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ABSTRACT

The U.S. government is hiring asset managers to purchase up to $700 billion of toxic real estate securities that are the center of the current credit crisis. Buying up assets, if done properly, might address the collective under-capitalization that is the fundamental problem plaguing the financial system. But, experience with financial crises in other countries suggests that success is by no means guaranteed. Japan was the largest other country where the banks were seriously undercapitalized and where asset purchases were a critical part of the government's response to the problem. The U.S. bailout plan is similar to the Japanese approach in that it does not clearly identify the capital problem as critical and instead proposes using AMCs to remove distressed assets from bank balance sheets. When Japan used AMCs, their effectiveness was limited in part because they did not purchase enough assets. AMCs did not help recapitalization, either, and Japan had to come up with different mechanisms to use public funds for recapitalization. Both these risks are also present for the U.S. plan.

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Introduction

The U.S. government is hiring asset managers to purchase up to $700 billion of toxic real estate securities that are the center of the current credit crisis. Buying up assets, if done properly, might address the collective under-capitalization that is the fundamental problem plaguing the financial system. But, experience with financial crises in other countries suggests that success is by no means guaranteed. Japan was the largest other country where the banks were seriously undercapitalized and where asset purchases were a critical part of the government's response to the problem. We use the lessons from Japan to evaluate the U.S. plan.

In what follows, we take the capital shortage as given; this view is widely held.[1] A simple way to see that a capital deficit is critical is to look at what happened with Merrill Lynch. The firm faced a crisis because its ability to borrow was evaporating and so it agreed to be acquired by Bank of America. With merger announcement the funding problem disappeared, even though the assets that Merrill was trying to fund had not changed. All that had changed was Bank of America had put its capital on the line. This suggests that a capital shortage was the most important problem. If all the banks had more capital they would not be under pressure to keep selling assets to finance their remaining activities and they would be willing to resume normal interbank lending.

We begin by reviewing the string of Japanese asset purchase plans and identifying the mistakes that hampered their effectiveness. We then evaluate the Troubled Assets Relief Program (TARP) and conclude that it is unclear whether the TARP will avoid these same problems.

1. Japanese AMCs

One source of confusion about the Japanese experience buying bad assets is that this was done in a piecemeal fashion over the course of more than a decade. The first asset management company (AMC) in Japan was the Cooperative Credit Purchasing Company (CCPC) established in December 1992. The CCPC, described best by Packer (2000), was a private entity. The government was not involved because of the vigorous public resistance to proposals to use of taxpayer funds to rescue banks. Failing to get direct government help, the private sector banks then created the CCPC, presumably with encouragement from the government.

[1] See Baldwin and Eichengreen (2008) for 15 essays on the credit crises in which virtually every author highlights the undercapitalization as the driver of the crisis.

The CCPC used funds loaned by the founding banks to buy bad loans. The loan sales to the CCPC generated tax benefits for the banks because once the loans resided with the CCPC the selling banks could recognize losses immediately that reduced their taxes. The CCPC was also supposed to collect on or sell the purchased loans, but this process was extremely slow. In the first five years, the CCPC sold only a third of the loans it bought. Its loan disposal became somewhat faster after1998. The CCPC was liquidated in 2004. Over the 12 years of its existence, the CCPC bought the bad loans of only ¥15.4 trillion (about $147 billion) in face value and ¥5.8 trillion (about $55 billion) in appraisal value.

A second asset management company, Tokyo Kyodo Bank was set up in January 1995 using a combination of government and private funds. The Bank of Japan financed more than 90% of its capital. The rest of the capital came from private-sector banks. Tokyo Kyodo was originally formed to manage the assets held by two failed credit unions in Tokyo, Tokyo Kyowa Credit Union and Anzen Credit Union. Later Tokyo Kyodo absorbed assets of other failed credit unions and was renamed the Resolution and Collection Bank (RCB).

A third asset management company, the Housing Loan and Administration Corporation (HLAC), was established in 1996 to manage loans of failed *jusen*, troubled housing loan companies that were taken over by the government and wound down in 1996. The HLAC was financed by both private banks and public funds. Both the RCB and HLAC dealt with assets of failed institutions and did not buy loans from supposedly solvent banks. Because the regulators were loath to put banks into receivership, the scope and effectiveness of these entities was necessarily limited.

The RCB and the HLAC were merged to create the Resolution and Collection Corporation (RCC) in 1999, and this new institution was allowed to buy bad loans from solvent banks (though they were not compelled to sell any) in addition to manage assets of failed financial institutions. From 1999 to June 2005 (when RCC stopped buying assets), the RCC spent a mere ¥353 billion to purchase 858 loans with a face value of ¥4.0 trillion from solvent banks. Starting 2001, the RCC also started to reorganize the borrowers behind the non-performing loans. From 2001 to 2008, the RCC restructured 127 borrowers. The RCC also participated in the reorganization of 450 borrowers in its role as a major creditor. In total (for these 577 borrowers), ¥6.2 trillion of debt was restructured.

The RCC also started selling and collecting the loans aggressively. From March 2001 to March 2008, the amount of loans on the RCC balance sheet declined by ¥4.7 trillion (from ¥5.8

trillion to ¥1.1 trillion).[2] Most of those loans were sold at prices above the RCC acquisition prices: from 2001 to 2008, the total revenue from disposing of these loans amounted to ¥6.2 trillion.

The final AMC, the Industrial Revitalization Corporation of Japan (IRCJ), was established in 2003 with the purpose of restructuring the bad loans they purchased and turning around the borrowers. The IRCJ was set up as a joint stock company almost exclusively owned by the Deposit Insurance Corporation and its debt were guaranteed by the government. The IRCJ had two years to buy non-performing loans and an additional three years to finish restructuring them. IRCJ bought and successfully restructured non-performing loans for 41 borrowers of the total face value of ¥4.0 trillion, which included several notable companies like Daiei and Kanebo, and finished all the restructuring by April 2007, one year earlier than the initial deadline.

Overall, Japan's experience with asset management companies was mixed at best. There were a number of design problems that limited their effectiveness. First, some of the AMCs were only able to contract with specific type of financial institutions (for example HLAC). A systemic solution requires the ability to buy assets from all impaired institutions, solvent or not.

Second, the scale of the operations was often small. Cumulatively over the years between 1992 and 2003, Japanese banks had loan losses of about ¥94 trillion, roughly 19% of GDP.[3] So the size of the problem required considerably more resources than most of the AMCs were given.

Third, especially in early years, they were slow in selling off the loans they purchased and just functioned as warehouses of bad loans. Not until the early 2000s, did they begin attempting to restructure the loans and rehabilitate the underlying borrowers thus addressing the source of the bad loan problem.

Finally, and most importantly, the Japanese experience also suggests that the purchase of non-performing loans did not solve the capital shortage problem; it is possible that a much bigger, comprehensive program might have eliminated the uncertainty of the value of assets that remained on banks' balance sheets and allowed them to find willing investors to contribute new capital. But, because none of the Japanese AMCs were designed to overpay for the bad loans, just removing some of the assets did not rebuild capital.

Thus, the Japanese government resorted to measures besides AMCs. To attack the undercapitalization the Japanese government eventually opted for a pair of public re-capitalization

[2] The accounting figures are from the RCC web site: http://www.kaisyukikou.co.jp.

[3] The figures are from the web site of the Financial Services Agency: http://www.fsa.go.jp.

programs. The first, following the November 1997 crisis, made ¥13 trillion (about $124 billion) of government money available to buy subordinated debt in undercapitalized but supposedly solvent banks. Subordinated debt can be counted as a part of regulatory capital (as long as it does not exceed Tier I capital) and would give the purchasing bank a buffer to absorb losses without having to default on promises to depositors.

This program was initially shunned by the banks. There are two reasons why the banks might not have wanted the assistance. One explanation is that the banks feared applying for the funds would be admitting to large future losses than had been previously disclosed (or that their ability to raise funds elsewhere would be missing). This negative signal would push down the value of existing equity.

A second logical possibility is that the banks balked because new securities would be senior to the existing equity claims. Were the banks to recover, the existing owners would not be able to reap the benefits until after the government's claims were paid. Either interpretation suggests that accounting for the incentives of the existing equity holders could be important in designing recapitalization schemes.

After some cajoling by the government, 21 major banks each applied for an identical amount of public funds. The amount was set at the level that the healthiest bank was willing to ask for, so for most of the banks, the amount was far less than they needed to restore their capital. In total, only ¥1.8 trillion (about $17 billion) was distributed over 21 banks in the spring of 1998.

The second recapitalization happened in the spring of 1999, as part of the Rapid Recapitalization Act that passed the Diet in the fall of 1998. By this time, separate legislation had given the Japanese government a mechanism to close down and nationalize weak large banks. Two major banks that were supported in the 1998 recapitalization, the Long-Term Credit Bank of Japan and the Nippon Credit Bank, had already had their shareholders wiped out in the process of being nationalized. Thus, the remaining banks knew that staying undercapitalized was not an option. The size of the second program was larger, with ¥25 trillion (about $238 billion) available for recapitalization. This time all the major banks except for the most healthy one (Bank of Tokyo Mitsubishi) applied. The government ultimately put ¥7.5 trillion (about $71 billion) into the 15 banks in the form of preferred shares and subordinated debt with various terms and conversion options into common shares.

The eventual problem with the Japanese approach is that the banks were kept in business for far too long with insufficient capital. This limited the banks willingness to recognize losses and they took extraordinary steps to cover up their condition and in doing so retarded growth in Japan (Caballero, Hoshi and Kashyap (2008)). The U.S. policymakers seem to appreciate that this was extremely costly and appear to be trying to avoid it. For instance, Treasury Secretary Paulson explicitly said that some banks will fail even with the TARP.[4]

2. The U.S. Plan

In several important respects the problems facing the U.S. differ from the Japanese case, and the Troubled Asset Relief Program (TARP) partially reflects these differences. Perhaps most important among these is that losses in the U.S. have not come from bad loans to businesses. Thus, there is no need to restructure or liquidate the borrowers' businesses. The social concerns over the massive displacement associated with wide-scale restructuring and the lack of political will to force this adjustment constituted a major stumbling block in Japan. This is one problem that is not present in the U.S. The Treasury is instructed to modify the non-performing mortgages that underlie the securities it buys. This should be much easier than trying to rehabilitate the industrial borrowers.

The critical question is whether the TARP will rebuild capital in the banking system. Here it appears that many of the same problems that were evident in Japan arise.

One issue is whether the banks will want to sell their assets to the government. The possible stigma from participating and loss in the option value for the existing shareholders from a recovery will have to be overcome. Perhaps the easiest way to overcome these problems would be to pay more for the assets than the current market prices, assuming the banks have already marked the value of those assets to market. Doing so eliminates the stigma (since accepting a subsidy is rational for even a well capitalized bank).

As of this writing, the law and the Treasury's intentions are unclear on how the prices for the assets will be set and the choice of assets to purchase will be determined. The bill instructs the Treasury Secretary to

> "use the authority under this Act in a manner that will minimize any potential long-term negative impact on the taxpayer, taking into account the direct outlays, potential long-term

[4] "Paulson Says U.S. to Use All 'Authorities' in the Crisis," *Bloomberg.com*, October 8, 2008.

> returns on assets purchased, and the overall economic benefits of the program, including economic benefits due to improvements in economic activity and the availability of credit, the impact on the savings and pensions of individuals, and reductions in losses to the Federal Government."

In acquiring assets the Treasury is to "make such purchases at the lowest price that the Secretary determines to be consistent with the purposes of this Act."

If the current market prices of the distressed assets are below their fundamental values, as many market participants and government officials suggest, this may create room for the government to pay substantially more than the market prices. But nobody knows how far the market prices are from the fundamental values and the Treasury has sent mixed messages about whether it prefers to pay above prevailing market prices.

Other regulatory measures that accompany the TARP will also discourage financial institutions from selling the assets to the Treasury. For example, the restriction on the executive pay (if it has any bite) may stop some banks from coming forward. Moreover, if mark-to-market accounting is suspended, many banks may prefer not to sell their troubled assets: they might be able to carry those assets on their balance sheets at what they claim to be the fair value.

For the TARP to recapitalize the banks successfully, the scale of the program will also be extremely important. There has been little discussion of how the size of the program was determined. To judge the adequacy of $700 billion program, it is important to recall that just in 2006 and 2007, over $1.4 trillion of non-traditional mortgages were originated. With the world economy slowing, there are bound to be many other impaired assets residing on bank balance sheets. So, if the TARP can successfully generate participation, its size will become the constraint.

Yet another impediment to using the TARP to recapitalize is the structure of most banks' liabilities. Suppose that the TARP does raise the value of the troubled assets and hence the value of bank assets. This would also lead to an increase in the market value of the banks' liabilities. But banks have both debt and equity. For many of the largest banks their debt is trading below the face value. The debt is senior to the equity, hence for firms with debt this is not valued at par the increase in the value of the debt will limit the increases in the value of the equity. Benmelech et al (2008) suggest that this could be quantitatively important. If so, the program might lead to more recapitalization if the asset purchases were targeted at firms whose debt was not impaired or had been restructured.

The final challenge that the TARP faces is planning an orderly way to dispose of the assets. The law gives the Treasury Secretary full discretion over the timing of any sales, taking into consideration the goal of maximizing overall returns on the portfolio. Japanese AMCs, at least in their early years, just held on to the acquired assets. This approach is counter-productive, because people worried that these assets could be dumped at any time and the overhang can keep prices depressed. On the other hand, immediately dumping all the assets does not work, either. The prices would presumably move back to about their current levels, and reduce the prices of similar assets that the banks still own.

Conclusions:

The U.S. financial system is very fragile shape. As in the recent Japanese financial crisis, the shortage of capital is the fundamental problem that must be fixed. The U.S. bailout plan is similar to the Japanese approach in that it does not clearly identify the capital problem as critical and instead proposes using AMCs to remove distressed assets from bank balance sheets. When Japan used AMCs, their effectiveness was limited in part because they did not purchase enough assets. AMCs did not help recapitalization, either, and Japan had to come up with different mechanisms to use public funds for recapitalization. Both these risks are also present for the U.S. plan.

Subsequent to the Congressional debate over the TARP and the testimony over its purpose, the Treasury is reportedly considering buying equity directly without having to purchase troubled assets.[5] That the U.K. chose this route in its rehabilitation plan will provide valuable guidance on how this might be done. Japan teaches us that the details of how best to inject equity, however, differ from the challenges related to asset purchases. The sooner attention shifts to working on this set of issues the more likely that an equity injection might succeed in recapitalizing the banks and stabilizing the financial system.

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[5] "U.S. Treasury Considers Buying Stakes in Banks," *The Wall Street Journal*, October 9, 2008.

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