Containing a crisis: finding a private solution to the recapitalisation of the banking system

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The controversy surrounding Ireland's National Asset Management Agency, as well as many international bank bailouts has left critics looking for alternatives to massive injections of tax-payers' money into those financial institutions which are deemed 'too big to fail'. Matt Mennell examines an alternative to government sponsored rescue programmes whereby private investors would step in to fill the void. As concerns about governments' debt-burdens mount and taxpayers begin to question more vociferously the uses to which their money is put, it is clear that a solution which removes the need for state intervention will find purchase with policymakers today.

Introduction

The recent financial crisis and subsequent government bailouts of several banking corporations have pushed banking reform to the forefront of the political agenda throughout the world's major financial centres. It is now widely accepted that the crisis chiefly stemmed from the contagion effects of banking failures that occurred as a result of significant write-downs of mortgage-backed securities. However, subsequent government bailouts had a far more profound impact on investor confidence than the failures themselves (Sorkin, 2009). Government remains focused on finding tougher and more comprehensive regulations that aim to prevent bank failures by constraining the system rather than improving crisis management in the sector. The popular strategy of pushing the costs of financial crises onto the banks will most likely adversely affect the financial system, which itself generates many positive effects on the wider economy.

This article will firstly examine the problems faced by banks attempting to raise capital privately, identifying the incentives facing existing investors when deciding whether or not to participate in an open offering. Secondly, it will evaluate the role of government-funded capital and its associated problems; in particular the adverse effects of attempts to pass the costs of the recent crisis back onto banks' shareholders. Finally, it will propose reforms to the financial system that resolve the problems associated with raising capital privately, minimising both the cost to the taxpayer and detriment to the wider economy.

Problems with private recapitalisation

To illustrate some of the problems facing banks attempting to raise capital privately during a financial crisis, a mechanism by which an open offer may lead to a run on share capital will be outlined.

Consider the example of a large bank that wants to raise funds through the equity markets by means of an open offer (or entitlement issue) of common stock[1]. For the sake of simplicity, we will assume a 1:1 subscription issue, where the current stock price is \$x per share. Additionally, the typical shareholder is assumed to be a rational, risk-averse investor with perfect information about the underlying fundamentals of the bank and an equity position of W_0 shares. They are offered an additional W_0 shares at a price of \$0.5x per share. The investor faces three options:

a) Accept the open offer at a cost of $\$0.5W_0x$ and theoretically make neither a profit nor a loss since the price of the stock is likely to be \$0.75x after the issue.
b) Decline the open offer and accept a loss in equity.
c) Sell the position W_0 before the deadline and expect to face a small loss.

Regardless of what other investors decide to do, it would be irrational to choose option (b) in the first instance. Ignoring endowment effects, 'willingness to pay' (WTP) should equal 'willingness to accept' (WTA); so if an investor is unwilling to pay \$0.5x per additional share to maintain their equity, they will accept an amount of \$0.5x per share or over for (at least part of) their current equity, so they should choose (c). Therefore, investors face a decision between options (a) and (c). If we assume an efficient market hypothesis in its strong form, where all information is assimilated in the current stock price of \$x, *prima facie* it is expected that all investors will select option (a), which would leave everyone better off. If the capital raised is enough to fulfil its requirements, each investor faces a higher probability of

[1] An 'open offer' or 'entitlement issue' differs from a 'rights issue' as it does not allow shareholders to sell their right to the subscription. These have been more commonly utilised during the recent financial crisis, although several open offers were wrongly termed rights issues by the popular news media.

facing an equal or better outcome than selecting (c), provided others do likewise. Choosing option (c) would put downward pressure on the share price, effectively making remaining shareholders worse off. The investor selling the position would face transaction costs and more crucially, the cost of searching for the next best alternative investment to reach a 'second-best' optimal asset portfolio.

If this case is considered amidst a financial crisis, the assumptions of perfect information and efficient markets are relaxed, since information tends to emerge slowly and there is considerable uncertainty over the future solvency of banks (and potential government intervention). The decision to now accept the offer becomes less attractive. Firstly, investors may perceive the presence of information asymmetries in the form of adverse selection. It is difficult for investors to determine how solvent a bank is, which increases the risk of the stock and puts downward pressure on its price. As a result, corporate financiers, working for more solvent banks, may be deterred from advising open offers and instead seek to find other means of recapitalisation[2]. Secondly, investors will be unwilling to maintain their equity position if they fear it will be diluted by government-funded recapitalisation at a later stage, regardless of their decision[3]. In this instance, the transaction costs of selling an equity position are worthwhile in order to eliminate the risk of holding the position. Thirdly, investors observing large sales volumes in the stock will take it as a signal to sell, regardless of whether any new information has emerged.

During the recent financial crisis, open offers were a common route taken by several British banks in an attempt to raise capital. Although initially some were claimed to be successful, at the height of the crisis, when it was time for remaining investors to decide whether to take up the offer, the share price had often fallen below the discounted offer price. The most notable failure was the open offer by RBS in November 2008, when investors took up only 0.24 per cent of new shares (Montia, 2008). In such cases, the bank still receives the required capital but from underwriters, which in critical instances was the government.

The more critical it was for any particular bank to raise capital, the less willing private investors were to provide it, so governments were left to fund

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[2] For example, in 2008 Barclays recapitalised using funds from the Qatar Investment Authority (a sovereign wealth fund) and the Sheikh of Abu Dhabi to avoid requiring assistance from the treasury because they could not raise sufficient funds from existing shareholders

[3] Partial government ownership would entail existing shareholders forgoing dividend payments for several years. Moreover, the government would become a major shareholder, potentially restricting the activities of bailed-out banks until the bailout funds are repaid.

bailouts in order to prevent the total failure of the banking system. Major losses were extended and became partly collectivised, rather than being entirely borne by the shareholders, who had faced the prospect of losing their entire investment if failure had not been prevented.

Problems with public-funded recapitalisation

Government bailouts, whether through taking part-ownership of banking and related corporations, or buying or insuring troubled assets certainly helped to curtail any complete failure of the financial system. However, these measures have so far been largely funded by the public and remain so, with the limited exception of some American government Troubled Asset Relief Programme (TARP) funds, which have now been repaid with interest (Sorkin, 2009), although, this does not include additional quantitative easing funds received by such banks. This form of resolution was effectively the only option, in the absence of any immediately foreseeable private efforts, especially for larger and more troubled institutions. The after-effects, in particular the backlash from disgruntled voters, have put intense pressure on politicians to find a means for banks to pay back the costs of the crisis and deter future crises.

Treating the financial crisis as a negative externality (or external cost) of banking firms, i.e. ignoring contributions of other agents, such as insurers that issued credit default swaps or hedge funds that short sold large volumes of securities, a divergence between the private and social costs of banking is observed. It would appear desirable for the owners of banks (the shareholders) to be held liable for the cost of a financial crisis. However, Coase (1960) contests this approach, highlighting the reciprocal nature of such problems in relation to social costs. To avoid 'harm' caused by the banking system, 'harm' would have to be inflicted upon the banking system, resulting in under supply and higher prices. If we consider some of the economic benefits of banking – finding the most efficient use for savings; performing the role of liquidity transformation, alleviating asymmetric information between borrowers and lenders and pooling risk – then undersupply and higher prices are not desirable. Thus any government intervention which pushes the cost of the crisis onto the banks by these means would mostly likely be met with failure. Historically, past interventions by governments in financial markets have resulted in numerous unintended consequences (*The Economist,* 2010).

Any proposed reforms must consider potential unintended consequences. A banking levy on liabilities or transactions will most likely result in higher interest rates for borrowers, lower returns for savers and higher prices for additional services. The type of insurance used to fund future bailouts will most likely result in moral hazard, discouraging banks from developing their own prudent measures to avoid capital deficiencies. Finally, restricting banking activities and breaking up large institutions would likely accelerate the least desirable results.

The increase in the size of banks has been in response to market demand for cross-border activities to aid risk transfer; narrowing the scope of banks will adversely affect global trade and finance (Diamond, 2010). Even abolishing proprietary trading could reduce liquidity in the market, which is currently created by specialists, widening the bid/ask spreads on securities exchanges, and thereby increasing transaction costs for all players in financial markets (*The Economist*, 2010). Without global coordination of reforms, banking firms may simply leave or downsize their operations in jurisdictions where they are enforced, provided they can relocate to an alternative location with a more liberal system.

Considering that government intervention in financial markets can create market distortions and result in government failure, can there be an efficient solution to banking crises? Eventually when financial markets recover, governments will be repaid as banks improve their capital position. However, even with interest this will not cover the full extent of the contagion effects created by the financial crisis, which could have been avoided if private capital had been raised quickly and at minimal cost to cover the banks' own shortfalls. Government intervention could be avoided if a mechanism to raise private capital were to be established, which would significantly reduce contagion effects on the wider economy and might even thwart the onset of future financial crises.

Resolving private recapitalisation

In light of the potential problems associated with direct government intervention in financial markets, there would be significant support for any private remedial mechanism to contain costs. One of the catalysts of the recent financial crisis has been the high degree of leverage at major banks, which measures the relationship between total assets and capital contributed by its shareholder equity. High leverage ratios effectively mean that a relatively small decline in the market value of its assets will deem a bank insolvent. Although banks following the guidelines of Basel II[4], Value at Risk (VaR) calculations are used to set minimum capital requirements in order to avoid this scenario. VaR requires determining a 'worst-case' for short-term liquid assets, which did not cover an all-out financial crisis in most banks risk

[4] A framework laid down by a committee of Central Bank governors aiming to "promote a more forward-looking approach to capital supervision, one that encourages banks to identify the risks they may face, today and in the future, and to develop or improve their ability to manage those risks." (See http://www.bis.org/bcbs/)

management models (Valencia, 2010). Ideally, a private remedial mechanism would be able to decrease a bank's leverage ratio by increasing the capital contributed by shareholder equity and/or decreasing debt. But our analysis of private capital shows how difficult raising capital from shareholders in the midst of a financial crisis.

Given the difficulties of raising capital through open offers, is it possible for banks to become solvent by decreasing leverage? Effectively this could be done by offering bondholders preferred shares in the bank in return for writing-off part of their debt. This would both increase total shareholder equity and reduce debt, which would in turn decrease the leverage ratio on both parts. If the bank becomes insolvent, bondholders could face losses themselves if the value of the bank's assets is insufficient or the assets are too illiquid for them to recoup their investment. This constitutes a cost to the bondholders as a result of the actions of the bank; therefore bondholders have incentives to keep the bank solvent, as it is less costly and less risky. If the bondholders are offered a deal to exchange their debt for equity, the transaction will internalise the cost of insolvency to existing shareholders who now face a dilution of their equity position and may prevent any contagion effects that may result in a large-scale crisis.

Paul Calello and Wilson Ervin (2010) of Credit Suisse stress that Lehman Brothers, at the time of its collapse, only faced a capital shortfall of around $25 billion of unrealised losses. However, bankruptcy amplified these losses to $150 billion and escalated the contagion effects elsewhere in the financial system. If holders of subordinated debt had converted just 15 per cent of their position to equity, Lehman Brothers could have continued operating. Previous shareholders would be issued warrants to repurchase the newly issued shares as the bank recovered, discouraging runs on share capital. The only investors that would be worse off than they are today are those who short sold Lehman Brothers stock (Calello & Ervin, 2010).

If this had been the case, and if it were implemented during the current financial crisis, the collapse of the major banks and government bailouts unnecessary would not have occurred. Coase (1960) challenged government intervention in particular markets, arguing that in the presence of externalities[5], mutually beneficial bargains may be struck if transaction costs are negligible. On the brink of a financial crisis however, such bargains are likely to be costly and potential bargaining space is constrained by a lack of information. Shareholders and bondholders will place diffuse values on any equity stakes being transferred, impeding the bargaining process when it is crucial for it to proceed quickly in order

[5] At this stage, the 'externality' does not refer to an all-out financial crisis but the cost of insolvency imposed on a bank's creditors, i.e. bondholders, by shareholders who theoretically control the bank.

to avoid a collapse. Not even the chief executives of the world's largest investment banks could agree on a way to refinance Lehman Brothers (Sorkin, 2009). Consequently, it was not possible for any private agreement to be made in time to prevent the need for government intervention.

The problem outlined above focuses exclusively on the difficulties of reaching a bargain ex post a capital shortfall. These issues may not arise if they are pre-empted and resolved *ex ante*. The issuance of bonds with a conversion clause – which have been dubbed 'contingent convertible' or 'CoCo' bonds – establishes a legal contract for a pre-defined bargain *ex ante* to a capital shortfall, which can be continually priced by both equity and debt markets, preventing the uncertainty associated with runs on share capital created by open offerings. Already, Lloyds Banking Group successfully raised $14 billion in November 2009 from the issue of such instruments, which partially convert into preferred equity when the bank's core tier one capital falls below a trigger level (Beard, 2009; Patrick & Sandler, 2009). Additionally, if banks are able to recapitalise by this mechanism, it internalises the cost of a capital deficiency to investors, eliminating the requirement for publicly-funded bailouts.

Both bankers and regulators are supporting the issuance of contingent convertible bonds as an alternative to government-funded future bailouts (Calello & Ervin, 2010; Valencia, 2010). If designed and implemented successfully, they should significantly lower the fiscal cost of future financial crises and even help to contain the contagion effects that recapitalisation of the banking system has on the wider economy. However, these are largely untested and may precipitate unintended consequences in the presence of systemic risk. For example, if a financial crisis is already underway, investors may dump these securities as individual banks' ratios near a trigger point (Valencia, 2010). The recent crisis has shown that certain securities designed to absorb idiosyncratic risk can exacerbate systemic risk (Valencia, 2010).

Accordingly, there is still a role for government and regulators in financial markets. Whilst restricting the size and activities of banks may cause severe damage to the banking system, there are several areas in which banks can work with regulators to improve their resilience toward systemic risk and plan ahead to manage future financial crises. Regulators would be required to dictate the terms of recapitalisation using convertible debt (Calello & Ervin, 2010); their involvement in the design and implementation of such instruments helps ensure that there is full transparency of information amongst all parties, minimising unexpected effects. Additionally, there is a need for intelligent reforms that supplement the limitations of risk management models, impose dynamic minimum capital requirements that shift with - rather than aggravate - economic cycles and assist banks in devising 'living wills' in case of failure (Valencia, 2010). These will improve the flow of information between banks and regulators, encourage a more prudent approach to banking during economic booms and should work harmoniously with the financial system.

Conclusion

In summary, there is a compelling case for the use of a private mechanism to resolve capital deficiencies wherever possible, given the potential implications of government intervention in financial markets. When there is a financial crisis, it is a necessary requirement to recapitalise the banking system but certain studies of crises show that government intervention is usually neither the most efficient nor the most effective means of achieving this (Roubini, 2008). Following the failures of several major banks during the recent financial crisis, there is little doubt that without government bailouts, the lack of private capital would have spelled disaster for the financial system and crippled several advanced economies. However, it is equally important to note the failures of intervention in financial markets. For example, following the government initiated bursting of the property bubble in Japan in the late 1980s, the poor reforms and severe crisis mismanagement that followed led to an 'L'-shaped recession and a decade of stagnation for what was previously a booming economy (Callen & Ostry, 2003).

The many positive externalities created by a healthy banking system have the potential to stimulate economic growth and support a full recovery from a crisis that was induced by the problems of the previous system. The role of government and regulators is to avoid any actions that may impede this recovery and rather work with banks to resolve these problems, help formulate private resolutions to future banking failures and ensure that the banking system as a whole is efficient and sustainable.

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