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Financial Crisis: The Case for a
Resolution Management Corporation**

by James B. Thomson



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Systemic banking and financial crises invariably result in the transfer of a large volume of distressed financial assets into the hands of the government, which must later dispose of them. The fiscal and economic costs of the crisis and the speed of recovery depend on how effectively the government's salvage operations can re-privatize these assets. To maximize the operations' effectiveness, I propose that the government create a temporary resolution management corporation. Drawing on Kane's (1990) asset-salvage principles, as well as the U.S. experience with special-purpose entities for managing and disposing of assets stripped from distressed financial firms' balance sheets, I propose a design for such a corporation.

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Cleaning up the Refuse from a Financial Crisis: The Case for a Resolution Management Corporation

Every financial crisis ends up transferring a portfolio of deeply distressed assets into government hands. To maximize the value the government receives for re-privatizing damaged assets, the claims and diverse collateral that back them must be managed by salvage principles. According to Kane (1990), this means that the public salvor (the entity charged with optimizing the net recovery on these assets) needs to be proficient at four activities: taking over distressed assets (rescue), valuing assets (appraisal), protecting and enhancing the value of the receivership assets (property management), and disposing of assets (sales and related activities). Moreover, effective asset salvage requires that the salvor have access to experts in each core activity, as well as experts on the specific types of assets that come under its supervision.¹ The effectiveness with which the government carries out its salvage activities has important implications for both the fiscal and economic costs of the financial crisis.²

In response to the financial crisis of 2007–09, policymakers took unprecedented actions to contain a quickly deteriorating sequence of events. As attention turned to resolving troubled firms and restoring credit flows, crisis management efforts were inhibited by the lack of a credible resolution regime for large, complex financial firms and by the lack of a suitable mechanism for acquiring, managing, and disposing of the overhang of distressed assets on the books of banks and other financial firms.³ Much of the public attention and debate has been directed toward the need for orderly resolution of large, complex financial firms. The result has been the establishment of a separate FDIC resolution authority for nonbank financial firms by Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. What is absent from this legislation, and largely from the regulatory reform debate that led up to it, is mention of the need for an asset-salvage entity.

¹ See Kane (1990) for a more in-depth discussion of asset-salvage principles.

² The fiscal and economic costs of financial crises are discussed in Reinhart and Rogoff (2009).

³ The overhang of troubled assets on financial firms' balance sheets limits the firms' ability to extend credit to sound borrowers; the attendant moral hazard incentives may induce risk-loving lending behavior. The overhang may also reduce loan demand because these assets are the liabilities of firms and other bank borrowers. Myers (1977) shows that excess debt on a firm's books can lead to suboptimal investment decisions, with firms foregoing positive net present-value investment opportunities.

The public response to past financial crises has included the creation of one or more special-purpose entities to manage and dispose of assets stripped from the balance sheets of distressed financial firms. In this paper, I present arguments for establishing such an entity—a resolution management corporation (RMC)—as part of the crisis management infrastructure. Drawing on Kane’s principles of asset salvage (1990) and lessons from the nation’s experience with special-purpose asset salvors, I lay out the dimensions of an RMC design. Creating an RMC is not a panacea, but properly designed, with the appropriate structure and incentives, it could improve the incentive compatibility of crisis management and resolution. Improperly designed, an RMC could produce distortions resulting in socially sub-optimal crisis resolution, with the prospect of creating moral hazard which, in turn, could increase the frequency and severity of future crises.

This paper begins with a brief history of the U.S. experience with special-purpose asset-salvage operations, including the role of bad banks in asset disposition, with emphasis on the attributes of successful asset-salvage operations. Drawing on the lessons learned from these operations, I propose the creation of a resolution management corporation, making specific recommendations for its design and operation; this proposal emphasizes the importance of accountability and transparency, clarity of mission, and provision of the resources the RMC needs to carry out its mission. Conclusions and policy recommendations appear in the final section.

The history of public and private financial-sector salvage operations

Over the past 80 years, RMC-like entities have been used to rehabilitate financial-sector balance sheets. These asset salvors have run the gamut from the Grant Street Bank (a private bad-bank structure used by Mellon Bank in 1988 to restructure its balance sheet) to the Reconstruction Finance Corporation. The RFC was an independent government agency, chartered in 1932 to provide emergency financing to distressed banks and other entities and to purchase equities from troubled institutions to recapitalize them and prevent them from failing.⁴ The 1989 Resolution Trust Corporation (RTC), established in response to the U.S. savings and loan debacle, occupies a middle ground between bad private banks and public corporations with

⁴ See Jones and Angly (1951) for a complete history. Reviews of RFC operations can be found in Todd (1992) and Mason (2000).

sweeping asset powers. The RTC engaged in a large-scale, public, asset-salvage operation without the additional powers and responsibilities that had been vested in the RFC.⁵

The U.S. is not the only country to establish such a corporation. In 1992, Sweden created two asset management companies, Securum and Retrieva, to salvage the bad assets stripped from the balance sheets of two of the country's largest banks.⁶ More recent examples include the use of a bad bank in restructuring WestLB,⁷ the German *Landesbanken*, and the National Asset Management Agency, which was set up to dispose of distressed assets stripped from the balance sheets of Irish banks.⁸ By focusing on the U.S. experience with the bad-bank model for special-purpose asset salvors RFC and RTC, and drawing on Kane's principles for asset salvage (see box 1), I underscore the characteristics of an *unconflicted* resolution management corporation.⁹

The role of bad banks in individual cases

The bad banks discussed here are special-purpose asset liquidation corporations, used occasionally to deal with an individual bank's distressed assets. These corporations are smaller-scale entities that separate troubled assets from healthy ones in order to facilitate the balance restructuring of a troubled financial institution. They were created with a single clear mission: to maximize the net recovery of the troubled assets deeded to them. Hence, they are likely to follow Kane's principles for asset salvage (see table 1).

The first notable use of the bad-bank model took place in 1983, when Bank of America, in a move to expand into the Pacific Northwest, acquired the troubled Seafirst Bank headquartered in Seattle. According to the terms of the deal, Seafirst's shareholders would swap their shares for cash and special-issue Bank of America preferred stock, whose value was tied directly to the performance of a specific pool of distressed assets from Seafirst's balance sheet. Bank of America agreed to take a first-loss position of \$50 million on the pool of assets;

⁵ Reviews of the RTC and the lessons learned can be found in Cassell and Hoffmann (2009) and Todd (1992), respectively.

⁶ Securum and Retrieva could also be used as examples of the bad-bank model because each was created to handle the assets of a single large bank. For a discussion of the Swedish banking crisis, see Ergungor (2007).

⁷ See "Bail-Out Poker: WestLB is rescued for the fourth time in four years," *The Economist*, November 28, 2009, page 87.

⁸ Documents related to the creation, structure, and mission of Ireland's National Asset Management Agency can be found at <http://www.nama.ie/>

⁹ For a discussion of the bad-bank model's use outside the United States, see Prigge (2010).

additional losses would be charged to the special preferred shares.¹⁰ Much like a deductible on an automobile insurance policy, which better aligns the interests of insurance companies and policy holders, a first-loss position on this pool of assets gave Bank of America an incentive to manage and dispose of them in a way that jointly minimized the loss on these assets and the cost of carrying them.

The concept of a bad bank was formalized in the FDIC's rescue of Continental Illinois Bank and Trust Company of Chicago in May 1984. As described by Sprague (1986), the open bank assistance package involved a more formal bad-bank structure. "The permanent assistance package described by [William] Isaac to the press," Sprague wrote, "looked complicated. Actually, it was just a two-bank maneuver: (1) take out the problem loans and create what amounted to a bad bank for them; and (2) leave the performing loans in the surviving good bank, Continental."

As in the Seafirst deal, the original Continental shareholders were not completely wiped out in the open-bank assistance deal. Rather, the value of their claims on the new Continental became a function of the performance of the pool of assets that constituted the bad bank. As with Seafirst, the bad bank was clearly used to allocate the cash flows associated with the distressed assets between the existing shareholders and, in this case, the FDIC.

Seafirst and Continental Illinois exemplify the bad-bank concept in the acquisition and/or rescue of a failing bank, where the bad bank's purpose is to protect the acquirer from uncertain losses on distressed assets. A somewhat novel and more relevant application of the good bank/bad bank structure involves Mellon's 1988 effort to restructure its balance sheet. That plan split the company in two: Mellon, which would retain most of the good assets, and a separately chartered and capitalized Grant Street Bank, which would purchase \$1.4 billion of assets from Mellon's balance sheet at 41 cents on the dollar.¹¹ The creation of Grant Street Bank allowed Mellon's management to focus on its core businesses by capping its losses at the value of the written-down assets that were purchased by Grant Street Bank, in part through an investment by Mellon. This two-bank structure provided for effective liquidation of Mellon's troubled assets by

¹⁰ The events surrounding the failure of Seafirst and its acquisition by Bank of America are described in Sprague (1986), chapter 7.

¹¹ For a discussion of the Grant Street Bank as a vehicle for Mellon's balance-sheet restructuring, see Mallory (1992), Santomero and Hoffman (1999), and Kahn and Winton (2004).

tying any return to Mellon and its investment in Grant Street directly to the recovery value of Grant Street's troubled assets. According to Kahn and Winton (2004), removing problem assets from the good bank/bad bank structure helps align the incentives for the resulting good bank. They write that

[e]ven when written down to estimated fair value, recoveries on bad loans are highly uncertain, making these loans' returns much more sensitive to economic conditions than returns on loans to healthy firms. Moreover, bad loans will generally be around for some time as they are renegotiated or slowly liquidated. If the bad loans are not removed from the bank, their potential downside after write-offs could still be quite large relative to the bank's capital base and expected profits on good, safer loans, undermining the bank's incentive to screen and monitor the good loans.

Presumably, this alignment of incentive in the Mellon–Grant Street application of the good bank/bad bank model was what Henry Paulson, then Secretary of the Treasury, sought to achieve with his initial proposal for the Troubled Asset Relief Program (TARP).¹² However, it is important to recognize that Paulson's original TARP plan proposed stripping distressed assets from financial firms' balance sheets using reverse auctions and other methods that would not require putting the firms through receivership.¹³

The bad-bank model has four salient features that one can look to in considering the design of the RMC.

First, these deals are structured in a manner that promotes transparency and accountability. Distressed assets are clearly segregated from good assets—with a separate legal entity used in the Continental and Mellon cases—allowing for a clear division of the cash flows associated with the management and disposition of damaged financial assets. This permits an auditable allocation of losses between the various stakeholders in the deals. There is a subtle, albeit important, aspect of these banks' structure: Because the claims of the original shareholders of

¹² Statement by Secretary Henry M. Paulson, Jr. on Comprehensive Approach to Market Developments, U.S. Department of the Treasury, hp1149, September 19, 2008; see <http://www.ustreas.gov/press/releases/hp1149.htm>.

¹³ Receivership is a form of bankruptcy that involves reorganizing or liquidating a firm. Receivership for insured banks and thrifts is an administrative process, with the FDIC typically being named receiver. Bankruptcy is a judicial process used for nonbank financial firms, with the receiver being named by the bankruptcy court.

Seafirst and Continental—as well as the return to Mellon shareholders on their claim on Grant Street Bank—were based on the recovery value of the portfolio of bad assets that were stripped from their respective balance sheets, these institutions had strong incentives to pass the assets into the bad bank at their fair market value and in a manner that preserved their value. Furthermore, by separating the costs associated with asset management and disposition from the losses embedded in the distressed assets, the bad-bank model provides incentives for efficient asset management and disposition, consistent with Kane’s principles for asset salvage (box 1).

Second, these bad banks had a limited, unambiguous mission. They were intended to maximize net recoveries on the portfolio of distressed assets under their management. Their sole purpose was to provide a vehicle for managing and disposing of damaged assets removed from a financial institution’s balance sheet. Transparent loss recognition at the time when assets are acquired by these salvors, coupled with clarity of ownership of future cash flows (gains and losses), reduces agency problems because the bad bank’s performance can be monitored and measured—and stakeholders in the bad bank have incentives to do so.

Third, adequate resources were made available to the bad banks. Such resources include administrative resources, other staffing, and sufficient funding. While the structure of the funding varied as dictated by the division of cash flows and the contingent-claim nature of some stakeholders’ returns, in all of the bad-bank cases, necessary funding was in place at the beginning. Different arrangements of administrative resources and staffing were also used. These ran the gambit from Mellon moving some members of its own management team, including loan officers and workout specialists, to Grant Street Bank (with an option to return) to the Federal Reserve Bank of New York’s outsourcing of the management of Maiden Lane entities to a private asset management firm, BlackRock.¹⁴

Fourth, bad banks were designed to be limited-life entities. They were set up for the sole purpose of disposing of the toxic assets stripped from the balance sheet of a financial institution (or institutions) at a particular point in time. Hence, successful operation of a bad bank involves the eventual liquidation of its operations. Establishing at the onset that the bad bank will be a

¹⁴The Maiden Lane entities were special-purpose vehicles created by the Federal Reserve Bank of New York to house assets acquired as part of Bear Stearns’ acquisition by JPMorgan Chase and as part of the financial support provided to AIG. See, <http://online.wsj.com/article/SB124269131342732625.html> and <http://grayson.house.gov/BlackRock%20response.pdf>.

temporary vehicle for asset salvage clarifies the mission by tying its existence to its function. It also reduces incentives to speculate on asset-recovery values by limiting de facto the maximum time any asset can be held; this may encourage creative marketing and sale of the distressed assets, consistent with maximizing net recoveries (see Kane 1990 and box 1). Finally, setting a drop-dead date for the bad bank may increase flexibility in the types of claims that can be used to allocate cash flows (and losses) associated with the salvage operation by reducing the uncertainty in timing these cash flows.

Lessons from a conflicted asset salvor: The case of the RTC

The Resolution Trust Corporation was created by the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA) to manage and dispose of assets that came into the government's hands from the estates of large numbers of failed thrift institutions. Although the 1980s thrift debacle in the United States had begun roughly a decade earlier,¹⁵ FIRREA was the first comprehensive legislation to deal with it and the first meaningful appropriation of funds to deal with the mounting losses in failed thrifts. However, while the original drafters of FIRREA envisioned providing \$50 billion of funding authority¹⁶ for the RTC, a number of constraints on funding in the final bill effectively limited the RTC to much less. Moreover, contemporary estimates of the RTC's total losses placed its funding needs as high as \$100 billion, so even without binding constraints, FIRREA's funding of the RTC was inadequate. A number of studies document the impact of funding and other constraints on the RTC's ability to perform its intended function, especially during its early years. Kane (1990) and Pike and Thomson (1991) present evidence of delays in bringing troubled assets from zombie thrifts into the RTC's portfolio, with negative implications for asset recovery value. One contemporary estimate of the cost of this delay comes from Ely (1990), who argues that taxpayers' losses associated with unresolved savings and loans compounded at an annual rate of 20 to 25 percent.¹⁷ Congress would have had to allocate additional funds during the early 1990s

¹⁵ See for example, Kane (1985, 1989) and DeGennaro and Thomson (1996).

¹⁶ From Davison (2005, page 37) The initial funding for the RTC would include \$18.8 billion of directly appropriated funding, \$30 billion from the Resolution Funding Corporation, and \$1.2 billion from the Federal Home Loan Banks.

¹⁷ Ely's loss estimate is consistent with Kane and Yu's (1995) account of the deterioration of unresolved thrifts' balance sheets over the latter half of the 1980s, just before the RTC was created.

to allow the RTC to continue its salvage operations.¹⁸ The RTC would cease operations in 1996, when its charter expired, and the remaining troubled assets were transferred to the FDIC's receivership function.

Cassell and Hoffman (2009) examine the experiences of the RTC and the 1930s Home Loan Owner's Corporation and present 10 lessons these special-purpose entities can teach us about dealing with the disposition of public assets (see box 2).¹⁹ While organized somewhat differently than Kane's (1990) principles for asset salvage and the above analysis of bad banks, these 10 lessons complement his perspectives (see box 1). For instance, Cassell and Hoffman's lessons 1, 3, 7, and 10 are related to the accountability and transparency feature of bad banks. Lessons 3 through 6 are related to Kane's salvage principles of rescue, asset management, and flexibility in asset disposition. Both Cassell and Hoffman and Kane emphasize the salvor's need for access to expertise (internal and external) in valuing, managing, and disposing of assets that come under their management. Cassell and Hoffman's lesson 2, clarity of mission, mirrors the second take-away from the bad-bank examples: the need for a clear, unambiguous mission. Clarity of mission is important for aligning incentives, thereby reducing principal-agent conflicts. Kane (1990) shows that the lack of a clear mission and the presence of competing objectives (minimizing the on-budget fiscal impact of losses on failed thrift estates and well-intentioned fair housing goals) reduced the RTC's effectiveness in conducting asset salvage. Pike and Thomson (1991), Kane (1990), and the bad-bank experience all point to the need for committing all resources necessary to complete the task, which is the essence of Cassell and Hoffman's lessons 1 and 8. Another characteristic of bad banks—that they were intended to be limited-life entities—corresponds to Cassell and Hoffman's lesson 9: the need for clear exit strategies. Overall, the lessons from the RTC's experience as a conflicted asset salvor are consistent with those from bad banks.

Lessons from a mixed-purpose rescue agency: The case of the RFC

The Reconstruction Finance Corporation (RFC) was created in 1932 as part of the public response to the Great Depression. As described in Jones and Angley (1951) and Todd (1992), the RFC was modeled after the War Finance Corporation, which had been established during World

¹⁸ The political debate surrounding the RTC and its funding is documented in Davison (2006a, 2006b).

¹⁹ The 1933 Homeowners Refinancing Act established the Home Owners' Loan Corporation to refinance home mortgages during the wave of foreclosures following the 1929 economic collapse.

War I to provide relief to a wide variety of entities. In addition to aiding state and local governments, the RFC could lend to nearly every sector of the economy, including railroads, banks, agricultural concerns, and businesses. Over time, it became a major contributor to the World War II effort, spending more than \$22 billion dollars on procurement and production. The RFC's initial efforts to assist the banking industry through its lending program were unsuccessful because banks were reluctant to borrow and because the fundamental problem plaguing the banking industry was one of solvency, not liquidity.²⁰

In 1933, the RFC's efforts to assist the banking industry shifted from liquidity to solvency support. This policy shift was facilitated by the Emergency Bank Act of 1933, which authorized the RFC to purchase equities from troubled institutions as a means to recapitalize them and prevent them from failing.²¹ The FDIC was created later that year by the Glass-Steagall Act as a longer-term solution to restoring public confidence in financial institutions by insuring their deposits; it also assumed its role of receiver for failed institutions.²² Following the March 1933 banking holiday, the RFC assessed the solvency of the more than 17,000 institutions that had been closed during the banking holiday. Only 12,000 reopened their doors, and half of these required preferred-stock investments by the RFC for some or all of their capital.²³

Capital injections made through the RFC's preferred-stock program were conditioned on an assessment of a bank's viability. That is, the RFC engaged in a large-scale triage program. Banks deemed to be sound were allowed to reopen. Banks whose assets had a fair value equal to at least 90% of deposits and other liabilities reopened after receiving a capital injection in the form of RFC purchases of preferred stock. A third tier of banks, those whose assets were judged to be worth at least March 31, 2006, 75% of deposits and other liabilities would receive an RFC capital injection in the form preferred stock purchases if their officers and directors could privately raise capital to make up some of the capital shortfall.²⁴ In the fall of 2008, the U.S.

²⁰ For a description and evaluation of the RFC lending program for banks, see Mason (2000). An assessment of the RFC's capital assistance program can be found in Mason (2000) and Keeton (1992).

²¹ The RFC also got new leadership in 1993, when Jessie Jones was appointed to run its operations.

²² By creating the FDIC, Congress limited the RFC's responsibilities by separating its temporary crisis management responsibilities from the FDIC's permanent responsibilities for insurance operations and receivership for future bank failures.

²³ See Todd (1992), Jones and Angly (1951, chapter 2) and Mason (1999).

²⁴ See Jones and Angly (1951, pp. 27–30).

Treasury would follow a similar strategy, using funds from the TARP program to inject government capital, largely by purchasing senior preferred stock.²⁵

As emphasized earlier, the RFC was a far different operation, with more sweeping powers and responsibilities than bad banks and the more recent RTC. In fact, we focus not on the RFC's asset salvage operations, but rather on those aspects of its structure, operation, and funding that shed light on the transparency and accountability of its operations. Several lessons from the RFC experience may be useful in contemplating the design of an RMC.

Establishing the RFC as a separate entity with its own balance sheet, funded largely by issuing its own debt claims (within limits set by Congress) contributed to its success by facilitating the RFC's transparency and accountability. On this point, Todd (1992) observes that "because the RFC's finances were externally constrained, its operations were directly and politically accountable ... The external constraint arose from the RFC's incapacity to fund itself off-budget or for a very long time."²⁶ It is important to note that there is a fine line between using a funding constraint to increase accountability and underfunding the salvor; the latter is inefficient and gives rise to incentive conflicts.

Attributes of an effective resolution management corporation

Without a suitable mechanism to salvage large overhangs of troubled assets, crisis managers are constrained in their ability to effectively resolve or rehabilitate distressed financial firms, which increases the likelihood of forbearance. Studies by Haubrich et al. (2007) and Ergungor and Thomson (2007) on the Japanese banking crisis, the U.S. savings and loan debacle, and other banking episodes suggest that using forbearance policies to address financial institution failures usually increases the costs to the government and the overall economy. This form of regulatory gambling can delay recognition of the market value of impaired assets and impede

²⁵ Unlike the RFC's preferred-stock purchase program, TARP made capital injections before it evaluated recipients' solvency under the supervisory capital assessment program (the "stress tests") in the spring of 2009. The program is described in Board of Governors of the Federal Reserve System (2009a, 2009b).

²⁶ An important limit on the RFC was the explicit prohibition against funding its operations directly or indirectly through the Federal Reserve Banks. Such a limit is justified on the following grounds: First, as Todd (1992) notes, the RFC's solvency support, as a fiscal-policy operation, should be kept separate from monetary policy. This restriction is consistent with classic lender-of-last-resort principles, which preclude the use of the Federal Reserve's discount window for purposes other than liquidity support. Second, preventing or limiting the monetization of the RFC's debt improved accountability by requiring explicit authorization by the Congress; this, in turn, subjected the RFC's operations to congressional review.

their return to the private sector, thereby increasing the ultimate cost of resolving the firm. In the case of the U.S. savings and loan debacle, Kane and Yu (1995) show how the cost of forbearance rose over the latter half of the 1980s; DeGennaro and Thomson (1996) estimate that regulatory forbearance quadrupled the resolution costs to taxpayers. Therefore, in the wake of systemic financial crises, accounting and capital forbearance emerge as particularly bad policy options because they are likely to extend the duration of the recovery and increase the total costs.

Of all the arguments supporting the establishment of the RMC's asset salvage as part of the crisis management infrastructure, the most compelling may be the need for accountability. A separate entity with a separate balance sheet, able to manage and dispose of distressed assets that come into government hands, provides a structure conducive to transparency and accountability, thereby lessening the potential for principal-agent conflicts. Hence, corporate separateness is not an essential feature of public salvage operations, but rather a means to an end. In the cases of the RFC and RTC, the Congress purposefully chose not to comingle the activities and balance sheets of the special-purpose asset salvor with those of the deposit insurer. The RFC's and RTC's large-scale asset-salvage operations were separated from those associated with the FDIC's receivership function; this was likely done to limit the shifting of losses associated with the damaged assets under RFC and RTC management to the FDIC. Losses from banks in the RFC's portfolio could have swamped the FDIC's resources, with negative consequences for the recovery of the banking system. As for the RTC, a separate asset salvor to manage and dispose of damaged assets that came into government hands was created during the resolution of the 1980s thrift debacle, partly to prevent losses from failed thrift estates from shifting onto the banking industry. However, keeping a public salvage operation at arm's length from the deposit insurer does not guarantee that its incentives will be properly aligned, as illustrated by Kane's (1990) analysis of the RTC's principal-agent conflicts. After all, the RTC's operations more than met the arms-length condition.

Accountability is supported by transparency. Restoring credit flows to a fragile financial system requires a transparent asset-disposition process. The goal of this phase of the recovery is to quickly return assets to the private sector at maximum recovery values, while maintaining a complete accounting of all losses to ensure the transparency necessary to restore market confidence. Failure to recognize losses quickly and to account for them fully led to problems in

Japan. It allowed the practice of evergreening, by which new loans are extended to troubled borrowers to forestall the recognition of losses, which was a major factor in Japan's decade-long anemic recovery.²⁷ Ergungor (2007) credits Sweden's early and transparent loss recognition in dealing with their banking crisis as a key element in their successful recovery. To ensure transparency and accountability, the RMC should be required to regularly produce and publish financial statements, including asset revaluations. Operational and financial statements should be subject to periodic audits by the U.S. Government Accountability Office, and the head of the RMC should be required to testify before the House and Senate banking committees twice a year. Careful consideration should be given to governance structure. The chairperson of the RMC should be a cabinet level official, appointed by the President and confirmed by the Senate. Given the close working relationship the RMC is likely to have with the FDIC, strong consideration should be given to having the FDIC chairperson also head up the RMC, as was done with the RTC. Finally, much as it created an oversight panel to monitor the Troubled Asset Relief Program, Congress should establish an independent body to oversee the operations and activities of the RMC.

For the most part, the RMC's acquisitions should be limited to assets from institutions that have passed through a receivership process. Purchases from operating financial institutions should be limited to assets for which market values can be established; further, sellers should be required to include warrants on their stock, with values contingent on losses from the assets sold to the RMC. The RMC should be prohibited from paying more for a distressed asset than the price it received (if such a price is available) from the sale of an equivalent asset. Finally, all of the RMC's assets must be carried at fair market value.

The RMC's operations could consolidate large-scale asset management and disposition activities, providing a transparent accounting of both its operating costs and the effectiveness of its salvage enterprise. Dedicated administrative and support functions and a clear mission would help ensure that the RMC's objective remains closely aligned with that of the taxpayers: restoration of financial stability at a minimal cost. However, these operations should be viewed as a temporary complement to the asset-salvage operations of the FDIC (or an alternative agency

²⁷ Peek and Rosengren (2005) find evidence of evergreening in Japan after its financial crisis, a factor that certainly contributed to its anemic economic performance during the lost decade.

with receivership responsibilities). The funding mechanism for federal deposit guarantee agencies in the United States, assessments on the insured industry, naturally limits the size of their balance sheet and resources for dealing with large-scale banking problems. In other words, the FDIC's institutional setup is designed to deal with banking problems that are higher in frequency and smaller in scale than a systemic banking or financial crisis. Hence, systemic crises require the marshalling of resources beyond those normally available to the deposit guarantor.

The operative question is, what is the most desirable way to bring the necessary resources to bear on the large volume of distressed assets that characteristically accompany a crisis? For the reasons articulated above, creating a temporary public-asset salvor—the RMC—is preferable to scaling up the FDIC's receivership operations in the wake of a financial crisis, at a time when the FDIC would already have so many other responsibilities. Gearing up the RMC's operations would, however, strain the FDIC's resources, because initially, the RMC would likely need to rely on FDIC staff and expertise to carry out its responsibilities. Reliance on the FDIC and/or other receivership specialists would allow for more flexibility in gearing up the RMC's operations and would provide for a more seamless exit strategy as its operations naturally wind down. Establishing a fixed expiration date for the RMC would strengthen alignment with taxpayer incentives by reducing the likelihood that the RMC would delay disposition in the hope of waiting until asset values recover. Such behavior is typically inconsistent with maximizing expected recoveries on the assets under management by the asset disposition agency, a view expressed by Sprague (1986), Kane (1990), and Pike and Thomson (1991). There are a number of reasons for this.

First, delay in returning assets to the private sector can increase total resolution costs because these assets may deteriorate while in the government's hands, particularly if the asset salvor lacks the expertise and/or incentives to maintain and enhance the value of troubled assets on its books.²⁸ Moreover, Barth et al. (1990) find that the most significant determinant of the total cost of resolving a failed thrift during the 1980s was the number of months an institution remained insolvent.

²⁸ See Ely (1989) and Kane (1990) for a discussion of how delays in RTC asset disposition could have raised the cost to the public of the 1980s U.S. savings and loan debacle.

Second, when the RTC holds assets instead of returning them to the private sector, it incurs the costs associated with financing and managing assets. These carrying costs can be a substantial part of the total resolution costs. Irvine H. Sprague, former Federal Deposit Insurance Corporation chairman, argues that the costs of financing, staff time, legal fees, appraisals, and advertising are substantial and can “eat up any profit” and “wipe out value more quickly than you might imagine” (Sprague 1990).

Third, delays in returning financial and other assets to the private sector could impede financial markets’ recovery. Ergungor (2007) points to the 10-year charters of the Swedish firms Securum and Retrieva as an important factor in their success.²⁹ The concept of an expiration date is also consistent with Cassell and Hoffmann’s lesson on the need for the government to have exit strategies. Hence, the RMC’s charter should remain active only as long as is necessary to carry out its mission, with a maximum duration of 10 years.

Finally, the lessons Cassell and Hoffman draw from the RTC and HOLC experiences, which are consistent with the lessons from the bad-bank cases reviewed here, call for limiting the scope of the RMC’s authority to what it needs to carry out its mission effectively. Limiting the RMC’s authority is part of clarifying its mission; it allows for better alignment of incentives and reduces the agency problems that arise when government entities are given multiple, sometimes conflicting, missions.³⁰

To ensure effective yet incentive-compatible operations, the RMC should be given a revolving line of credit with the U.S. Treasury. The credit line should be large enough to fund the RMCs operations during its start-up period; one suggested amount is \$100 billion. The RMC would draw on this credit line for working capital and short-term funding for its operations, particularly during its first six months.³¹ The liquidity provided by the Treasury credit line will

²⁹ Todd (1992) notes that over time, the RFC’s operations became politicized; hence, one lesson from that experience is the need to limit the duration of any RFC-like entity created in response to a financial crisis.

³⁰ Central banks’ independence is often viewed as means to resolve short-run conflicts between their missions: to provide for price stability as well as high employment. Independence is thought to allow a central bank to focus on the long term, where these dual objectives do not conflict. Alesina and Summers (1993) find a significantly positive relationship between measures of a central bank’s independence and its inflation performance.

³¹ Properly viewed as a fiscal responsibility, the cost of resolving a financial crisis should not be funded by the central bank, directly or indirectly. To insulate the lender-of-last resort and monetary-policy functions of the central bank from the solvency and asset disposition activities of the RMC, the latter should be prohibited from borrowing from the central bank.

allow the RMC to more effectively engage in rescue, that is, to acquire assets in a manner that preserves their value and reduces losses associated with (at best) benign neglect in insolvent institutions. Within six months of activation, the RMC should be required to seek permanent operational funding in two forms: direct congressional appropriations sufficient to cover operating costs and issuance of RMC bonds with a maximum maturity of 10 years. As a government agency, albeit a temporary one, the RMC's bonds would carry the full faith and credit of the United States. Hence, its charter should include authorization to issue bonds up to a predetermined limit, say \$700 billion. Activation of its charter should be accompanied by an assessment its borrowing needs and a request to Congress for additional bond issuance authority if needed. The principal and interest on the bonds would be funded through the liquidation of the RMC's assets. Because assets should be acquired at fair value, little or no additional funding should be required to cover shortfalls in the value of assets sold. Requiring the RMC to seek additional appropriations to cover unexpected asset losses should reduce its incentives to overpay for distressed assets, and limits on the maturity of its debt should provide incentives for timely asset disposition.

FDIC Subsidiary or Separate Corporation?

Policymakers historically have chosen to establish new agencies with special crisis-management responsibilities that are intentionally separate from the ongoing responsibilities of the federal deposit guarantor. One example of the government's establishment of separate entities to address banking crises is the creation of the Resolution Trust Company (RTC) in response to the U.S. savings and loan debacle. This is a cleaner example than separation of the FDIC from the RFC of Congress' deliberate choice to separate the resolution of failed thrifts and the disposition of their assets from the deposit guarantee and receivership functions of the deposit insurer. After all, the RTC was created by the same legislation, the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA), which created the Savings Association Insurance Fund as part of the FDIC's operations. It should be noted, however, that the FDIC played a role in the daily operation of the RTC because the FDIC's Chairman L. William Seidman was also the RTC's chairman. In addition, the FDIC's receivership function was explicitly part of the RTC's exit strategy; the remaining assets in the RTCs portfolio were passed on to the FDIC in 1995, just one year before the RTC's charter expired.

The alternative to housing the RMC in an agency separate from the FDIC is to make it an independent, operating subsidiary of the FDIC. Such an arrangement could produce the same level of transparency and accountability as complete corporate separateness, provided that the balance sheets of the FDIC's deposit insurance operations remain separate from those of the RMC.³² An example of this is the once-separate deposit guarantee funds for banks and thrifts. Prior to FIRREA, deposit insurance for thrift institutions was provided by the Federal Savings and Loan Share Insurance Fund, a federal agency separate from the FDIC. In 1989, FIRREA replaced this defunct thrift insurance fund with the Savings Association Insurance Fund (SAIF) as part of the FDIC, separate and distinct from the Bank Insurance Fund (BIF). Until March 31, 2006, when the Federal Deposit Insurance Reform Act of 2005 merged the SAIF and the BIF, the FDIC operated them as different funds with separate balance sheets and funding. In terms of independence of operation, setting of assessments, and loss realization from failed institutions, the operation of the SAIF and BIF was not materially different from that of bank and thrift funds prior to 1989, when they were still housed in separate agencies. Therefore, the choice of the RMC as a separate corporation or as the FDIC's operating subsidiary should be based on which institutional arrangement allows it to be the most effective asset salvor.

The RMC and Crisis Management

The RMC can be an important component of effective contingency planning, which Kane (2001), Ergungor and Thomson (2007), and Haubrich et al. (2007) argue is a key responsibility of banking supervisors and other regulatory agencies. It is critical to establish a crisis recovery plan, including an RMC, and to engage in mock disaster exercises under an array of scenarios. These activities increase the likelihood that the regulatory response to an emerging financial crisis minimizes the short-run fiscal costs of crisis management activities as well as the long-run costs associated with time-inconsistent crisis management options. Whether an independent federal corporation chartered by Congress or an FDIC subsidiary, the RMC should be established as a shelf corporation in the sense that its charter, funding authority, and authorization for staffing and other resources would be in place, but the RMC would remain dormant until activated by a financial crisis or systemic banking crisis. The process for activating the RMC

³² Practical concerns, such as the RMC's need for access to experts in asset disposition, provide a rationale for making the RMC a subsidiary of the FDIC. In fact, Davison (2005) argues that the RTC would have been much more difficult to create had it not been able to draw on the FDIC's expertise.

should be auditable and accountable because activating it routinely to deal with higher-frequency, lower-cost banking and financial market disruptions could have unintended consequences. Its activation should be conditioned on the declaration of a financial crisis using a process similar to that which the FDIC must follow to invoke the systemic risk exemption to least-cost resolution involving the FDIC's board, the Board of Governors of the Federal Reserve System, and the Secretary of the Treasury.³³

Conclusions and policy recommendations

The aftermath of a financial crisis offers central bankers, financial regulators, and economists important opportunities to study the causes of the crisis, reflect on lessons that can be learned, and consider reforms that reduce the likelihood of recurrence. Financial crises impose both fiscal and economic costs, and the response to a crisis can increase or decrease those costs substantially. Today's response starts us down the path toward more—or fewer—crises in the future.

Systemic banking and financial crises introduce the risk of material losses, which can be mitigated by a rapid, transparent response that restores credit flows and market confidence. While the FDIC is effective in responding to higher-frequency, smaller-scale banking system problems, it was not designed to respond to a systemic crisis. Such a crisis invariably requires the marshalling of resources beyond those normally available to the deposit guarantor; this suggests the need for a mechanism to effectively address the large volume of distressed assets that characteristically accompany a crisis. The financial crisis of 2007–09 highlights the need for financial-institution regulators to develop contingency plans for dealing with a financial or systemic banking crisis and to conduct mock disaster exercises in response to various scenarios. These contingency plans must also include provisions for the necessary crisis-management infrastructure, including creation of a separate distressed-asset management and salvage operation, the RMC.

To optimize its effectiveness in responding to a financial crisis, the RMC should be an independent federal agency chartered by Congress and tasked with management and salvage of distressed assets. It should be activated as part of the response to a financial or systemic banking

³³ Section 13(C)(4)(G) of the Federal Deposit Insurance Act.

crisis and should remain in operation only as long as needed. Lessons from previous uses of dedicated public and private asset-disposition corporations suggest that several factors should be taken into account in designing the RMC: It should have a clear, focused mission; access to sufficient resources, including funding, personnel, and dedicated administrative resources to carry out its mission; and operational transparency, including regularly published financial statements and routine audits by the U.S. Government Accountability Office, to ensure accountability that could be further strengthened through congressional oversight.

The scope of the RMC's asset-salvage operations should be defined as part of the process of activating it and should be validated by Congress. The RMC's permanent funding could consist of any combination of the following: direct appropriation by Congress, a line of credit from the U.S. Treasury, and direct issue of debt in private financial markets. The Federal Reserve should be prohibited from funding the RMC, either directly or indirectly. Once its charter has been activated, the RMC's activities should be limited to asset management and salvage operations as part of the crisis management infrastructure that resolves insolvencies; its charter as an active government corporation should be effective only as long as is necessary to carry out its mission, but no longer than 10 years. As part of a comprehensive approach to managing crises, an effective RMC can promote a timely response and reduce the painful losses these events typically impose.

Box 1: Kane's Principles for Unconflicted Asset Salvage*

According to Kane (1990), this means that the public salvor—the entity charged with maximizing net recovery on these assets—needs to be proficient in

- rescue (peril reduction)
- appraisal (damage evaluation, that is, documenting and valuing inventories of damaged goods)
- property management (efficiently protecting and enhancing existing value)
- sales (searching out potential buyers, communicating appraisal information to them, and running auctions or bargaining for the best price)

Moreover, for effective asset salvage, the public salvor must have access to experts in each core activity as well as experts on the specific types of assets that come under its supervision.

*(Kane (1990, pages 756–57).

Box 2: Ten Lessons Learned from the HOLC and RTC Case Studies **

1. A temporary, dedicated administrative entity is key.
2. Clear formulation of the critical task is crucial.
3. Autonomy and discretion are needed in performing critical tasks.
4. Flexibility to adapt in the field is essential.
5. The temporary administrative entities must understand and be responsive to market conditions.
6. Government must have the expertise to hit the ground running in response to a financial crisis.
7. Government must be able to effectively monitor and manage contractors.
8. Government must have sufficient financial and personnel resources to complete the task.
9. Government must have exit strategies.
10. There must be clear, transparent oversight.

****Cassell and Hoffmann (2009, page 32).**

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