



2009 Annual Report

SYSTEMIC RISK

and the Pursuit of Efficiency



Mission

As a regional Reserve Bank, we work within the Federal Reserve System to foster the stability, integrity, and efficiency of the nation's monetary, financial, and payments systems. In doing so, we inspire trust and confidence in the U.S. financial system.

Vision

To be an innovative policy and services leader for America's economy.

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MESSAGE FROM THE PRESIDENT



Jeffrey M. Lacker, President

For the past two years I have used this space to discuss the difficulties the economy has faced and the potential sources of those problems. To be sure, there are many people who are still hurting. Employees of this Bank—and members of its boards of directors and advisory councils—have learned a great deal as we have traveled throughout the Fifth District, listening to the obstacles facing people and businesses in communities from West Virginia and Maryland down to South Carolina. These problems are real and many will not have easy solutions. But I am pleased to be able to say that I think the economy, as a whole, has turned the corner and is now showing signs of growth. We are not out of the woods, but I think we are starting to see some light peering through the trees.

As the economy begins to recover, policymakers are naturally looking at ways to prevent future financial crises. Much of this discussion has been productive and has spawned some fruitful ideas. But in the wake of a crisis, there also is often a desire to reform something quickly, based on a presumption about what “must” have gone wrong, without sufficiently careful scrutiny. This year’s *Annual Report* essay, written by Kartik Athreya, a senior economist at the Richmond Fed, discusses one such idea: “systemic risk.”

What do policymakers and economists mean when they use the term systemic risk? Many different meanings have been put forth by many different people. Indeed, the lack of precision in defining systemic risk is itself an impediment to clear thinking about financial regulation. Many regulatory reform proposals would attempt to reduce the potential of systemic risk to harm the economy by providing regulators with additional tools to contain or manage such risks in the event of a crisis. But how can we accomplish that if we do not have a clear understanding of the phenomenon?

In his essay, Athreya identifies systemic risk with “linkages between market participants that lead to outcomes that can be unambiguously improved after a shock.” Note carefully the phrase “after a shock.” It highlights the fact that a policy intervention may appear useful when undertaken during a crisis (“ex post”), but could well be detrimental when evaluated before the fact (“ex ante”) because of the way it affects the incentives of financial market participants.

There are good reasons, as Athreya argues in his essay, to pursue ex-ante rather than ex-post efficiency. Does this mean, then, that we must throw up our hands and do nothing to ameliorate future shocks? No. But I don't think it will be sufficient to more tightly regulate firms regarded as systemically risky. In fact, this could actually increase the fragility of the financial system.

There are several reasons why financial institutions decided to take on what now appears to have been excessive risk. But the heart of the problem—as I have argued elsewhere—is that many firms believed they would not bear the full consequences of those decisions should they turn sour. The presence of the federal financial safety net altered their incentives in a way that reduced the cost of risk to them and their creditors. A fundamental lesson of economics is that when you make something cheaper, you are likely to get more of it, and we did. We need to tighten the limits around the safety net and make them transparent to everyone. And most importantly, our ex-post actions in a crisis must conform to our ex-ante commitment to forcing uninsured creditors to bear the full consequences of their actions.

If instead we were to deem some set of financial institutions systemically important, either explicitly or implicitly, it would be reasonable for the creditors of those firms to believe that should a problem arise, government help will follow. This would give large incumbent firms a permanent funding advantage and undermine competition from smaller rivals.

Robust competition is one reason the American economy has remained so resilient. As I said, I believe the economy is now recovering, despite having just been through a very deep recession. Nonetheless, the downturn is still affecting millions of Americans, and in such times it is natural to want to respond, to try to safeguard people from a similar event in the future. But we must act carefully, and that requires a prudent assessment of the causes of that adversity. My view is that such an assessment cautions against creating new tools for ex-post intervention, however immediately appealing that effort may sound. Fortunately, we possess some of the tools to help prevent financial shocks that generate calls for such intervention. Among them is the willingness to not assist uninsured financial institutions should they find

themselves in peril. Such commitment—if it can be made credible—would give firms and their creditors a strong incentive to manage more carefully the risks in their portfolios. Pledging to not intervene is a more difficult task than it may seem, as events have shown. But it is an effort well worth pursuing, for our economy and our citizenry.



Jeffrey M. Lacker
President



SYSTEMIC RISK and the Pursuit of Efficiency

by Kartik B. Athreya

What is systemic risk? When might it arise?
How should it influence policymakers?
In this essay we identify systemic risk with the presence of linkages between market participants whereby problems for one directly create problems for others. We argue that such situations can arise from the use of contractual arrangements, especially debt that requires frequent refinancing and liquidation in the event of an inability to repay. The presence of spillover effects can, in turn, lead to outcomes in the wake of shocks that can be unambiguously improved via policy intervention. Nonetheless, we caution against taking this as a license to intervene after the fact, and instead suggest that observed contracting arrangements may be important in promoting efficient trade between parties from a “before the shock” perspective. We argue that helping to ensure efficiency as seen prior to a shock is the right goal for policymakers. Lastly, we note that the pursuit of such an objective may require credible commitments to tolerating inefficiency after a shock.

In the past two years, U.S. financial markets have undergone dramatic changes, with storied firms vanishing from existence and others surviving only as a direct result of public sector intervention. A handful of these events stand out as emblematic. These are, respectively, the bailouts of Bear Stearns, AIG, and the housing government-sponsored enterprises; the institution of large credit programs such as the Term Asset-Backed Securities Loan Facility (TALF) and the Troubled Asset Relief Program (TARP); and the striking nonbailout of Lehman Brothers. A common thread in the interventions that took place, and the criticism of the one that did not, was the appeal to the idea that the failure of one financial institution

would threaten the health of others and, as a result, hurt the ability of the financial system as a whole to channel resources to productive investment projects. In a 2008 assessment of the TARP program, for instance, then-Treasury Secretary Henry Paulson argued:¹

“The crisis in our financial system had already spilled over into our economy and hurt it. It will take a while to get lending going and repair our financial system, which is essential to an economic recovery. This won’t happen as fast as any of us would like, but it will happen much, much faster than it would have had we not used the TARP to stabilize our system. Put differently, if Congress had not given us the authority for TARP and the Capital

Purchase Program and our financial system had continued to shut down, our economic situation would be far worse today.”

Similarly, the rescue of Bear Stearns was justified by the then-President of the New York Fed, Timothy Geithner, as follows:

“We judged that a sudden, disorderly failure of Bear would have brought with it unpredictable but severe consequences for the functioning of the broader financial system and the broader economy.”²

Defining Systemic Risk

Aside from policymakers, economists have tried to understand the potential for spillovers both within the financial sector, as well as those that might flow from the financial sector to the nonfinancial (or “real”) sector of the economy. Research in this area captures the idea of destructive spillovers with the term “systemic risk.” A consensus view of systemic risk comes from Acharya et al.³ who define it as “...the risk of a crisis in the financial sector and its spillover to the economy at large.” De Bandt and Hartmann⁴ use the related term “systemic crisis” to capture “...a systemic event that affects a considerable number of financial institutions or markets in a strong sense, thereby severely impairing the general well-functioning (of an important part) of the financial system. The well-functioning of the financial system relates to the effectiveness and efficiency with which savings are channeled into the real investments promising the highest returns. For example, a systemic financial crisis can lead to extreme credit rationing of the real sector (‘credit crunch’).”

In what follows, we will discuss the notion of systemic risk, describe recent economic theory related to the idea, and suggest some implications that these ideas have for policymakers. In terms of emphasis, we make no attempt to be exhaustive and will focus primarily on conceptual issues surrounding systemic risk and policymakers’ role in not only its mitigation, but also its very presence.⁵

Economists have categorized two broad sources of systemic risk: externalities and implicit guarantees. Externalities, loosely speaking, are effects that occur when one party’s actions affect another’s either by markedly affecting prices or by directly limiting the options available to another in any other way. Such direct effects should be contrasted with the indirect effects that occur in settings where individual participants face prices that they regard as too small to influence.

As for implicit guarantees as a source of systemic risk, the idea is this: Any belief among financial market participants, *especially creditors*, that they will be made whole by the public in the event of the failure of the assets they finance (i.e., that they will be “bailed out”) will lead them, all else equal, to (i) take greater risks, even if that means becoming ever more opaque or interconnected, and (ii) grow too large. Externalities and implicit guarantees are related. The existence of the latter allows market participants to structure operations in ways that create externalities (for example, by growing very large via leverage), thereby virtually guaranteeing themselves a bailout from a benevolent government intent on avoiding the collateral damage created by these externalities.

The discussion of systemic risk thus far suggests that it describes situations in which markets are unable to appropriately allocate resources *after* the occurrence of a surprise event or “shock.” So we might begin by asking: What is meant by “appropriate”? One attribute economists often look for in outcomes is Pareto efficiency. A Pareto-efficient outcome is a feasible outcome such that no one can be made better off without hurting someone else. Outcomes that are not Pareto efficient are therefore clearly wasteful. We define systemic risk as the risk that trading arrangements will not yield Pareto-efficient outcomes, particularly in the wake of a shock to the system.

The preceding implies that in settings where shocks, such as the sudden revaluation of real estate, can occur, one can differentiate between the Pareto efficiency of a trading arrangement after, and before, the realization of the shock. If the expected welfare of participants prior to the realization of shocks cannot be improved, the outcome is said to be ex-ante Pareto efficient. And if no Pareto improvements can be made after the shock, we have an ex-post Pareto-efficient outcome. A fact for the reader to keep in mind is this: There are outcomes that are ex-post Pareto efficient that are *not* ex-ante efficient. In particular, a commitment by policymakers to ensure ex-post efficiency can actually prevent a society from attaining the ex-ante efficient deployment of its resources. In this essay, we will argue that the goal of policy should be to approximate ex-ante efficiency.

The main sphere of policymaking we address is that of regulating financial markets. Financial markets facilitate the transfer of funds between parties at various times and under various contingencies. A question to address, then, is how effective are these markets at achieving efficient outcomes?

Assessing the extent to which a financial system is allowing society to attain an ex-ante Pareto-efficient allocation is not an easy task, but there are guidelines. Households use financial instruments to hedge risks, prepare for retirement, and buy homes, among other things. Financial markets therefore mainly assist households in maintaining a stable lifestyle. Perhaps naturally, then, an observable hallmark of a well-functioning financial system for households is one where expenditures usually do not move suddenly unless there has been an unexpected event suffered simultaneously by a significant group of households, such as occurs in a recession. By this measure, a consensus view of research on this topic is that U.S. households are able to fairly effectively, but not perfectly, “smooth” their consumption against all but those shocks that simultaneously affect significant proportions of households, or those that are extremely long-lasting, such as disability or displacement. In particular, household consumption is shielded well from temporary shocks,⁶ most households arrive well-prepared for retirement,⁷ and consumption inequality among those with similar expected lifetime earnings does not grow substantially with age.⁸

Firms are, of course, the other major user of financial instruments, borrowing directly from households via capital markets, borrowing from banks, arranging trade credit with one another, and hedging risks through options, swaps, and other types of instruments. Unfortunately, unlike the case of households, detecting how effective financial markets are at efficiently allocating funds across producers is not straightforward. Theoretical work does not give definitive tests of financial market inefficiency.⁹ As a result, policymakers have been forced to rely largely on more heuristic methods to assess strain or illiquidity in financial markets. Specifically, the sharp changes in observed interest rate spreads and credit volumes in many short-term debt markets starting in mid-2007 led to the conclusion among many policymakers that such data reflected inefficiency. The data on interbank lending spreads¹⁰ were seen as deviations from fundamentals suggestive of severe impediments to trade arising from counterparty risk and asymmetric information. As a result, policymakers, especially those within the Federal Reserve, focused most of their efforts on ensuring that a wide spectrum of firms was able to access short-term finance.

What Does Economics Tell Us about Systemic Risk?

Of specific concern to us here is the systemic risk that propagates difficulties in one financial sector firm to other financial sector firms, and then, possibly, to the nonfinancial sector as well. The importance of the spread of spillovers between firms suggests that systemic risk is, at its heart, a product of the *linkages* that exist both between firms and between households and firms. In what follows, we detail some of the central lessons of economic theory and explain how they help us think about these linkages and view policies aimed at improving outcomes.

Lesson 1: Mere Linkages between Economic Participants Do Not Imply Inefficiency

Economics is interesting because of linkages. Put another way, resource allocation is relevant only because most goods and services we value have the property that what one party consumes precludes the use of these resources at a later date or by others. When a firm places an order for more plastic to make children’s toys, for example, it necessarily becomes unavailable for making life-saving syringes for medical use. Does this mean that “too many” toys will be produced relative to syringes? The answer is: It depends on the cost perceived by users of both items. The most important achievement of 20th century economics was to show that, in general, there is a system of prices for all goods and services such that if self-interested traders cannot manipulate them, then (i) these prices will allow all participants in the economy to feasibly buy and sell what is best for them, and (ii) that the single-minded pursuit of self-interest subject only to the constraints imposed by these prices actually leads to a Pareto-efficient outcome.¹¹ This result is the so-called “Invisible Hand” theorem and was famously first conjectured by Adam Smith. Therefore, in the context of our example, the answer depends on whether markets exist for both items and, if so, whether all participants take the prices in these markets as given (i.e., not up for haggling). Otherwise, there is no guarantee of efficiency. The Invisible Hand theorem is very general and fully applies to settings involving trade in financial instruments.

The Invisible Hand result teaches us that inefficiency stems fundamentally from the ways in which the competing interests of trading partners are adjudicated.¹² In markets for goods and services, this is generally done

by allowing competitive processes to work in the hope that they will generate prices that all participants take as given.¹³ However, as we will argue, in financial markets, especially banking, trading arrangements that allow parties to attain ex-ante efficiency can sometimes create the possibility of instability. As a result, financial contracting arrangements can in some instances create situations where productive interventions by policymakers exist. For example, the extreme flexibility of “demandable deposit” contracts offered by banks allows households to invest efficiently in productive long-term projects while simultaneously insuring themselves against the risk of sudden liquidity needs. Nonetheless, as we will discuss below, such contracts can also allow for self-fulfilling and destructive

runs on banks. In turn, the institution of deposit insurance can help rule out such events, and thereby push outcomes toward ex-ante Pareto efficiency.

Lesson 2: Spillovers Cause Inefficient Responses to Shocks

When linkages are not mediated through prices that are taken as given, the failure of a specific financial intermediary may impose costs on unrelated third parties and may use up scarce resources. It is clear that if a heavily interconnected firm is not allowed to operate after it becomes delinquent on its liabilities, severe disruptions may occur elsewhere. This is simply because it may take time and resources for the physical, organizational, and human



capital at that entity to be redeployed. Thus, failure itself can lead to costs and ex-post inefficiency that, given a choice, policymakers will opt to avoid, all else equal. Consider next the costs of forcing a failed entity into bankruptcy. Taken in isolation, note first that the liquidation of a firm via formal bankruptcy will typically be beneficial relative to the status quo. Bankruptcy courts, after all, exist primarily to ensure efficient liquidation, i.e., to decide how best to reorganize an entity that is unable to meet commitments to creditors, dissolving it (ideally) in only those instances when its “going concern” value is low and, in these instances, trying precisely to prevent inefficient liquidation processes. As a result, such procedures help society channel resources to their most productive users.

However, the specter of spillovers grows with the size and, in some cases, the number of distressed institutions. In practice, such a view was expressed to justify the extremely large bailout of AIG, for example. The fear was that the shuttering of such a large or “interconnected” firm would then sow the seeds of further distress.¹⁴ In other recent cases, the specific fears have been that the liquidation of a firm’s assets, especially when large, would lower asset prices overall and cause further problems. Specifically, a fall in asset prices was seen to have the potential to lead to a further round of tightening in credit availability for unrelated firms by lowering their ability to post collateral.¹⁵ Thus, bankruptcy courts, though set up to aid efficiency, may take actions that create externalities.

Lesson 3: The Sources of Spillovers Vary Substantially

Presently, there are several types of linkages that researchers have identified that can forcefully transmit ex-post inefficient outcomes in financial markets into production and the “real” side of the economy.

First, given the centrality of banks and bank-like institutions in the recent crisis, it is useful to review briefly the most influential model of banks available: that of Diamond and Dybvig.¹⁶ In their account of banks, the authors envision a scenario in which a very large number of households have funds and would like to save for the future, but are faced with random shocks to their spending needs. The shocks represent any event that forces the household to withdraw its deposit. For example, a household may need to make an emergency repair to its home or car or face a large out-of-pocket medical or legal expense. Given

this uncertainty, households will value a savings instrument that can be easily liquidated if need be.

Diamond and Dybvig’s scenario is one in which households’ shocks are independent of each other, in the sense that one person’s receipt of a shock doesn’t imply that others have received one as well. As a result, the fact that there are a large number of households guarantees that the proportion of those that will realize the shock is known with certainty.¹⁷

Consider now a situation where the investment projects available in the economy all have a lengthy gestation period—if liquidated early, they generate low returns. Think of office buildings, or airplanes, or homes: Each takes time and each, if half-completed, is still nearly worthless. This creates a problem: While it would be nice to be able to take advantage of these projects, few individuals would risk having their funds tied up without recourse. So is there a way for society to fund these projects while protecting investors/depositors?

Since the shocks to households imagined by Diamond and Dybvig are independent, a financial intermediary that can collect funds from *many* households will be able to (i) hold funds in reserve for only the proportion it knows will need to withdraw funds due to a shock and (ii) use the remaining funds to make productive long-term investments. This is precisely what Diamond and Dybvig call a bank. The lesson, at this point, is that the ubiquitous institution of a bank allows for productive investments, but does so in large part by forfeiting all flexibility in its obligations to depositors.

Unfortunately, the absence of flexibility noted above can create a new problem. And this is the other remarkable feature of Diamond and Dybvig’s analysis: It captures bank runs, a central feature of banking prior to deposit insurance. In particular, there is nothing in the account of Diamond and Dybvig to rule out individuals believing that a bank lacks sufficient funds to meet all withdrawal needs. If investors believe this, and the bank redeems deposits on a first-come, first-served basis, households may choose to run the bank. Given the fact that the bank held only a fraction of all deposited funds in reserve and invested the rest, a run will necessarily force the bank to liquidate at least some of its long-term investments to meet redemption requests, and society will lose as a result.

The introduction of deposit insurance can rule out such self-fulfilling “crises of confidence.” But, once again, this insurance is not without other, less desirable, side

effects. In particular, deposit insurance changes both the incentives and ability of bank management and ownership to take risks. First, when publicly provided, deposit insurance removes incentives for the bank's creditors (insured depositors) to ask what the bank is doing with their money. Second, even when deposit insurance is privately run, the incentives of equity holders to take risks grow as bank capital deteriorates: Big gambles can have large payoffs for both owners and a management that has little left to lose. Notice that in this instance, corporate governance is *not* the issue; the firm is being operated in the best interests of shareholders. It is just that their interests no longer necessarily coincide with societally desirable goals. In such situations, the shareholders themselves may urge the manager of the firm to take risks, including those that generate interconnections and thereby foster spillovers.

As a result of the lack of equity holders' incentives to limit risk taking in bad times and insured depositors' perpetual indifference to bank asset quality, providers of insurance, and regulators in the case of FDIC-insured banks, are left with the task of monitoring bank activities. They must ensure that huge investments in generally unproductive projects are not pursued simply because they might pay off in an unlikely event. In the absence of such oversight, bank investments would almost certainly be allocated inefficiently from the ex-ante perspective and virtually ensure deadweight costs if liquidated.

The incentives to take large gambles create yet another problem. Deadweight costs of the sort we mentioned earlier will likely be most important in cases where the institution being liquidated is large. As a result, if policymakers are very concerned with limiting ex-post deadweight losses, they will feel pressure not to allow such liquidation and instead may transfer public resources to the failing institution. The crucial problem with this, as alluded to at the outset, is that such pressure will be anticipated by banks themselves and lead them, all else equal, to grow too big. This is the classic "too big to fail" (TBTF) problem.¹⁸

Another potential source of spillovers arises from the absence in some markets of trading institutions capable of tracking net claims rather than gross claims. The main idea is this: Consider a setting with three firms, A, B, and C. Firm A owes Firm B \$100, while Firm B owes Firm C \$100. Clearly, if netting was possible, only one transaction needs to occur: Firm A pays Firm C. But in a setting

in which gross claims must be settled, more transactions must occur. In addition, if either Firm A or B must make an asset sale in order to raise the \$100 it owes, problems may occur. In the midst of widespread suspicion on asset quality, it may be unable to get a price reflective of the true underlying quality of the assets being sold; and if the sale is made anyway, the net worth of *both* institutions can decline. This idea has received formal attention from economists. The classic contribution that highlights the potential for wasteful liquidation and allocation is that of Kiyotaki and Moore,¹⁹ in which chains of inefficient liquidation can occur due to a failure of either centralized netting of contracts or the availability of a single "deep-pocketed" creditor. In such an environment, a single default can lead to a "spiral" of liquidation that significantly amplifies an initial shock. Such risk is likely to be most relevant when many investors face risk arising from default by their counterparties, and in so-called over-the-counter (OTC) markets there was very little information that was centralized and thereby known to a party that could monitor the ability of obligors to make good on promises. By contrast, a centralized exchange may have been able to keep much better track of net obligations, and thereby avoid default. Shleifer and Vishny²⁰ focus on the issue that there may be only a limited number of parties with the expertise to value and manage certain kinds of assets.

The absence of netting is likely to be most problematic when the seller of assets is a bank or other relatively opaque institution. In particular, a traditional view of banks is that they are entities that specialize in "information intensive" lending. As a result, banks typically fund precisely those investment projects that are not sufficiently transparent or standardized to permit the use of capital markets. As a result, few are in a position to value such assets when they are sold, and this possibility in turn may generate what economists call a "Lemons problem." That is, if the quality of an asset is known to sellers but not to buyers, and if sellers anticipate a low price, then the quality of the assets placed for sale will be disproportionately low (i.e., "Lemons"). In the absence of a credible mechanism to discern quality, asset prices may be inefficiently low in the sense that there may be buyers willing to pay high prices for high quality assets but find them unavailable. Therefore, while a large liquidation may be sufficient to induce inefficiency, it is not necessary.

At a general level, Lemons problems seem likely to have played an important role in explaining why the initial

wave of mortgage defaults led to greater than 10 percent unemployment rates. A very rough summary of recent events might be the following: Mortgages defaulted and securitization led the exposure to these defaults to be very widespread and difficult to assess. Many who invested in these assets did so by borrowing short term. When the performance of mortgages eroded, these investors were asked by their creditors to lower their leverage to increase the likelihood of repayment. This often necessitated the sale of assets. To the extent that sellers were seen to know more than buyers about what they were selling, the price commanded by these assets was low—reflecting the possibility that the seller was intent on unloading his worst assets on unwitting buyers. As some sold at these low prices, others were directly affected in their ability to sell assets. In the interim, some investors, e.g., so-called structured investment vehicles (SIVs) and conduits, had arranged for backup lines of credit from banks. As banks made good on these commitments, their health and corresponding ability to fund projects, including those completely unrelated to mortgage lending, were undercut. As a result, what started as a crisis on “Wall Street” became a larger crisis on “Main Street.”

The preceding description of a “death spiral” has been formalized to account for some additional specifics of the current crisis. Most recently, Brunnermeier²¹ emphasizes two spirals related to forces identified in Kiyotaki and Moore: (i) a “loss” spiral and (ii) a “margin” spiral. In the former case, a reduction in asset prices (possibly for entirely fundamental reasons) lowers the ability of participants to borrow, especially leveraged ones. This is because the fall in asset prices lowers the net worth of the leveraged entity by much more than the gross worth, and it is net worth that matters for being able to post collateral and, in turn, borrow. Subsequently, the loss in net worth may necessitate the sale of more assets, as lenders will not want exposure to such a leveraged borrower to persist. Such pressure will lead the borrower to sell some of his assets to restore the original leverage ratio, which further lowers the net worth of other agents, and so on. A margin spiral is one where the loss spiral is made worse because lenders may no longer be content with allowing the same leverage ratio and, by demanding lower leverage, force greater asset sales by each constrained institution, further pressuring asset prices downward.

The prevalence of OTC transactions for many derivatives, especially credit-default swaps, later proved to be a

source of significant counterparty risk. In turn, the failure of an insurer to deliver as promised may itself threaten the health of those who purchased the insurance and may force them to liquidate positions to meet obligations. Such liquidations can, as before, lead to downward spirals. The case of AIG illustrates this clearly. Many holders of mortgage-backed securities purchased insurance against a loss in their value. AIG collected premiums in return for promising to buy back these securities at face value in the event of default. However, it later turned out that the firm would be incapable of making the promised payments, and its unanticipated failure could reasonably be associated with some of the inefficiency-inducing spirals discussed above.

An issue related to margin spirals and asset sales is that of the valuation of a firm’s balance sheet. The practice of generating a real-time valuation of the balance sheet goes by the terms “fair value accounting” (FVA) and “mark-to-market” accounting. After the savings and loan (S&L) crisis of the 1980s, regulators and policymakers came to realize that when an insured depository institution is aware that its balance sheet has deteriorated, but regulators aren’t, very bad things can happen. In particular, poorly performing insured depository institutions can raise funds by offering high interest rates on deposits and other short-term funding and use the proceeds to invest in projects that pay off handsomely in rare cases, but most often do not. Commercial real estate, in particular, was a favorite for speculative investments by S&Ls.

As a result, many financial institutions now are asked to routinely present valuations of the objects on their balance sheets (the assets, in particular). These valuations are really a thought experiment in which the firm assesses the value of assets were they to be sold immediately. In settings in which trading arrangements (i.e., markets) allow for the easy sale of assets without suspicion of them being Lemons, FVA *will* keep insolvent institutions from raising funds to invest in bad projects. However, in cases where asset markets are afflicted by serious Lemons problems, an institution may be inaccurately portrayed as undercapitalized, in which case it must either sell assets to repay creditors (in other words, shrink its balance sheet) or issue new equity. Both of these options may cause further problems, the former for reasons we have already discussed and the latter because the very issuance of new equity might be perceived as a signal that an

entity is undercapitalized. Thus, it is possible that some of the spillovers that occurred came from measures designed to prevent them from occurring in the first place.

We have argued that spillovers leading to ex-post inefficiency can come from many places, of which we named a few: (i) demand-deposit-style contracts, (ii) distorted incentives created by deposit insurance and financial institution size, (iii) the absence of centralized netting of contracts, especially in derivatives, and (iv) regulatory practices. It should be clear, therefore, that there are widely varying, and individually coherent, arguments as to why systemic risk may be present. There will, in turn, usually be interventions that can genuinely improve outcomes, though typically from the ex-post perspective.

This is an important point to keep in mind, and one that is not always appreciated by those advocating pure “laissez faire” approaches to crisis management. However, it is perhaps equally crucial to recognize that the promise of help from policymakers to avoid inefficiency ex post can (i) disrupt ex-ante efficient contracting arrangements and (ii) increase the odds of ending up in a situation where such intervention takes place. Therefore, it is important to understand first why certain risks may be an unavoidable side effect of contractual arrangements constructed to ensure ex-ante efficiency. In general, such an evaluation is best done on a case-by-case basis.



Lesson 4: Many of the Linkages Leading to Fragility and Ex-Post Inefficiency Stem from Purposeful Choices

The preceding section showed that trading arrangements in financial markets often leave intact features that can lead to inefficient responses to shocks, but that tolerating ex-post inefficiency may be essential to allowing for beneficial outcomes from an ex-ante perspective. The inflexibility of short-term debt in banking arrangements, for example, was shown to place burdens on the depository institutions, predisposing them to being run, and to becoming a source of spillovers. Nonetheless, such arrangements are precisely what might allow society to invest in productive ventures.

A ubiquitous feature of the current crisis, and one that arguably sets it apart from previous periods of rapid asset-price appreciation, is the pervasive use of debt finance. Therefore, given its inflexibility—and demands for the liquidation of assets in the event of poor outcomes—why is debt such a pervasive contractual form? An answer is suggested in a classic work of Townsend.²² In this paper, the author studies a setting in which a lender can generate a return on an investment only by hiring a worker, and where the return on the investment can be observed only by paying a cost. The author then shows how a simple debt contract achieves ex-ante Pareto efficiency. That is, the optimal contract is one where borrowers make a constant repayment to lenders except in bankruptcy when they report an inability to pay as promised. In this case, the borrowers' output is verified and assets are seized and liquidated. No further opportunities to improve the well-being of both borrower and lender remain.

An important aspect of Townsend's analysis is that, in the cases where a borrower reports an inability to make the specified repayment, it doesn't help either party to use up resources that could instead be divided between them. Thus, a costly liquidation process may well be worse, ex post, than, say, partially forgiving the debt. But without this commitment to force the borrower into liquidation whenever he claimed that project returns were poor, the manager of the project would be able to report that the project always generated poor returns, repay very little, and retain the rest. Knowing this, the lender might never lend in the first place, putting a stop to a socially useful investment.

As discussed at the outset, recent calls for intervention by policymakers have uniformly appealed to the idea that inefficient outcomes would otherwise result. However, a lesson of the preceding discussion is that one can accept the idea that such inefficiency may result without intervention, while keeping in mind that the anticipation of such after-the-fact interventions can damage the ability of market participants to effectively structure contracts.

Implications for Policymakers

Policymakers seem now to have recognized that the forces created by implicit guarantees and an unwillingness to tolerate ex-post inefficiency may be important and have reacted by proposing legislation. Most recently, legislation under consideration in the Senate seeks to substantially overhaul the regulation of financial institutions, largely with a view toward containing actions that will lead to systemic risk, through the creation of a systemic risk authority.²³

The recent crisis, while beginning with household-level decisions to default on mortgages, has largely been a crisis of short-term funding for banks and nonfinancial firms. Given that neither financial intermediaries nor firms are people, the importance of protecting the incomes of such entities from sharp falls is not by itself a compelling rationale for policy intervention. The goal of policymakers in these instances, if anything, might be to ensure that the entities best equipped to channel funds to productive projects remain able to do so. Nonetheless, the discussion thus far has alluded to the idea that what market participants expect financial market policymakers and regulators to do ex post will matter for their decisions ex ante. Given this, there are some general implications for policymakers.

Be Aware of Time Inconsistency

Perhaps the single most important idea that economics has to offer the practice of policymaking is that of "time inconsistency." A policy is a rule that spells out what a policymaker will do under various contingencies now and in the future. A policy is said to be time inconsistent if a policymaker would opt in the future to *not* carry out the prescription of a previously announced policy wherever it was not optimal to do so from that time forward. Instead, such a policymaker will choose new policies in the future by repeatedly reoptimizing. The downside to this is that he will not be able to credibly promise or threaten certain

future actions, even when such a promise would allow for actions that would be clearly beneficial from the viewpoint of the present. Knowing this, individuals (i) will ignore the possibility that the strategy announced in the present will actually be implemented in certain eventualities, and, more detrimentally, (ii) can force the hand of the policymaker in the future by taking actions in the present.

The preceding is a bit abstract, so consider the classic example of time inconsistency from the seminal article of Kydland and Prescott,²⁴ in which the idea was first formalized. Imagine a society where some of the land may flood frequently enough to make home construction a bad idea from the ex-ante perspective. Ideally, the right policy for the government in this instance would be to announce that it would not help those whose homes have flooded. If credible, this would prevent building on the floodplain and, in turn, void the need to bail out anyone after the flood. But, if a benevolent government lacks the commitment to refrain from helping to reconstruct the homes after a flood, private citizens will rationally expect that any homes that are built are indeed insured. As a result, homes will be built on floodplains and, since floods will occur, the government, if it is benevolent, will find itself helping homeowners after the fact. If the expected costs to society from not building there in the first place are smaller, society as a whole loses.

There are at least two lessons here. First, for policymakers, “tough talk,” such as announcing that there will be no future bailouts, will, if not accompanied by something that makes the policy intentions credible, be disregarded at best. Second, there is a lesson for the broader public. In order to expect policymaking to meaningfully alter decisions, one must ask whether a policymaker has the willingness to stick to an announced policy, especially when the optimal choice in the future might be to let bygones be bygones.

Pursue Ex-Ante, not Ex-Post, Pareto Efficiency

Given the ability, and willingness, of policymakers to intervene to ensure efficiency in the wake of a shock, why is the pursuit, if not attainment, of ex-ante Pareto efficiency a useful standard for the regulators of financial institutions? In the context of financial markets, there are at least three reasons. First, in markets where there is no informational advantage held by one party relative to another, and all parties can be forced to honor their promises, policies aimed at the achievement of ex-ante

efficiency ensure ex-post efficiency; one needn’t target the latter explicitly. Second, in the presence of informational advantages held by one party over another, or when parties cannot be presumed to do as promised, ex-post interventions, even when they ameliorate ex-post inefficiency, can undermine private contracts engineered to reflect a variety of considerations necessitated by the informational frictions present. For example, debt contracts were seen to be useful in helping parties attain financing even when one party faced the prospect of being cheated by the other. In turn, even well-meaning policies that hinder the seizure and liquidation of assets as per the contract could inhibit the financing of many worthy projects. Third, in a world of smart, forward-looking private sector decisionmakers, the willingness to pursue ex-post efficiency (or the inability to stop from pursuing it) can lead society to wasteful allocations of resources through misdirected investments, tax distortions, and deliberate exploitation of the taxpayer through excessive risk taking. This is the lesson of the time inconsistency problem.

Recalling the case of AIG, we can see that once its inability to meet the claims of its creditors became clear, policymakers intervened, perhaps justifiably under an ex-post Pareto efficiency criterion. But, as with deposit insurance, the fly in this ointment is that situations rife with inefficiency may be inherited by a policymaker precisely because of his inability to commit to allowing inefficiency after the fact. AIG, for its part, may have anticipated (correctly) that the circumstances in which the credits they insured would fail would likely also be ones in which aggregate economic activity was already significantly affected. In turn, in these situations, the firm may have expected assistance from a policymaker—especially one concerned with ex-post efficiency. As a result, such views may have been important in allowing AIG and others perceived to be TBTF to grow and create systemic risk.

It is also important to recognize that the ex-ante standard is not an automatic call for pure laissez faire. For example, the institution of deposit insurance for banking can be provided by the public and, in turn, can help ensure that the banking system is productive from the ex-ante viewpoint. Similarly, in the context of the example describing the time-inconsistency problem, an ex-ante standard would differentiate sharply between the two following scenarios. First, in the example given, the risks of building on the floodplain were high enough to make investment there a poor choice. Moreover, no houses had

yet been built. Therefore, in this instance, the inability of a policymaker to commit to avoiding a bailout led directly to wasteful investments that necessitated bailouts. Consider now a modification of this scenario where the land floods infrequently enough to attract private investors even in the absence of any possible bailout. However, assume that insurance markets for some reason don't function well. In this case, would-be homeowners face risks, but because they cannot insure against them, may fail to build even though it is productive to do so from an ex-ante standpoint. Now, imagine that the government offers insurance to those building there and charges actuarially fair premiums. This will improve ex-ante efficiency, as citizens will now be able to pool their risks with others. And in the rare event that a flood does occur, the policymaker will make payments to help people rebuild. This example suggests that a crucial litmus test for useful ex-post interventions is whether or not they can reasonably be interpreted as proxying for a missing market.

A more general danger (i.e., one that is not restricted to financial market policy) in abandoning the ex-ante efficiency standard for policymaking is that it opens the door, in principle, to the implementation of policies that merely redistribute. However, redistributionary policies are not appropriately conducted by the regulators of financial institutions who can act fairly unilaterally. Rather, such actions are more appropriately conducted through the consensus building inherent in the legislative system. Politically appointed decisionmakers, especially those whose choices are not immediately subject to open debate or transparent appropriations processes, may find themselves under intense pressure to pursue such policies. Moreover, given the speed with which interventions in financial institutions have taken place, there will be incentives for the owners, creditors, and employees of a handful of financial firms to invoke the specter of systemic risk to request interventions that are primarily transfers.

The preceding arguments suggest that ex-post interventions carried out in the name of mitigating systemic risk may themselves pose a risk to the welfare of the citizenry. To avoid this, the public must ask regulatory authorities to consistently articulate the pure *ex-ante* efficiency rationale for their proposed actions. Moreover, such a defense of intervention must spell out precisely why private contracting, even when it raises the possibility of ex-post inefficiency, may not simply reflect the best that society can achieve ex ante to deal with various

informational- and commitment-related impediments. Federal Reserve Bank of Richmond President Jeffrey Lacker has expressed this view fairly strongly.²⁵ As mentioned at the outset, economic theory does offer guidance here. The presence of widespread market power arising from barriers to entry and the inability to trade certain contracts due to various spatial or informational frictions are two of the most obvious impediments to achieving ex-ante efficiency. And in the context of financial intermediation, theoretical work on the effects of various impediments to trading arrangements such as collateral scarcity, maturity mismatch, and centralized netting are all ongoing. We have also briefly alluded to the inability of the government to commit against bailout as an influence on ex-ante financial contracting, and thereby fragility and real outcomes.²⁶

One explanation that has been widely circulated to account for the severity of the crisis, and especially its transmission to the real economy, is that there was a dramatic expansion of the set of financial institutions with balance sheets that featured a large maturity mismatch. That is, in the recent crisis there was an expansion²⁷ in the set of financial actors that used short-term debt to invest in long-term assets such as real estate or collateralized debt obligations with underlying value dependent on long-maturity loans such as mortgages. The expansion of such entities in the run-up to the collapse of real estate prices has been called the rise of a "shadow" banking system. The Diamond and Dybvig account of banking suggests that if such an expansion is not met with (i) a concomitant expansion of something analogous to deposit insurance and (ii) publicly imposed limits on risk taking via capital requirements or portfolio restrictions, fragility and misallocation are likely to ensue.

By all accounts, strict leverage limits and capital requirements were not measures imposed on hedge funds, investment banks, and money market mutual funds, which all constructed balance sheets that predisposed them to the sort of instability discussed above. Therefore, one implication may be to work to recognize, in real time, those financial institutions that have balance sheets with bank-like characteristics but that are not being treated accordingly.

Before becoming overly optimistic about being just one more regulation away from containing systemic risk, however, it is useful to ask why such maturity transformation took place outside of insured and regulated



depository institutions. There is good reason to think that it was precisely to escape the regulation facing the latter. Therefore, unless we are confident that we can detect maturity transformation in all its forms, our best bet may be to allow creditors of unregulated institutions to bear risk, especially of the macroeconomic kind. This may only be possible via credible promises to allow such entities to fail. In other words, the additional costs of monitoring and regulating may well outweigh any additional benefits of creating yet more actors in the officially insured maturity transformation business.

The Variety of Linkages and Reasons for Spillovers Will Make Regulating Hard

We argued above that not only are there many ways for financial sector entities to be linked and create inefficiency in the wake of shocks, but also that many contractual choices that create ex-post inefficiency were deliberately aimed at allowing for gains from trade between two parties. Recalling the example of mortgage lenders committed to foreclosing on late payers, we saw that even though debt forgiveness would be ideal after the fact, such a policy would be ruinous for lenders, and thus ultimately choke off credit to borrowers.

From a policy perspective, this suggests that it may be beneficial to tie the hands of policymakers in the wake of crisis: It is perhaps the only way to give participants, especially nonbanks, the incentives to avoid becoming overly linked with each other and choosing balance sheets that make them fragile. But here again, a policy of never intervening may not always be desirable either. As Diamond and Dybvig's analysis shows, the presence of fragility sometimes comes from the achievement of other, more desirable objectives as well, and in these cases programs like deposit insurance can indeed help achieve ex-ante efficiency.

Another problem facing would-be systemic risk regulators is that asset price collapses often seem to precede financial crises. In the recent crisis, the collapse in housing prices has been widely seen as a crucial starting point for events. In particular, many of the mortgage contracts that required little or nothing from the borrower for more than a year, only to ask for far more in subsequent periods, were predicated on increases in house prices that were ultimately not realized. Any regulator charged with mitigating systemic risk would have had to take a position on the likely path of house prices. Such forecasts are not easy to make. In fact, from a theoretical perspective, forecasting the path of the price of any asset, especially when markets are functioning well, is inherently difficult. Moreover, in addition to forecasting house prices, assessing the implications of changes in these prices for various market participants would have required detailed knowledge of not only mortgage contracts, but also the health of all those who acquired exposure to them.

Lastly, it should be kept in mind that in some cases, the very regulations intended to protect the public from excessive risk taking may have unintended consequences. As discussed earlier, FVA may have played a decisive role in exacerbating the initial effects of the financial crisis, even though it was instituted to prevent the public from being exploited by financial intermediaries with access to backstop public funding and insurance. As a result, it is difficult to know what a policymaker intent on limiting systemic risk might have done differently. The preceding ideas lead to the question of how much discretion policymakers (ought to) have. We will argue that the answer may be: not much.

Broader Powers Are not Necessarily Better

The perception that disastrous outcomes would have

occurred in the absence of timely intervention by policymakers has now led to calls to endow regulatory bodies, including the Federal Reserve System, with wider powers. Such efforts may have benefits, but they also carry risks. The benefits of having such a regulator, especially when it is the Fed, are listed frequently,²⁸ so we will focus on some of the risks.²⁹ First, recall that the time inconsistency problem arises not in spite of, but rather because a policymaker is benevolent, seeking at each moment only to do what is best for the public. And yet, it is this inability to stick to a rule that created the very conditions that led such a policymaker to have to act: One need not have a jaundiced view of policymakers to worry about giving them discretion.

With respect to the discretion possessed by policymakers, a central question that at present does not have a clear answer is whether policymakers can ever have commitment to not revisit their policy announcements. One view is that the answer is no; policymakers will always reoptimize and refuse to allow very bad things to occur. The dramatic policy responses by the Fed and the executive branch of government suggest that they indeed reoptimized, seeking to improve outcomes from the present moment forward. However, what is less clear is the extent to which the preconditions for a crisis would have occurred in a world where policymakers were determined to always let the chips fall where they may. If one's view is that policymakers do not have commitment to avoiding bailouts, then it follows that they must limit behavior that would force their hand in the wake of any shock, especially a large one. This is the essence of the argument for preventing firms from growing TBTF, especially when they do so by issuing debt.

If one's view is that policymakers are unable to tolerate ex-post inefficiency, then the source of this inability matters. In particular, if policymakers pursue bailouts because they fear a public unwilling to brook such outcomes, it becomes crucial that the public understands the extent to which a given after-the-fact intervention sows the seeds for behavior that will create the next crisis. And here, the received science is not definitive. Large banks and other financial institutions *do* provide potential efficiency gains through scale and network effects. Nonetheless, if TBTF is known to influence some banks' and financial intermediaries' decisions, economic theory tells us that they will certainly choose too much risk if left to their own devices. As a result, allowing for very large,

complex, and interconnected institutions means vigilance by policymakers and regulators. It is not obvious, though, that very pervasive regulation can be successful, especially since it creates the distinct possibility of regulatory capture whereby policymakers subtly become beholden to the entity they are charged with regulating. Future work must help delineate clearly the gains the public gets from allowing financial intermediation to grow extremely concentrated and the gains from allowing nonbanks to hold bank-like balance sheets with heavy short-term leverage and long-term assets.

How relevant was TBTF in recent events? An emerging view is that the risk and size assumed by banks was quite deliberate and quantitatively large enough to severely constrain subsequent lending by banks in the wake of losses due to mortgage default. As Richardson and Acharya, Schnabl, and Suarez document,³⁰ banks were “playing the leverage game” and thereby creating a serious TBTF problem. The reason that even securitized loans sold into conduits threatened bank balance sheets is that banks were obligated to provide credit support in the event that the assets performed poorly.³¹ As a quantitative matter, the reductions in value of the securities held by conduits were enough to wipe out the capital of many institutions that had issued support agreements. As a result, the securitization, which would have worked well if the assets had been sold, did not ultimately transfer risk away from banks and toward investors. Similarly, the credit support that many of the issuers of real-estate-backed commercial paper (e.g., SIVs and conduits) had from banks ensured that their creditors would not see losses. Nonetheless, the willingness of banks to issue such commitments may well have been affected by the view that they were TBTF. As a result, such commitments may have served as a way to transfer risk originating in a SIV to the taxpayer by way of the banking system. In this view, the fundamental problem is not the credit lines but the inability of the policymaker to credibly commit to allowing an overextended institution to simply fail.

Concluding Remarks

We have identified systemic risk with linkages between market participants that lead to outcomes that can be unambiguously improved after a shock. As to the sources of such outcomes within financial markets, certain contractual arrangements featuring inflexibility, or requiring collateral infusions or liquidations in the event of a negative

shock, appear important. However, we have also argued that in many cases, the trading arrangements that display such features may themselves have been constructed precisely to deal efficiently with problems of asymmetric information and limited commitment between trading partners. Moreover, in some instances, contractual arrangements may have been constructed with a view to exploit the unwillingness of benevolent policymakers to allow certain financial market entities to be liquidated. As a result, we have argued that the right goal for policymakers is to do as much as possible to ensure that the institutional arrangements for trade can attain efficiency as viewed before the arrival of shocks. The successful pursuit of this objective may then require credible commitments to withhold assistance in the wake of a shock. Understanding the channels by which after-the-fact interventions alter, and perhaps destroy, the ability of society to allocate resources productively is of critical importance. It is particularly crucial for measuring the long-run costs of the discretionary policymaking that is currently taking place. In the context of fiscal and monetary policy there is now something of a consensus among economists that discretion is harmful. The consequences of discretion in financial markets are now getting more attention as well. In the interim, the broader public should remain realistic about the benefits of codifying and dealing with systemic risk. In addition, society must remain vigilant to ensure that systemic risk is not invoked to further ends unrelated to the long-run realization of gains from trade. ■■

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ENDNOTES

- 1 Prepared remarks by Paulson before the House Financial Services Committee, November 18, 2008.
- 2 *New York Times*, April 8, 2008.
- 3 Acharya et al. (2009).
- 4 de Bandt and Hartmann (2000).
- 5 For those interested in more detailed surveys of systemic risk, de Bandt and Hartmann is useful, and for autopsies of the recent crisis, the received literature now provides many options, but two especially useful treatments are the symposium issue (Winter 2009) of the *Journal of Economic Perspectives* and the book-length treatment of Acharya and Richardson (2009).
- 6 Blundell, Pistaferri, and Preston (2008).
- 7 Aguiar and Hurst (2005) and Scholz, Seshadri, and Khitratakun (2006).
- 8 Heathcote, Storesletten, and Violante (2005).
- 9 See, e.g., de Bandt and Hartmann (2000).
- 10 See, e.g., Cecchetti (2009).
- 11 See, e.g., Debreu (1959).
- 12 To repeat, in any setting with limited resources, what one party does *must* affect all others. The only question then is how these effects manifest themselves. The Invisible Hand result tells us that when there are markets for all relevant goods and services, the interaction of parties in settings where they cannot affect prices through their individual actions leads to Pareto-efficient outcomes.
- 13 Think of the auctions for commodities that occur routinely: Millions of small buyers and sellers individually can do essentially nothing but accept the price coming from the auction house, but together their actions certainly affect the price that is set.
- 14 “The U.S. Department of the Treasury (Treasury), the Federal Reserve Board, and the Federal Reserve Bank of New York agreed that the collapse of AIG could cause large and unpredictable global losses with systemic consequences.” Prepared testimony of Timothy Geithner, March 24, 2009.
- 15 Criticisms of the nonbailout of Lehman Brothers usually have taken this view.
- 16 Diamond and Dybvig (1983).
- 17 Think, for example, of a large number of individuals, where each person holds an unbiased coin. If they all flip their coins, we cannot know the outcome for any one individual with certainty beforehand, but we do know that the fraction of people who flip “heads” (or “tails”) will nearly always be very close to one-half.
- 18 See, e.g., Stern and Feldman (2004). At banks with access to insured deposits, the competitive pressure to continue acquiring exposure to high-risk mortgages was likely to have been substantial. Chuck Prince, CEO of Citigroup, famously stated that “...as long as the music is playing, you’ve got to get up and dance. We’re still dancing.” *Financial Times*, July 10, 2007.
- 19 Kiyotaki and Moore (1997).
- 20 Shleifer and Vishny (1992).
- 21 Brunnermeier (2009).
- 22 Townsend (1979).
- 23 See the U.S. Senate Committee on Banking, Housing, and Urban Affairs hearing titled “Establishing a Framework for Systemic Risk Regulation” held July 23, 2009.
- 24 Kydland and Prescott (1977).
- 25 Lacker (1998).
- 26 See Chari and Kehoe (2010) for a formal analysis of this idea.
- 27 See, e.g., Acharya et al. (2009) for details.
- 28 See, e.g., Labonte (2009).
- 29 To be clear, what is being emphasized is that there are some risks that would face any systemic risk regulator. The question of who that regulator should be (e.g., the Fed, the Office of Thrift Supervision, etc.) is a separate issue—one that we do not address here.
- 30 Richardson (2009) and Acharya, Schnabl, and Suarez (2010).
- 31 See, e.g., Acharya and Schnabl (2009).

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MESSAGE FROM MANAGEMENT



Sarah G. Green, First Vice President

Anyone who has paid attention to the news over the last year has seen plenty about the Federal Reserve—including criticism. Public discussion has associated the Fed with Wall Street because of the actions we have taken amid unprecedented turmoil to stabilize complex financial markets and prevent widespread repercussions. Many of these actions were undertaken at moments of great peril for the financial system and, while they may not have been how we would have chosen ahead of time to react, were taken in the interest of preventing a further deepening of the financial crisis and the recession.

These events have underscored the importance of our role as a supervisor of large financial institutions, but our focus is not to help Wall Street. Rather, it is to promote economic growth with low inflation, a sound financial system, and an efficient and safe payments system for the people who live on Main Street. Our interest lies in how the decisions of families and businesses affect the overall economy and also how the economy affects them.

As we approach the 100th anniversary of the Fed's founding, it seems fitting to revisit the Federal Reserve's overriding mission and focus on Main Street. We will be opening an interactive economic exhibit at the Richmond Fed this summer that explores this theme. We hope you will visit and participate in this exhibit.

Looking back to 1913 when Congress established the Federal Reserve, the United States did not have a central bank, despite several unsuccessful efforts over the previous century-and-a-half. Banking problems, most notably a bank panic in 1907, prompted the search for a solution and a number of proposals were considered with great deliberation. Then, as now, tension focused on whether it was better to have a centralized bank, driven by Washington and the interest of large New York banks, or a regional structure that represented interests from around the country.

The founders ultimately reached a compromise that gave the Federal Reserve its unique structure with input from around the country and oversight from Washington. That structure remains in place today, with 12 Reserve Banks representing the regional perspectives and interests of various parts of the United States, and the Federal Reserve Board of Governors providing central oversight. That long-established structure prevents concentration of

power and has been the foundation for the way the Fed carries out its responsibilities in monetary policy, banking supervision, lending, and payments. It also helps the Fed maintain strong connections with people in all regions of the country.

The seven governors who constitute the Board of Governors in Washington and the 12 Reserve Bank presidents gather at Federal Open Market Committee meetings every six weeks to make monetary policy decisions. Each of the presidents brings views informed by their own local research functions as well as by the information gleaned from interactions with the people and businesses located in each of their district's communities. Real-time local information is particularly important at times like these when we are trying to help the economy recover from a deep recession and at the same time maintain low inflation.

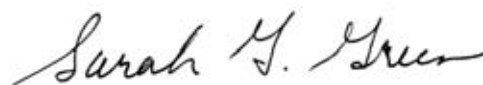
Across the country, the Fed supervises more than 5,000 bank holding companies and, although it sometimes receives less attention, we also have supervisory responsibility for more than 800 community banks. In addition, we provide access to collateralized overnight borrowing to all depository financial institutions. Through the connections that we develop with all of these banks, we are able to gain a strong sense of what is happening in the economies of both the Fifth District and the country as a whole. Our interest is in making sure the banks remain strong members of their communities for the benefit of Main Street.

The Fed's role in the payments system underpins the activity that occurs daily in the economy. Our focus is on the accessibility, efficiency, and integrity of the U.S. payments system. We provide cash, check, automated clearinghouse, Fedwire, and securities transfer payments services to financial institutions, and we serve as the fiscal agent for the U.S. Treasury. The \$4 trillion that we transfer each day enables individuals to manage their daily financial needs—for example, obtain cash, receive their paychecks and Social Security, make rent and bill payments, and purchase the goods and services offered by businesses on Main Street.

The Fed's most direct contact with the public comes through our outreach to local communities to support economic education and community development. Each

Reserve Bank reaches out to speak with and learn from a wide variety of constituents. Some of the activities in the Fifth District during 2009 are described in "The Bank in the Community" section of this report.

Our boards of directors, advisory councils, and various outreach activities have highlighted the suffering and dislocations that people have experienced during the financial crisis and prolonged, deep recession. As an organization, we have stepped back to examine how we can do a better job in the future in each of our areas of responsibility. The essay in this *Annual Report* is just an example of the research we are undertaking to understand what prompted the financial crisis. We have increased our transparency, changed and strengthened our approach to supervision of financial institutions, and promulgated new consumer regulations. We will continue to seek opportunities for change that will strengthen the economy, the financial system, the payments system, and our communities. However, one thing will not change—our resolve to do what is best for Main Street over the longer term.



Sarah G. Green
First Vice President

THE BANK IN THE COMMUNITY

The recent recession demonstrates how conditions in local markets are closely linked to fluctuations in the macroeconomy—and that having a fuller appreciation of one can help us better understand the other.

The Richmond Fed has recently taken a closer look at the way information about the economy is gathered at the regional level. In 2009, the Fifth District created a new district-wide outreach function to improve the quality of information gathered from local business and community leaders.

The new outreach function streamlined the Richmond Fed's efforts across departments and branch locations. Outreach activities are now more closely coordinated across multiple departments within the Bank, from Research to Economic Education to Community Affairs, each with an interest in understanding and making an impact on the local economy. The new function created a stronger internal infrastructure for disseminating and sharing what each department is learning from the community, ultimately to improve the relationships, policies, and impact of the Richmond Fed.

Understanding Local Economic Challenges

One major initiative coordinated by the new outreach function is a series of regional economic forums in Fifth District communities. In each forum, staff from the Richmond Fed, including President Jeffrey Lacker and First Vice President Sarah Green, participates in events with business, community, financial, and education leaders within Fifth District communities to better understand local economic conditions. The forums include visits to local business operations and roundtable discussions with industry leaders and bankers to discuss solutions to local economic challenges.

The forums focus on the unique issues in the region. The decline in manufacturing has been an important part of the Fifth District's recent economic history, including for Danville, Va., a river town located at the foothills of the Blue Ridge Mountains. The Richmond Fed held an economic forum in Danville in August 2009 to better understand how the decline in manufacturing has affected the region's prospects for economic recovery.

In the past, high school graduates in Danville could count on an abundance of jobs in local factories that did not require a college degree or additional training. Many of those jobs are now gone, however, and the manufacturing jobs that remain typically require workers skilled in sophisticated technologies and analytical thinking

unlike the more traditional assembly line jobs of the past. For example, Danville is the new home of Swedwood, the first U.S.-based manufacturing facility of Sweden-based furniture maker IKEA. While the arrival of Swedwood provides great hope for the Danville region, it also demonstrates that the unemployment problem is sometimes thornier than data alone would indicate. Swedwood relies on highly sophisticated, automated plant equipment used to transform IKEA furniture from raw materials to finished products with virtually no human intervention, except when there are

problems that require changes to operations. This requires on-the-fly problem solving and understanding process metrics.

In Danville, recovery might require a significant retraining and retooling of the local work force's skill set to help people acquire the tools desired by employers. Organizations like the Danville-based Institute for Advanced Learning and Research, for instance, are working to attract skilled jobs to the region and connect them with available workers.



Richmond Fed President Jeffrey Lacker meets with local officials in the city of Goldsboro during a three-day visit to eastern North Carolina. The trip included visits by Bank leaders to the Seymour Johnson Air Force Base and Fort Bragg as well as discussions with representatives from the timber industry, which has suffered from the housing downturn.

In 2010, the Richmond Fed's outreach team will visit other communities struggling with work force development issues. One area of focus will include Hampton Roads, a coastal Virginia community with a strong need for skilled labor in shipbuilding and other industries related to the region's harbors.

While providing a venue to learn about local economies directly from community and business leaders, regional economic forums have also helped the Richmond Fed respond to the strong desire for economic information in the wake of the financial crisis. The forums provide a medium for the Richmond Fed to spread information about issues relating to the Fed's direct responsibilities, including monetary policy, changes to consumer protection, foreclosure prevention solutions, neighborhood stabilization strategies, and the Fifth District's view on policy issues. Policy issues—ranging from the likely path of inflation to the “too big to fail” problem—can have a real impact on local businesses' plans and the lives of people in those communities.

Identifying Local Barriers to Foreclosure Solutions

Many symptoms of recession are not new, such as work force development issues when local industries shift or decline and neighborhood blight following mass foreclosure. Many of these problems arise cyclically, but the solutions are not uniform. As difficult as the foreclosure crisis has been for homeowners and communities, it has also provided a valuable opportunity to learn about the problem of foreclosure from both banks and homeowners.

One of the Richmond Fed's primary roles in this area is aiding the implementation of government programs created to assist homeowners at risk of foreclosure,



This foreclosed home in Front Royal, Va., was targeted for rehabilitation under the federal government's Neighborhood Stabilization Program, which helps communities struggling with foreclosure. The Richmond Fed visited the area in July 2009 as part of a case study conducted with the Cleveland Fed that analyzed how communities were implementing the program.

including federal loan modification programs enacted to address the effects of the housing downturn. The Fifth District partnered with nonprofit organizations such as HOPE NOW and NeighborWorks America to host events that bring together mortgage servicers and homeowners at risk of foreclosure to work out potential mortgage modifications. The events were free and open to the public, held in regions with some of the highest percentages of home foreclosures in the mid-Atlantic and Southeast, including the Washington, D.C., and Charlotte, N.C., metropolitan areas. The Richmond Fed

contributes by providing technical and in-kind support to these events.

Yet given the size of the foreclosure problem and the challenges to achieving mortgage modifications, it is clear that foreclosures will continue to pose big problems for communities. The Richmond Fed also has helped communities address the negative effects of foreclosure by focusing on neighborhood revitalization in conjunction with organizations such as the federal Neighborhood Stabilization Program, which was created by the Housing and Economic Recovery Act of 2008.

Areas that have experienced large numbers of foreclosures can face property blight, further declines in home values, and crime—all of which are a roadblock to economic recovery. In some communities it is not immediately clear who even owns foreclosed homes since lenders and loan servicers are not always willing to claim ownership. The Richmond Fed's Community Affairs team partnered with the Cleveland Fed in publishing a study that analyzed how to most effectively implement the Neighborhood Stabilization Program, a federal initiative that devotes funds to communities struggling with foreclosure.

In many ways, community revitalization will be best supported by local economic recovery. The Fifth District has worked to strengthen Community Development Financial Institutions, or CDFIs. These are financial institutions, including some credit unions, community development banks, and venture capital funds, working specifically to support local economic growth by providing access to credit and other services to underserved and typically low- to moderate-income populations. CDFIs are funded largely by private sources like banks and nonprofit foundations, but also receive support through the federal government's CDFI Fund.

In October 2009 the Richmond Fed presented research at a conference in Charlotte, N.C., hosted by the Opportunity Finance Network, the Mary Reynolds Babcock Foundation, and the U.S. Treasury to help strengthen community development finance capacity in the Southeast. The session provided education to banks, nonprofits, and policymakers about the work of CDFIs, highlighting potentially profitable opportunities for them to work together, and explored possibilities for increasing CDFI capacity.

A Regional Insight to Policy

Richmond Fed outreach events are not one-time interactions with those in the community. In many cases, they support the Richmond Fed's more formal tools for gathering regional economic information. The contacts established through outreach have resulted in ongoing relationships with local business and community leaders. Many of these relationships result in invitations to serve on the Fifth District's boards of directors and advisory councils, as well as contacts for the Beige Book's survey of regional economic conditions and the Fifth District's other regional economic surveys.

Since economic data can often come with a lag, these councils and surveys provide real-time insights into economic conditions that can precede or qualify hard data. This is critical for policymaking, as it can bring emerging issues to light that could otherwise stay hidden.

Gathering information at a local level would not be possible without proximity to the businesses and institutions that are the engines of regional economic activity. Furthermore, having independent regional Reserve Banks within the Federal Reserve System allows each regional

Fed to pursue individual research agendas that help the Fed presidents formulate independent positions on policy issues. Without a doubt, this diversity of perspectives—gained in part through insight resulting from local relationships—is one of the greatest strengths of the Fed's structure.

Each of the Richmond Fed's outreach efforts supports the Federal Reserve System's mandate to support the health of the overall economy. Maintaining relationships with local business and community lead-

ers casts a clearer perspective on the regional component of that picture. Gaining this critical intelligence creates better opportunities to identify and respond to emerging economic issues and helps the Fifth District refine its stance on key policy issues. Applying the Fifth District's outreach resources strategically to the communities that need them most contributes to a more sound regional and national economy. ■■



Attendees gather information on foreclosure prevention at a HOPE NOW event in the Washington, D.C., area. The Richmond Fed sponsored three such events in 2009 in Fifth District locations that exhibited high rates of mortgage delinquencies.

FIFTH DISTRICT ECONOMIC REPORT

The Fifth District economy was weak through much of 2009, though signs of a recovery emerged in the middle of the year and began to take hold toward the end. Where housing markets had been the weakest—the District of Columbia, Maryland, and Northern Virginia—signs of recovery developed. And labor markets, which had contracted across the Fifth District, began to stabilize. Still, the recovery has so far not been as rapid as those following previous recessions and concerns regarding particular areas of the economy—such as commercial real estate and conditions for small businesses—lingered.

Labor Market Conditions

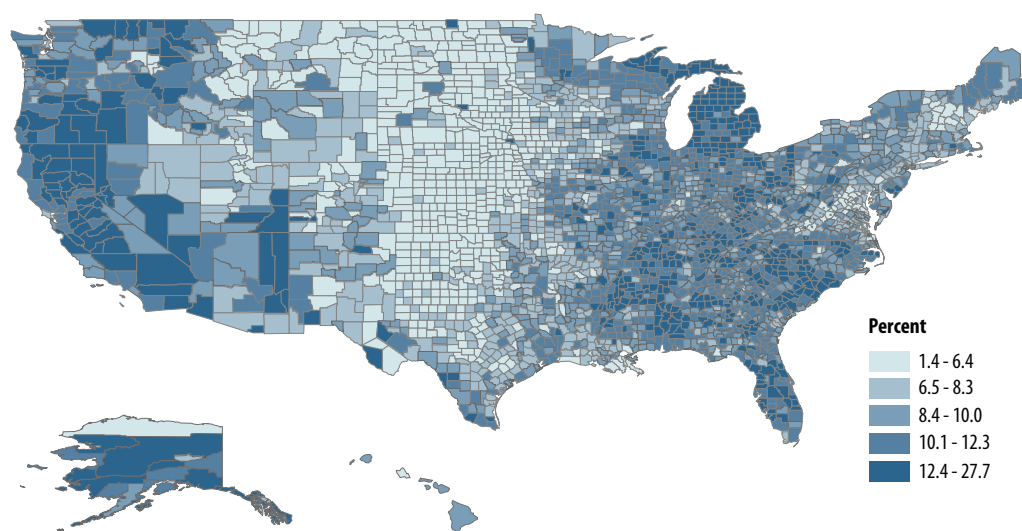
Although employment in the Fifth District was weak throughout 2009, almost 80 percent of the 453,200 job cuts were reported from January through June. The professional and business services sector, for example, lost 69,200 jobs in the first half of 2009 but then added 23,100 jobs in the second half for a net loss of 46,100 jobs over the year.

The bulk of the Fifth District's 2009 employment decline—over 50 percent—was in the goods-producing sector. The professional and business services industry

was also hit particularly hard, accounting for more than 10 percent of the 2009 job cuts in the Fifth District. North Carolina continued to have the weakest labor market of Fifth District states. Although the Tarheel State accounted for a little under 30 percent of all Fifth District payroll employment in the beginning of 2009, it accounted for almost 40 percent of the job losses during the year. Total employment in North Carolina contracted 4.1 percent compared to 3.5 percent in West Virginia, 3.5 percent in South Carolina, 3.2 percent in Virginia, and 2.8 percent in Maryland. In contrast, the District of Columbia saw employment decline only 0.2 percent in 2009—the growth in the District of Columbia's leisure and hospitality sector (1.6 percent) and government sector (3.8 percent) almost offset employment decline in all other sectors.

Nonetheless, labor conditions improved at the state level as every state saw a flattening employment decline over the year. South Carolina was the most extreme case of the diminishing job decline: Almost 99 percent of the jobs lost in South Carolina were lost in the first half of the year.

FIGURE 1:
Unemployment Rate
December 2009



Sources: Bureau of Labor Statistics, Haver Analytics

Most of the major metro areas also experienced weakness in their labor markets in 2009. The employment contraction in the Charlotte Metropolitan Statistical Area, home to many financial services firms, was the deepest of the Fifth District's major metro areas, losing 49,500 jobs (5.8 percent of the total labor force) over the year. Most of the job losses in Charlotte were in the first half of the year, however; metro area firms cut only 2,200 jobs in the second half of the year. Although some metro areas regained jobs in the second half of the year, employment in most Fifth District metro areas continued to contract throughout 2009, albeit at a considerably slower pace.

Household Conditions

The economic environment continued to challenge Fifth District households. The Fifth District unemployment rate rose to 9.2 percent in 2009—one of the highest rates on record for the region. Still, joblessness remained in the single digits and thereby outperformed the nation, which posted 10.0 percent unemployment in December.

Unemployment rates also rose in every Fifth District jurisdiction during 2009. The District of Columbia, North Carolina, and South Carolina all posted record unemployment rates in December (11.9 percent, 10.9 percent, and 12.4 percent, respectively), with South Carolina maintaining one of the five highest unemployment rates in the country throughout 2009. Jobless rates in Maryland and Virginia were at their highest points since the recession of the early 1980s (7.4 percent and 6.8 percent, respectively) and West Virginia's unemployment rate in December (9.0 percent) was the highest it has been since the early 1990s.

Housing Market and Commercial Real Estate Conditions

The housing market slowdown that began in 2007 and worsened in 2008 stabilized somewhat toward the end of 2009, particularly in the northern areas of the Fifth District. The increase in residential refinance activity spurred by low interest rates gradually gave way to increased purchase activity, particularly for low- and middle-tier homes, as the year progressed. In the District of Columbia, Maryland, and Virginia, house values that had depreciated considerably throughout

2008 continued to trend downward in 2009, but the rate of decline flattened. Existing home sales, meanwhile, remained volatile, but began to stabilize or increase toward the middle and the end of the year.

The housing situation in the Carolinas, however, was slightly different. House prices remained relatively stable in 2008, but housing conditions showed signs of weakness in 2009 as existing home sales fell and house values began to depreciate at historic rates for those states. Meanwhile, delinquency and foreclosure rates across the Fifth District continued to rise to new records—a phenomenon not expected to improve until house prices and employment conditions stabilize fully.

Commercial real estate conditions also deteriorated in 2009. Both leasing and sales activity in the Fifth District were depressed and very little new construction was reported. Property and rental prices decreased and tenant concessions became increasingly common as office, industrial, and retail vacancy rates rose in metro areas across the region.

Business Conditions

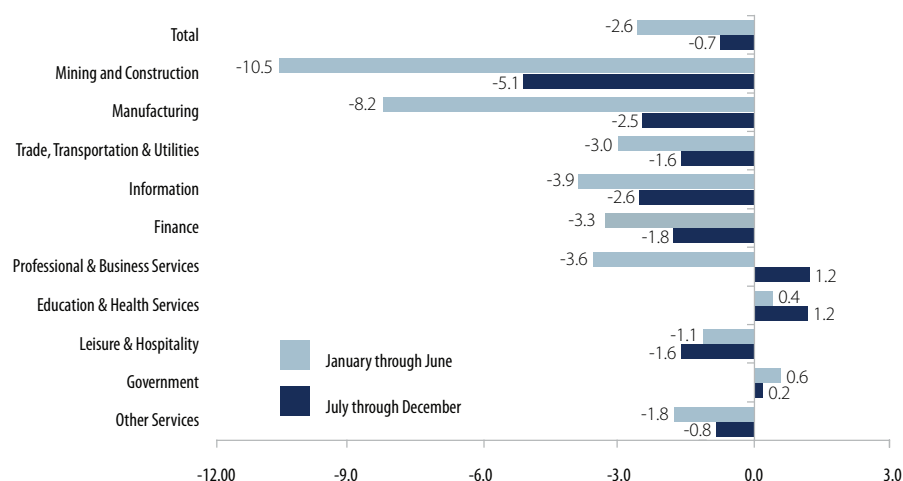
Persistent economic uncertainty plagued Fifth District businesses and consumers in the first half of 2009. But as activity began to pick up (or at least decline at a slower pace) toward the middle and end of the year, conditions for regional firms improved.

Although export activity began to recover somewhat in the Carolinas at the beginning of the year, exports continued to fall through the first half of the year in Maryland and Virginia. With domestic consumer demand in decline, the Richmond Fed's surveys on manufacturing activity continued to reach record lows through the spring. By summer, however, conditions had improved considerably for Fifth District manufacturers, who began to express increased optimism about the future.

Services sector activity also began the year in contraction and although services firms continued to report generally falling revenue through December, the decline slowed substantially over the year. The decline in retail revenues also seemed to flatten somewhat, although the continued depressed sales of big-ticket items such as automobiles and furniture kept the Richmond Fed's retail revenues survey index rather deep in negative territory

FIGURE 2:

Fifth District Payroll Employment Year-over-Year Percent Change, December 2008-December 2009



Sources: Bureau of Labor Statistics, Haver Analytics

until the final quarter of the year. Consumer traffic was slow throughout 2009 but improved toward the end of the year, and holiday sales in 2009 were better than those in 2008.

The economic environment for small businesses has been particularly difficult in this recession. That trend continued in 2009. As in the rest of the country, small businesses have seen sharp sales declines but, unlike in earlier recessions, many small businesses in the Fifth District responded by cutting employment. Obtaining credit became more difficult for small businesses in 2009, according to a survey by the National Federation of Independent Businesses, with most firms reporting that credit is the tightest it has been since the 1980-82 recessionary period. However, despite the generally widespread pessimism among small businesses in the Fifth District in 2009, there were modest improvements in expectations over the second half of the year.

Looking Ahead

The past year was not an easy one for the Fifth District or for the nation. The national recession lasted well into the year and although the deterioration ebbed, fragile

economic conditions persisted throughout 2009. Even now, continued weakness in commercial real estate markets and labor markets, as well as the limited optimism still expressed among small business contacts, suggests that the economic recovery might not be as strong or as sharp as some had hoped. Furthermore, although the Fifth District has generally performed better than the nation, the rebound in some sectors, such as manufacturing, appeared weaker locally than nationally toward the end of 2009. Overall, there are signs that 2010 will be a year of steady—albeit slow—growth in the Fifth District economy as the region moves back to its pre-recession levels. ■■

The data presented and discussed are accurate as of March 19, 2010.

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BOARDS OF DIRECTORS, ADVISORY GROUPS, AND OFFICERS

Federal Reserve Bank of Richmond Board of Directors

Our Richmond Board oversees the management of the Bank and its Fifth District offices, provides timely business and economic information, participates in the formulation of national monetary and credit policies, and serves as a link between the Federal Reserve System and the private sector. The Board also has the responsibility of appointing the Bank's president and first vice president, with approval from the Federal Reserve Board of Governors. Six directors are elected by banks in the Fifth District that are members of the Federal Reserve System, and three are appointed by the Board of Governors.

The Bank's board of directors annually appoints our District representative to the Federal Advisory Council, which consists of one member from each of the 12 Federal Reserve Districts. The Council meets four times a year with the Board of Governors to consult on business conditions and issues related to the banking industry.

Baltimore and Charlotte Offices Boards of Directors

Our Baltimore and Charlotte Offices have separate boards that oversee operations at their respective locations and, like our Richmond Board, contribute to policymaking and provide timely business and economic information about the District. Four directors on each of these boards are appointed by the Richmond directors, and three are appointed by the Board of Governors.

Small Business and Agriculture Advisory Council

Established in 1985, the Small Business and Agriculture Advisory Council advises the Bank president and other senior officers on the impact that monetary, banking, and fiscal policies have on the District's small business and agricultural sectors. The Council's 12 members are appointed by the Bank president.

Community Development Advisory Council

Created in 1998 to enhance communication between the Bank and the public concerning community development issues, our Community Development Advisory Council advises the Bank president and other senior officers on community development concerns and related policy matters. The Council's eight members are appointed by the Bank president.

Payments Advisory Council

The Bank established a Payments Advisory Council in 1978 as a forum for Fifth District financial institutions to discuss current and emerging payment trends and issues and to help the Federal Reserve respond to financial institutions' needs for payments services. Council members are appointed by the Bank's first vice president.

Listings as of December 31, 2009

THANK YOU

Our Bank's culture of integrity starts with our boards of directors. We are grateful for their guidance and their oversight of the Bank's operations. They provide valuable information on the Fifth District's economy at our board meetings and throughout the year at outreach activities and Bank sponsored events. We especially want to thank our directors who have completed their service on our boards—Dwight V. Neese and Kenneth R. Sparks from the Richmond Board; Michael L. Middleton from the Baltimore Board; and Michael C. Miller from the Charlotte Board.

We are pleased that in 2010 Lemuel E. Lewis will continue as chairman of the Richmond board of directors and Margaret E. McDermid will continue as deputy chairman. We also welcome our new directors for 2010: Wilbur E. Johnson and Richard J. Morgan on the Richmond Board; Anita G. Newcomb on the Baltimore Board; and Lucia Z. Griffith on the Charlotte Board. Our directors' contributions in the years ahead will be vital to the continued economic recovery of our nation.

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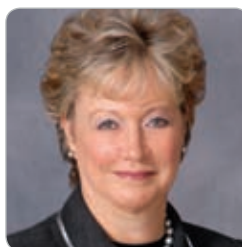


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Steven T. Bareford
Assistant Vice President

Karen L. Brooks
Assistant Vice President and Baltimore Deputy Regional Executive

Amy L. Eschman
Assistant Vice President

CHARLOTTE OFFICE

R. William Ahern
Vice President

Jennifer J. Burns
Vice President

Stacy L. Coleman
Vice President

Terry J. Wright
Vice President and Charlotte Deputy Regional Executive

Margaretta C. Blackwell
Assistant Vice President

Christopher S. Cook
Assistant Vice President

T. Stuart Desch
Assistant Vice President

Evangelos Sekeris
Assistant Vice President

Kelly J. Stewart
Assistant Vice President

Richard F. Westerkamp, Jr.
Assistant Vice President

Lisa A. White
Assistant Vice President

Listings as of December 31, 2009

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In 2009, the Board of Governors engaged Deloitte & Touche LLP (D&T) for the audits of the individual and combined financial statements of the Reserve Banks and the consolidated financial statements of the limited liability companies (LLCs) that are associated with Federal Reserve actions to address the financial crisis and are consolidated in the financial statements of the Federal Reserve Bank of New York. Fees for D&T's services are estimated to be \$9.6 million, of which approximately \$2.0 million were for the audits of the LLCs.¹ To ensure auditor independence, the Board of Governors requires that D&T be independent in all matters relating to the audit. Specifically, D&T may not perform services for the Reserve Banks or others that would place it in a position of auditing its own work, making management decisions on behalf of Reserve Banks, or in any other way impairing its audit independence. In 2009, the Bank did not engage D&T for any non-audit services.

¹ Each LLC will reimburse the Board of Governors for the fees related to the audit of its financial statements from the entity's available net assets.

MANAGEMENT ASSERTION

April 21, 2010

To the Board of Directors:

The management of the Federal Reserve Bank of Richmond ("FRB Richmond") is responsible for the preparation and fair presentation of the Statements of Condition, Statements of Income and Comprehensive Income, and Statements of Changes in Capital as of December 31, 2009 (the "Financial Statements"). The Financial Statements have been prepared in conformity with the accounting principles, policies, and practices established by the Board of Governors of the Federal Reserve System as set forth in the Financial Accounting Manual for the Federal Reserve Banks ("Manual"), and, as such, include some amounts that are based on management judgments and estimates. To our knowledge, the Financial Statements are, in all material respects, fairly presented in conformity with the accounting principles, policies, and practices documented in the Manual and include all disclosures necessary for such fair presentation.

The management of the FRB Richmond is responsible for establishing and maintaining effective internal control over financial reporting as it relates to the Financial Statements. Such internal control is designed to provide reasonable assurance to management and to the Board of Directors regarding the preparation of the Financial Statements in accordance with the Manual. Internal control contains self-monitoring mechanisms, including, but not limited to, divisions of responsibility and a code of conduct. Once identified, any material deficiencies in internal control are reported to management and appropriate corrective measures are implemented.

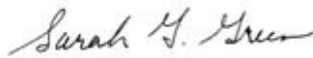
Even effective internal control, no matter how well designed, has inherent limitations, including the possibility of human error, and therefore can provide only reasonable assurance with respect to the preparation of reliable financial statements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

The management of the FRB Richmond assessed its internal control over financial reporting reflected in the Financial Statements, based upon the criteria established in the *"Internal Control—Integrated Framework"* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, we believe that the FRB Richmond maintained effective internal control over financial reporting as it relates to the Financial Statements.

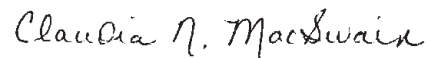
Federal Reserve Bank of Richmond



Jeffrey M. Lacker
President



Sarah G. Green
First Vice President



Claudia N. MacSwain
Senior Vice President and
Chief Financial Officer

REPORT OF INDEPENDENT AUDITORS

To the Board of Governors of the Federal Reserve System and the Board of Directors of the Federal Reserve Bank of Richmond:

We have audited the accompanying statements of condition of the Federal Reserve Bank of Richmond ("FRB Richmond") as of December 31, 2009 and 2008 and the related statements of income and comprehensive income and changes in capital for the years then ended, which have been prepared in conformity with accounting principles established by the Board of Governors of the Federal Reserve System. We also have audited the internal control over financial reporting of FRB Richmond as of December 31, 2009, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. FRB Richmond's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Management Assertion*. Our responsibility is to express an opinion on these financial statements and an opinion on FRB Richmond's internal control over financial reporting based on our audits.

We conducted our audits in accordance with generally accepted auditing standards as established by the Auditing Standards Board (United States) and in accordance with the auditing standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

FRB Richmond's internal control over financial reporting is a process designed by, or under the supervision of, FRB Richmond's principal executive and principal financial officers, or persons performing similar functions, and effected by FRB Richmond's board of directors, management, and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with the accounting principles established by the Board of Governors of the Federal Reserve System. FRB Richmond's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of FRB Richmond; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with the accounting principles established by the Board of Governors of the Federal Reserve System, and that receipts and expenditures of FRB Richmond are being made only in accordance with authorizations of management and directors of FRB Richmond; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of FRB Richmond's assets that could have a material effect on the financial statements.

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal

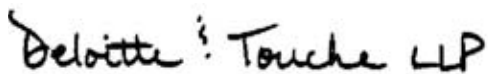
(continued)

REPORT OF INDEPENDENT AUDITORS (continued)

control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

As described in Note 4 to the financial statements, FRB Richmond has prepared these financial statements in conformity with accounting principles established by the Board of Governors of the Federal Reserve System, as set forth in the *Financial Accounting Manual for Federal Reserve Banks*, which is a comprehensive basis of accounting other than accounting principles generally accepted in the United States of America. The effects on such financial statements of the differences between the accounting principles established by the Board of Governors of the Federal Reserve System and accounting principles generally accepted in the United States of America are also described in Note 4.

In our opinion, such financial statements present fairly, in all material respects, the financial position of FRB Richmond as of December 31, 2009 and 2008, and the results of its operations for the years then ended, on the basis of accounting described in Note 4. Also, in our opinion, FRB Richmond maintained, in all material respects, effective internal control over financial reporting as of December 31, 2009, based on the criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

A handwritten signature in black ink that reads "Deloitte & Touche LLP". The signature is written in a cursive, flowing style.

Deloitte & Touche LLP
April 21, 2010
Richmond, Virginia

STATEMENTS OF CONDITION (in millions)

As of December 31,	2009	2008
Assets		
Gold certificates	\$ 882	\$ 891
Special drawing rights certificates	412	147
Coin	293	233
Items in process of collection	10	41
Prepaid interest on Federal Reserve notes	305	70
Loans to depository institutions	1,097	75,582
System Open Market Account:		
Securities purchased under agreements to resell	—	7,254
Treasury securities, net	29,045	43,657
Government-sponsored enterprise debt securities, net	6,031	1,881
Federal agency and government-sponsored enterprise mortgage-backed securities, net	33,115	—
Investments denominated in foreign currencies	7,171	6,717
Central bank liquidity swaps	2,915	149,945
Accrued interest receivable	457	925
Interdistrict settlement account	111,074	—
Bank premises and equipment, net	325	332
Other assets	73	92
Total assets	\$ 193,205	\$ 287,767
Liabilities and Capital		
Federal Reserve notes outstanding, net	\$ 72,384	\$ 69,220
System Open Market Account:		
Securities sold under agreements to repurchase	2,801	8,012
Other liabilities	22	—
Deposits:		
Depository institutions	103,288	34,056
Other deposits	71	90
Deferred credit items	73	172
Interdistrict settlement account	—	163,991
Interest due to depository institutions	20	16
Accrued benefit costs	215	201
Other liabilities	51	49
Total liabilities	178,925	275,807
Capital paid-in	7,140	5,980
Surplus (including accumulated other comprehensive loss of \$42 million and \$47 million at December 31, 2009 and 2008, respectively)	7,140	5,980
Total capital	14,280	11,960
Total liabilities and capital	\$ 193,205	\$ 287,767

The accompanying notes are an integral part of these financial statements.

STATEMENTS OF INCOME AND COMPREHENSIVE INCOME (in millions)

For the years ended December 31,	2009	2008
Interest Income		
Loans to depository institutions	\$ 102	\$ 389
System Open Market Account:		
Securities purchased under agreements to resell	1	170
Treasury securities	1,082	2,277
Government-sponsored enterprise debt securities	87	9
Federal agency and government-sponsored enterprise mortgage-backed securities	812	—
Investments denominated in foreign currencies	84	168
Central bank liquidity swaps	608	976
Total interest income	2,776	3,989
Interest Expense		
System Open Market Account:		
Securities sold under agreements to repurchase	6	66
Depository institution deposits	407	133
Total interest expense	413	199
Net interest income	2,363	3,790
Non-interest Income		
System Open Market Account:		
Treasury securities gains	—	332
Federal agency and government-sponsored enterprise mortgage-backed securities gains, net	15	—
Foreign currency gains, net	60	341
Compensation received for services provided	33	48
Reimbursable services to government agencies	37	31
Other income	69	75
Total non-interest income	214	827
Operating Expenses		
Salaries and other benefits	306	295
Occupancy expense	41	39
Equipment expense	55	55
Assessments by the Board of Governors	153	140
Other credits	(98)	(132)
Total operating expenses	457	397
Net income prior to distribution	2,120	4,220
Change in funded status of benefit plans	5	3
Comprehensive income prior to distribution	\$ 2,125	\$ 4,223
Distribution of Comprehensive Income		
Dividends paid to member banks	\$ 396	\$ 318
Transferred to surplus and change in accumulated other comprehensive loss	1,160	984
Payments to Treasury as interest on Federal Reserve notes	569	2,921
Total distribution	\$ 2,125	\$ 4,223

The accompanying notes are an integral part of these financial statements.

STATEMENTS OF CHANGES IN CAPITAL (in millions, except share data)

For the years ended December 31, 2009 and December 31, 2008	Capital Paid -In	Net Income Retained	Surplus		Total Surplus	Total Capital
			Accumulated Other Comprehensive Loss			
Balance at January 1, 2008 (99,919,586 shares)	\$ 4,996	\$ 5,046	\$ (50)		\$ 4,996	\$ 9,992
Net change in capital stock issued (19,683,498 shares)	984	—	—		—	984
Transferred to surplus and change in accumulated other comprehensive loss	—	981	3		984	984
Balance at December 31, 2008 (119,603,084 shares)	\$ 5,980	\$ 6,027	\$ (47)		\$ 5,980	\$ 11,960
Net change in capital stock issued (23,190,361 shares)	1,160	—	—		—	1,160
Transferred to surplus and change in accumulated other comprehensive loss	—	1,155	5		1,160	1,160
Balance at December 31, 2009 (142,793,445 shares)	\$ 7,140	\$ 7,182	\$ (42)		\$ 7,140	\$ 14,280

The accompanying notes are an integral part of these financial statements.

1. Structure

The Federal Reserve Bank of Richmond ("Bank") is part of the Federal Reserve System ("System") and is one of the twelve Federal Reserve Banks ("Reserve Banks") created by Congress under the Federal Reserve Act of 1913 ("Federal Reserve Act"), which established the central bank of the United States. The Reserve Banks are chartered by the federal government and possess a unique set of governmental, corporate, and central bank characteristics. The Bank serves the Fifth Federal Reserve District, which includes Maryland, North Carolina, South Carolina, Virginia, District of Columbia, and portions of West Virginia.

In accordance with the Federal Reserve Act, supervision and control of the Bank is exercised by a board of directors. The Federal Reserve Act specifies the composition of the board of directors for each of the Reserve Banks. Each board is composed of nine members serving three-year terms: three directors, including those designated as chairman and deputy chairman, are appointed by the Board of Governors of the Federal Reserve System ("Board of Governors") to represent the public, and six directors are elected by member banks. Banks that are members of the System include all national banks and any state-chartered banks that apply and are approved for membership. Member banks are divided into three classes according to size. Member banks in each class elect one director representing member banks and one representing the public. In any election of directors, each member bank receives one vote, regardless of the number of shares of Reserve Bank stock it holds.

In addition to the twelve Reserve Banks, the System also consists, in part, of the Board of Governors and the Federal Open Market Committee ("FOMC"). The Board of Governors, an independent federal agency, is charged by the Federal Reserve Act with a number of specific duties, including general supervision over the Reserve Banks. The FOMC is composed of members of the Board of Governors, the president of the Federal Reserve Bank of New York ("FRBNY"), and, on a rotating basis, four other Reserve Bank presidents.

2. Operations and Services

The Reserve Banks perform a variety of services and operations. These functions include participating in formulating and conducting monetary policy; participating in the payments system, including large-dollar transfers of funds, automated clearinghouse ("ACH") operations, and check collection; distributing coin and currency; performing fiscal agency functions for the U.S. Department of the Treasury ("Treasury"), certain Federal agencies, and other entities; serving as the federal government's bank; providing short-term loans to depository institutions; providing loans to individuals, partnerships, and corporations in unusual and exigent circumstances; serving consumers and communities by providing educational materials and information regarding financial consumer protection rights and laws and information on community development programs and activities; and supervising bank holding companies, state member banks, and U.S. offices of foreign banking organizations. Certain services are provided to foreign and international monetary authorities, primarily by the FRBNY.

The FOMC, in conducting monetary policy, establishes policy regarding domestic open market operations, oversees these operations, and annually issues authorizations and directives to the FRBNY to execute transactions. The FOMC authorizes and directs the FRBNY to conduct operations in domestic markets, including the direct purchase and sale of Treasury securities, Federal agency and government-sponsored enterprise ("GSE") debt securities, Federal agency and GSE mortgage-backed securities ("MBS"), the purchase of these securities under agreements to resell, and the sale of these securities under agreements to repurchase. The FRBNY executes these transactions at the direction of the FOMC and holds the resulting securities and agreements in a portfolio known as the System Open Market Account ("SOMA"). The FRBNY is authorized to lend the Treasury securities and Federal agency and GSE debt securities that are held in the SOMA.

NOTES TO FINANCIAL STATEMENTS

In addition to authorizing and directing operations in the domestic securities market, the FOMC authorizes the FRBNY to execute operations in foreign markets in order to counter disorderly conditions in exchange markets or to meet other needs specified by the FOMC to carry out the System's central bank responsibilities. Specifically, the FOMC authorizes and directs the FRBNY to hold balances of, and to execute spot and forward foreign exchange and securities contracts for, fourteen foreign currencies and to invest such foreign currency holdings, while maintaining adequate liquidity. The FRBNY is authorized and directed by the FOMC to maintain reciprocal currency arrangements ("FX swaps") with two central banks and to "warehouse" foreign currencies for the Treasury and the Exchange Stabilization Fund ("ESF"). The FRBNY is also authorized and directed by the FOMC to maintain U.S. dollar currency liquidity swap arrangements with fourteen central banks. The FOMC has also authorized the FRBNY to maintain foreign currency liquidity swap arrangements with four foreign central banks.

Although the Reserve Banks are separate legal entities, they collaborate in the delivery of certain services to achieve greater efficiency and effectiveness. This collaboration takes the form of centralized operations and product or function offices that have responsibility for the delivery of certain services on behalf of the Reserve Banks. Various operational and management models are used and are supported by service agreements between the Reserve Banks. In some cases, costs incurred by a Reserve Bank for services provided to other Reserve Banks are not shared; in other cases, the Reserve Banks are reimbursed for costs incurred in providing services to other Reserve Banks. Major services provided by the Bank on behalf of the System and for which the costs were not reimbursed by the other Reserve Banks include Standard Cash Automation, Currency Technology Office, IT Transformation Initiatives, Enterprise-wide Security Projects, Enterprise Security Operations Coordination, the Payroll Central Business Administration Function, Daylight Overdraft Reporting and Pricing, and the National Procurement Office. Costs are, however, redistributed to the other Reserve Banks for computing and support services the Bank provides for the System. The Bank's total reimbursement for these services was \$261 million and \$301 million for the years ended December 31, 2009 and 2008, respectively, and is included in "Other credits" on the Statements of Income and Comprehensive Income.

3. Financial Stability Activities

The Reserve Banks have implemented the following programs that support the liquidity of financial institutions and foster improved conditions in financial markets.

Expanded Open Market Operations and Support for Mortgage Related Securities

The Single-Tranche Open Market Operation Program allows primary dealers to initiate a series of 28-day term repurchase transactions while pledging Treasury securities, Federal agency and GSE debt securities, and Federal agency and GSE MBS as collateral.

The Federal Agency and GSE Debt Securities and MBS Purchase Program provides support to the mortgage and housing markets and fosters improved conditions in financial markets. Under this program, the FRBNY purchases housing-related GSE debt securities and Federal agency and GSE MBS. Purchases of housing-related GSE debt securities began in November 2008 and purchases of Federal agency and GSE MBS began in January 2009. The FRBNY is authorized to purchase up to \$200 billion in fixed rate, non-callable GSE debt securities and up to \$1.25 trillion in fixed rate Federal agency and GSE MBS. The activities of both of these programs are allocated to the other Reserve Banks.

Central Bank Liquidity Swaps

The FOMC authorized and directed the FRBNY to establish central bank liquidity swap arrangements, which may be structured as either U.S. dollar liquidity or foreign currency liquidity swap arrangements.

U.S. dollar liquidity swap arrangements were authorized with fourteen foreign central banks to provide liquidity in U.S. dollars to overseas markets. Such arrangements were authorized with the following central banks:

NOTES TO FINANCIAL STATEMENTS

the Reserve Bank of Australia, the Banco Central do Brasil, the Bank of Canada, Danmarks Nationalbank, the Bank of England, the European Central Bank, the Bank of Japan, the Bank of Korea, the Banco de Mexico, the Reserve Bank of New Zealand, Norges Bank, the Monetary Authority of Singapore, the Sveriges Riksbank, and the Swiss National Bank. The maximum amount that could be drawn under these swap arrangements varied by central bank. The authorization for these swap arrangements expired on February 1, 2010.

Foreign currency liquidity swap arrangements provided the Reserve Banks with the capacity to offer foreign currency liquidity to U.S. depository institutions. Such arrangements were authorized with the Bank of England, the European Central Bank, the Bank of Japan, and the Swiss National Bank. The maximum amount that could be drawn under the swap arrangements varied by central bank. The authorization for these swap arrangements expired on February 1, 2010.

Lending to Depository Institutions

The Term Auction Facility ("TAF") promotes the efficient dissemination of liquidity by providing term funds to depository institutions. Under the TAF, Reserve Banks auction term funds to depository institutions against any collateral eligible to secure primary, secondary, and seasonal credit less a margin, which is a reduction in the assigned collateral value that is intended to provide the Banks additional credit protection. All depository institutions that are considered to be in generally sound financial condition by their Reserve Bank and that are eligible to borrow under the primary credit program are eligible to participate in TAF auctions. All loans must be collateralized to the satisfaction of the Reserve Banks.

Lending to Primary Dealers

The Term Securities Lending Facility ("TSLF") promoted liquidity in the financing markets for Treasury securities. Under the TSLF, the FRBNY could lend up to an aggregate amount of \$200 billion of Treasury securities held in the SOMA to primary dealers secured for a term of 28 days. Securities were lent to primary dealers through a competitive single-price auction and were collateralized, less a margin, by a pledge of other securities, including Treasury securities, municipal securities, Federal agency and GSE MBS, non-agency AAA/Aaa-rated private-label residential MBS, and asset-backed securities ("ABS"). The authorization for the TSLF expired on February 1, 2010.

The Term Securities Lending Facility Options Program ("TOP") offered primary dealers, through a competitive single-price auction, to purchase an option to draw upon short-term, fixed-rate TSLF loans in exchange for eligible collateral. The program enhanced the effectiveness of the TSLF by ensuring additional liquidity during periods of heightened collateral market pressures, such as around quarter-end dates. The program was suspended effective with the maturity of the June 2009 TOP options and the program authorization expired on February 1, 2010.

Other Lending Facilities

The Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility ("AMLF") provided funding to depository institutions and bank holding companies to finance the purchase of eligible high-quality asset-backed commercial paper ("ABCP") from money market mutual funds. The program assisted money market mutual funds that hold such paper to meet the demands for investor redemptions and to foster liquidity in the ABCP market and money markets more generally. The Federal Reserve Bank of Boston ("FRBB") administered the AMLF and was authorized to extend these loans to eligible borrowers on behalf of the other Reserve Banks. All loans extended under the AMLF were non-recourse and were recorded as assets by the FRBB, and if the borrowing institution settles to a depository account in the Fifth Federal Reserve District, the funds were credited to the depository institution account and settled between the Reserve Banks through the interdistrict settlement account. The credit risk related to the AMLF was assumed by the FRBB. The authorization for the AMLF expired on February 1, 2010.

NOTES TO FINANCIAL STATEMENTS

Bank of America Corporation

The Board of Governors, the Treasury, and the FDIC (“parties”) jointly announced on January 15, 2009 that they would provide financial support to Bank of America Corporation (“Bank of America”). Under this arrangement, the Bank would have provided funding support for possible future principal losses relating to a designated pool of up to \$118 billion of financial instruments. The Bank’s commitment under the arrangement was to provide non-recourse loans to Bank of America if, and when, qualifying losses of \$18 billion were recorded in the pool. On September 21, 2009, however, the parties announced that they had reached an agreement with Bank of America to terminate the agreement. As part of the termination of the agreement, Bank of America paid \$57 million in compensation for out-of-pocket expenses incurred by the Bank and an amount equal to the commitment fees required by the agreement.

4. Significant Accounting Policies

Accounting principles for entities with the unique powers and responsibilities of a nation’s central bank have not been formulated by accounting standard-setting bodies. The Board of Governors has developed specialized accounting principles and practices that it considers to be appropriate for the nature and function of a central bank. These accounting principles and practices are documented in the *Financial Accounting Manual for Federal Reserve Banks* (“Financial Accounting Manual” or “FAM”), which is issued by the Board of Governors. The Reserve Banks are required to adopt and apply accounting policies and practices that are consistent with the FAM and the financial statements have been prepared in accordance with the FAM.

Limited differences exist between the accounting principles and practices in the FAM and generally accepted accounting principles in the United States (“GAAP”), primarily due to the unique nature of the Bank’s powers and responsibilities as part of the nation’s central bank. The primary difference is the presentation of all SOMA securities holdings at amortized cost rather than the fair value presentation required by GAAP. Treasury securities, GSE debt securities, Federal agency and GSE MBS, and investments denominated in foreign currencies comprising the SOMA are recorded at cost, on a settlement-date basis rather than the trade-date basis required by GAAP. The cost basis of Treasury securities, GSE debt securities, and foreign government debt instruments is adjusted for amortization of premiums or accretion of discounts on a straight-line basis. Amortized cost more appropriately reflects the Bank’s securities holdings given the System’s unique responsibility to conduct monetary policy. Accounting for these securities on a settlement-date basis more appropriately reflects the timing of the transaction’s effect on the quantity of reserves in the banking system. Although the application of fair value measurements to the securities holdings may result in values substantially above or below their carrying values, these unrealized changes in value have no direct effect on the quantity of reserves available to the banking system or on the prospects for future Bank earnings or capital. Both the domestic and foreign components of the SOMA portfolio may involve transactions that result in gains or losses when holdings are sold prior to maturity. Decisions regarding securities and foreign currency transactions, including their purchase and sale, are motivated by monetary policy objectives rather than profit. Accordingly, fair values, earnings, and gains or losses resulting from the sale of such securities and currencies are incidental to the open market operations and do not motivate decisions related to policy or open market activities.

In addition, the Bank has elected not to present a Statement of Cash Flows because the liquidity and cash position of the Bank are not a primary concern given the Reserve Banks’ unique powers and responsibilities. Other information regarding the Bank’s activities is provided in, or may be derived from, the Statements of Condition, Income and Comprehensive Income, and Changes in Capital. There are no other significant differences between the policies outlined in the FAM and GAAP.

NOTES TO FINANCIAL STATEMENTS

Preparing the financial statements in conformity with the FAM requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of income and expenses during the reporting period. Actual results could differ from those estimates. Certain amounts relating to the prior year have been reclassified to conform to the current-year presentation. Unique accounts and significant accounting policies are explained below.

a. Gold and Special Drawing Rights Certificates

The Secretary of the Treasury is authorized to issue gold and special drawing rights ("SDR") certificates to the Reserve Banks.

Payment for the gold certificates by the Reserve Banks is made by crediting equivalent amounts in dollars into the account established for the Treasury. The gold certificates held by the Reserve Banks are required to be backed by the gold of the Treasury. The Treasury may reacquire the gold certificates at any time and the Reserve Banks must deliver them to the Treasury. At such time, the Treasury's account is charged, and the Reserve Banks' gold certificate accounts are reduced. The value of gold for purposes of backing the gold certificates is set by law at \$42 2/9 per fine troy ounce. The Board of Governors allocates the gold certificates among the Reserve Banks once a year based on the average Federal Reserve notes outstanding in each Reserve Bank.

SDR certificates are issued by the International Monetary Fund (the "Fund") to its members in proportion to each member's quota in the Fund at the time of issuance. SDR certificates serve as a supplement to international monetary reserves and may be transferred from one national monetary authority to another. Under the law providing for U.S. participation in the SDR system, the Secretary of the Treasury is authorized to issue SDR certificates to the Reserve Banks. When SDR certificates are issued to the Reserve Banks, equivalent amounts in U.S. dollars are credited to the account established for the Treasury and the Reserve Banks' SDR certificate accounts are increased. The Reserve Banks are required to purchase SDR certificates, at the direction of the Treasury, for the purpose of financing SDR acquisitions or for financing exchange stabilization operations. At the time SDR transactions occur, the Board of Governors allocates SDR certificate transactions among the Reserve Banks based upon each Reserve Bank's Federal Reserve notes outstanding at the end of the preceding year. There were no SDR transactions in 2008, and in 2009 the Treasury issued \$3 billion in SDR certificates to the Reserve Banks, of which \$265 million was allocated to the Bank.

b. Loans to Depository Institutions

Loans are reported at their outstanding principal balances and interest income is recognized on an accrual basis.

Loans are impaired when, based on current information and events, it is probable that the Bank will not receive the principal or interest that is due in accordance with the contractual terms of the loan agreement. Loans are evaluated to determine whether an allowance for loan loss is required. The Bank has developed procedures for assessing the adequacy of any allowance for loan losses using all available information to reflect the assessment of credit risk. This assessment includes monitoring information obtained from banking supervisors, borrowers, and other sources to assess the credit condition of the borrowers and, as appropriate, evaluating collateral values for each program. Generally, the Bank discontinues recognizing interest income on impaired loans until the borrower's repayment performance demonstrates principal and interest will be received in accordance with the term of the loan agreement. If the Bank discontinues recording interest on an impaired loan, cash payments are first applied to principal until the loan balance is reduced to zero; subsequent payments are applied as recoveries of amounts previously deemed uncollectible, if any, and then as interest income.

c. Securities Purchased Under Agreements to Resell, Securities Sold Under Agreements to Repurchase, and Securities Lending

The FRBNY may engage in purchases of securities with primary dealers under agreements to resell (“repurchase transactions”). These repurchase transactions are typically executed through a tri-party arrangement (“tri-party transactions”). Tri-party transactions are conducted with two commercial custodial banks that manage the clearing, settlement, and pledging of collateral. The collateral pledged must exceed the principal amount of the transaction. Acceptable collateral under tri-party repurchase transactions primarily includes Treasury securities; pass-through mortgage securities of Fannie Mae, Freddie Mac, and Ginnie Mae; STRIP Treasury securities; and “stripped” securities of Federal agencies. The tri-party transactions are accounted for as financing transactions with the associated interest income accrued over the life of the transaction. Repurchase transactions are reported at their contractual amount as “System Open Market Account: Securities purchased under agreements to resell” in the Statements of Condition and the related accrued interest receivable is reported as a component of “Accrued interest receivables.”

The FRBNY may engage in sales of securities with primary dealers under agreements to repurchase (“reverse repurchase transactions”). These reverse repurchase transactions may be executed through a tri-party arrangement, similar to repurchase transactions. Reverse repurchase transactions may also be executed with foreign official and international accounts. Reverse repurchase transactions are accounted for as financing transactions, and the associated interest expense is recognized over the life of the transaction. These transactions are reported at their contractual amounts in the Statements of Condition and the related accrued interest payable is reported as a component of “Other liabilities.”

Treasury securities and GSE debt securities held in the SOMA are lent to primary dealers to facilitate the effective functioning of the domestic securities market. Overnight securities lending transactions are fully collateralized by other Treasury securities. TSLF transactions are fully collateralized with investment-grade debt securities, collateral eligible for tri-party repurchase agreements arranged by the FRBNY, or both. The collateral taken in both overnight and term securities lending transactions is in excess of the fair value of the securities lent. The FRBNY charges the primary dealer a fee for borrowing securities, and these fees are reported as a component of “Other income.” In addition, TOP fees are reported as a component of “Other income.”

Activity related to securities purchased under agreements to resell, securities sold under agreements to repurchase, and securities lending is allocated to each of the Reserve Banks on a percentage basis derived from an annual settlement of the interdistrict settlement account that occurs in April each year. The settlement also equalizes Reserve Bank gold certificate holdings to Federal Reserve notes outstanding in each District.

d. Treasury Securities; Government-Sponsored Enterprise Debt Securities; Federal Agency and Government-Sponsored Enterprise Mortgage-Backed Securities; Investments Denominated in Foreign Currencies; and Warehousing Agreements

Interest income on Treasury securities, GSE debt securities, and investments denominated in foreign currencies comprising the SOMA is accrued on a straight-line basis. Interest income on Federal agency and GSE MBS is accrued using the interest method and includes amortization of premiums, accretion of discounts, and paydown gains or losses. Paydown gains or losses result from scheduled payment and prepayment of principal and represent the difference between the principal amount and the carrying value of the related security. Gains and losses resulting from sales of securities are determined by specific issue based on average cost.

In addition to outright purchases of Federal agency and GSE MBS that are held in the SOMA, the FRBNY enters into dollar roll transactions (“dollar rolls”), which primarily involve an initial transaction to purchase or sell “to be announced” (“TBA”) MBS combined with an agreement to sell or purchase TBA MBS on a specified future date. The FRBNY’s participation in the dollar roll market furthers the MBS Purchase Program goal of providing support to the

NOTES TO FINANCIAL STATEMENTS

mortgage and housing markets and fostering improved conditions in financial markets. The FRBNY accounts for outstanding commitments to sell or purchase TBA MBS on a settlement-date basis. Based on the terms of the FRBNY dollar roll transactions, transfers of MBS upon settlement of the initial TBA MBS transactions are accounted for as purchases or sales in accordance with FASB ASC Topic 860 (ASC 860), *Accounting for Transfers of Financial Assets and Repurchase Financing Transactions*, (previously SFAS 140), and the related outstanding commitments are accounted for as sales or purchases upon settlement.

Activity related to Treasury securities, GSE debt securities, and Federal agency and GSE MBS, including the premiums, discounts, and realized gains and losses, is allocated to each Reserve Bank on a percentage basis derived from an annual settlement of the interdistrict settlement account that occurs in April of each year. The settlement also equalizes Reserve Bank gold certificate holdings to Federal Reserve notes outstanding in each District. Activity related to investments denominated in foreign currencies, including the premiums, discounts, and realized and unrealized gains and losses, is allocated to each Reserve Bank based on the ratio of each Reserve Bank's capital and surplus to aggregate capital and surplus at the preceding December 31.

Foreign-currency-denominated assets are revalued daily at current foreign currency market exchange rates in order to report these assets in U.S. dollars. Realized and unrealized gains and losses on investments denominated in foreign currencies are reported as "Foreign currency gains or losses, net" in the Statements of Income and Comprehensive Income.

Warehousing is an arrangement under which the FOMC agrees to exchange, at the request of the Treasury, U.S. dollars for foreign currencies held by the Treasury or ESF over a limited period of time. The purpose of the warehousing facility is to supplement the U.S. dollar resources of the Treasury and ESF for financing purchases of foreign currencies and related international operations.

Warehousing agreements are designated as held-for-trading purposes and are valued daily at current market exchange rates. Activity related to these agreements is allocated to each Reserve Bank based on the ratio of each Reserve Bank's capital and surplus to aggregate capital and surplus at the preceding December 31.

e. Central Bank Liquidity Swaps

Central bank liquidity swaps, which are transacted between the FRBNY and a foreign central bank, may be structured as either U.S. dollar liquidity or foreign currency liquidity swap arrangements.

Activity related to U.S. dollar and foreign currency swap transactions, including the related income and expense, is allocated to each Reserve Bank based on the ratio of each Reserve Bank's capital and surplus to aggregate capital and surplus at the preceding December 31. Similar to investments denominated in foreign currencies, the foreign currency amounts associated with these central bank liquidity swap arrangements are revalued at current foreign currency market exchange rates.

U.S. dollar liquidity swaps

At the initiation of each U.S. dollar liquidity swap transaction, the foreign central bank transfers a specified amount of its currency to a restricted account for the FRBNY in exchange for U.S. dollars at the prevailing market exchange rate. Concurrent with this transaction, the FRBNY and the foreign central bank agree to a second transaction that obligates the foreign central bank to return the U.S. dollars and the FRBNY to return the foreign currency on a specified future date at the same exchange rate as the initial transaction. The Bank's allocated portion of the foreign currency amounts that the FRBNY acquires is reported as "Central bank liquidity swaps" on the Statements of Condition. Because the swap transaction will be unwound at the same U.S. dollar amount and exchange rate that were used in the initial transaction, the recorded value of the foreign currency amounts is not affected by changes in the market exchange rate.

NOTES TO FINANCIAL STATEMENTS

The foreign central bank compensates the FRBNY based on the foreign currency amounts held for the FRBNY. The FRBNY recognizes compensation during the term of the swap transaction and reports it as “Interest income: Central bank liquidity swaps” in the Statements of Income and Comprehensive Income.

Foreign currency liquidity swaps

At the initiation of each foreign currency liquidity swap transaction, the FRBNY will transfer, at the prevailing market exchange rate, a specified amount of U.S. dollars to an account for the foreign central bank in exchange for its currency. The foreign currency amount received would be reported as a liability by the Bank. Concurrent with this transaction, the FRBNY and the foreign central bank agree to a second transaction that obligates the FRBNY to return the foreign currency and the foreign central bank to return the U.S. dollars on a specified future date. The FRBNY compensates the foreign central bank based on the foreign currency transferred to the FRBNY. For each foreign currency swap transaction with a foreign central bank, it is anticipated that the FRBNY will enter into a corresponding transaction with a U.S. depository institution in order to provide foreign currency liquidity to that institution. No foreign currency liquidity swap transactions occurred in 2008 or 2009.

f. Interdistrict Settlement Account

At the close of business each day, each Reserve Bank aggregates the payments due to or from other Reserve Banks. These payments result from transactions between the Reserve Banks and transactions that involve depository institution accounts held by other Reserve Banks, such as Fedwire funds and securities transfers and check and ACH transactions. The cumulative net amount due to or from the other Reserve Banks is reflected in the “Interdistrict settlement account” in the Statements of Condition.

g. Bank Premises, Equipment, and Software

Bank premises and equipment are stated at cost less accumulated depreciation. Depreciation is calculated on a straight-line basis over the estimated useful lives of the assets, which range from two to fifty years. Major alterations, renovations, and improvements are capitalized at cost as additions to the asset accounts and are depreciated over the remaining useful life of the asset or, if appropriate, over the unique useful life of the alteration, renovation, or improvement. Maintenance, repairs, and minor replacements are charged to operating expense in the year incurred.

Costs incurred for software during the application development stage, whether developed internally or acquired for internal use, are capitalized based on the purchase cost and the cost of direct services and materials associated with designing, coding, installing, and testing the software. Capitalized software costs are amortized on a straight-line basis over the estimated useful lives of the software applications, which range from two to five years. Maintenance costs related to software are charged to expense in the year incurred.

Capitalized assets, including software, buildings, leasehold improvements, furniture, and equipment, are impaired and an adjustment is recorded when events or changes in circumstances indicate that the carrying amount of assets or asset groups is not recoverable and significantly exceeds the assets’ fair value.

h. Federal Reserve Notes

Federal Reserve notes are the circulating currency of the United States. These notes, which are identified as issued to a specific Reserve Bank, must be fully collateralized. Assets eligible to be pledged as collateral security include all of the Bank’s assets. The collateral value is equal to the book value of the collateral tendered with the exception of securities, for which the collateral value is equal to the par value of the securities tendered. The par value of securities pledged for securities sold under agreements to repurchase is deducted.

NOTES TO FINANCIAL STATEMENTS

The Board of Governors may, at any time, call upon a Reserve Bank for additional security to adequately collateralize the outstanding Federal Reserve notes. To satisfy the obligation to provide sufficient collateral for outstanding Federal Reserve notes, the Reserve Banks have entered into an agreement that provides for certain assets of the Reserve Banks to be jointly pledged as collateral for the Federal Reserve notes issued to all Reserve Banks. In the event that this collateral is insufficient, the Federal Reserve Act provides that Federal Reserve notes become a first and paramount lien on all the assets of the Reserve Banks. Finally, Federal Reserve notes are obligations of the United States government. At December 31, 2009 and 2008, all Federal Reserve notes issued to the Reserve Banks were fully collateralized.

"Federal Reserve notes outstanding, net" in the Statements of Condition represents the Bank's Federal Reserve notes outstanding, reduced by the Bank's currency holdings of \$10,026 million and \$11,552 million at December 31, 2009 and 2008, respectively.

i. Items in Process of Collection and Deferred Credit Items

"Items in process of collection" in the Statements of Condition primarily represents amounts attributable to checks that have been deposited for collection and that, as of the balance sheet date, have not yet been presented to the paying bank. "Deferred credit items" are the counterpart liability to items in process of collection. The amounts in this account arise from deferring credit for deposited items until the amounts are collected. The balances in both accounts can vary significantly.

j. Capital Paid-in

The Federal Reserve Act requires that each member bank subscribe to the capital stock of the Reserve Bank in an amount equal to 6 percent of the capital and surplus of the member bank. These shares are nonvoting with a par value of \$100 and may not be transferred or hypothecated. As a member bank's capital and surplus changes, its holdings of Reserve Bank stock must be adjusted. Currently, only one-half of the subscription is paid-in and the remainder is subject to call. A member bank is liable for Reserve Bank liabilities up to twice the par value of stock subscribed by it.

By law, each Reserve Bank is required to pay each member bank an annual dividend of 6 percent on the paid-in capital stock. This cumulative dividend is paid semiannually. To reflect the Federal Reserve Act requirement that annual dividends be deducted from net earnings, dividends are presented as a distribution of comprehensive income in the Statements of Income and Comprehensive Income.

k. Surplus

The Board of Governors requires the Reserve Banks to maintain a surplus equal to the amount of capital paid-in as of December 31 of each year. Accumulated other comprehensive income is reported as a component of surplus in the Statements of Condition and the Statements of Changes in Capital. The balance of accumulated other comprehensive income is comprised of expenses, gains, and losses related to other postretirement benefit plans that, under GAAP, are included in other comprehensive income, but excluded from net income. Additional information regarding the classifications of accumulated other comprehensive income is provided in Notes 12 and 13.

l. Interest on Federal Reserve Notes

The Board of Governors requires the Reserve Banks to transfer excess earnings to the Treasury as interest on Federal Reserve notes after providing for the costs of operations, payment of dividends, and reservation of an amount necessary to equate surplus with capital paid-in. This amount is reported as "Payments to U.S. Treasury as interest on Federal Reserve notes" in the Statements of Income and Comprehensive Income. The amount due to the

NOTES TO FINANCIAL STATEMENTS

Treasury is reported as “Accrued interest on Federal Reserve notes” in the Statements of Condition. If overpaid during the year, the amount is reported as “Prepaid interest on Federal Reserve notes” in the Statements of Condition. Payments are made weekly to the Treasury.

In the event of losses or an increase in capital paid-in at a Reserve Bank, payments to the Treasury are suspended and earnings are retained until the surplus is equal to the capital paid-in.

In the event of a decrease in capital paid-in, the excess surplus, after equating capital paid-in and surplus at December 31, is distributed to the Treasury in the following year.

m. Interest on Depository Institution Deposits

On October 9, 2008, the Reserve Banks began paying interest to depository institutions on qualifying balances held at the Banks. The interest rates paid on required reserve balances and excess balances are determined by the Board of Governors, based on an FOMC-established target range for the effective federal funds rate.

n. Income and Costs Related to Treasury Services

The Bank is required by the Federal Reserve Act to serve as fiscal agent and depository of the United States Government. By statute, the Department of the Treasury has appropriations to pay for these services. During the years ended December 31, 2009 and 2008, the Bank was reimbursed for all services provided to the Department of the Treasury as its fiscal agent.

o. Compensation Received for Services Provided

The Federal Reserve Bank of Atlanta (“FRBA”) has overall responsibility for managing the Reserve Banks’ provision of check and ACH services to depository institutions and, as a result, recognizes total System revenue for these services on its Statements of Income and Comprehensive Income. Similarly, the FRBNY manages the Reserve Banks’ provision of Fedwire funds and securities services and recognizes total System revenue for these services on its Consolidated Statements of Income and Comprehensive Income. The FRBA and the FRBNY compensate the applicable Reserve Banks for the costs incurred to provide these services. The Bank reports this compensation as “Compensation received for services provided” in the Statements of Income and Comprehensive Income.

p. Assessments by the Board of Governors

The Board of Governors assesses the Reserve Banks to fund its operations based on each Reserve Bank’s capital and surplus balances as of December 31 of the prior year. The Board of Governors also assesses each Reserve Bank for the expenses incurred by the Treasury to produce and retire Federal Reserve notes based on each Reserve Bank’s share of the number of notes comprising the System’s net liability for Federal Reserve notes on December 31 of the prior year.

q. Taxes

The Reserve Banks are exempt from federal, state, and local taxes, except for taxes on real property. The Bank’s real property taxes were \$2 million for each of the years ended December 31, 2009 and 2008, and are reported as a component of “Occupancy expense.”

r. Restructuring Charges

The Reserve Banks recognize restructuring charges for exit or disposal costs incurred as part of the closure of business activities in a particular location, the relocation of business activities from one location to another, or a fundamental reorganization that affects the nature of operations. Restructuring charges may include costs associat-

NOTES TO FINANCIAL STATEMENTS

ed with employee separations, contract terminations, and asset impairments. Expenses are recognized in the period in which the Bank commits to a formalized restructuring plan or executes the specific actions contemplated in the plan and all criteria for financial statement recognition have been met.

Note 14 describes the Bank's restructuring initiatives and provides information about the costs and liabilities associated with employee separations and contract terminations. The costs associated with the impairment of certain of the Bank's assets are discussed in Note 9. Costs and liabilities associated with enhanced pension benefits in connection with the restructuring activities for all of the Reserve Banks are recorded on the books of the FRBNY.

The Bank had no significant restructuring activities in 2009.

s. Recently Issued Accounting Standards

In February 2008, FASB issued FSP SFAS 140-3, *Accounting for Transfers of Financial Assets and Repurchase Financing Transactions*, (codified in FASB ASC Topic 860 (ASC 860), *Transfers and Servicing*). ASC 860 requires that an initial transfer of a financial asset and a repurchase financing that was entered into contemporaneously with, or in contemplation of, the initial transfer be evaluated together as a linked transaction unless certain criteria are met. These provisions of ASC 860 are effective for the Bank's financial statements for the year beginning on January 1, 2009 and have not had a material effect on the Bank's financial statements. The requirements of this standard have been reflected in the accompanying footnotes.

In June 2009, FASB issued SFAS 166, *Accounting for Transfers of Financial Assets – an amendment to FASB Statement No. 140*, (codified in ASC 860). The new guidance modifies existing guidance to eliminate the scope exception for qualifying special purpose vehicles ("SPVs") and clarifies that the transferor must consider all arrangements of the transfer of financial assets when determining if the transferor has surrendered control. These provisions of ASC 860 are effective for the Bank's financial statements for the year beginning on January 1, 2010, and earlier adoption is prohibited. The adoption of this standard is not expected to have a material effect on the Bank's financial statements.

In May 2009, FASB issued SFAS No. 165, *Subsequent Events*, (codified in FASB ASC Topic 855 (ASC 855), *Subsequent Events*), which establishes general standards of accounting for and disclosing events that occur after the balance sheet date but before financial statements are issued or are available to be issued. ASC 855 sets forth (i) the period after the balance sheet date during which management of a reporting entity should evaluate events or transactions that may occur for potential recognition or disclosure in the financial statements; (ii) the circumstances under which an entity should recognize events or transactions occurring after the balance sheet date in its financial statements; and (iii) the disclosures that an entity should make about events or transactions that occurred after the balance sheet date, including disclosure of the date through which an entity has evaluated subsequent events and whether that represents the date the financial statements were issued or were available to be issued. The Bank adopted ASC 855 for the period ended December 31, 2009 and the required disclosures are reflected in Note 15.

In June 2009, the FASB issued SFAS No. 168, *The Statement of Financial Accounting Standards Codification and the Hierarchy of Generally Accepted Accounting Principles, a replacement of SFAS No. 162, The Hierarchy of Generally Accepted Accounting Principles* (SFAS 168). SFAS 168 establishes the FASB ASC as the source of authoritative accounting principles recognized by the FASB to be applied by non-governmental entities in the preparation of financial statements in conformity with GAAP. The ASC does not change current GAAP, but it introduces a new structure that organizes the authoritative standards by topic. SFAS 168 is effective for financial statements issued for periods ending after September 15, 2009. As a result, both the ASC and the legacy standard are referenced in the Bank's financial statements and footnotes.

NOTES TO FINANCIAL STATEMENTS

5. Loans

The loan amounts outstanding at December 31 were as follows (in millions):

	2009	2008
Primary, secondary, and seasonal credit	\$ 102	\$ 452
TAF	995	75,130
Loans to depository institutions	\$ 1,097	\$ 75,582

Loans to Depository Institutions

The Bank offers primary, secondary, and seasonal credit to eligible borrowers. Each program has its own interest rate. Interest is accrued using the applicable interest rate established at least every fourteen days by the board of directors of the Bank, subject to review and determination by the Board of Governors. Primary and secondary credit are extended on a short-term basis, typically overnight, whereas seasonal credit may be extended for a period of up to nine months.

Primary, secondary, and seasonal credit lending is collateralized to the satisfaction of the Bank to reduce credit risk. Assets eligible to collateralize these loans include consumer, business, and real estate loans; Treasury securities; GSE debt securities; foreign sovereign debt; municipal, corporate, and state and local government obligations; ABS; corporate bonds; commercial paper; and bank-issued assets, such as certificates of deposit, bank notes, and deposit notes. Collateral is assigned a lending value that is deemed appropriate by the Bank, which is typically fair value or face value reduced by a margin.

Depository institutions that are eligible to borrow under the Bank's primary credit program are also eligible to participate in the TAF program. Under the TAF program, the Reserve Banks conduct auctions for a fixed amount of funds, with the interest rate determined by the auction process, subject to a minimum bid rate. TAF loans are extended on a short-term basis, with terms ranging from 28 to 84 days. All advances under the TAF program must be collateralized to the satisfaction of the Bank. Assets eligible to collateralize TAF loans include the complete list noted above for loans to depository institutions. Similar to the process used for primary, secondary, and seasonal credit, a lending value is assigned to each asset that is accepted as collateral for TAF loans reduced by a margin.

Loans to depository institutions are monitored on a daily basis to ensure that borrowers continue to meet eligibility requirements for these programs. The financial condition of borrowers is monitored by the Bank and, if a borrower no longer qualifies for these programs, the Bank will generally request full repayment of the outstanding loan or, for primary and seasonal credit lending, may convert the loan to a secondary credit loan.

Collateral levels are reviewed daily against outstanding obligations and borrowers that no longer have sufficient collateral to support outstanding loans are required to provide additional collateral or to make partial or full repayment.

NOTES TO FINANCIAL STATEMENTS

The remaining maturity distributions of loans outstanding at December 31 were as follows (in millions):

	2009	
	Primary, secondary, and seasonal credit	TAF
Within 15 days	\$ 49	\$ 995
16 days to 90 days	53	—
Total loans	\$ 102	\$ 995

	2008	
	Primary, secondary, and seasonal credit	TAF
Within 15 days	\$ 202	\$ 41,980
16 days to 90 days	250	33,150
Total loans	\$ 452	\$ 75,130

At December 31, 2009 and 2008, the Bank did not have any impaired loans and no allowance for loan losses was required.

6. Treasury Securities; Government-Sponsored Enterprise Debt Securities; Federal Agency and Government-Sponsored Enterprise Mortgage-Backed Securities; Securities Purchased Under Agreements to Resell; Securities Sold Under Agreements to Repurchase; and Securities Lending

The FRBNY, on behalf of the Reserve Banks, holds securities bought outright in the SOMA. The Bank's allocated share of SOMA balances was approximately 3.604 percent and 9.068 percent at December 31, 2009 and 2008, respectively.

NOTES TO FINANCIAL STATEMENTS

The Bank's allocated share of Treasury securities, GSE debt securities, and Federal agency and GSE MBS, excluding accrued interest, held in the SOMA at December 31 was as follows (in millions):

2009						
	Treasury securities				GSE debt securities	Federal agency and GSE MBS
	Bills	Notes	Bonds	Total Treasury securities		
Par	\$ 664	\$ 20,481	\$ 6,841	\$ 27,986	\$ 5,761	\$ 32,735
Unamortized premiums	—	236	881	1,117	271	436
Unaccreted discounts	—	(35)	(23)	(58)	(1)	(56)
Total amortized cost	\$ 664	\$ 20,682	\$ 7,699	\$ 29,045	\$ 6,031	\$ 33,115
Fair Value	\$ 664	\$ 21,011	\$ 8,314	\$ 29,989	\$ 6,034	\$ 32,948

2008						
	Treasury securities				GSE debt securities	Federal agency and GSE MBS
	Bills	Notes	Bonds	Total Treasury securities		
Par	\$ 1,671	\$ 30,357	\$ 11,128	\$ 43,156	\$ 1,787	\$ —
Unamortized premiums	—	25	608	633	97	—
Unaccreted discounts	—	(76)	(56)	(132)	(3)	—
Total amortized cost	\$ 1,671	\$ 30,306	\$ 11,680	\$ 43,657	\$ 1,881	\$ —
Fair Value	\$ 1,671	\$ 32,436	\$ 15,364	\$ 49,471	\$ 1,892	\$ —

NOTES TO FINANCIAL STATEMENTS

The total of the Treasury securities, GSE debt securities, and Federal agency and GSE MBS, net, excluding accrued interest held in the SOMA at December 31 was as follows (in millions):

2009						
	Treasury securities				GSE debt securities	Federal agency and GSE MBS
	Bills	Notes	Bonds	Total Treasury securities		
Amortized Cost	\$ 18,423	\$ 573,876	\$ 213,673	\$ 805,972	\$ 167,362	\$ 918,927
Fair Value	\$ 18,422	\$ 583,041	\$ 230,717	\$ 832,180	\$ 167,444	\$ 914,290

2008						
	Treasury securities				GSE debt securities	Federal agency and GSE MBS
	Bills	Notes	Bonds	Total Treasury securities		
Amortized Cost	\$ 18,423	\$ 334,216	\$ 128,810	\$ 481,449	\$ 20,740	\$ —
Fair Value	\$ 18,423	\$ 357,708	\$ 169,433	\$ 545,564	\$ 20,863	\$ —

The fair value amounts in the above tables are presented solely for informational purposes. Although the fair value of security holdings can be substantially greater than or less than the recorded value at any point in time, these unrealized gains or losses have no effect on the ability of the Reserve Banks, as the central bank, to meet their financial obligations and responsibilities. Fair value was determined by reference to quoted market values for identical securities, except for Federal agency and GSE MBS for which fair values were determined using a model-based approach based on observable inputs for similar securities.

The fair value of the fixed-rate Treasury securities, GSE debt securities, and Federal agency and GSE MBS in the SOMA's holdings is subject to market risk, arising from movements in market variables, such as interest rates and securities prices. The fair value of Federal agency and GSE MBS is also affected by the rate of prepayments of mortgage loans underlying the securities.

NOTES TO FINANCIAL STATEMENTS

The following table provides additional information on the amortized cost and fair values of the Federal agency and GSE MBS portfolio at December 31, 2009 in millions:

Distribution of MBS holdings by coupon rate

	Amortized cost	Fair value
Allocated to the Bank:		
4.0%	\$ 6,131	\$ 5,973
4.5%	15,653	15,555
5.0%	7,042	7,078
5.5%	3,725	3,769
6.0%	458	465
Other ¹	106	108
Total	\$ 33,115	\$ 32,948

System total:

4.0%	\$ 170,119	\$ 165,740
4.5%	434,352	431,646
5.0%	195,418	196,411
5.5%	103,379	104,583
6.0%	12,710	12,901
Other ¹	2,949	3,009
Total	\$ 918,927	\$ 914,290

¹ Represents less than one percent of the total portfolio

Financial information related to securities purchased under agreements to resell and securities sold under agreements to repurchase for the years ended December 31, 2009 and 2008, was as follows (in millions):

	Securities purchased under agreements to resell		Securities sold under agreements to repurchase	
	2009	2008	2009	2008
Allocated to the Bank:				
Contract amount outstanding, end of year	\$ —	\$ 7,254	\$ 2,801	\$ 8,012
Average daily amount outstanding, during the year	328	7,756	3,592	4,955
Maximum month-end balance outstanding, during the year	—	10,791	6,961	8,937
Securities pledged, end of year	—	—	2,806	7,154

(chart continued)

NOTES TO FINANCIAL STATEMENTS

	Securities purchased under agreements to resell		Securities sold under agreements to repurchase	
	2009	2008	2009	2008
System total:				
Contract amount outstanding, end of year	\$ —	\$ 80,000	\$ 77,732	\$ 88,352
Average daily amount outstanding, during the year	3,616	86,227	67,837	55,169
Maximum month-end balance outstanding, during the year	—	119,000	77,732	98,559
Securities pledged, end of year	—	—	77,860	78,896

The Bank has revised its disclosure of securities purchased under agreements to resell and securities sold under agreements to repurchase from a weighted average calculation, disclosed in 2008, to the simple daily average calculation, disclosed above. The previously reported System total 2008 weighted average amount outstanding for securities purchased under agreements to resell was \$97,037 million of which \$8,799 million was allocated to the Bank. The previously reported System total 2008 weighted average amount outstanding for securities sold under agreements to repurchase was \$65,461 million of which \$5,936 million was allocated to the Bank.

The contract amounts for securities purchased under agreements to resell and securities sold under agreements to repurchase approximate fair value.

The remaining maturity distribution of Treasury securities, GSE debt securities, Federal agency and GSE MBS bought outright, securities purchased under agreements to resell, and securities sold under agreements to repurchase that were allocated to the Bank at December 31, 2009 was as follows (in millions):

	Treasury securities (Par value)	GSE debt securities (Par value)	Federal agency and GSE MBS (Par value)	Securities purchased under agreements to resell (Contract amount)	Securities sold under agreements to repurchase (Contract amount)
Within 15 days	\$ 419	\$ 2	\$ —	\$ —	\$ 2,801
16 days to 90 days	1,040	110	—	—	—
91 days to 1 year	1,830	776	—	—	—
Over 1 year to 5 years	11,779	3,582	—	—	—
Over 5 years to 10 years	7,702	1,218	1	—	—
Over 10 years	5,216	73	32,734	—	—
Total allocated to the Bank	\$ 27,986	\$ 5,761	\$ 32,735	\$ —	\$ 2,801

NOTES TO FINANCIAL STATEMENTS

Federal agency and GSE MBS are reported at stated maturity in the table above. The estimated weighted average life of these securities at December 31, 2009, which differs from the stated maturity primarily because it factors in prepayment assumptions, is approximately 6.4 years.

At December 31, 2009 and 2008, Treasury securities and GSE debt securities with par values of \$21,610 million and \$180,765 million, respectively, were loaned from the SOMA, of which \$779 million and \$16,391 million, respectively, were allocated to the Bank.

At December 31, 2009, the total of other investments was \$5 million, of which the Bank's allocated share was immaterial. Other investments consist of cash and short-term investments related to the Federal agency and GSE MBS portfolio.

At December 31, 2009, the total of other liabilities was \$601 million, of which \$22 million was allocated to the Bank. These other liabilities, which are related to purchases of Federal agency and GSE MBS, arise from the failure of a seller to deliver securities to the FRBNY on the settlement date. Although the Bank has ownership of and records its investments in the MBS securities as of the contractual settlement date, it is not obligated to make payment until the securities are delivered, and the amount reported as other liabilities represents the Bank's obligation to pay for the securities when delivered.

The FRBNY enters into commitments to buy Federal agency and GSE MBS and records the related MBS on a settlement-date basis. As of December 31, 2009, the total purchase price of the Federal agency and GSE MBS under outstanding commitments was \$160,099 million, of which \$32,838 million was related to dollar roll transactions. The amount of outstanding commitments allocated to the Bank was \$5,769 million, of which \$1,183 million was related to dollar roll transactions. These commitments, which had contractual settlement dates extending through March 2010, are primarily for the purchase of TBA MBS for which the number and identity of the pools that will be delivered to fulfill the commitment are unknown at the time of the trade. These commitments are subject to market and counterparty risks that result from their future settlement. As of December 31, 2009, the fair value of Federal agency and GSE MBS under outstanding commitments was \$158,868 million, of which \$5,725 million was allocated to the Bank. During the year ended December 31, 2009, the Reserve Banks recorded net gains from dollar roll related sales of \$879 million, of which \$15 million was allocated to the Bank. These net gains are reported as "Non-Interest Income: Federal agency and government-sponsored enterprise mortgage-backed securities gains, net" in the Statements of Income and Comprehensive Income.

7. Investments Denominated in Foreign Currencies

The FRBNY, on behalf of the Reserve Banks, holds foreign currency deposits with foreign central banks and with the Bank for International Settlements and invests in foreign government debt instruments. These investments are guaranteed as to principal and interest by the issuing foreign governments. In addition, the FRBNY enters into transactions to purchase foreign-currency-denominated government-debt securities under agreements to resell for which the accepted collateral is the debt instruments issued by the governments of Belgium, France, Germany, Italy, the Netherlands, and Spain.

The Bank's allocated share of investments denominated in foreign currencies was approximately 28.374 percent and 27.079 percent at December 31, 2009 and 2008, respectively.

NOTES TO FINANCIAL STATEMENTS

The Bank's allocated share of investments denominated in foreign currencies, including accrued interest, valued at amortized cost and foreign currency market exchange rates at December 31, was as follows (in millions):

	2009	2008
Euro:		
Foreign currency deposits	\$ 2,098	\$ 1,507
Securities purchased under agreements to resell	735	1,104
Government debt instruments	1,401	1,248
Japanese yen:		
Foreign currency deposits	966	943
Government debt instruments	1,971	1,915
Total allocated to the Bank	\$ 7,171	\$ 6,717

At December 31, 2009 and 2008, the fair value of investments denominated in foreign currencies, including accrued interest, allocated to the Bank was \$7,230 million and \$6,775 million, respectively. The fair value of government debt instruments was determined by reference to quoted prices for identical securities. The cost basis of foreign currency deposits and securities purchased under agreements to resell, adjusted for accrued interest, approximates fair value. Similar to the Treasury securities, GSE debt securities, and Federal agency and GSE MBS discussed in Note 6, unrealized gains or losses have no effect on the ability of a Reserve Bank, as the central bank, to meet its financial obligations and responsibilities. The fair value is presented solely for informational purposes.

Total Reserve Bank investments denominated in foreign currencies were \$25,272 million and \$24,804 million at December 31, 2009 and 2008, respectively. At December 31, 2009 and 2008, the fair value of the total Reserve Bank investments denominated in foreign currencies, including accrued interest, was \$25,480 million and \$25,021 million, respectively.

The remaining maturity distribution of investments denominated in foreign currencies that were allocated to the Bank at December 31, 2009 was as follows (in millions):

	Euro	Japanese yen	Total
Within 15 days	\$ 1,721	\$ 1,028	\$ 2,749
16 days to 90 days	711	131	842
91 days to 1 year	683	672	1,355
Over 1 year to 5 years	1,119	1,106	2,225
Total allocated to the Bank	\$ 4,234	\$ 2,937	\$ 7,171

At December 31, 2009 and 2008, the authorized warehousing facility was \$5 billion, with no balance outstanding.

In connection with its foreign currency activities, the FRBNY may enter into transactions that contain varying degrees of off-balance-sheet market risk that result from their future settlement and counterparty credit risk. The FRBNY controls these risks by obtaining credit approvals, establishing transaction limits, receiving collateral in some cases, and performing daily monitoring procedures.

NOTES TO FINANCIAL STATEMENTS

8. Central Bank Liquidity Swaps

U.S. Dollar Liquidity Swaps

The Bank's allocated share of U.S. dollar liquidity swaps was approximately 28.374 percent and 27.079 percent at December 31, 2009 and 2008, respectively.

At December 31, 2009 and 2008, the total Reserve Bank amount of foreign currency held under U.S. dollar liquidity swaps was \$10,272 million and \$553,728 million, respectively, of which \$2,915 million and \$149,945 million, respectively, was allocated to the Bank.

The remaining maturity distribution of U.S. dollar liquidity swaps that were allocated to the Bank at December 31 was as follows (in millions):

	2009			2008		
	Within 15 days	16 days to 90 days	Total	Within 15 days	16 days to 90 days	Total
Australian dollar	\$ —	\$ —	\$ —	\$ 2,708	\$ 3,474	\$ 6,182
Danish krone	—	—	—	—	4,062	4,062
Euro	1,846	—	1,846	40,881	38,015	78,896
Japanese yen	155	—	155	12,969	20,261	33,230
Korean won	—	—	—	—	2,803	2,803
Mexican peso	914	—	914	—	—	—
Norwegian krone	—	—	—	596	1,632	2,228
Swedish krona	—	—	—	2,708	4,062	6,770
Swiss franc	—	—	—	5,205	1,612	6,817
U.K. pound	—	—	—	32	8,925	8,957
Total	\$ 2,915	\$ —	\$ 2,915	\$ 65,099	\$ 84,846	\$ 149,945

Foreign Currency Liquidity Swaps

There were no transactions related to the foreign currency liquidity swaps during the years ended December 31, 2008 and 2009.

NOTES TO FINANCIAL STATEMENTS

9. Bank Premises, Equipment, and Software

Bank premises and equipment at December 31 were as follows (in millions):

	2009	2008
Bank premises and equipment:		
Land	\$ 44	\$ 38
Buildings	225	162
Building machinery and equipment	73	66
Construction in progress	4	63
Furniture and equipment	263	280
Subtotal	609	609
Accumulated depreciation	(284)	(277)
Bank premises and equipment, net	\$ 325	\$ 332
Depreciation expense, for the years ended December 31	\$ 46	\$ 44

Bank premises and equipment at December 31 included the following amounts for capitalized leases (in millions):

	2009	2008
Leased premises and equipment under capital leases	\$ 9	\$ 21
Accumulated depreciation	(5)	(13)
Leased premises and equipment under capital leases, net	\$ 4	\$ 8
Depreciation expense related to leased premises and equipment under capital leases	\$ 2	\$ 4

The Bank leases space to outside tenants with remaining lease terms ranging from 1 to 8 years. Rental income from such leases was \$1 million for each of the years ended December 31, 2009 and 2008, respectively, and is reported as a component of "Other income" in the Statements of Income and Comprehensive Income. Future minimum lease payments that the Bank will receive under noncancelable lease agreements in existence at December 31, 2009 are as follows (in thousands):

2010	\$ 1,082
2011	1,115
2012	694
2013	627
2014	647
Thereafter	1,542
Total	\$ 5,707

NOTES TO FINANCIAL STATEMENTS

The Bank had capitalized software assets, net of amortization, of \$23 million and \$24 million at December 31, 2009 and 2008, respectively. Amortization expense was \$14 million and \$19 million for the years ended December 31, 2009 and 2008, respectively. Capitalized software assets are reported as a component of "Other assets" in the Statements of Condition and the related amortization is reported as a component of "Other credits" in the Statements of Income and Comprehensive Income.

10. Commitments and Contingencies

In the normal course of its operations the Bank enters into contractual commitments, normally with fixed expiration dates or termination provisions, at specific rates and for specific purposes.

Rental expense under operating leases for certain operating facilities, warehouses, and data processing and office equipment (including taxes, insurance, and maintenance when included in rent), net of sublease rentals and rental charges to other entities within the System, was \$533 thousand and \$1 million for the years ended December 31, 2009 and 2008, respectively.

At December 31, 2009, there were no future minimum rental payments under noncancelable operating leases, net of sublease rentals, with remaining terms of one year or more.

At December 31, 2009, there were no material unrecorded unconditional purchase commitments or obligations in excess of one year.

Under the Insurance Agreement of the Federal Reserve Banks, each of the Reserve Banks has agreed to bear, on a per incident basis, a pro rata share of losses in excess of one percent of the capital paid-in of the claiming Reserve Bank, up to 50 percent of the total capital paid-in of all Reserve Banks. Losses are borne in the ratio of a Reserve Bank's capital paid-in to the total capital paid-in of all Reserve Banks at the beginning of the calendar year in which the loss is shared. No claims were outstanding under the agreement at December 31, 2009 or 2008.

The Bank is involved in certain legal actions and claims arising in the ordinary course of business. Although it is difficult to predict the ultimate outcome of these actions, in management's opinion, based on discussions with counsel, the aforementioned litigation and claims will be resolved without material adverse effect on the financial position or results of operations of the Bank.

11. Retirement and Thrift Plans

Retirement Plans

The Bank currently offers three defined benefit retirement plans to its employees, based on length of service and level of compensation. Substantially all of the employees of the Reserve Banks, Board of Governors, and Office of Employee Benefits of the Federal Reserve System ("OEB") participate in the Retirement Plan for Employees of the Federal Reserve System ("System Plan"). In addition, employees at certain compensation levels participate in the Benefit Equalization Retirement Plan ("BEP") and certain Reserve Bank officers participate in the Supplemental Retirement Plan for Select Officers of the Federal Reserve Bank ("SERP").

The System Plan provides retirement benefits to employees of the Federal Reserve Banks, the Board of Governors, and OEB. The FRBNY, on behalf of the System, recognizes the net asset or net liability and costs associated with the System Plan in its financial statements. Costs associated with the System Plan are not reimbursed by other participating employers.

The Bank's projected benefit obligation, funded status, and net pension expenses for the BEP and the SERP at December 31, 2009 and 2008, and for the years then ended, were not material.

NOTES TO FINANCIAL STATEMENTS

Thrift Plan

Employees of the Bank participate in the defined contribution Thrift Plan for Employees of the Federal Reserve System ("Thrift Plan"). The Bank matches employee contributions based on a specified formula. For the year ended December 31, 2008 and for the first three months of the year ended December 31, 2009, the Bank matched 80 percent of the first 6 percent of employee contributions for employees with less than five years of service and 100 percent of the first 6 percent of employee contributions for employees with five or more years of service. Effective April 1, 2009, the Bank matches 100 percent of the first 6 percent of employee contributions from the date of hire and provides an automatic employer contribution of one percent of eligible pay. The Bank's Thrift Plan contributions totaled \$12 million and \$10 million for the years ended December 31, 2009 and 2008, respectively, and are reported as a component of "Salaries and other benefits" in the Statements of Income and Comprehensive Income.

12. Postretirement Benefits Other Than Retirement Plans and Postemployment Benefits

Postretirement Benefits Other Than Retirement Plans

In addition to the Bank's retirement plans, employees who have met certain age and length-of-service requirements are eligible for both medical benefits and life insurance coverage during retirement.

The Bank funds benefits payable under the medical and life insurance plans as due and, accordingly, has no plan assets.

Following is a reconciliation of the beginning and ending balances of the benefit obligation (in millions):

	2009	2008
Accumulated postretirement benefit obligation at January 1	\$ 182.0	\$ 170.3
Service cost benefits earned during the period	7.4	6.8
Interest cost on accumulated benefit obligation	11.2	10.8
Net actuarial loss	9.4	1.0
Curtailment gain	—	(0.6)
Contributions by plan participants	1.8	1.5
Benefits paid	(9.7)	(8.3)
Medicare Part D subsidies	0.6	0.5
Plan amendments	(10.9)	—
Accumulated postretirement benefit obligation at December 31	\$ 191.8	\$ 182.0

At December 31, 2009 and 2008, the weighted-average discount rate assumptions used in developing the postretirement benefit obligation were 5.75 percent and 6.00 percent, respectively.

Discount rates reflect yields available on high-quality corporate bonds that would generate the cash flows necessary to pay the plan's benefits when due.

NOTES TO FINANCIAL STATEMENTS

Following is a reconciliation of the beginning and ending balance of the plan assets, the unfunded postretirement benefit obligation, and the accrued postretirement benefit costs (in millions):

	2009	2008
Fair value of plan assets at January 1	\$ —	\$ —
Contributions by the employer	7.3	6.3
Contributions by plan participants	1.8	1.5
Benefits paid	(9.7)	(8.3)
Medicare Part D subsidies	0.6	0.5
Fair value of plan assets at December 31	\$ —	\$ —
Unfunded obligation and accrued postretirement benefit cost	\$ 191.8	\$ 182.0
Amounts included in accumulated other comprehensive loss are shown below:		
Prior service cost	\$ 13.5	\$ 4.3
Net actuarial loss	(56.1)	(51.8)
Deferred curtailment gain	—	0.4
Total accumulated other comprehensive loss	\$ (42.6)	\$ (47.1)

Accrued postretirement benefit costs are reported as a component of "Accrued benefit costs" in the Statements of Condition.

For measurement purposes, the assumed health care cost trend rates at December 31 are as follows:

	2009	2008
Health care cost trend rate assumed for next year	7.50 %	7.50 %
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	5.00 %	5.00 %
Year that the rate reaches the ultimate trend rate	2015	2014

Assumed health care cost trend rates have a significant effect on the amounts reported for health care plans. A one percentage point change in assumed health care cost trend rates would have the following effects for the year ended December 31, 2009 (in millions):

	1% Point Increase	1% Point Decrease
Effect on aggregate of service and interest cost components of net periodic postretirement benefit costs	\$ 3.3	\$ (2.6)
Effect on accumulated postretirement benefit obligation	25.1	(20.9)

NOTES TO FINANCIAL STATEMENTS

The following is a summary of the components of net periodic postretirement benefit expense for the years ended December 31 (in millions):

	2009	2008
Service cost benefits earned during the period	\$ 7.4	\$ 6.8
Interest cost on accumulated benefit obligation	11.2	10.8
Amortization of prior service cost	(1.6)	(1.4)
Amortization of net actuarial loss	5.0	5.2
Total periodic expense	22.0	21.4
Curtailment gain	(0.4)	(0.2)
Net periodic postretirement benefit expense	\$ 21.6	\$ 21.2
Estimated amounts that will be amortized from accumulated other comprehensive loss into net periodic postretirement benefit expense in 2010 are shown below:		
Prior service cost	\$ (3.3)	
Net actuarial loss	5.0	
Total	\$ 1.7	

Net postretirement benefit costs are actuarially determined using a January 1 measurement date. At January 1, 2009 and 2008, the weighted-average discount rate assumptions used to determine net periodic postretirement benefit costs were 6.00 percent and 6.25 percent, respectively.

Net periodic postretirement benefit expense is reported as a component of "Salaries and other benefits" in the Statements of Income and Comprehensive Income.

A net curtailment gain associated with restructuring programs that are described in Note 14 was recognized in net income in the year ended December 31, 2008, related to employees who terminated employment during 2008. A deferred curtailment gain was recorded in 2007 as a component of accumulated other comprehensive loss; the gain will be recognized in net income in future years when the related employees terminate employment.

The Medicare Prescription Drug, Improvement and Modernization Act of 2003 established a prescription drug benefit under Medicare ("Medicare Part D") and a federal subsidy to sponsors of retiree health care benefit plans that provide benefits that are at least actuarially equivalent to Medicare Part D. The benefits provided under the Bank's plan to certain participants are at least actuarially equivalent to the Medicare Part D prescription drug benefit. The estimated effects of the subsidy are reflected in actuarial loss in the accumulated postretirement benefit obligation and net periodic postretirement benefit expense.

Federal Medicare Part D subsidy receipts were \$0.8 million and \$0.4 million in the years ended December 31, 2009 and 2008, respectively. Expected receipts in 2010, related to benefits paid in the years ended December 31, 2009 and 2008, are \$0.1 million.

NOTES TO FINANCIAL STATEMENTS

Following is a summary of expected postretirement benefit payments (in millions):

	Without Subsidy	With Subsidy
2010	\$ 9.6	\$ 9.0
2011	10.6	9.8
2012	11.3	10.4
2013	12.0	11.0
2014	12.8	11.6
2015-2019	76.4	68.8
Total	\$ 132.7	\$ 120.6

Postemployment Benefits

The Bank offers benefits to former or inactive employees. Postemployment benefit costs are actuarially determined using a December 31 measurement date and include the cost of medical and dental insurance, survivor income, and disability benefits. The accrued postemployment benefit costs recognized by the Bank at December 31, 2009 and 2008, were \$19 million and \$16 million, respectively. This cost is included as a component of "Accrued benefit costs" in the Statements of Condition. Net periodic postemployment benefit expense included in 2009 and 2008 operating expenses were \$7 million and \$2 million, respectively, and are recorded as a component of "Salaries and other benefits" in the Statements of Income and Comprehensive Income.

NOTES TO FINANCIAL STATEMENTS

13. Accumulated Other Comprehensive Income and Other Comprehensive Income

Following is a reconciliation of beginning and ending balances of accumulated other comprehensive loss (in millions):

	Amount related to postretirement benefits other than retirement plans	
Balance at January 1, 2008	\$	(50)
Change in funded status of benefit plans:		
Prior service costs arising during the year		1
Net actuarial loss arising during the year		(1)
Amortization of prior service cost		(2)
Amortization of net actuarial loss		5
Change in funded status of benefit plans—other comprehensive loss		3
Balance at December 31, 2008	\$	(47)
Change in funded status of benefit plans:		
Prior service costs arising during the year		11
Net actuarial loss arising during the year		(9)
Amortization of prior service cost		(2)
Amortization of net actuarial loss		5
Change in funded status of benefit plans—other comprehensive loss		5
Balance at December 31, 2009	\$	(42)

Additional detail regarding the classification of accumulated other comprehensive loss is included in Note 12.

14. Business Restructuring Charges 2007 and Prior Restructuring Plans

The Bank incurred various restructuring charges prior to 2008 related to the restructuring of check processing infrastructure and operations, as well as the U.S. Treasury's Collections and Cash Management Modernization (CCMM) initiative.

2008 Restructuring Plans

In 2008, the Reserve Banks announced the acceleration of their check restructuring initiatives to align the check processing infrastructure and operations with declining check processing volumes. The new infrastructure consolidates operations into two regional Reserve Bank processing sites; in Cleveland, for paper check processing, and Atlanta, for electronic check processing.

NOTES TO FINANCIAL STATEMENTS

Following is a summary of financial information related to the restructuring plans (in millions):

	Restructuring Plans				Total
	2007 and prior		2008		
<i>Information related to restructuring plans as of December 31, 2009:</i>					
Total expected costs related to restructuring activity	\$	5.5	\$	1.8	\$ 7.3
Estimated future costs related to restructuring activity		—		—	—
Expected completion date		2009		2009	
<i>Reconciliation of liability balances:</i>					
Balance at January 1, 2008	\$	5.8	\$	—	\$ 5.8
Employee separation costs		1.2		2.3	3.5
Adjustments		(0.4)		—	(0.4)
Payments		(1.7)		(0.2)	(1.9)
Balance at December 31, 2008	\$	4.9	\$	2.1	\$ 7.0
Employee separation costs		0.2		—	0.2
Adjustments		(0.6)		(0.4)	(1.0)
Payments		(3.8)		(1.4)	(5.2)
Balance at December 31, 2009	\$	0.7	\$	0.3	\$ 1.0

Employee separation costs are primarily severance costs for identified staff reductions associated with the announced restructuring plans. Separation costs that are provided under terms of ongoing benefit arrangements are recorded based on the accumulated benefit earned by the employee. Separation costs that are provided under the terms of one-time benefit arrangements are generally measured based on the expected benefit as of the termination date and recorded ratably over the period to termination. Restructuring costs related to employee separations are reported as a component of “Salaries and other benefits” in the Statements of Income and Comprehensive Income.

Adjustments to the accrued liability are primarily due to changes in the estimated restructuring costs and are shown as a component of the appropriate expense category in the Statements of Income and Comprehensive Income.

Restructuring costs associated with the impairment of certain Bank assets, including software, buildings, leasehold improvements, furniture, and equipment, are discussed in Note 9. Costs associated with enhanced pension benefits for all Reserve Banks are recorded on the books of the FRBNY as discussed in Note 11.

15. Subsequent Events

In February 2010, the System discontinued a contractual relationship in connection with a large-scale software development program for which the Bank has recorded costs of \$4.5 million as of December 31, 2009. The Bank expects that a portion of these costs, which are recorded as a component of "Bank premises and equipment, net" and "Other assets," will be expensed in 2010. There were no subsequent events that require adjustments to or other events that require disclosure in the financial statements as of December 31, 2009. Subsequent events were evaluated through April 21, 2010, which is the date that the Bank issued the financial statements.

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