. Using this opportunity, non-bank financial companies expanded their activities. With US banking being predominantly privately owned, this situation where there were more lucrative profit opportunities outside of banking but banks were not allowed to diversify into those activities was untenable. The contradiction between private banking and strict regulation could no more be easily managed. The era of deregulation of interest rates and banking activity followed, paving the way for the transformation of the financial structure.

Once the specific response to the late-1960s and post-1960s crisis facing the US economy triggered the phase out of the regulated interest rate regime, a change in the institutional structure of the financial sector was inevitable. Initially money market funds grew in importance, stock market activity increased, market volatility was enhanced and new instruments to hedge against the risks associated with such volatility were created, triggering the process of securitization. The process of securitization intensified with instruments such as mortgage bonds.

With banks now having to cover the much higher interest rates they were paying on deposits, they had to have new avenues for investment. They saw their viability being dependent on entering non-bank businesses where profits were high. This included investment in junk bonds, real estate development loans and equity. Even

though the risks involved were high banks were keen to enter these areas, emboldened by the $100,000 per deposit coverage of deposit insurance. Thus the pressure to liberalize banking regulation was high.

This paved the way for the removal of restrictions on banking activity. The process of dismantling of the Chinese Walls separating different segments of the financial sector began in 1982, when the Office of the Comptroller of Currency permitted several banks to set up subsidiaries to engage in the discount brokerage business. Since then the process has continued. Bank holding companies were allowed to underwrite commercial paper, municipal revenue bonds, mortgage- and consumer loan-backed securities, and corporate bonds and equities through securities subsidiaries. The net result of these developments was a decline in the role of the banking business within financial markets.

Finally, to increase the flexibility that banks had in making investments, bank solvency protection measures were diluted to make way for regulatory 'forbearance'. Capital standards were lowered, the intensity of supervision was relaxed and accounting rules simplified. Regulatory guidelines for banking increasingly imitated those for the securities business with requirements such as disclosure of information, mark-to-market accounting rules and risk-adjusted capital requirements.

Thus, by adopting a range of measures, the US state and federal governments and the Federal Reserve dismantled during the 1980s the system of regulation and the financial structure created by the policy framework put in place during and after the Great Depression.

The new financial framework

At the centre of the new financial framework was a set of beliefs on how financial markets functioned and therefore should be regulated. The first was that if norms with regard to accounting standards and disclosure were adhered to, capital provisioning, in the form of an 8 (or more) per cent capital adequacy ratio, was an adequate means of insuring against financial failure. Second, this was to be ensured by requiring that the size of regulatory capital was computed not on the actual value of assets but on a risk-weighted proxy of that value, where risk was assessed either by rating agencies or by the banks themselves by using complex algorithms. Risk-weighting was expected to achieve two results: it would inflate the size of regulatory capital required as the share of more risky assets in the portfolio of banks rises; it would discourage banks from holding too much by way of risky assets because that would lock up capital in forms that were near-barren. Third, this whole system was to be made even more secure by allowing the market to generate instruments that helped, spread, insure or hedge against risks. These included derivatives of various kinds. Fourth, use of the framework was seen as a way of separating out segments of the financial system that should be protected from

excessive risk (for example, banks, in which depositors trusted their money) and those where sections which could be allowed to speculate (high net worth individuals) can legitimately do so (through hedge funds, private equity firms, and even investment banks).

Implicit in these beliefs was the idea that markets, institutions, instruments, indices and norms could be designed such that the financial system could regulate itself, getting off its back agencies that imposed structural and behavioural constraints to ensure the "soundness" of the financial system. The intervention of such agencies was seen as inimical to financial innovation and efficient provisioning of financial services. There was an element of systemic moral hazard involved here. If the system is seen as designed to self-regulate and is believed to be capable of self-regulation, then any evidence of speculation would be discounted. In fact, it would be seen as a legitimate opportunity for profit, leading to responses that reinforce such speculation.

The transformation of the financial framework, which unfolded over the last two decades and more, had many features. To start with, banks extended their activity beyond conventional commercial banking into merchant banking and insurance, either through the route where a holding company invested in different kinds of financial firms or by transforming themselves into universal banks offering multiple services. Second, within banking, there was a gradual shift in focus from generating incomes from net interest margins to obtaining them in the form of fees and commissions charged for various financial services. Third, related to this was a change in the focus of banking activity as well. While banks did provide credit and create assets that promised a stream of incomes into the future, they did not hold those assets any more. Rather they structured them into pools, "securitized" those pools, and sold these securities for a fee to institutional investors and portfolio managers. Banks transferred the risk for a fee, and those who bought into the risk looked to the returns they would earn in the long term. This "originate and distribute" model of banking meant, in the words of the OECD Secretariat (OECD 2000), that banks were no longer museums, which "would take the asset and put it on their books much the way a museum would place a piece of art on the wall or under glass – to be admired and valued for its security and constant return", but parking lots which served as temporary holding spaces to bundle up assets and sell them to investors looking for long-term instruments. This meant that those who originated the credit assets tended to understate or discount the risks associated with them. Moreover, since many of the structured products created on the basis of these credit assets were complex derivatives, the risk associated with them was difficult to assess. The role of assessing risk was given to private rating agencies, which were paid to grade these instruments according to their level of risk and monitor them regularly for changes in risk profile. Fourth, the ability of the banking system to "produce" credit assets or financial products meant that the ultimate limit to credit was the state of liquidity in the system and the willingness of those with access to

that liquidity to buy these assets off the banks. Within a structure of this kind periods of easy money and low interest rates increased the pressure to create credit assets and proliferate risk. Fifth, financial liberalisation increased the number of layers in an increasingly universalised financial system, with the extent of regulation varying across the layers. Where regulation was light, as in the case of investment banks, hedge funds and private equity firms, financial companies could borrow huge amounts based on a small amount of own capital and undertake leveraged investments to create complex products that were often traded over the counter rather than through exchanges. Finally, while the many layers of the financial structure were seen as independent and were differentially regulated depending on how and from whom they obtained their capital (such as small depositors, pension funds or high net worth individuals), they were in the final analysis integrated in ways that were not always transparent. Banks that sold credit assets to investment banks and claimed to have transferred the risk, lent to or invested in these investment banks in order to earn higher returns from their less regulated activities. Investment banks that sold derivatives to hedge funds, served as prime brokers for these funds and therefore provided them credit. Credit risk transfer neither meant that the risk disappeared nor that some segments were absolved from exposure to such risk.

That this complex structure which delivered extremely high profits to the financial sector was prone to failure has been clear for some time. For example, the number of bank failures in the United States increased after the 1980s. During 1955-81, failures of US banks averaged 5.3 per year, excluding banks kept from going under by official open-bank assistance. On the other hand during 1982-90 failures averaged 131.4 per year or 25 times as many as 1955-81. During the four years ending 1990 failures averaged 187.3 per year (Kareken 1992). The most spectacular set of failures, was that associated with the Savings and Loan crisis, which was precipitated by financial behaviour induced by liberalisation. Finally, the collapse of Long Term Capital Management pointed to the dangers of leveraged speculation. Each time a mini-crisis occurred there were calls for a reversal of liberalisation and increased regulation. But financial interests that had become extremely powerful and had come to control the US Treasury managed to stave off criticism, stall any reversal and even ensure further liberalisation. The view that had come to dominate the debate was that the financial sector had become too complex to be regulated from outside; what was needed was self-regulation.

Underlying the current crisis were two consequences of the developments outlined above. First, the “originate-and-distribute” model migrated out of the banking system to other segments of the financial sector. Second, this was facilitated by the fact that in more ways than one this resulting diversification and proliferation of Finance, was leveraged by the liberalized banking system. Because of this complex chain, institutions at every level assumed that they were not carrying risk or were insured against it. However, risk does not go away, but resides somewhere in the system. And given financial integration, each firm was exposed to many markets

and most firms were exposed to each other as lenders, investors or borrowers. Any failure would have a domino effect that would damage different firms to different extents.

It was for this reason, we now know, that while the problems began with defaults on subprime loans, the crisis soon afflicted the core of the financial structure: the banking sector. As in 1933 the danger of systemic failure if banks were allowed to close left the state had no choice but to step in.

The response to the crisis

In the event, after much dithering, governments in the developed industrial countries bought new equity in private banks to recapitalise them, effectively nationalizing a large part of the private banking system. This occurs even when analysts and policy makers are still debating whether nationalization is the best "option" when dealing with the banking crisis. Many warn that the inability to accept a reality that has gone ahead of the debate on policy has in turn slowed what appears to be an inevitable process of nationalization and may be adding to the costs of the crisis (Roubini 2008).

The perceived inevitability of the process under way has meant that it is not just "socialists" who have read the writing on the wall. Even staunch free market advocates like former Federal Reserve Chairman Alan Greenspan, who made the case for regulatory forbearance and oversaw a regime of easy money that fueled the speculative bubble (which he declared was just "froth") that preceded this crisis, now see nationalization as inevitable. In an interview to the *Financial Times* (van Duyn 2009), Greenspan, identified by the newspaper "as the high priest of laisser-faire capitalism", said: "It may be necessary to temporarily nationalise some banks in order to facilitate a swift and orderly restructuring. I understand that once in a hundred years this is what you do."

This ideological leap has come at the end of a long transition during which the understanding of the nature of the problem afflicting the banks in these countries has been through many changes. Starting with the perception that their problem was one of inadequate liquidity, assessments moved on to focus initially on the effect that the fear of counterparty risk was having on intra-bank and intra-corporate lending and trading, and then on the effect that depreciated or toxic assets which could not be valued was having on bank solvency.

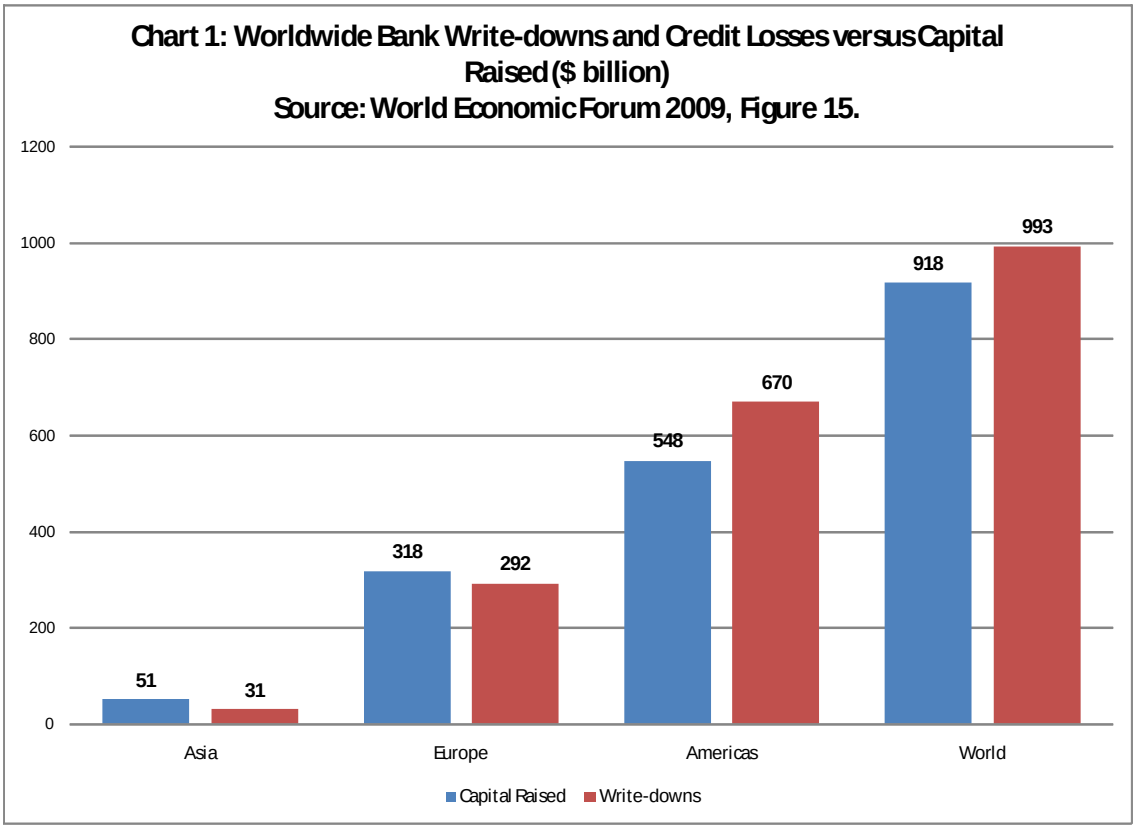
How large are the losses?

Estimates of the losses banks have sustained and the volume of bad assets they carry on their balance sheets vary. In its update to the Global Financial Stability Report for 2008 (International Monetary Fund 2009), issued on January 28, 2009, the IMF had estimated the losses incurred by US and European banks from bad assets that originated in the US at $2.2 trillion. Barely 2 months earlier it had placed the figure at $1.4 trillion. Loss estimates seem to be galloping and we are still counting.

Projections of likely total losses are even larger. On January 21, 2009 Nouriel Roubini and Elisa Parisi-Capone had in their RGE Monitor projected that global loan losses and write downs on U.S. originated securitizations would total $1.6 trillion on $12.37 trillion in unsecuritized loans (Agence France-Presse 2009). About $1.1 trillion of this is estimated to be incurred by US banks and brokerages. Another two trillion dollars will have to be written off because of a fall in the value of financial holdings currently estimated at $10.84 trillion. US banks and brokers possibly carry losses of $600 billion to $700 billion out of this amount. As a result, the total losses of the financial system were estimated at $3.6 trillion, half of which were borne by US firms. If these assessments by Roubini and Capone are correct, the losses would overwhelm the US financial system, which, according to them, had a capitalization of $1.3 trillion dollars in commercial banks and $110 billion in investment banks as of the third quarter of 2008.

It needs noting that the equity base of most banks is relatively small even when they follow Basel norms with regard to capital adequacy. Banks can use a variety of assets to ensure such adequacy and the required volume of regulatory capital can be reduced by accumulating assets with high ratings (which we now know are not adequate indicators of risk). This results in the available regulatory capital being small relative to the risky asset-backed securities held by the banks, which in turn could lead to insolvency.

The IMF estimates that global banks that have already obtained much support including capital from governments would need further new capital infusions of around half a trillion to stay solvent. With that much and perhaps more capital going in, the case for public ownership of banking would be strong in some countries. By late January 2009, Bloomberg estimates, banks had written down $792 billion in losses and raised $826 billion in capital, of which $380 billion came from governments (Quoted in International Monetary Fund 2009: 2). Across the world write-downs and capital raised as of December 15, 2008 have been estimated at $993 billion and $918 billion respectively, with the figures for US and Europe as of mid-December being $548 billion and $678 billion and $292 billion and $318 billion respectively (World Economic Forum 2009 and Chart 1). The high level of capital raised in Europe relative to losses written down may be because of the faster moves by governments in the UK and Europe, especially the UK, Ireland and Iceland, to shore up bank balance sheets.



Interconnectedness

The infusion of capital and the government's presence in the banking sector is expected to increase because the recognition of losses tends to be gradual. The difficulty with bad derivative assets is that they have to be valued on mark-to-market principles. Since these assets are not all being traded, valuation is difficult and there is a lag in the recognition of the losses suffered through holding such assets. In the US, the process of price discovery began a long time back when in August 2007 Bear Stearns declared that investments in one of its hedge funds set up to invest in mortgage backed securities had lost all its value and those in a second such fund were valued at nine cents for every dollar of original investment. Despite that early discovery, even by the beginning of 2009, loss estimates were still rising.

The Bear Sterns experience made clear that once losses are discovered even in an investment bank, the implications are systemic. Bear Stearns was a highly leveraged institution. In November 2007 it had $11.1 billion in tangible equity capital, which supported investments in $395 billion of assets, reflecting a leverage ratio of more than 35 to one (Boyd 2008). And its assets were reportedly less liquid than those of many of its competitors. Thus it was not just that the assets held by the investment bank were bad, but that there were many other institutions, including banks, that were exposed to bad assets through their relationship with Stearns. Yet they were slow in recognizing their potential losses. It is for this reason that the US government chose to "save" Bear Stearns by initially offering it an unlimited loan facility delivered

through Wall Street Bank J.P. Morgan Chase, and then getting the latter to acquire the firm. As many recognised then, Bear Stearns was too "interconnected" to be allowed to fail at a time when financial markets were extremely fragile.

However, this lesson had not been learnt in full. When in September 2008, troubled Lehman Brothers Holdings Inc., the fourth largest investment bank on Wall Street came to the table with requests for support, it was refused the same. This refusal of the state to take over the responsibility of managing failing firms was supposed to send out a strong message. Not only was Lehman forced to file for bankruptcy, but a giant like Merrill Lynch that had also notched up large losses due to sub-prime related exposures decided that it should sort matters out before there were no suitors interested in salvaging it as well. In a surprise move, Bank of America that was being spoken to as a potential buyer of Lehman was persuaded to acquire Merrill Lynch instead, bringing down two of the major independent investment banks on Wall Street.

This was, however, only part of the problem that Lehman left behind. The other major issue was the impact its bankruptcy would have on its creditors. Citigroup and Bank of New York Mellon were estimated to have an exposure to the institution that was placed at upwards of $155 billion. A clutch of Japanese banks, led by Aozora Bank, were owed an amount in excess of a billion. There were European banks that had significant exposure. And all of these were already faced with strained balance sheets (Financial Times Reporters 2008). Soon trouble broke in banking markets with a spurt of bank failures seeming inevitable. Though indications of this problem had emerged at least a year-and-a-half earlier, what was surprising was that the full import of the problem at hand was not recognized. As noted earlier, the perception was that the problems faced by these institutions —inadequate liquidity in the market and the need to mark down asset values because of the temporary problem created by the sub-prime crisis—could be easily addressed.

The road to capital infusion

In what followed, central banks pumped huge amounts of liquidity into the system and reduced interest rates. In the US, the Federal Reserve offered to hold the worthless paper that the banks had accumulated and provide them credit at low interest rates in return. But the problem would not go away. By then every institution suspected that every other institution was insolvent and did not want to risk lending. The money was there but credit would not flow through the pipe with damaging consequences for the financial system and for the real economy.

It was at this point that it was realised that what needed to be done was to clear out the bad assets with the banks. Among the smart ideas thought up for the purpose was the notion of splitting the system into 'good' and 'bad' banks. If a set of bad banks could be set up with public money, and these banks acquired the bad assets of the banks, the balance sheets of the latter, it was argued, will be repaired. The bad banks themselves can serve as asset reconstruction corporations that might be

able to sell off a part of their bad assets as the good banks get about their business and the economy revives.

This idea missed the whole point, because it did not take account of the price at which the bad assets were to be acquired. If they were acquired at par or more, it would amount to blowing taxpayers' money to save badly behaved bank managers, since the assets were likely to be worth a fraction of what they were actually bought for. On the other hand, if some scheme such as a reverse auction (or one in which sellers bid down prices to entice the buyer to acquire their assets) is used to acquire the bad assets, then the sale prices of these assets would be extremely low and the so-called good banks would incur huge losses which they would have to write down leading to insolvency (Elliott 2009). The only way out it appeared was if these banks just wrote down their assets and were saved from bankruptcy by the government through recapitalisation or the injection of capital into them. Additional capital injection seemed unavoidable, but since such capital would only come from the government it raised the spectre of nationalization.

Injecting capital need not, however, imply nationalization, if for example it takes the form of loans to banks or investments in preferred stock with no voting rights or limited voting rights. In the US, for example, the $387 billion first phase of the $700 billion Trouble Assets Relief Programme (TARP) involved capital injections in various forms through a multitude of schemes (Office of the Special Insector General for the Troubled Asset Relief Program (SIGTARP) 2009). Principal among these for the bank rescue effort were the Capital Purchase Program (CPP), the Targeted Investment Program (TIP) and the Asset Guarantee Program (AGP). More than 300 banks participated in the first in which capital was infused through purchases of "senior preferred stock" and acquisition of warrants that gave the government the right but not the obligation to buy common stock at a pre-specified price. As a senior preferred stock holder the government is paid a fixed percentage return (before common stock holders are paid dividends) of 5 per cent for the first five years and 9 per cent thereafter but does not have normal voting rights.[i] Firms can buy back the stock at prices at which they sold them after three years. In return for buying preferred stock, the government would be issued warrants.[ii] In the case of the TIP and AGP too, which were directed specifically at Citgroup and Bank of America, preferred stock, warrants and loans were the means of financing and not the purchase of common equity (Table 1).

Table 1: First Phase TARP Commitments by Programme as of January 23, 2009 ($ billion)

Program	Amount	Form
Capital Purchase Programme (CPP)	194.2	Senior Preferred Stock and Warrants of Common Stock
Systemically Significant Failing Institutions (SSFI): AIG	40	Senior Preferred Stock

Targeted Investment Program (TIP): Citigroup and Bank of America	40	Senior Preferred Stock and Warrants of Common Stock
Asset Guarantee (AGP): Citigroup and Bank of America	5	Insurance against Preferred Stock Premium or Guarantees or Non-Recourse Loans against Assets
Automotive Industry Financing Program (AIFP)	20.8	Investment and Senior Preferred Membership Interest
Source: SIGTARP 2009, Table ES.1, p.6.		

Tangible common equity

These forms of financing ensured that banks could be supported by the government without actual take over through common equity purchase. However, it soon became clear that the adequacy of these forms of financing depends on the volume of losses and write offs and the resulting capital infusion required. If these are large, preferred stock, for example, is not good enough. Such stock or even loans are senior in the capital structure and are not the immediate means of covering losses, because holders of those kinds of financial assets need to be compensated first when losses force liquidation of some assets. Only holders of common equity immediately absorb losses when incurred and need to be provided for. So it is the common equity base that gets eroded first and it is when capital of this kind is reasonably adequate that solvency is guaranteed. In the final analysis solvency depends on tangible common equity (TCE) which not only excludes non-tangible assets (such as goodwill) from the measure of assets but also preferred stock, including shares issued to the US Treasury.

The TCE ratio measures the ratio of tangible common equity to total tangible assets, and depending on circumstances relating to the balance sheets of banks and their bottom lines, the required level of the TCE ratio for solvency could be high. Estimates of required TCE ratios, therefore, vary, but analysts hold that banks with tangible common equity below 3 percent of assets should consider raising more capital (Shen 2009). Not surprisingly as banks and insurance companies such as AIG report larger and larger losses and write downs, the need to shore up their TCE ratios has increased. Further, since debt requires paying interest and preferred stock requires payment of fixed dividends, while dividends on equity are variable and only need to be paid out of profits, the presence of a large volume of debt and preferred stock affects the liquidity of the banks, whereas the presence of common equity does not.

An interventionist government can, of course, seek to buffer systemic effects by forcing creditors and preferred stock holders to bear the losses of firms they have financed. The difficulty is that if the government decides to enforce conversion of loans provided by private lenders into common equity, these lenders would lose the protection afforded to a holder of senior capital. Further, if large amounts of new common equity is issued in return for debt, there is a danger that the value of that equity could quickly fall below the price at which loans are converted to equity, transferring the losses from the banks concerned to the lenders and creating ripple

effects that can have systemic implications for the financial sector as a whole. Those possibilities are real because bank bonds amount to a quarter of US investment-grade corporate bonds (Wolf 2009). It is for this reason that many like Alan Greenspan suggested that nationalization that protects creditors or holders of senior debt is the answer to the problem of widespread bank insolvency. Though debt-equity swaps are common means of dealing with bankruptcies, they may not be the best route to take in the current circumstances. Nationalization recommends itself because it prevents the spread of fear and uncertainty among creditors to or investors in the liabilities of banks, such as insurance and pension funds.

As a result there is increasing pressure in the case of a number of financial institutions to convert preferred stock acquired by the government (and not the private sector) into common equity. Conversion of that kind is bound to increase the share of common equity held by the government in the banks. The moment that exceeds 51 per cent this amounts to nationalization. Even when the share of government equity is lower than 51 per cent, it can be large enough to give government significant influence or even control over the banks concerned. With the material basis for influencing or even determining bank decisions and behavior, the government cannot absolve itself of the responsibility of ensuring that banks provide credit to facilitate a recovery, that such credit is not concentrated in the hands of a few sectors and sections and that bank managers behave in ways that are socially acceptable. The pressure to oversee and regulate the payment of salaries, bonuses, retrenchment benefits and pensions to managers in service or asked to quit for overseeing failure in the nationalized banks is only the more discussed set of responsibilities that the government cannot avoid.

What is of significance is that this responsibility now holds in a wide segment of the banking system. The US Treasury is putting 19 banks with assets of more than $100 billion through a stress-testing programme, aimed at assessing the losses they are likely to sustain under alternative scenarios regarding the projected fall in GDP in the second and third quarters of 2009. This would be the basis on which the question of whether and, if so, how much of additional capital these banks would require would be answered. Initially this capital is to be provided through the issue of convertible preferred securities to the Treasury, to be replaced with capital raised from private sources in the form of common equity. If that does not happen within a specified period (currently six months) these securities will be converted into equity on an "as-needed basis".

Many see this as an attempt to postpone the decision to issue common equity to the government in the hope that nationalization can be averted. If conversion occurs, such nationalization is inevitable given the scale of the government's holding of preferred equity and the volume of losses that banks are estimated to be carrying. Thus in the case of Citigroup, by mid-February the government held $52 billion worth of preferred shares, which was five times the firm's market value as of February 20th (Son 2009). Bank of America, which had received $45 billion in TARP funds in

exchange for preferred shares and warrants, would be 66 percent owned by the government if its entire stake were converted to common equity. The figure would be 69 percent I the case of Regions Financial Corp. in Birmingham, Alabama, which had received $3.5 billion from the U.S. And, it would be a huge 83 percent at Fifth Third Bancorp, which had received $3.4 billion from TARP.

Conversion of the government's preferred stock, loans and warrants to common equity would create a socialized banking system particularly because the banks involved include the big ones. In the US for example, the four biggest commercial banks – JPMorgan Chase, Citigroup, Bank of America and Wells Fargo – hold 64 per cent of the assets of all US commercial banks. According to reports, in January 2009, Bank of America, the largest U.S. bank in terms of assets, had tangible common equity that stood at 2.83 percent of tangible assets, Citigroup had a lower 1.5 percent ratio, and JPMorgan Chase & Co., had tangible common equity equal to 3.8 percent of tangible assets (Shen 2009).

Skepticism that the threat of insolvency in banking can be solved with the help of private capital also arises because of the sizes of these institutions. It was partly that problem that encouraged governments outside the US to accept back-door nationalization in the case of institutions that are too big to fail. Though the financial crisis originated in the US, nationalization occurred first in Iceland (were the need was immediate), Ireland and the UK, where banking majors Royal Bank of Scotland and Lloyds Group are now under dominant public control, and others are expected to follow.[iii]

Resistance to nationalization

Yet resistance to nationalization in the US continues. Thus, when at the end of February 2009 mounting losses at Citigroup necessitated strengthening its common equity base, the government sought to do it through means that kept its stake below 40 per cent. Without getting the bank to issue fresh equity, the US offered to swap up to $25 billion of its $45 billion preferred shares in Citigroup for common equity. Simultaneously, it required other holders of preferred stock (such as the Government of Singapore Investment Corporation and Saudi Arabia's Prince Alwaleed) of around $27 billion to convert to common equity.[iv] This would increase Citigroup's common equity by $52 billion without additional investments by the government and save the firm about $3 billion in dividend payments. As a result of the conversion the government would have a 36 per cent stake, the existing shareholders' stake falls to 26 per cent and non-government holders of preferred stock get 48 per cent.[v] Citi's tangible common equity rises to 8.1 per cent of risk-weighted assets but ownership remains private, with the government's stake below 40 per cent. But this too could amount to merely postponing the problem. Once the government's stress test is completed, valuations of real estate-backed assets may fall and risk weights may rise, resulting in a need for more common equity, requiring the government to convert the balance of its preferred stock to common equity and nationalising the company in the process (Lex 2009).

Overall, therefore, the bank bail-out plan has seen much change, but nationalization is being resisted. Under the original Troubled Asset Relief Programme, the US government had essentially promised to buy out troubled assets from the banks. As detailed above, this evolved into a plan to recapitalise banks by buying preferred stock. Initially, this recapitalisation plan was combined with a guarantee programme that capped the losses that could result from damaged assets. Thus, a late November 2008 bail-out package designed for Citigroup sought to cap the bank's future losses on $306 billion of assets, while increasing its capital by $27 billion in return for preferred stock: the government was to absorb the first $29 billion of pre-tax losses on the assets, and a further 10 per cent of any losses above that figure. Gary Crittenden, Citigroup's chief financial officer, argued at that time that the eventuality that losses would rise above $29 billion was "a very remote possibility" (Larsen and Cox 2008). On the other hand the US government's guarantee allowed Citigroup to reduce the risk weights it attached to its assets to 20 per cent, which freed up capital. Further, the $27 billion injection of capital was expected to boost the two most important measures of balance sheet strength: the Tier One capital ratio, and the ratio of total common equity to risk-weighted assets.

This was, undoubtedly, a multi-pronged approach to bank revival. However, as some analysts then pointed out, the US government's preferred shares could not absorb any of Citigroup's future losses until the common equity had been wiped out. And dividend payments on the US government's preferred shares in Citigroup – which now total $52bn – could absorb a substantial amount of the bank's future profits. These expectations held good. It is not surprising therefore that as losses mounted preferred stock was converted into common equity. Yet, when the threat of inevitable nationalization resulted in a sharp fall in the share values of the likes of Bank of America and Citigroup, that are surviving on government money, White House spokesman Robert Gibbs told reporters that "This administration continues to strongly believe that a privately held banking system is the correct way to go, ensuring that they are regulated sufficiently by this government." (Chipman and Runningen 2009).

Alternatives to nationalization

A number of arguments have been made against nationalization (Blinder 2009). The two most powerful ones are that since the problem of valuation of assets would not go away with nationalization, the amount of tax-payers' money that may have to be pumped could prove enormous and indefensible. The other is that there are more than 8300 banks in the US and once the nationalization process starts it would be impossible to draw the line to limit the process. This again would amount to skimming the taxpayer far too much.

To deal with this dilemma of the immediate need to nationalize but perceived constraints to and ideological objections to doing so, there are two options that are being recommended. The first is to use regulatory devices to ensure that bank managers, shareholders and creditors adopt policies that can restore the viability of

and confidence in the banking system. The government as regulator has enough measures at hand to ensure that stakeholders behave in a fashion that suits the system. This could include getting creditors and private holders of preferred stock to convert to common equity.

The second route being recommended is that of temporary nationalization.[vi] Take over the ailing banks by buying into common equity, it is argued, but only till such time as their health is restored and they can be privatized so that the government's investments using tax payers' money is largely, if not fully, recouped. The expectation that investments can be recouped may be belied for long, leading either to losses for the tax payer or a continuation of nationalized banking.

However, the Swedish experience during the banking crisis of the early 1990s is often quoted as an example of what can be done. A combination of a real estate bubble financed with credit and an interest rate shock resulted in 1991 in large losses at Första Sparbanken, Sweden's largest savings bank. Other banks including Nordbanken, the country's third-largest commercial bank also began reporting big losses. As a first step to resolve the problem, the Swedish government, which owned a significant proportion of common stock in these banks chose to buy into new shares and buy out the private shareholders at the equity issue price. The government also provided a blanket guarantee of all bank loans in the Swedish banking system. Moreover, the Swedish Central Bank provided liquidity by depositing large foreign currency reserves in troubled banks, and by allowing banks to borrow freely the Swedish currency. All this having been done, the banks were split into good and bad banks, where the bad banks which took over doubtful assets functioned like asset reconstruction corporations that were financed with loans from the parent banks and equity from the government. The task of these entities was to liquidate in an orderly fashion the troubled assets so as to maximise recovery. Once the crisis was resolved, the good bank was auctioned off to recoup tax payers' money and restore private ownership (Eckbo 2009; Viotti 2000). This form of restructuring is an option if the crisis is largely restricted to a segment of the banking sector. However, as Blinder (2009) notes: "The Swedes had a relatively simple task. They never had to deal with institutions of the size and complexity of our (the US') banking behemoths." Moreover, if the government was so successful in resolving the crisis, what prevents it from retaining bank control to prevent such crises in the future. Unless it is shown that public ownership has costs which far outweighs it s ability to preempt crisis, privatization cannot be logically justified.

However, as noted at the beginning of this paper there is a more serious issue to contend with. The almost inexorable tendency to public ownership of banking in the US can be traced to sources deeper than just a crisis due to mismanagement. It rests in the fact that even under capitalism the core of the banking system must be publicly owned, since regulation required to ensure its stability reduces relative profits and discriminates against private owners of banks. This is why a system regulated by Glass-Steagall and all it represented that served the US well during the

Golden Age of high growth in the US had to give way to deregulation. But as we know now such deregulation seems to inevitably lead back to nationalisation. So capitalism appears to need a publicly owned banking system for its proper functioning. That is a factor that must be confronted and resolved if the current move to nationalisation is to be just "temporary" as Greenspan wants it to be.

Other case for public banking

The implications for developing countries are clear. They should stall and reverse the movement to private from public ownership or opt for public ownership if banking is fully private. This would serve a larger purpose. The regulatory framework that Glass-Steagall represented was created to deal with fragility. But intervention to shape financial structures is needed for another reason, viz. to use the financial sector as an instrumentality for broad-based and equitable growth. This is particularly required in late industrialising developing countries faced with international inequality and handicapped by an inadequately developed capitalist class.

Further, Glass-Steagall may not be a full solution today, and there could be contexts where a degree of financial integration could play a role. In particular, countries which want to use the financial structure as an instrument to further broad-based growth may need to opt for universal banks that follow unconventional lending strategies, when compared with the typical commercial bank. Many years ago Gerschenkron had pointed to the role which certain institutional adjustments in the financial sector played in the success of late-industrialisers like France and Germany. Basing his arguments on the roles played by Crédit Mobilier of the brothers Pereire in France and the 'universal banks' in Germany, Gerschenkron argued that the creation of "financial organisations designed to build thousands of miles of railroads, drill mines, erect factories, pierce canals, construct ports and modernise cities" was hugely transformative. Financial firms based on the old wealth were typically in the nature of rentier capitalists and limited themselves to floatations of government loans and foreign exchange transactions. The new firms, were "devoted to railroadisation and industrialisation of the country" and in the process influenced the behaviour of old wealth as well.

As Gershcenkron argued: "The difference between banks of the credit-mobilier type and commercial banks of the time (England) was absolute. Between the English bank essentially designed to serve as a source of short-term capital and a bank designed to finance the long-run investment needs of the economy there was a complete gulf. The German banks, which may be taken as a paragon of the type of the universal bank, successfully combined the basic idea of the credit mobilier with the short-term activities of commercial banks." (Gerschenkron 1982: 13).

The banks according to Gerschenkron substituted for the absence of a number of elements crucial to industrialisation: "In Germany, the various incompetencies of the individual entrepreneurs were offset by the device of splitting the entrepreneurial

function: the German investment banks—a powerful invention, comparable in economic effect to that of the steam engine—were in their capital-supplying functions a substitute for the insufficiency of the previously created wealth willingly placed at the disposal of entrepreneurs. But they were also a substitute for entrepreneurial deficiencies. From their central vantage points of control, the banks participated actively in shaping the major—and sometimes even not so major—decisions of the individual enterprises. It was they who often mapped out a firm's paths of growth, conceived far-sighted plans, decided on major technological and locational innovations, and arranged for mergers and capital increases." (Gerschenkron 1968: 137).

Thus, setting up Chinese Walls separating various segments of the financial sector may not be the best option. Nor could investment banks and hedge funds be abolished. What could however be done is to monitor investment banks and hedge funds and subject them to regulation, while seeking an institutional solution that would protect the core of the financial structure: the banking system. Fortunately, the current bail-out has provided the basis for such a transformation by opting for state ownership and influence over decision making.

A role for public ownership

Can this be an important step in shaping an alternative regulatory structure in developing countries, in particular? Public ownership of banks could serve a number of overarching objectives:

- It ensures the information flow and access needed to pre-empt fragility by substantially reducing any incompatibility in incentives driving bank managers, on the one hand, and bank supervisors and regulators, on the other. This is a much better insurance against bank failure than efforts to circumscribe its areas of operation, which can be circumvented.

- By subordinating the profit motive to social objectives, it allows the system to exploit the potential for cross subsidization and to direct credit, despite higher costs, to targeted sectors and disadvantaged sections of society at different interest rates. This permits the fashioning of a system of inclusive finance that can substantially reduce financial exclusion.

- By giving the state influence over the process of financial intermediation, it allows the government to use the banking industry as a lever to advance the development effort. In particular, it allows for the mobilization of technical and scientific talent to deliver both credit and technical support to agriculture and the small-scale industrial sector.

This multifaceted role for state-controlled banking allows policies aimed at preventing fragility and avoiding failure to be combined with policies aimed at achieving broad-based and inclusive development. Directed credit at differential

interest rates can lead economic activity in chosen sectors, regions and segments of the population. It amounts to building a financial structure in anticipation of real sector activities, particularly in underdeveloped and under-banked regions of a country.

The importance of public ownership to ensure financial inclusion cannot be overstressed. Central to a framework of inclusive finance are policies aimed at pre-empting bank credit for selected sectors like agriculture and small-scale industry. Pre-emption can take the form of specifying that a certain proportion of lending should be directed at these sectors. In addition, through mechanisms such as the provision of refinance facilities, banks can be offered incentives to realise their targets. Directed credit programmes should also be accompanied by a regime of differential interest rates that ensure demand for credit from targeted sectors by cheapening the cost of credit. Such policies have been and are still used in developed countries as well.

Credit pre-emption, aimed at directing debt-financed expenditures to specific sectors, can also be directly exploited by the state. In many instances, besides a cash reserve ratio, the central bank requires a part of the deposits of the banking system to be held in specified securities, including government securities. This ensures that banks are forced to make a definite volume of investment in debt issued by government agencies. Such debt can be used to finance expenditures warranted by the overall development strategy of the government, including its poverty alleviation component. Beyond a point, however, these roles have to be dissociated from traditional commercial banks and located in specialized institutions.

Inclusive finance of this kind inevitably involves the spread of formal financial systems to areas where client densities are low and transaction costs are high. Further, to ensure sustainable credit up-take by disadvantaged groups, interest rates charged may have to diverge from market rates. This regime of differential or discriminatory interest rates may require policies of cross-subsidization and even government support to ensure the viability of chosen financial intermediaries. Intervention of this kind presumes a substantial degree of “social control” over commercial banks and development banking institutions.

It implies that “social banking” involves a departure from conventional indicators of financial performance such as costs and profitability and requires the creation of regulatory systems that ensure that the “special status” of these institutions is not misused. In sum, “inclusive finance” as a regime is defined as much by the financial structure in place as by policies such as directed credit and differential interest rates. To ensure compliance with financial inclusion guidelines, governments can use and have used public ownership of a significant section of the banking/financial system to ensure the realization of developmental and distributional objectives. This was recognized by governments in many countries in Europe, where banking development in the early post-World War II period took account of the vital

differences between banking and other industries. Recognizing the role the banking industry could play, many countries with predominantly capitalist economic structures thought it fit either to nationalize their banks or to subject them to rigorous surveillance and social control. France, Italy and Sweden are typical examples in this respect. Overall, even as late as the 1970s, the state owned as much as 40 per cent of the assets of the largest commercial and development banks in the industrialized countries (United Nations, 2005). An example of a more recent successful transition to inclusive finance through nationalization of a significant part of the banking system is India post-1969.

Public Ownership and Inclusive Finance in India

India's achievements with regard to financial sector development after bank nationalisation have been remarkable. There was a substantial increase in the geographical spread and functional reach of banking, with nearly 62,000 bank branches in the country as of March 1991, of which over 35,000 (or over 58 per cent) were in rural areas. Along with this expansion of the bank branch network, steady increases were recorded in the share of rural areas in aggregate deposits and credit. From 6.3 per cent in December 1969, the share of rural deposits in the total rose to touch 15.5 per cent by March 1991 and the rural share of credit rose from 3.3 per cent to 15.0 per cent. More significantly, with the target credit-deposit (C-D) ratio set at 60 per cent, the C-D ratios of rural branches touched 64-65 per cent on the basis of sanctions. Sectorally, a major achievement of the banking industry in the 1970s and 1980s was a decisive shift in credit deployment in favour of the agricultural sector. From an extremely low level at the time of bank nationalization, the credit share of the sector grew to nearly 11 per cent in the mid-1970s and to a peak of about 18 per cent (the official target) at the end of the 1980s (ICBP 2006).

Conclusion

This example illustrates the positive effects that public ownership can have in varying contexts, and offers the key element for a new model for global banking. But this is not to say that this one advance can resolve the crisis and guard against future one. Even if the banks are safe, there are many other institutions varying from hedge and mutual funds to pension funds that have suffered huge losses, both from the subprime fiasco and the stock market crash, eroding the wealth of many. Moreover, housing prices are still falling sharply. The effects of that wealth erosion on investment and consumption demand are still unravelling, indicating that there is much to be told in this story as yet. That story would have further lessons for kind of regulation we need to shape.

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Footnotes:

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[i] The kind of preferred stock is a type of "hybrid" security, combining some of the risks and potential increased returns of equity but also some of the safety features of debt such as regular interest payments.

[ii] SIGTARP 2009 (p. 38) gives the following example of how the warrants system works: "On October 23, 2008, Treasury purchased $10 billion in Morgan Stanley preferred stock, and, as an incentive, received 65,245,759 warrants at a strike price of $22.99. As of January 23, 2009, Morgan Stanley's stock price was $18.71, which means that the warrants are "out of the money."" To be "in the money," Morgan Stanley's stock price would have had to gain more than $4.28.

[iii] However, even here the willingness to declare the process as nationalization is still lacking. The attempt in Europe is to create an "autonomous" but state-funded body between the government and the banks to create the impression of distance. The UK has the UK Financial Investments Ltd, Germany the SoFFin and Belgium has transferred banking stakes to a pre-existing Federal Holding Company. This may blur the image of state control but does not dilute such control.

[iv] Preferred stock holders faced the threat f losing their dividends if they did not convert. The conversion would mean that GIC gives up a 7 per cent annual dividend provided by the perpetual convertible notes it acquired from Citi in January 2008 for $6.88 billion. It is partly compensated for this because it does not make as much of a loss on its capital as might have been necessary under the original terms governing the preferred share conversion. GIC exchanged its preferred stock for 2.1 billion common shares at a price of $3.25 a share. This compares with the conversion price of $26.35 it would have had to pay under the original terms. Though the closing share price stood at $2.46 at the time of the deal, GIC suffers only a 24 per cent paper loss on the conversion, since its stake would be nearly three times the size of the 4 per cent stake it would have received (Burton and Anderlini 2009).

[v] Interestingly, Trust preferred securities got treated like debt, with interest on these more senior securities continuing to be paid. They can be converted to common equity only if some holders of other securities refuse to make the conversion. However, though senior earlier, they now rank pari passu with the government's unconverted preferred shares. Thus creditors were being partly but not fully protected.

[vi] There are other absurd proposals being gloated. One is a public-private partnership in which private sector investors would be persuaded with federal incentives to join a venture to buy toxic assets from the banks. The federal incentives could include a guaranteed the floor value of the assets or subsidized financing. If so the scheme would amount to creating a "bad bank" by providing government guarantees for toxic asset sales at pre-specified minimum prices and financing the bank with interest subsidies and loans from tax payers' money (Elliott 2009).