

"Bad Bank", "Nationalization", "Guaranteeing Toxic Assets": Choosing among the options

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SUMMARY

It is becoming increasingly clear that the \$700 billion in TARP funds will not be sufficient to restore the US financial system to good health. The first portion, of \$350 billion, appears only to have helped prevent a complete meltdown of our financial system, but has not averted significant further deterioration in recent months, particularly among the weaker or less well-managed banks. The new Administration and Congress soon will be debating how to spend the second \$350 billion, and possibly the size of additional amounts to be committed.

While some portion of the second \$350 billion clearly will be spent addressing the mortgage fore-

closure problem, there is much greater uncertainty over what further measures should be taken to shore up the financial system. Three particular ideas have received a growing amount of attention: establishing a "bad bank", guaranteeing toxic assets, and nationalizing one or more banks. This paper explains the three approaches and their major variations, with a discussion of the pros and cons.

The author recommends a combination of toxic asset guarantees and a mild form of nationalization, as this approach could both provide badly needed stability to the system and also could be tailored to the specific circumstances of different banks.

Bad Bank

Overview

Some advocate setting up a "bad bank" with government assistance. This bad bank would take on the banking system's worst or "toxic" assets, those with the most uncertainty about their value, primarily complex mortgage-related securities. The bad bank would need funds to buy the assets and additional funds to provide it with a capital base to protect against the possibility that values are in reality, or become over time, even lower than the initial valuation.

The twin terms, "good bank/bad bank" first came into wide usage in reference to the restructuring of Mellon Bank in 1988. Mellon was drowning in a sea of bad real estate-related loans and investments. Worse, as with the present day, there was a great deal of uncertainty about the true value of these assets. Mellon chose to split into two banks, with the bad assets moved into a bad bank called Grant Street. The bad assets were marked down to fair values and substantial capital was injected to protect against further declines in valuation. Moving those assets removed a great uncertainty from Mellon, substantially improving the comfort level of stockholders and creditors. The elimination of this uncertainty allowed the raising of additional capital and Mellon went on to flourish. Grant Street, for its part, was wound up over seven years without needing additional capital injections.

This success inspired a number of other good bank/bad bank restructurings over time, including at least one major insurance industry restructuring, that of CIGNA's property/casualty operations. CIGNA's P/C operations had been burdened by large and uncertain liabilities for asbestos and environmental losses. CIGNA's stock market value went up by \$2 billion on the day of the restructuring announcement as a result of

limiting the potential losses by moving them to a separate unit that could theoretically be allowed to go bankrupt.

This last point is central to such restructurings. The uncertain valuation of the troubling assets or liabilities must have a fixed limit from the point of view of the good bank shareholders. In the case of the bad bank ideas being proposed, this generally means that there is some floor value paid to the good bank for the toxic assets. There may be a contingent amount on top of this, but some significant part of the payment has to have a fixed value, otherwise setting up the bad bank does not eliminate the uncertainty about the capital adequacy of the remaining good banks.

Bad banks have been used by some other countries that have encountered systemic banking crises such as we face today, including Sweden's bank rescue plan from the early 1990's. In Sweden's case, which is much admired today, two of the largest banks were taken over by the state and were restructured using the good bank/bad bank approach. Some other major Swedish banks stayed out of government hands, but used a similar restructuring approach. The bad banks were run off over time, selling assets as the markets for those assets became more stable.

Rationale

The premise of the bad bank approach is that many major banks have viable long-term businesses, but are hamstrung in their ability to raise new capital and sustain ongoing funding from depositors and other creditors. Highly uncertain valuations of the toxic assets create major uncertainties over the banks' solvency and the true values of their equity and debt. Move those assets off the balance sheet of the good bank and you have a much more attractive business. The good bank may be undercapitalized as a result of mark-

ing the assets to fair values and moving them to the bad bank, but the stream of future profits is strong enough to attract sufficient new capital into the good bank from private investors. This approach generally does not work if that stream of future profits is not attractive – there has to be a “good bank” in there somewhere, or there is no point to the exercise.

A lesser advantage of setting up a separate bad bank is that it may be easier to manage such a run-off operation on a stand-alone basis. That is, it may be easier to attract the best run-off managers if they are placed in an institution like a “bad bank” and given the right incentives to maximize the value of the assets. It is probably true that such focus is obtained best on a stand-alone basis, but it is important not to overstate the advantages, since the same actions are feasible within a larger bank. (Most large banks have departments for “special loans,” with their own experts in this area.)

Negatives

Few financial institutions experts would argue against a bad bank as a matter of principle, since they can clearly work as part of the answer when there is a banking crisis spurred by a large pool of toxic assets. However, the devil is in the details, since there are a number of key operational decisions that determine how the risks and rewards will be divvied up between shareholders, creditors, and taxpayers. Getting these wrong can prove expensive for taxpayers or can block the restructuring by making it unattractive to shareholders or creditors.

It is worth emphasizing that the bad bank solution could crystallize such large losses on toxic assets that it would create massive capital needs for certain of the “good” banks rendering them insolvent or deeply under-capitalized. In that event, some form of capital infusion, such as one of the various forms of nationalization discussed below, may be necessary.

Key Operational Questions

The “bad bank” idea raises three key operational questions:

What prices will be paid for the toxic assets?

This was one of the critical issues that kept the TARP funds from being used as originally planned. It is very hard to value these assets – that fact is the root of many of the problems that has been plaguing our financial system. The toxic assets are generally complex securities whose economic values are highly sensitive to conditions in the housing and credit markets. Still worse, the values often change in non-linear ways with movements of mortgage default rates and other economic variables, because of the complicated way in which they have been assembled out of other securities. In addition to this underlying uncertainty, the markets for these securities have become highly illiquid, making the prices at which the occasional transactions occur very volatile and heavily influenced by supply and demand considerations that may have little to do with the underlying economic value of the securities. As a result, different observers, including different banks, can put quite divergent valuations on the same security while adhering to accepted accounting principles.

One suggestion has been to buy the toxic assets at market values, based on the most recent trades. There are three potential problems with this.

- There are thousands of distinct financial instruments and some of them have not traded in some time, meaning there is no relevant known market value.
- Bankers argue that the trades have been “fire sales” that do not reflect the real economic value for an entity like the bad bank that can hold securities until maturity.

- Related to the second point, requiring banks to sell the assets at market prices could cause significant erosion in some banks' capital positions, because recent market prices are typically lower than the prices at which they generally hold the securities on their books.

Accordingly, a second option is to buy the toxic assets at the values at which they are held on the books of the banks. This creates other problems. First, banks are often tempted to hold the assets on their books at optimistic valuations. If the bad bank buys at these prices, it will be subsidizing the good banks. Second, the degree of realism in valuations varies among the banks, creating grave issues of fairness.

The ideal solution, in principle, is probably to hold a "reverse auction" whereby those wishing to sell assets to the bad bank propose valuations and the bad bank takes on a certain amount of the assets, buying first from those who are charging the least. The problem with this idea, however, is that because there are so many unique assets to be considered, it would be difficult to determine how to compare valuations of financial instruments that are similar, but not identical. One objective way to do this is to compare the proposed price of a security to the valuation produced by a mathematical model, such as those generally used to price these securities in the private market. If one bank is offering a security at 90% of the price given by the model, this would be more attractive than a different security priced at 95% of its model valuation. Unfortunately, these models have lost much of their credibility as recent years have shown very different credit losses and price movements than were anticipated by those models.

The most promising technical answer appears to be to group the assets into a smaller number of categories and then to use financial models to price securities within those categories. By using the models on a category-by-category basis, one eliminates many of the problems that existed in modeling very heterogeneous instruments with one overall model. It may be that the model is 20% too optimistic, but it

should be roughly equally too optimistic across the spectrum of these fairly similar securities. Thus, the hypothetical security priced at 90% of the model valuation would still be cheap compared to the other security at 95% of its model valuation, since both valuations are off by equal amounts.

That said, it must be acknowledged that it is unclear to what degree this "averaging" technique would actually solve the valuation problem. It may help considerably in the task of choosing the cheapest securities to purchase while still leaving open the possibility that the bad bank is systematically over- or under-paying. Worse, banks may be able to game the model by only offering the securities that are most over-valued by the pricing model, if they realize that there are systematic biases.

Given the problems with the foregoing valuation ideas, some have suggested that the bad bank (or the TARP) take the assets "on consignment," without paying hard cash up-front for them. Each good bank would receive over time the value realized by the bad bank for the specific assets provided by that good bank. This is very different from the other bad bank schemes, because it does not remove the uncertainty from the good banks. Effectively, it would simply be a different way of collectively managing the sale of the toxic assets, without directly addressing the current valuation problem or the many uncertainties it creates.

How would the funds be raised for the bad bank? The funds could all come from the government, or be guaranteed by it, making this roughly equivalent to the original TARP proposal, where Treasury would buy the toxic assets outright. Alternatively, the good banks could be required to put up all or a part of the capital. If they put up all the funds, this effectively would mutualize the risk, which is likely to be resisted by those banks that feel their bad assets are less toxic than the average. Also, the goal of reducing uncertainty in bank valuations cannot be achieved effectively if the banking system retains all of that uncertainty by funding the bad bank.

Finally, private investors without a stake in the good bank could be offered the chance to supply debt or equity to the bad bank, but this is only likely to work if one of two conditions holds. First, if there is an expectation of very high returns for these investors, which is difficult unless there is a strong belief that assets are being purchased at or below market value. Naturally, selling at those prices is unattractive to the banks and may result in too large a capital hit to be feasible. Second, if there is a high level of equity at the bad bank, the risk of eating through that capital may be low enough to allow borrowing at reasonable market rates. Of course, a high level of capital means that either the government would be taking on more of the risk or the good banks would have to raise more capital to supply their contribution to the capital of the bad bank.

The most likely compromise is for the government to put up significant funds to capitalize the bad bank, possibly with additional funding from the good banks. Once capitalized, the bad bank would borrow more funds to finance the purchase of the bad assets. It should be noted that to the extent the good banks retain some equity interest in the bad bank, this would fail to remove all of the uncertainty due to the presence of the toxic assets now on the banks' balance sheets, leaving the good banks with the problems created by whatever uncertainty remains. This could be a significant issue as the very uncertainty of the toxic assets' valuations means that the bad bank will need a much higher than normal proportion of capital to assets, principally in the form of common stock.

How will the assets be managed? The simplest approach would be to hold the assets until maturity, but this is unlikely to be the best option. It may make more sense to sell assets once the market has stabilized sufficiently to produce reasonable values, which may take different amounts of time for different assets. Even a hold-to-maturity approach is likely to require active management as restructurings are proposed, law suits entered, foreclosure mitigations suggested, etc.

Active management could either be through a government entity, or by outsourcing the work to private fund managers, (with appropriate conflict of interest safeguards), or a combination of public and private sector work. Whether the government attempts to buy and manage the assets using its own people or primarily outsources the work, there are four significant negatives, compared to leaving the asset management at the banks themselves, such as would be the case with a guarantee program:

- **Ramp-up.** The effort is much larger than can be handled effectively by any existing federal institution. Therefore, considerable time would have to be spent hiring staff, building the organization, and outsourcing as appropriate. Anyone providing outsourcing services would need to become familiar with the situation and the objectives and approach of the government body.
- **Depth of knowledge.** The banks, often at great pain, have developed a deep knowledge of their portfolios. At a minimum, it would take a long time for the government entity to become as familiar. At worst, the incentives to do so would be weaker than the banks' incentives to develop the knowledge in the first place and the new entity might not ever achieve the same degree of understanding.
- **Economic incentives.** It is difficult to create the same level of incentives to maximize the value of the assets for a government body or an outsourcer as the strong incentives that the banks experience, given that their firms, and the jobs of the managers, are on the line.
- **Ramp-down.** There is a tendency for entities to develop inertia and mission creep. It may take longer than appropriate to unwind the staffing and, eventually, the organization itself.

Guarantees of Bad Assets

Another major option being discussed is to remove or reduce the uncertainty of the toxic assets by providing federal guarantees of their value. This has been done already in connection with J.P. Morgan Chase's takeover of Bear Stearns and in steps to shore up Bank of America and Citigroup. In each case, the private institution would absorb the first losses, with the government then covering 90-100% of any further losses in value. In the more recent cases, the government has charged for the provision of this support.

The Bank of America (B of A) transaction of January, 2009 illustrates the basic approach that has been used. The government agreed with B of A on the rules for a pool of up to \$118 billion in financial instruments that B of A could choose to put under the guarantee program. The guarantee would be in place for 10 years on residential assets and 5 years on everything else. B of A would absorb all of the first \$10 billion in losses from the agreed upon initial valuation of the pool's assets. A combination of the FDIC and Treasury would take 90% of the next \$10 billion in losses, with B of A absorbing the other \$1 billion. Beyond that, the Fed agreed to provide non-recourse loans to cover 90% of the remaining \$98 billion, with B of A on the hook for the other \$9.8 billion. In addition, the risk weighting of the assets for determining capital requirements is reduced to 20%, because of the government backing.

The price for the guarantee was \$4 billion of B of A preferred stock paid to the FDIC/Treasury plus warrants on 10% of the amount of the preferred. B of A also agreed to pay the Fed 20 basis points (0.2%) a year on the undrawn amount of the Fed's commitment and a rate of 3% plus the swap index rate for any drawn commitments.

Rationale

There are a number of benefits of using guarantees, some of which are unique to this alternative while others are shared with the bad bank and nationalization approaches.

- There is not as pressing a need to agree on a valuation as there is with a bad bank solution. Valuation of the assets does matter, but the existence of a cushion where the bank absorbs all losses makes it somewhat less critical that the two parties agree on the current valuation. For example, if the government thinks a pool of assets is only worth \$10 billion while the bank thinks it is worth \$12 billion, it becomes very difficult to strike a deal in a bad bank situation. However, both sides may be comfortable with a transaction in which the government guarantees most of the losses below, say, \$8 billion.
- Management of the toxic assets remains with the banks. They know their portfolios better initially than any outsider is likely to and the banks retain considerable direct economic incentive to maximize the value, given the substantial exposures they retain. Any outsider would need considerable time to ramp up and may never have as full an understanding of the portfolio. Nor could any outsider reasonably be provided the same level of economic incentive for good performance.
- The government does not need to put money up at the beginning. There are two advantages of this, one real and one illusory. The real one is that the huge new federal borrowings already slated may be difficult enough for the market to digest even without having to fund a bad bank or nationalizations. The illusion is that the budget cost to the government would be deferred. This should not be the case if the guarantees are accounted for according to the principles of the Credit Reform Act, as they should be. See

my earlier paper, "Measuring the Cost of the TARP".

- The guarantee approach is easier to customize to fit the individual circumstances of the different banks than is the bad bank approach. For example, a stronger bank may be willing to keep more of the potential losses in exchange for paying less to the government. This is much more difficult to do with a unitary bad bank that is intended to deal with the bulk of the banking system. For example, the reverse auction approach that has been recommended for setting the price of assets taken on by the bad bank does not lend itself to customization for the situation of an individual bank.
- Guarantees make it easier for the banks to hold the toxic assets to their maturity, compared to the current situation. The "mark to market" effects of declines in market values will cease or be much reduced once the guarantee level is hit, easing pressure to sell now to avoid the risk of future markdowns. This is beneficial if, as many claim, market values currently significantly understate the true economic value of the assets. Both the bad bank and nationalization approaches provide a similar benefit.
- Bank regulatory capital requirements may be much reduced as a result of the guarantees, improving the relative capital situation of the banks. This, too, is achieved under both the bad bank and nationalization approaches. (It does not technically occur for a nationalization, but capital requirements are largely irrelevant while the bank is owned by the government.)

Negatives

Guarantees have a less severe version of the same problem in regard to toxic assets as bad banks do: how do you set fair economic terms? That is, what is the proper risk sharing and what is the proper price for having the government take on that risk? If pricing is too favorable to banks, then the subsidy level may be unacceptable to taxpayers, even if they only realize this in retrospect. If the pricing is too favorable to the government, banks will hesitate to make the deal. Fortunately, as noted above, the pricing issues are less severe because the banks would retain a substantial cushion of exposure.

Unlike with a bad bank, it appears to be difficult to implement a reverse auction to price the toxic asset guarantees. Each bank's portfolio would be too different for good comparisons. For the same reason that setting the economic terms is difficult, any guarantee transaction of this nature is likely to lack transparency. It will be difficult to develop a procedure that reassures the public and the Congress that the right price is being charged.

An additional negative of the guarantee approach is that the government would be taking credit risk to the banks on the cushions and co-payments included in the guarantee plans. This issue does not arise in the bad bank structure in the form described above. One would hope, however, that minimizing the uncertainty of the toxic assets and other aspects of the overall rescue plans would minimize the probability of a default by the banks.

Nationalization

Overview

Proponents of nationalization can mean a number of different things, depending on what they are trying to accomplish. The key objectives are generally one or more of the following: seize banks with no future before they dig a bigger hole; give the government more of the upside when it invests capital in banks; punish (and be seen to punish) shareholders and managers of weak banks; and give the government more control of business decisions at the banks. The diverse yet overlapping nature of these objectives produces a number of different combinations of actions that fall under the rubric of nationalization. The following discussion surveys some of the key points in the range of possibilities.

Nationalizing the banking system

For illustration, let us start with the most extreme form, where the government determines that it should completely own the entire banking sector. Under our constitution, this would effectively require buying out the shareholders in those entities where there was actual value at the time of takeover. (There is no need to pay shareholders of insolvent firms.)

Rationale

This would achieve all four objectives by taking all banks away from their shareholders, presumably at a price far below their stock market prices of a year ago. Managers would now be working for the government which would be free to provide what guidance it wished, including setting compensation levels.

Negatives

There are few serious proponents of this approach, as it runs against a strong consensus in favor of private enterprise. It would also cost a very large sum

and leave the government with potentially huge losses if credit defaults continued to deteriorate. Generally when other countries have nationalized banks as part of dealing with a systemic crisis, they have attempted to re-privatize the banks as soon as feasible and to avoid too close a tie between the political masters and the day-to-day decisions. (See Sweden's rescue plan of 1992 and the current UK plans for examples.) Staying out of daily decision making does not preclude the UK's approach of pushing the banks at the Board and upper management levels to continue normal lending activities, rather than pulling in their horns.

More aggressive takeovers of weak financial institutions

The government would insist on tough, realistic accounting for the value of toxic assets and would enforce conservative capital requirements. Those institutions that could not quickly muster the required capital would be taken over, restructured, and, most likely, privatized again as soon as the clean-up was over. This would apply to very large institutions as well as to smaller ones.

Rationale

The main argument for this approach is that more gradual measures risk even greater losses down the line as necessary steps are deferred and bank managers begin to gamble on high-risk strategies in hopes of avoiding insolvency. Advocates point to Sweden's successful experience in its bank rescue of the early 1990's, which largely took the aggressive approach, compared to the long, lingering pain felt by Japan in the 1990's or the ballooning losses that built up in our own Savings and Loan crisis. This version of nationalization could also meet the public demand for tough measures to punish managements and shareholders of banks that took excessive risks. In Sweden's case, the threat of these tough measures, meant that several major banks found a

way to raise private capital to fund the process of coming clean on their losses while retaining conservative capital positions, rather than succumb to nationalization. Sweden only ended up taking over two banks, including one that was already partially government-owned, out of the handful of large banks in that country.

Negatives

Tough measures risk pushing into the hands of the state certain marginal banks that might have survived the crisis otherwise. The tougher the measures, the more banks would be affected and the greater the probability that some of them could have survived on their own. Opponents of this approach tend to believe that the state is worse at running a bank than the private sector is. This raises four somewhat different, but overlapping, concerns.

- The cost to the taxpayer could conceivably be higher than if the marginal banks were allowed to try to muddle through. The weight of the historical evidence is on the side of the proponents of tough action, but it is possible that the economy could pick up unexpectedly quickly and the markets stabilize, allowing some of these banks to make it on their own.
- While it is true that the state would have the upside from owning the nationalized banks, it would also increase the government's exposure to losses at a time when such losses are most to be feared.
- The more competent managers may move off to the private sector, leading to worse decisions that create larger losses now and lower profits later.
- Lending and investing decisions may well be skewed based on political pressure. Depending on the specifics, this might be acceptable when we are in the middle of a crisis and the political pressure is for actions such as foreclosure mitigation or increased small business lending that may have strong policy arguments. It is likely to be more harmful and less helpful as the crisis passes,

but the political controls remain, perhaps even in institutionalized form.

Conversion of government-owned preferred stock to common stock

Another form of nationalization would be to switch the government's purchases of bank equity from non-voting preferred stock, which is more debt-like, to common stock, with voting rights. This could be done solely for new capital infusions or the government could insist that its previous injections be converted. (The latter could potentially raise serious legal issues, although the action might be achieved through persuasion, by coupling it with other actions that the banks desired, such as providing guarantees of some toxic assets.) In some cases, the government ownership would become a clear majority, particularly if the scale of new capital injections is as high as some expect.

Rationale

Advocates of government ownership of common stock focus on the economic advantages of owning the upside once banks turn around and become profitable and on the ability to exert greater control of bank decisions. TARP money to date has been invested in preferred shares which from an economic point of view are effectively debt instruments, combined with a modest amount of warrants to buy common stock of the banks. Owning common stock outright would give the government the same upside and downside as the other shareholders. Greater control by the government would likely translate to: seats on the Board of Directors; requirements for more lending, potentially with targets for certain subcategories; insistence on participation in certain types of foreclosure mitigation efforts; and the ability to replace management and control its compensation.

Negatives

Taking more of the upside and downside is only desirable if one believes that the upside potential is attractive enough to offset the potential losses. This may or may not be the case and is certainly open

to argument. It is not clear which way taxpayers would prefer, if they had the opportunity to truly understand the details. There are also many potential disadvantages to greater government control of banking decisions, as discussed above.

In addition, there is a concern about panicking shareholders of healthier banks. The government's purchases of common stock would generally be highly dilutive, that is, the price the government paid would generally be well below the book value of the bank's common stock. In the last year, bank stocks

have sold off heavily when managements have announced the intention of raising significant blocks of capital by selling common stock or preferreds convertible into common. There is likely to be a great deal of speculation by investors as to which banks may be forced to take government money in the future, with the attendant dilution. This could weaken still further some banks that are otherwise healthy enough to survive, but remain subject to the stock market's judgment, with its occasional recent bouts of paranoia.

Overall Recommendation

The financial system is in bad shape and consequently none of the options is a good option – we are looking for the least bad solution. It should be acknowledged also that the bad bank and toxic asset guarantee approaches share many common features. It would be possible to design either one in a way that mimicked the other to a substantial extent. That said, there are significant inherent differences and it is better to choose the form that most naturally reflects the desired characteristics, without excessive need for twisting its shape.

The author's overall recommendation is therefore for a combination of toxic asset guarantees and a mild form of nationalization, specifically a somewhat more aggressive takeover of the weakest banks than has been occurring to date. The key benefits of a bad bank can be obtained using a guarantee approach while bypassing some of the significant disadvantages. Guaranteeing the assets should remove the core of the uncertainty that is plaguing our financial system, just as a bad bank could. However, it avoids four problems with a bad bank:

- The guarantee approach is less dependent on a precise agreement on the current value of the toxic assets, since the banks take a substantial level of losses before the guarantees would kick in. This valuation problem is extremely difficult, which is why there is so much uncertainty in the first place.
- Leaving the assets under the management of the banks, covered by a guarantee, better aligns the economic incentives to maximize the value of the assets than does moving them to a bad bank and attempting to incentivize the managers of that bad bank appropriately. In addition to the incentives, the banks start with deep knowledge of their portfolios that would take considerable time for an outsider to achieve.
- Managing the assets within the individual banks

also avoids the major complications and potential problems of ramping up and down a huge government effort. Even contracting out most of the management would still involve considerable time and effort that would not be necessary with guarantees. Guarantees also avoid the potential for a large bureaucracy to develop its own organizational inertia.

- The guarantee approach is easier to customize to fit the individual circumstances of the different banks. For example, a stronger bank may be willing to keep more of the potential losses in exchange for paying less to the government. This is much more difficult to do with a unitary bad bank that is intended to deal with the bulk of the banking system. The reverse auction approach that has been recommended for setting the price of assets taken on by the bad bank does not lend itself to customization for the situation of an individual bank.

The additional stability that toxic asset guarantees would provide to the banking system would enable a tougher line to be taken with the weakest banks. Those that would not be capitalized adequately using realistic accounting numbers, despite the support of the asset guarantees, should be taken over, even if they are large. They may well need to be run for a period of time as ongoing entities before being re-privatized, but this is better than leaving current managements with an incentive to take excessive risk in the hopes of winning enough capital back to become truly solvent.

There may be situations where the rigor of tougher standards and the support of toxic asset guarantees balance out to leave a bank weakened, but still viable. In those cases, capital injections from the government may be the least bad solution, avoiding both a full takeover and the instability that comes when the markets are concerned about a bank's future viability. The capital could be injected through one of the forms of nationalization described below or through the approach taken by the existing Capital Purchase Program. Further discussion of these issues will be left for another paper.

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