Modern Macroeconomic Models as Tools for Economic Policy

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President's Message

Macroeconomists have traveled the right path over the past 25 or 30 years. We face many difficult intellectual challenges—but those intellectual challenges are roughly the same today as they were in 2007. What has changed is that we now realize that we need to overcome those challenges to provide quality advice to policymakers.

One of the sideshows produced by the recent financial crisis was the spectacle of economists hurling invective at one another as they argued about the positive and negative effects of various policies. For noneconomists paying attention to this exchange, the scuffle was likely disconcerting, if occasionally amusing. It almost certainly reinforced a misconception that economists can't agree on anything.

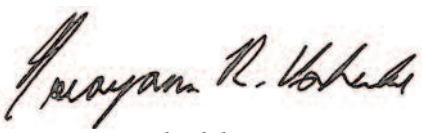
What was interesting to me is that few, if any, prominent younger macroeconomists (say, those earning Ph.D.s in the past 20 years) engaged in this debate. Obviously, this says something about their degree of visibility relative to their elders. But to me, it also says something about the degree of consensus in macroeconomics among younger scholars. This consensus is important to understand, because it—not the consensus of 1975—will be the foundation for future work in the field and, in time, for any future understanding about policy.

I'm a long-time macroeconomist (not young by the above or any other definition). In this year's *Annual Report* essay, I describe what I perceive to be the consensus views among younger scholars about the field's strengths and weaknesses. There is no doubt in my mind that the past two or three years have changed these views, and these changes in views certainly form a major part of my essay.

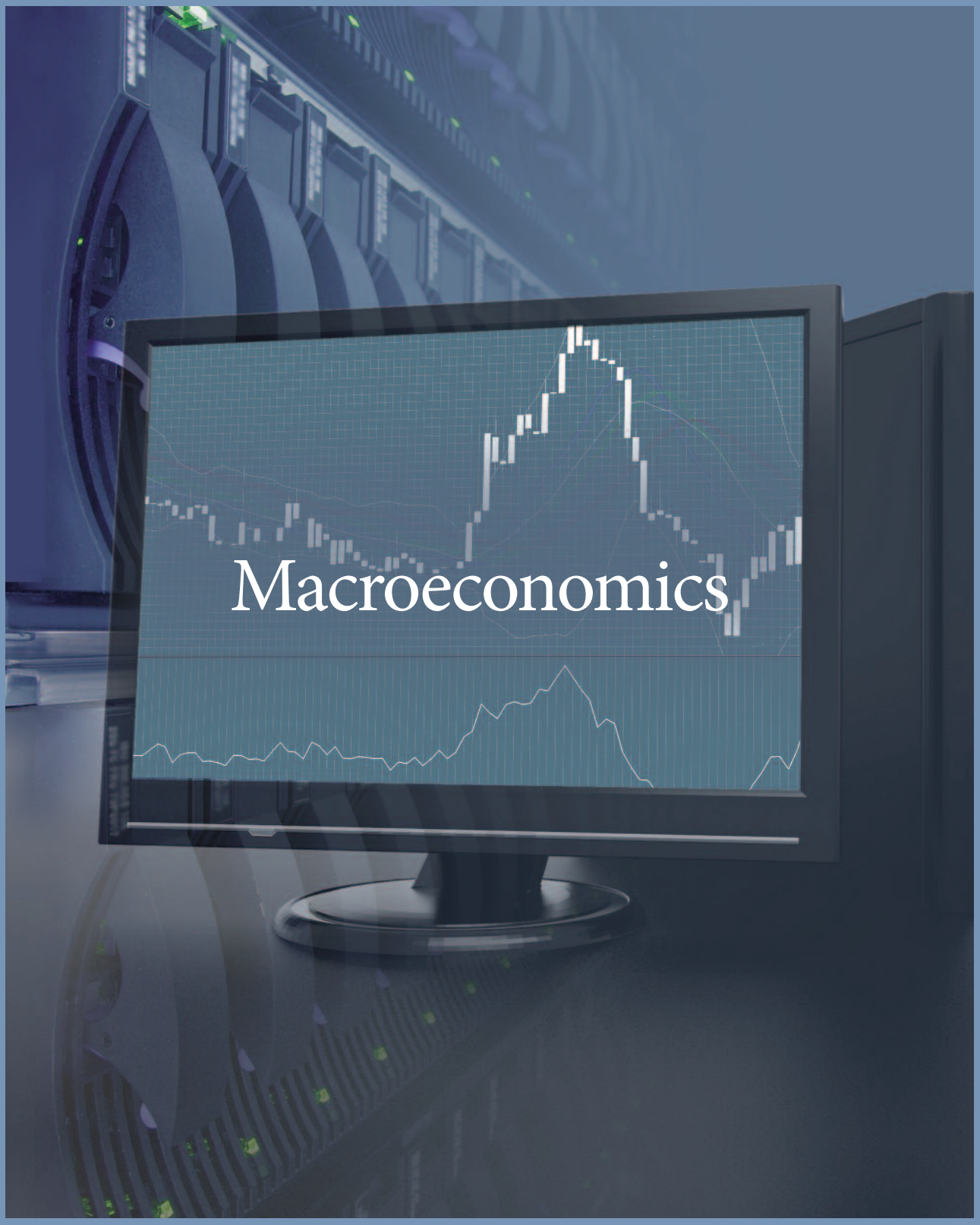
Macroeconomists have traveled the right path over the past 25 or 30 years. We face many difficult intellectual challenges—but those intellectual challenges are roughly the same today as they were in 2007. What has changed is that we now realize that we need to overcome those challenges to provide quality advice to policymakers. That's exciting for me as a new policymaker. And I hope and expect that it will be exciting for many potential entrants into our field. I have nothing but optimism for the future contributions of macroeconomics.

Now, I have to admit that any attempt to describe a consensus faces a significant risk of generating so much controversy that it ends up being a contradiction in terms! Along those lines, I certainly welcome your comments and thoughts on my ideas and words.

I would also encourage you to take a look at this year's Operations Report prepared by Jim Lyon, our first vice president, beginning on page 23, and the pages that follow. In addition to Jim's recap of the important operations performed by Bank employees, you will find photographs of dedicated citizens who are serving on the boards of directors of this Bank and our branch in Helena, Mont. These busy professionals expend a great deal of time monitoring operations at our two facilities and contributing to our understanding of the Ninth District economy. On that note, you will also find pictures of our two advisory councils—one representing small business and labor, and the other agriculture—the members of which report on the economic conditions of communities from Montana to the Upper Peninsula of Michigan. These farmers, ranchers, business owners and labor representatives are a real strength of the Federal Reserve's regional system, and we appreciate their service.



Narayana Kocherlakota


Macroeconomics

Modern Macroeconomic Models as Tools for Economic Policy

I believe that during the last financial crisis, macroeconomists (and I include myself among them) failed the country, and indeed the world. In September 2008, central bankers were in desperate need of a playbook that offered a systematic plan of attack to deal with fast-evolving circumstances. Macroeconomics should have been able to provide that playbook. It could not. Of course, from a longer view, macroeconomists let policymakers down much earlier, because they did not provide policymakers with rules to avoid the circumstances that led to the global financial meltdown.

Because of this failure, macroeconomics and its practitioners have received a great deal of pointed criticism both during and after the crisis. Some of this criticism has come from policymakers and the media, but much has come from other economists. Of course, macroeconomists have responded with considerable vigor, but the overall debate inevitably leads the general public to wonder: What is the value and applicability of macroeconomics as currently practiced?

The answer is that macroeconomics has made important advances in recent years. Those advances—coupled with a rededicated effort following this recent economic episode—position macroeconomics to make useful contributions to policymaking in the future. In this essay, I want to tell the story of how macroeconomics got to this point, of what the

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President

* The author thanks Cristina Arellano, Harold Cole, Gauti Eggertsson, Barbara McCutcheon, Lee Ohanian, Kjetil Storesletten, and Kei-Mu Yi for their valuable input.

key questions are that still vex the science, and of why I am hopeful that macroeconomics is poised to benefit policymakers going forward.

According to the media, the defining struggle of macroeconomics is between people: those who like government and those who don't. In my essay, the defining struggle in macroeconomics is between people and technology. Macroeconomists try to determine the answers to questions about entire economies. These questions really concern the outcomes of large-scale experiments, but there is no sensible way to perform such experiments in national or global laboratories. Instead, macroeconomists must conduct their experiments inside economic models that are highly stylized and simplified versions of reality. I will show that macroeconomists always leave many possibly important features of the world out of their models. It may seem to outside observers that macroeconomists make these omissions out of choice. Far more often, though, macroeconomists abstract from aspects of reality because they must. At any given point in time, there are significant conceptual and computational limitations that restrict what macroeconomists can do. The evolution of the field is about the eroding of these barriers.

OUTLINE

This essay describes the current state of macroeconomic modeling and its relationship to the world of policymaking. Modern macro models can be traced back to a revolution that began in the 1980s in response to a powerful critique authored by Robert Lucas (1976). The revolution has led to the use of models that share five key features:

a. They specify budget constraints for households, technologies for firms, and resource constraints for the overall economy.

b. They specify household preferences and firm objectives.

c. They assume forward-looking behavior for firms and households.

d. They include the shocks that firms and households face.

e. They are models of the entire macroeconomy.

The original modern macro models developed in the 1980s implied that there was little role for government stabilization. However, since then, there have been enormous innovations in the availability of household-level and firm-level data, in computing technology, and in theoretical reasoning. These advances mean that current models can have features that had to be excluded in the 1980s. It is common now, for example, to use models in which firms can only adjust their prices and wages infrequently. In other widely used models, firms or households are unable to fully insure against shocks, such as loss of market share or employment, and face restrictions on their abilities to borrow. Unlike the models of the 1980s, these newer models do imply that government stabilization policy can be useful. However, as I will show, the desired policies are very different from those implied by the models of the 1960s or 1970s.

As noted above, despite advances in macroeconomics, there is much left to accomplish. I highlight

three particular weaknesses of current macro models. First, few, if any, models treat financial, pricing, and labor market frictions jointly. Second, even in macro models that contain financial market frictions, the treatment of banks and other financial institutions is quite crude. Finally, and most troubling, macro models are driven by patently unrealistic shocks. These deficiencies were largely—and probably rightly—ignored during the "Great Moderation" period of 1982–2007, when there were only two small recessions in the United States. The weaknesses need to be addressed in the wake of more recent events.

Finally, I turn to the policy world. The evolution of macroeconomic models had relatively little effect on policymaking until the middle part of this decade.[1] At that point, many central banks began to use modern macroeconomic models with price rigidities for forecasting and policy evaluation. This step is a highly desirable one. However, as far as I am aware, no central bank is using a model in which heterogeneity among agents or firms plays a prominent role. I discuss why this omission strikes me as important.

MODERN MACRO MODELS

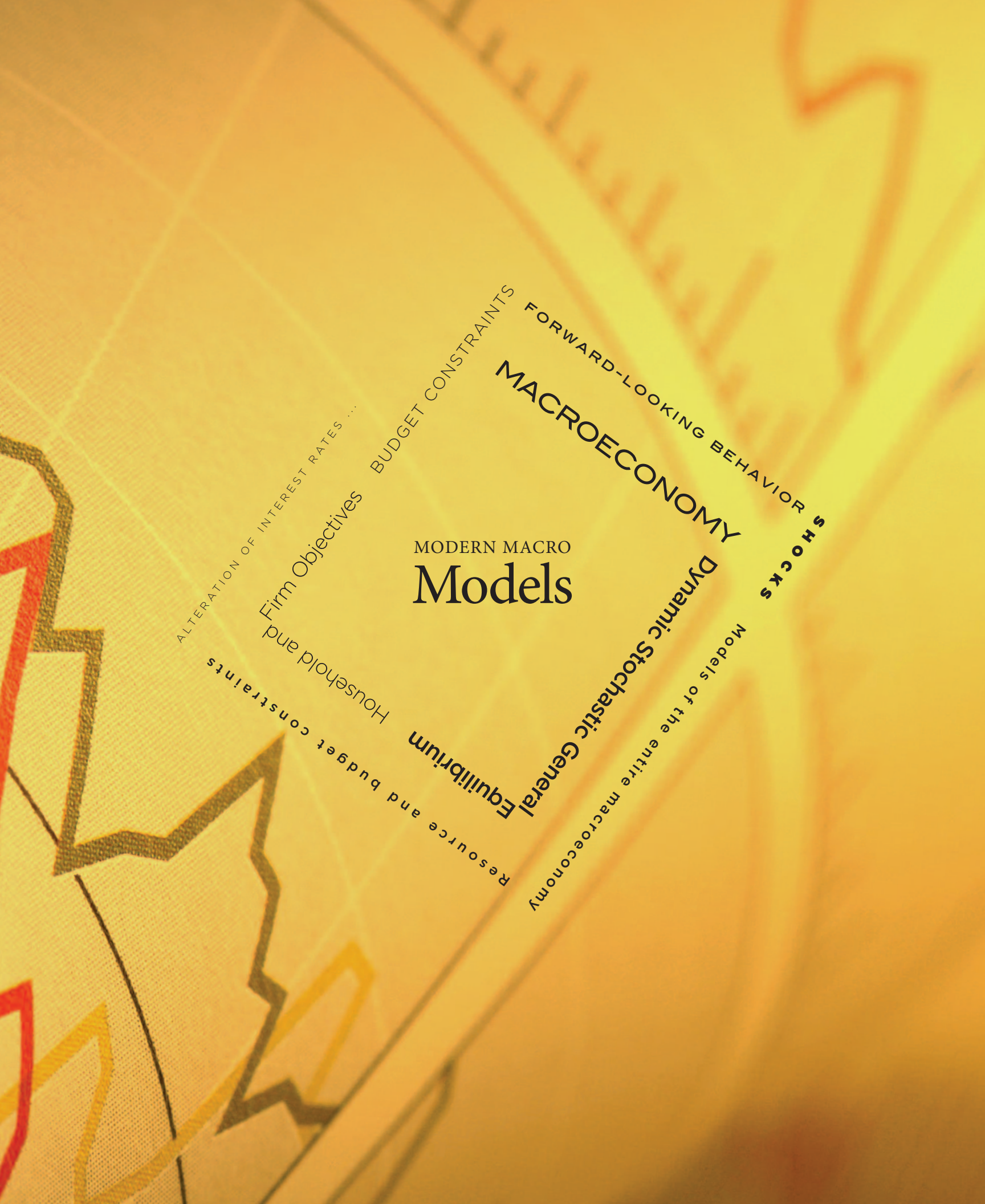
I begin by laying out the basic ingredients of modern macro models. I discuss the freshwater-saltwater divide of the 1980s. I argue that this division has been eradicated, in large part by better computers.

The Five Ingredients

The macro models used in the 1960s and 1970s were based on large numbers of interlocking demand and supply relationships estimated using various kinds of data. In his powerful critique, Lucas demonstrated that the demand and supply relationships estimated using data generated from one macroeconomic policy regime would necessarily change when the policy regime changed. Hence, such estimated relationships, while useful for forecasting when the macro policy regime was kept fixed, could not be of use in evaluating the impact of policy regime changes.

How can macroeconomists get around the Lucas critique? The key is to build models that are specifically based on the aspects of the economy that they all agree are beyond the control of the government. Thus, the Lucas critique says that if the Federal Reserve alters its interest rate rule, the estimated relationship between investment and interest rates must change. However, this relationship is ultimately grounded in more fundamental features of the economy, such as the *technology* of capital accumulation and people's *preferences* for consumption today versus in the future. If the Federal Reserve changes its rule, people's preferences and firms' technologies don't change. Models that are grounded in these more fundamental (sometimes called *structural*) features of the economy can do a better job of figuring out the impact of a change in Federal Reserve policy.

[1] To be clear: Policymakers did learn some important qualitative lessons from modern macro. Thus, in the wake of Finn Kydland and Edward Prescott (1977), there was a much more widespread appreciation of the value of rules relative to discretion. However, policymakers continued to use largely outdated models for assessing the quantitative impact of policy changes.


MODERN MACRO
Models
ALTERATION OF INTEREST RATES ...
BUDGET CONSTRAINTS
FORWARD-LOOKING BEHAVIOR
SHOCKS
Firm Objectives
Household and
Resource and budget constraints
Equilibrium
Dynamic Stochastic General
MACROECONOMY
Models of the entire macroeconomy

Beginning in the 1980s, this argument (and other forces) led to the growing use of what I will term "modern macro" models. As I outlined earlier, modern macro models have five key features. First, they must include *resource* constraints and *budget* constraints. Resource constraints show how the members of society can use costly inputs like labor and capital to create goods. Budget constraints dictate that no entity can increase its spending without increasing its revenue (either now or in the future). These constraints prevent anyone in the economy (including the government) from creating something from nothing.

Second, the models must include an explicit description of individual preferences and firm objectives. Without such a description, as discussed above, the models are subject to the Lucas critique.

Third, the models generally feature forward-looking behavior. Macroeconomists all agree that households' and firms' actions today depend on their expectations of the future. Thus, households that expect better times in the future will try to borrow. Their demand for loans will drive up interest rates. An analyst who ignored these expectations would not be able to understand the behavior of interest rates.

In most macro models, households and firms have what are called *rational* expectations. This term means that they form forecasts about the future as if they were statisticians. It does not mean that households and firms in the model are always—or ever—right about the future. However, it does mean that households and firms cannot make better forecasts given their available information.

Using rational expectations has been attractive to macroeconomists (and others) because it provides a simple and unified way to approach the modeling of forward-looking behavior in a wide range of settings. However, it is also clearly unrealistic. Longstanding research agendas by prominent members of the profession (Christopher Sims and Thomas Sargent, among others) explore the consequences of relaxing the assumption. Doing so has proven challenging both conceptually and computationally.

Forward-looking households and firms want to take account of the risks that might affect them. For this reason, the fourth key ingredient of modern macro models is that they are explicit about the shocks that affect the economy. For example, most macro models assume that the rate of technological progress is random. Expectations about this variable matter: Households will work harder and firms invest more if they expect rapid technological progress.

Finally, just like old macro models, modern macro models are designed to be mathematical formalizations of the entire economy. This ambitious approach is frustrating for many outside the field. Many economists like verbal intuitions as a way to convey understanding. Verbal intuition can be helpful in understanding bits and pieces of macro models. However, it is almost always misleading about how they fit together. It is exactly the imprecision and incompleteness of verbal intuition that forces macroeconomists to include the entire economy in their models.

When these five ingredients are put together, the result is what are often termed *dynamic stochastic*

general equilibrium (DSGE) macro models. Dynamic refers to the forward-looking behavior of households and firms. Stochastic refers to the inclusion of shocks. General refers to the inclusion of the entire economy. Finally, equilibrium refers to the inclusion of explicit constraints and objectives for the households and firms.

Historical Digression: Freshwater versus Saltwater

The switch to modern macro models led to a fierce controversy within the field in the 1980s. Users of the new models (called "freshwater" economists because their universities were located on lakes and rivers) brought a new methodology. But they also had a surprising substantive finding to offer. They argued that a large fraction of aggregate fluctuations could be understood as an *efficient* response to shocks that affected the entire economy. As such, most, if not all, government stabilization policy was inefficient.

The intuition of the result seemed especially clear in the wake of the oil crisis of the 1970s. Suppose a country has no oil, but it needs oil to produce goods. If the price of oil goes up, then it is economically efficient for people in the economy to work less and produce less output. Faced with this shock, the government of the oil-importing country could generate more output in a number of ways. It could buy oil from overseas and resell it at a lower domestic price. Alternatively, it could hire the freed-up workers at high wages to produce public goods. However, both of these options require the government to raise taxes. In the models of the freshwater camp, the benefits of the stimulus are outweighed by the costs of the taxes. The recession generated by the increase in the oil price is efficient.

Scholars in the opposing ("saltwater") camp argued that in a large economy like the United States, it is implausible for the fluctuations in the *efficient* level of aggregate output to be as large as the fluctuations in the *observed* level of output. They pointed especially to downturns like the Great Depression as being obvious counterexamples.

The divide between freshwater and saltwater economists lives on in newspaper columns and the blogosphere. (More troubling, it may also live on in the minds of at least some policymakers.) However, the freshwater-saltwater debate has largely vanished in the academe.

My own idiosyncratic view is that the division was a consequence of the limited computing technologies and techniques that were available in the 1980s. To solve a generic macro model, a vast array of time- and state-dependent quantities and prices must be computed. These quantities and prices interact in potentially complex ways, and so the problem can be quite daunting.

However, this complicated interaction simplifies greatly if the model is such that its implied quantities maximize a measure of social welfare. Given the primitive state of computational tools, most researchers could only solve models of this kind. But—almost coincidentally—in these models, all government interventions (including all

forms of stabilization policy) are undesirable.

With the advent of better computers, better theory, and better programming, it is possible to solve a much wider class of modern macro models. As a result, the freshwater-saltwater divide has disappeared. Both camps have won (and I guess lost). On the one hand, the freshwater camp won in terms of its modeling methodology. Substantively, too, there is a general recognition that some nontrivial fraction of aggregate fluctuations is actually efficient in nature.

On the other hand, the saltwater camp has also won, because it is generally agreed that some forms of stabilization policy are useful. As I will show, though, these stabilization policies take a different form from that implied by the older models (from the 1960s and 1970s).

STATE OF MODERN MACRO

In this section, I discuss some of the successes of modern macro. I point to some deficiencies in the current state of knowledge and discuss what I perceive as useful steps forward.

Successes

In the macro models of the 1980s, all mutually beneficial trades occur without delay. This assumption of *frictionless* exchange made solving these models easy. However, it also made the models less compelling. To a large extent, the progress in macro in the past 25 years has been about being able to solve models that incorporate more realistic versions of the exchange process. This evolution has taken place in many ways, but I will focus on two that I see as particularly important.

Pricing Frictions: The New Keynesian Synthesis

If the Federal Reserve injects a lot of money into the economy, then there is more money chasing fewer goods. This extra money puts upward pressure on prices. If all firms changed prices continuously, then this upward pressure would manifest itself in an immediate jump in the price level. But this immediate jump would have little effect on the economy. Essentially, such a change would be like a simple change of units (akin to recalculating distances in inches instead of feet).

In the real world, though, firms change prices only infrequently. It is impossible for the increase in money to generate an immediate jump in the price level. Instead, since most prices remain fixed, the extra money generates more demand on the part of households and in that way generates more production. Eventually, prices adjust, and these effects on demand and production vanish. But infrequent price adjustment means that monetary policy can have short-run effects on real output.

Because of these considerations, many modern macro models are centered on infrequent price and wage adjustments. These models are often called *sticky price* or *New Keynesian* models. They provide a foundation for a coherent normative and positive analysis of monetary policy in the face of shocks. This analysis has led to new and important insights. It is true that, as in the models of the 1960s and

1970s, monetary policymakers in New Keynesian models are trying to minimize output gaps without generating too much volatility in inflation. However, in the models of the 1960s and 1970s, *output* gap refers to the deviation between observed output and some measure of potential output that is growing at a roughly constant rate. In contrast, in modern sticky price models, output gap refers to the deviations between observed output and efficient output. The modern models specifically allow for the possibility that efficient output may move down in response to adverse shocks. This difference in formulation can lead to strikingly different policy implications.

FINANCIAL MARKET FRICTIONS

The modern macro models of the 1980s and the New Keynesian models either implicitly or explicitly assume that firms and households can fully capitalize all future incomes through loan or bond markets. The models also assume that firms and households can buy insurance against all possible forms of risk. This assumption of a *frictionless* financial market is clearly unrealistic.

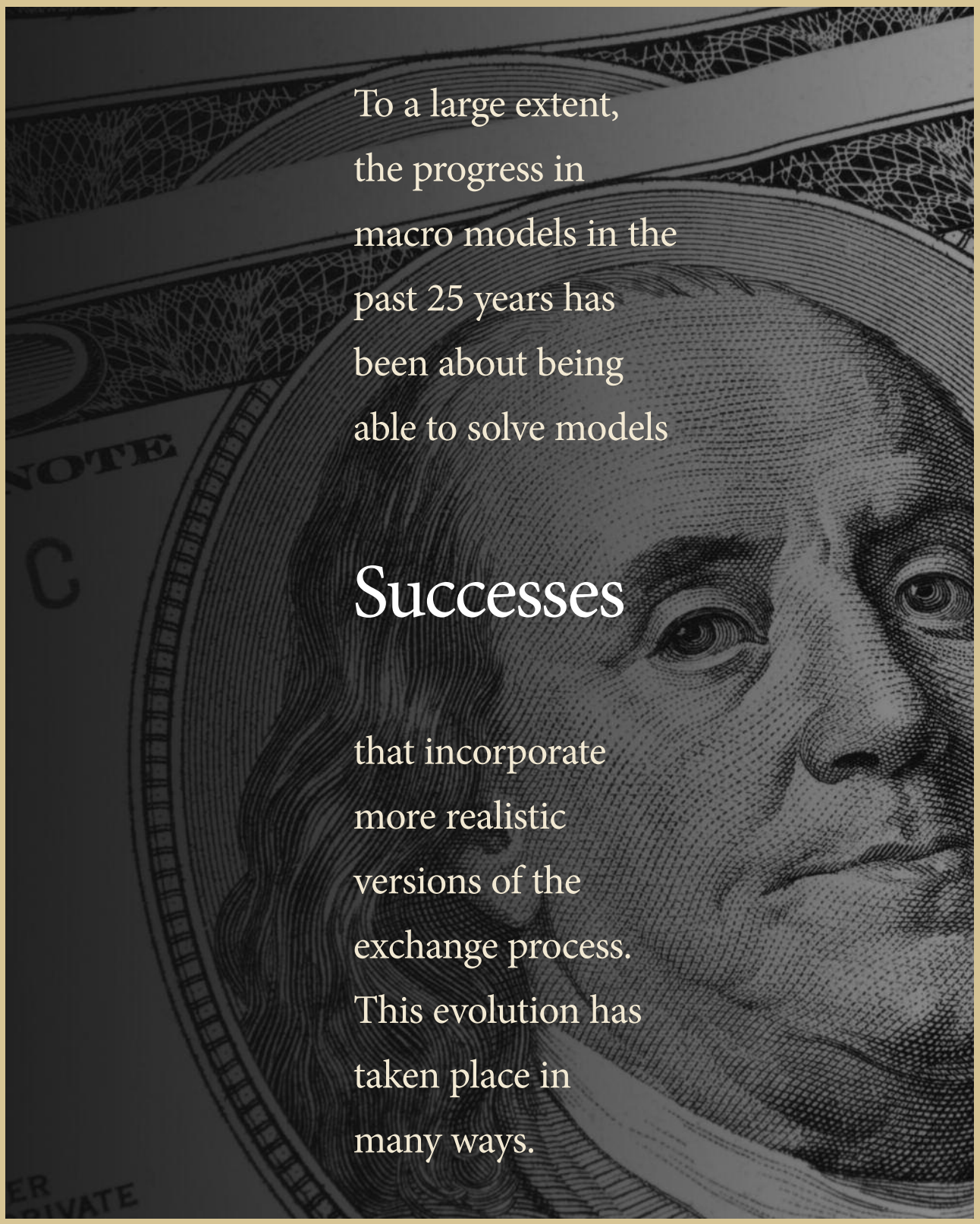
Over the past 25 years, a great deal of work has used models that incorporate financial market frictions. Most of these models cannot be solved reliably using graphical techniques or pencil and paper. As a consequence, progress is closely tied to advances in computational speed.

Why are these models so hard to solve? The key difficulty is that, within these models, the distribution of financial wealth evolves over time. Suppose, for example, that a worker loses his or her job. If the worker were fully insured against this outcome, the worker's wealth would not be affected by this loss. However, in a model with only partial insurance, the worker will run down his or her savings to get through this unemployment spell. The worker's financial wealth will be lower as a result of being unemployed.

In this fashion, workers with different histories of unemployment will have different financial wealth. Aggregate shocks (booms or busts) will influence the distribution of financial wealth. In turn, as the wealth distribution changes over time, it feeds back in complex ways into aggregate economic outcomes.

From a policy perspective, these models lead to a new and better understanding of the costs of economic downturns. For example, consider the latest recession. During the four quarters from June 2008 through June 2009, per capita gross domestic product in the United States fell by roughly 4 percent. In a model with no asset market frictions, all people share this proportionate loss evenly and all lose two weeks' pay. Such a loss is certainly noticeable. However, I would argue that it is not a *huge* loss. Put it this way: This scale of loss means everyone in the United States ends up being paid in June 2009 the same (inflation-adjusted) amount that they made in June 2006.

However, the models with asset market frictions (combined with the right kind of measurement from microeconomic data) make clear why the above analysis is incomplete. During downturns, the loss of income is not spread evenly across all households,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many ways.

because some people lose their jobs and others don't. Because of financial market frictions, the insurance against these outcomes is far from perfect (despite the presence of government-provided unemployment insurance). As a result, the fall in GDP from June 2008 to June 2009 does not represent a 4 percent loss of income for everyone. Instead, the aggregate downturn confronts many people with a disturbing game of chance that offers them some probability of losing an enormous amount of income (as much as 50 percent or more). It is this extra risk that makes aggregate downturns so troubling to people, not the average loss.

This way of thinking about recessions changes one's views about the appropriate policy responses. Good social insurance (like extended unemployment benefits) becomes essential. Using GDP growth rates as a way to measure recession or recovery seems strained. Instead, unemployment rates become a useful (albeit imperfect) way to measure the concentration of aggregate shocks.

THE PROBLEMS

I have highlighted the successes of macro modeling over the past 25 years. However, there are some distinct areas of concern. I will highlight three.

Piecemeal Approach

I have discussed how macroeconomists have added financial frictions and pricing frictions into their models. They have added a host of other frictions (perhaps most notably labor market frictions that require people to spend time to find jobs). However, modelers have generally added frictions one at a time. Thus, macro models with pricing frictions do not have financial frictions, and neither kind of macro model has labor market frictions.

This piecemeal approach is again largely attributable to computational limitations. As I have discussed above, it is hard to compute macro models with financial frictions. It does not become easier to compute models with both labor market frictions and financial frictions. But the recent crisis has not been purely financial in nature: Remarkable events have taken place in both labor markets and asset markets. It seems imperative to study the joint impact of multiple frictions.

Finance and Banking

As I have discussed, many modern macro models incorporate financial market frictions. However, these models generally allow households and firms to trade one or two financial assets in a single market. They do not capture an intermediate messy reality in which market participants can trade multiple assets in a wide array of somewhat segmented markets. As a consequence, the models do not reveal much about the benefits of the massive amount of daily or quarterly reallocations of wealth within financial markets. The models also say nothing about the relevant costs and benefits of resulting fluctuations in financial structure (across bank loans, corporate debt, and equity).

Macroeconomists abstracted from these features of financial markets for two reasons. First, prior to December 2007, such details seemed largely irrele-

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Concerns

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vant to understanding post-World War II business cycle fluctuations in the United States (although maybe not in other countries, such as Japan). This argument is certainly less compelling today.

Second, embedding such features in modern macro models is difficult. There are many economic theories of high-frequency asset trading and corporate structure. Generally, these theories rely on some market participants having private information about key economic attributes, such as future asset payoffs or firm prospects. This kind of private information is hard to incorporate into the kind of dynamic economic models used by macroeconomists. Nonetheless, I am sure that there will be a lot of work taking up this challenge in the months and years to come.

SHOCKS

Why does an economy have business cycles? Why do asset prices move around so much? At this stage, macroeconomics has little to offer by way of answers to these questions. The difficulty in macroeconomics is that virtually every variable is endogenous, but the macroeconomy has to be hit by some kind of exogenously specified shocks if the endogenous variables are to move.[2]

The sources of disturbances in macroeconomic models are (to my taste) patently unrealistic. Perhaps most famously, most models in macroeconomics rely on some form of large quarterly movements in the technological frontier (usually advances, but sometimes not). Some models have collective shocks to workers' willingness to work. Other models have large quarterly shocks to the depreciation rate in the capital stock (in order to generate high asset price volatilities). To my mind, these collective shocks to preferences and technology are problematic. Why should everyone want to work less in the fourth quarter of 2009? What exactly caused a widespread decline in technological efficiency in the 1930s? Macroeconomists use these notions of shocks only as convenient shortcuts to generate the requisite levels of volatility in endogenous variables.

Of course, macroeconomists will always need aggregate shocks of some kind in macro models. However, I believe that they are handicapping themselves by only looking at shocks to fundamentals like preferences and technology. Phenomena like credit market crunches or asset market bubbles rely on self-fulfilling beliefs about what others will do. For example, during an asset market bubble, a given trader is willing to pay more for an asset only because the trader believes that others will pay more. Macroeconomists need to do more to explore models that allow for the possibility of aggregate shocks to these kinds of self-fulfilling beliefs.

Any economic model or theory describes how some variables (called endogenous) respond to other variables (called exogenous). Whether a variable is exogenous or endogenous depends on the model and the context. For example, if a model is trying to explain the behavior of auto purchases on the part of an individual consumer, it is reasonable to treat car prices as exogenous, because the consumer cannot affect car prices. However, if the model is trying to explain the behavior of total auto purchases, it cannot treat car prices as endogenous. In macroeconomics, all variables seem like they should be endogenous (except maybe the weather!).

MODERN MACROECONOMICS AND ECONOMIC POLICY

The modernization of macroeconomics took place rapidly in academia. By the mid-1990s, virtually anyone getting a Ph.D. in macroeconomics in the United States was using modern macro models. The situation was quite different in economic policymaking. Until late in the last millennium, both monetary and fiscal policymakers used the old-style macro models of the 1960s and 1970s for both forecasting and policy evaluation.

There were a number of reasons for this slow diffusion of methods and models. My own belief is that the most important issue was that of statistical fit. The models of the 1960s and 1970s were based on estimated supply and demand relationships, and so were specifically designed to fit the existing data well. In contrast, modern macro models of seven or eight endogenous variables typically had only one or two shocks. By any statistical measure, such a model would imply an excessive amount of correlation among the endogenous variables. In this sense, it might seem that the modern models were specifically designed to fit the data badly. The lack of fit gave policymakers cause for concern.

In the early 2000s, though, this problem of fit disappeared for modern macro models with sticky prices. Using novel Bayesian estimation methods, Frank Smets and Raf Wouters (2003) demonstrated that a sufficiently rich New Keynesian model could fit European data well. Their finding, along with similar work by other economists, has led to widespread adoption of New Keynesian models for policy analysis and forecasting by central banks around the world.

Personally, I believe that statistical fit is overemphasized as a criterion for macro models. As a policymaker, I want to use models to help evaluate the effects of out-of-sample changes in policies. A model that is designed to fit every wiggle of the existing data well is almost guaranteed to do worse at this task than a model that does not.[3] Despite this misgiving, I am delighted to see the diffusion of New Keynesian models into monetary policymaking. Regardless of how they fit or don't fit the data, they incorporate many of the trade-offs and tensions relevant for central banks.

In the preceding section, I have emphasized the development of macro models with financial market frictions, such as borrowing constraints or limited insurance. As far as I am aware, these models are not widely used for macro policy analysis. This practice should change. From August 2007 through late 2008, credit markets tightened (in the sense that spreads spiked and trading volume fell). These changes led—at least in a statistical sense—to sharp declines in output. It seems clear to me that understanding these changes in spreads and their connection to output declines can only be done via models with financial market frictions. Such models would provide their users with explicit guidance about appropriate interventions into financial markets.[4]

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[3] See, for example, Narayana Kocherlakota (2007) and V. V. Chari, Patrick Kehoe, and Ellen McGrattan (2009).

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Economic Policy

Such models would provide their users with explicit guidance about appropriate interventions into financial markets.

A CONCLUSION ABOUT COMMUNICATION

Macroeconomics has made a lot of progress, and I believe a great deal more is yet to come. But that progress serves little purpose if nobody knows about it. Communication between academic macroeconomists and policymakers needs to improve. There are two related problems. First, by and large, journalists and policymakers—and by extension the U.S. public—think about macroeconomics using the basically abandoned frameworks of the 1960s and 1970s. Macroeconomists have failed to communicate their new discoveries and understanding to policymakers or to the world. Indeed, I often think that macroeconomists have failed to even communicate successfully with fellow economists.

Second, macroeconomists have to be more responsive to the needs of policymakers. During 2007–09, macroeconomists undertook relatively little model-based analysis of policy. Any discussions of policy tended to be based on purely verbal intuitions or crude correlations as opposed to tight modeling.

My goal as president of the Federal Reserve Bank of Minneapolis is to help on both of these dimensions. The seventh floor of the Federal Reserve Bank of Minneapolis is one of the most exciting macro research environments in the country. As president, I plan to learn from our staff, consultants, and visitors. I view a huge part of my job as translating my lessons both into plain language and into concrete policy decisions.

At the same time, I want to communicate in the other direction. Currently, the Federal Reserve System and other parts of the U.S. government are facing critical policy decisions. I view a key part of my job to be setting these policy problems before our research staff and the academic macro community as a whole. Of course, I do not know what answers they will generate, but I am sure that they will be informative and useful.

In other words, it is my conviction that the Federal Reserve Bank of Minneapolis can serve as a crucial nexus between scientific advances within the academe and the needed changes in macroeconomic policymaking. Indeed, this bank has a long history of doing just that. It was here that John Bryant and Neil Wallace (1978) illustrated the ticking time bomb embedded in deposit insurance. It

[4] In terms of fiscal policy (especially short-term fiscal policy), modern macro modeling seems to have had little impact. The discussion about the fiscal stimulus in January 2009 is highly revealing along these lines. An argument certainly could be made for the stimulus plan using the logic of New Keynesian or heterogeneous agent models. However, most, if not all, of the motivation for the fiscal stimulus was based largely on the long-discarded models of the 1960s and 1970s. Within a New Keynesian model, policy affects output through the real interest rate. Typically, given that prices are sticky, the monetary authority can lower the real interest rate and stimulate output by lowering a target nominal interest rate. However, this approach no longer works if the target nominal interest rate is zero. At this point, as Gauti Eggertsson (2009) argues, fiscal policy can be used to stimulate output instead. Increasing current government spending leads households to expect an increase in inflation (to help pay off the resulting debt). Given a fixed nominal interest rate of zero, the rise in expected inflation generates a stimulating fall in the real interest rate. Eggertsson's argument is correct theoretically and may well be empirically relevant. However, the usual justification for the January 2009 fiscal stimulus said little about its impact on expected inflation.

I plan to learn from our staff, consultants, and visitors. I view a huge part of my job as translating my lessons both into plain language and into concrete policy decisions.

Communication

I view a key part of my job to be setting these policy problems before our research staff and the academic macro community as a whole.

was here that Gary Stern and Ron Feldman (2004) warned of that same ticking time bomb in the government's implicit guarantees to large financial institutions. And it was here that Thomas Sargent and Neil Wallace (1985) underscored the joint role of fiscal and monetary discipline in restraining inflation.

We (at the Minneapolis Fed) have already taken a concrete step in creating this communication channel. We have begun a series of ad hoc policy papers on issues relating to current policy questions, accessible on the bank's Web site at minneapolisfed.org. These papers, as well as other work featured in this magazine and on our Web site, will describe not only our efforts to better understand conditions surrounding such events as the recent financial crisis, but also our prescriptions for avoiding and/or addressing them in the future. My predecessor, Gary Stern, spent nearly a quarter century as president. Outside the bank, a sculpture commemorates his term. The sculpture rightly lauds Gary's "commitment to ideas and to the discipline of careful reasoning." I view my mission to serve as a liaison between the worlds of modern macroeconomics and policymaking as a natural way to carry on Gary's work.

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Federal Reserve Bank of Minneapolis

2009 Operations Report

Message from the First Vice President

For the Federal Reserve Bank of Minneapolis (Bank) and the entire Federal Reserve System (System), 2009 was a year like few others. As 2009 dawned, we were mired in the deepest recession since the Great Depression and struggling with severe disruptions in financial markets. Given our mission to foster the stability, integrity, and efficiency of the nation's monetary, financial, and payments systems to promote optimal economic performance, circumstances called for extraordinary measures and the System responded with a number of new initiatives. The System introduced a variety of special liquidity facilities to address disruptions in normal market functioning. The System undertook a program of large-scale asset purchases to further its monetary policy objectives after having lowered short-term interest rates as far as possible. The System stress tested the balance sheets of large financial firms to assess the adequacy of their capitalization. While some of these initiatives worked better than others, the overall impact has clearly been positive.

Throughout 2009, the outlook gradually improved. Financial markets began to function more normally, although strains remain. The economic outlook has improved, although unemployment remains extremely high and foreclosures continue at record rates. Financial firms began to pay back government support, but the outlook is for bank failures to continue at an elevated level. Our attention has now turned to the manner in which the System will wind down the special liquidity facilities, reduce the size of its balance sheet, and allow financial firms to repay government support.

In 2009, the Bank also experienced major change. Gary Stern retired as the second-longest-serving president in the history of the System, and we welcomed his successor, Narayana Kocherlakota.

During these times of unprecedented challenges, the Bank remains focused on effectively executing its strategic plan, which is directed at ensuring that all System objectives are met while also maximizing the Bank's operational efficiency and quality of service delivery. In addition, the Bank continues to seek opportunities to make important System contributions that align with our operational expertise and managerial skills. For 2009, the Bank's many achievements demonstrate our effectiveness in executing our strategic plan and building on our strengths.

2009 by the Numbers

In 2009, the Federal Reserve Bank of Minneapolis processed:

- 11.4 billion ACH (Automated Clearing House) payments worth approximately $19.8 trillion. FedACH is a nationwide system, developed and operated by Minneapolis staff on behalf of the entire Federal Reserve System, which provides the electronic exchange of debits and credits.
- $441 million of electronic check transactions.
- $10.5 billion of currency deposits from financial institutions, destroyed $999 million of worn and torn currency, and shipped $11.8 billion of currency to financial institutions.
- Tenders, account maintenance, forms, and other customer transactions for 265,000 active Legacy Treasury Direct accounts for individuals holding Treasury securities totaling $50 billion, and 3.1 million savings bond purchase requests worth $1.4 billion, as one of two Treasury Retail Securities sites in the Federal Reserve System.
- 204,700 transaction items valued at $452 billion through FR-ETA (Federal Reserve-Electronic Tax Application), a same-day payment mechanism, hosted by the Minneapolis Fed, for businesses paying federal taxes via their financial institutions.

- Overall, Bank performance was strong in 2009. Bank expenses were below budgeted levels, and the Bank met nearly all efficiency and quality measures.
- The Bank successfully completed the consolidation of most of its remaining check processing operations as part of the Systemwide transition from paper to electronic check processing.
- The Bank effectively led the Financial Services Policy Committee (the Federal Reserve System's payments policymaking arm) until Gary Stern's retirement in September 2009, when leadership transferred to the Federal Reserve Bank of Cleveland.
- The Bank pursued several initiatives as part of its continuing commitment to advance economic research and financial literacy, as well as to increase awareness of community development issues. In particular, the Bank advanced recommendations to improve macroprudential supervision and address the too-big-to-fail issue. *The Region* featured interviews with key economists and policymakers, including Paul Volcker. Bank economists and advisers published a number of scholarly articles that helped promote understanding of other policy issues.
- The Supervision, Regulation, and Credit Division effectively focused its efforts on the prompt identification and redress of the areas of greatest risk in the financial institutions under supervision.
- The Bank has a number of key System operational responsibilities, and it met expectations for these responsibilities as defined by System performance metrics and corroborated by feedback from other Federal Reserve Banks and Product Offices.
- In late 2009, the Bank successfully bid to become one of two Reserve Banks responsible for providing systemwide IT help desk support, as the System consolidates this function to improve efficiency and effectiveness.

The Bank's success in meeting the challenges of this past year is a result of the strong commitment by our employees to excellence and the Bank's core values. Looking to the future, we will strive to sustain this commitment, successfully meet the challenges that lie ahead, and thereby continue to support the System's mission to foster stability, integrity, and efficiency in the nation's monetary, financial, and payments systems to promote optimal economic performance.

James M. Lyon
First Vice President

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Seated (from left): David Solberg, Joseph McDonald; standing (from left): John Franklin, Timothy Bartz, Kay Clevidence

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Federal Reserve Bank of Minneapolis

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Niel D. Willardson
SENIOR VICE PRESIDENT, GENERAL COUNSEL, AND CORPORATE SECRETARY

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ASSISTANT VICE PRESIDENT

Dec. 31, 2009

Auditor Independence

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.

Federal Reserve Bank of Minneapolis

2009 Financial Statements

December 31, 2009 and 2008

Federal Reserve Bank of Minneapolis

90 Hennepin Avenue, P.O. Box 291
Minneapolis, Minnesota 55480-0291

Phone (612) 204-5000

April 21, 2010

Board of Directors
Federal Reserve Bank of Minneapolis
90 Hennepin Avenue, P.O. Box 291
Minneapolis, MN 55480

Subject: Management's Report on Internal Control Over Financial Reporting

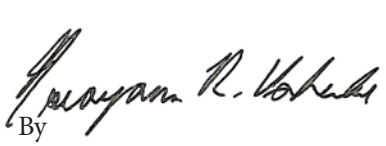
The management of the Federal Reserve Bank of Minneapolis ("FRBM") is responsible for the preparation and fair presentation of the Statements of Condition, Statements of Income and Comprehensive Income, and Statements of Changes in Capital as of December 31, 2009 (the "Financial Statements"). The Financial 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 FRBM 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 FRBM 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 FRBM maintained effective internal control over financial reporting as it relates to the Financial Statements.

Federal Reserve Bank of Minneapolis



By

Narayana R. Kocherlakota

President

By

James M. Lyon

First Vice President

By

Paul D. Rimmereid

Chief Financial Officer

Deloitte.

Deloitte & Touche LLP
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INDEPENDENT AUDITORS' REPORT

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

We have audited the accompanying statements of condition of the Federal Reserve Bank of Minneapolis ("FRB Minneapolis") 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 Minneapolis 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 Minneapolis'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's Assertion*. Our responsibility is to express an opinion on these financial statements and an opinion on FRB Minneapolis'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 Minneapolis's internal control over financial reporting is a process designed by, or under the supervision of, FRB Minneapolis's principal executive and principal financial officers, or persons performing similar functions, and effected by FRB Minneapolis'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

Minneapolis'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 Minneapolis; (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 Minneapolis are being made only in accordance with authorizations of management and directors of FRB Minneapolis; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of FRB Minneapolis's assets that could have a material effect on the financial statements.

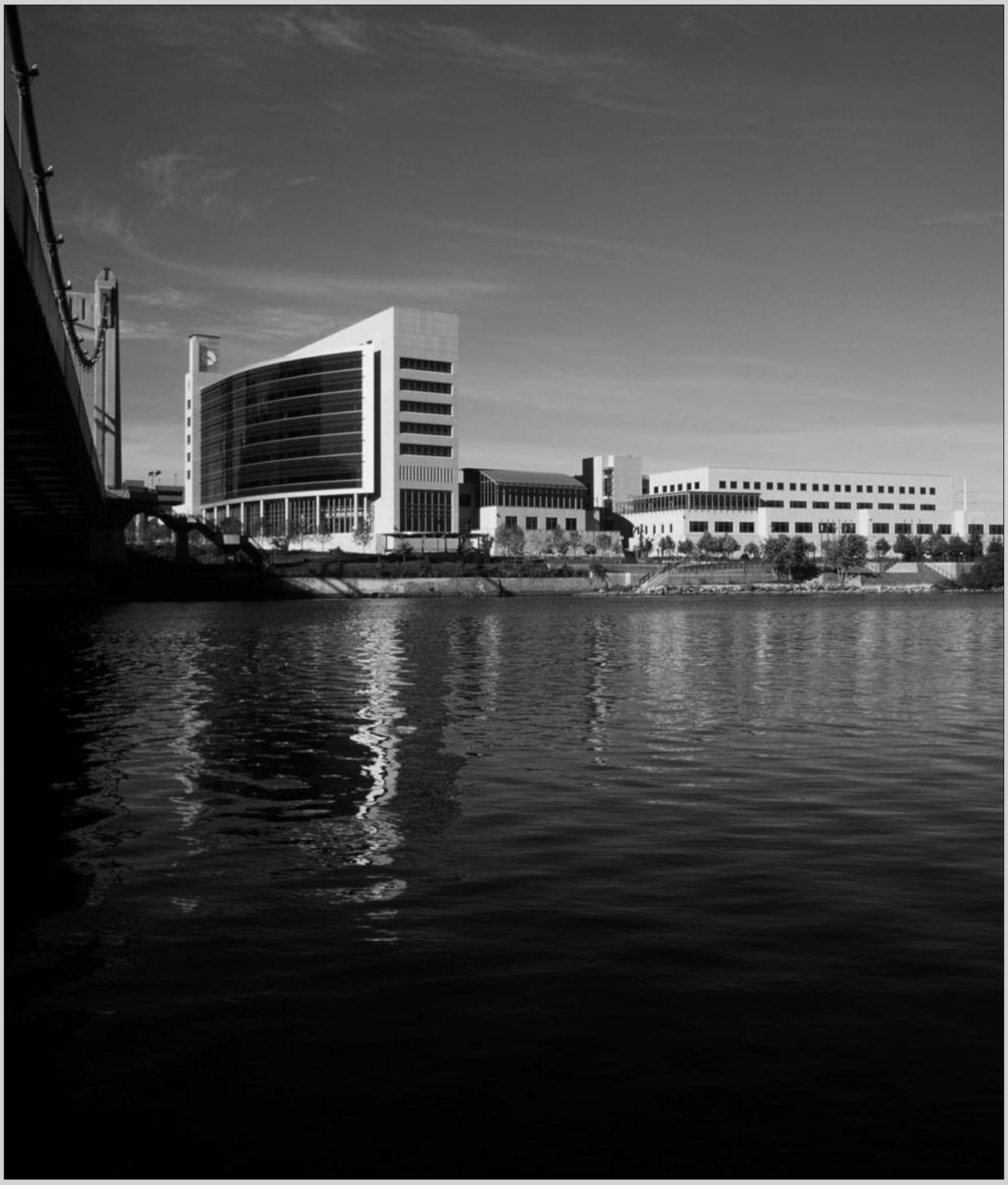
Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of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

Deloitte & Touche LLP

April 21, 2010



Federal Reserve Bank of Minneapolis

STATEMENTS OF CONDITION

As of December 31, 2009 and December 31, 2008
(in millions)

	2009	2008
ASSETS		
Gold certificates	$ 197	$ 199
Special drawing rights certificates	90	30
Coin	62	54
Items in process of collection	26	76
Loans to depository institutions	242	5,860
System Open Market Account:		
Securities purchased under agreements to resell	–	1,510
Treasury securities, net	13,343	9,089
Government-sponsored enterprise debt securities, net	2,771	392
Federal agency and government-sponsored enterprise mortgage-backed securities, net	15,213	–
Investments denominated in foreign currencies	389	477
Central bank liquidity swaps	158	10,641
Accrued interest receivable	209	142
Bank premises and equipment, net	120	121
Other assets	22	18
Total assets	$ 32,842	$ 28,609
LIABILITIES AND CAPITAL		
Federal Reserve notes outstanding, net	$ 16,702	$ 14,684
System Open Market Account:		
Securities sold under agreements to repurchase	1,287	1,668
Other liabilities	10	–
Deposits:		
Depository institutions	4,502	1,614
Other deposits	1	1
Deferred credit items	271	235
Accrued interest on Federal Reserve notes	14	32
Interdistrict settlement account	8,558	9,656
Accrued benefit costs	69	61
Other liabilities	4	8
Total liabilities	31,418	27,959
Capital paid-in	712	325
Surplus (including accumulated other comprehensive loss of $9 million and $5 million at December 31, 2009 and 2008, respectively)	712	325
Total capital	1,424	650
Total liabilities and capital	$ 32,842	$ 28,609

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

Federal Reserve Bank of Minneapolis

STATEMENTS OF INCOME AND COMPREHENSIVE INCOME

For the years ended December 31, 2009 and December 31, 2008
(in millions)

	2009	2008
Interest income:		
Loans to depository institutions	$ 5	$ 47
System Open Market Account:		
Securities purchased under agreements to resell	–	36
Treasury securities	390	492
Government-sponsored enterprise debt securities	34	2
Federal agency and government-sponsored enterprise mortgage-backed securities	341	–
Investments denominated in foreign currencies	5	12
Central bank liquidity swaps	36	69
Total interest income	811	658
Interest expense:		
System Open Market Account:		
Securities sold under agreements to repurchase	2	14
Depository institution deposits	8	2
Total interest expense	10	16
Net interest income	801	642
Non-interest income:		
System Open Market Account:		
Treasury securities gains	–	74
Federal agency and government-sponsored enterprise mortgage-backed securities gains, net	14	–
Foreign currency (losses)/gains, net	(1)	24
Compensation received for services provided	60	76
Reimbursable services to government agencies	28	27
Other income	4	15
Total non-interest income	105	216
Operating expenses:		
Salaries and other benefits	101	104
Occupancy expense	12	12
Equipment expense	5	6
Assessments by the Board of Governors	19	20
Other expenses	34	41
Total operating expenses	171	183
Net income prior to distribution	735	675
Change in funded status of benefit plans	(4)	(4)
Comprehensive income prior to distribution	$ 731	$ 671
Distribution of comprehensive income:		
Dividends paid to member banks	$ 35	$ 20
Transferred to/(from) surplus and change in accumulated other comprehensive loss	387	(30)
Payments to Treasury as interest on Federal Reserve notes	309	681
Total distribution	$ 731	$ 671

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

Federal Reserve Bank of Minneapolis

STATEMENTS OF CHANGES IN CAPITAL

For the years ended December 31, 2009 and December 31, 2008
(in millions, except share data)

		Surplus			
	Capital paid-in	Net income retained	Accumulated other comprehensive loss	Total surplus	Total capital
Balance at January 1, 2008 (7,090,656 shares)	$ 355	$ 356	$ (1)	$ 355	$ 710
Net change in capital stock redeemed (603,204 shares)	(30)	–	–	–	(30)
Transferred from surplus and change in accumulated other comprehensive loss	–	(26)	(4)	(30)	(30)
Balance at December 31, 2008 (6,487,452 shares)	$ 325	$ 330	$ (5)	$ 325	$ 650
Net change in capital stock issued (7,753,472 shares)	387	–	–	–	387
Transferred to surplus and change in accumulated other comprehensive loss	–	391	(4)	387	387
Balance at December 31, 2009 (14,240,924 shares)	$ 712	$ 721	$ (9)	$ 712	$ 1,424

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

1. Structure

The Federal Reserve Bank of Minneapolis ("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 Ninth Federal Reserve District, which includes Minnesota, Montana, North Dakota, South Dakota and portions of Michigan and Wisconsin.

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.

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.

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: 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 Ninth 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.

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 transac-

tions, 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.

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 $60 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 receivable."

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 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 (losses)/gains, 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.

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.

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 $2,628 million and $2,839 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 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 depositary 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. 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. Similarly, the Federal Reserve Bank of Chicago ("FRBC") has overall responsibility for managing the Reserve Banks' provision of electronic access services to depository institutions and, as a result, recognizes total System revenue for these services on its Statements of Income and Comprehensive Income. The FRBA, the FRBNY, and the FRBC 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 $4 million and $3 million for the years ended December 31, 2009 and 2008, respectively, 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 associated 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. 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.

s. *Recently Issued Accounting Standards*

In February 2008, FASB issued FASB Staff Position ("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 No. 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.

5. LOANS

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

	2009	2008
Primary, secondary, and seasonal credit	$ 28	$ 124
TAF	214	5,736
Loans to depository institutions	$ 242	$ 5,860

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.

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	$ 25	$ 214
16 days to 90 days	3	–
Total loans	$ 28	$ 214

	2008	
	Primary, secondary, and seasonal credit	TAF
Within 15 days	$ 74	$ 5,714
16 days to 90 days	50	22
Total loans	$ 124	$ 5,736

Allowance for loan loss and restructuring

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 1.656 percent and 1.888 percent at December 31, 2009 and 2008, respectively.

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					
	Bills	Notes	Bonds	Total Treasury securities	GSE debt securities	Federal agency and GSE MBS
Par	$ 305	$ 9,409	$ 3,143	$ 12,857	$ 2,647	$ 15,038
Unamortized premiums	–	108	405	513	124	201
Unaccreted discounts	–	(16)	(11)	(27)	–	(26)
Total amortized cost	$ 305	$ 9,501	$ 3,537	$ 13,343	$ 2,771	$ 15,213
Fair value	$ 305	$ 9,652	$ 3,820	$ 13,777	$ 2,772	$ 15,136

	2008					
	Treasury securities					
	Bills	Notes	Bonds	Total Treasury securities	GSE debt securities	Federal agency and GSE MBS
Par	$ 348	$ 6,320	$ 2,317	$ 8,985	$ 372	$ –
Unamortized premiums	–	5	127	132	20	–
Unaccreted discounts	–	(16)	(12)	(28)	–	–
Total amortized cost	$ 348	$ 6,309	$ 2,432	$ 9,089	$ 392	$ –
Fair value	$ 348	$ 6,753	$ 3,199	$ 10,300	$ 394	$ –

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				
	Bills	Notes	Bonds	Total Treasury securities	GSE debt securities	Federal agency and GSE MBS
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					
	Bills	Notes	Bonds	Total Treasury securities	GSE debt securities	Federal agency and GSE MBS
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

(Continued)

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%	$ 2,816	$ 2,744
4.5%	7,191	7,146
5.0%	3,235	3,252
5.5%	1,712	1,731
6.0%	210	213
Other[1]	49	50
Total	$ 15,213	$ 15,136
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	$ –	$ 1,510	$ 1,287	$ 1,668
Average daily amount outstanding, during the year	68	1,645	1,172	1,054
Maximum month-end balance outstanding, during the year	–	2,247	1,449	1,861
Securities pledged, end of year			1,289	1,489
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 $1,832 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 $1,236 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 sold under agreements to repurchase (Contract amount)
Within 15 days	$ 192	$ 1	$ –	$ 1,287
16 days to 90 days	478	51	–	–
91 days to 1 year	841	356	–	–
Over 1 year to 5 years	5,412	1,646	–	–
Over 5 years to 10 years	3,538	559	–	–
Over 10 years	2,396	34	15,038	–
Total allocated to the Bank	$ 12,857	$ 2,647	$ 15,038	$ 1,287

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 $358 million and $3,413 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 $10 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 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 $2,650 million, of which $544 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 $2,630 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 $14 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 1.539 percent and 1.922 percent at December 31, 2009 and 2008, respectively.

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	$ 114	$ 107
Securities purchased under agreements to resell	40	78
Government debt instruments	76	89
Japanese yen:		
Foreign currency deposits	52	67
Government debt instruments	107	136
Total allocated to the Bank	$ 389	$ 477

At December 31, 2009 and 2008, the fair value of investments denominated in foreign currencies, including accrued interest, allocated to the Bank was $392 million and $481 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	$ 93	$ 56	$ 149
16 days to 90 days	39	7	46
91 days to 1 year	37	36	73
Over 1 year to 5 years	61	60	121
Total allocated to the Bank	$ 230	$ 159	$ 389

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.

8. Central Bank Liquidity Swaps

U.S. Dollar Liquidity Swaps

The Bank's allocated share of U.S. dollar liquidity swaps was approximately 1.539 percent and 1.922 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 $158 million and $10,641 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	Within 15 days	16 days to 90 days	Total
Australian dollar	$ –	$ 192	$ 247	$ 439
Danish krone	–	–	288	288
Euro	100	2,901	2,698	5,599
Japanese yen	8	920	1,438	2,358
Korean won	–	–	199	199
Mexican peso	50	–	–	–
Norwegian krone	–	42	116	158
Swedish krona	–	192	288	480
Swiss franc	–	370	114	484
U.K. pound	–	3	633	636
Total	$ 158	$ 4,620	$ 6,021	$ 10,641

Foreign Currency Liquidity Swaps

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

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	$ 19	$ 19
Buildings	118	115
Building machinery and equipment	16	15
Construction in progress	–	1
Furniture and equipment	24	27
Subtotal	177	177
Accumulated depreciation	(57)	(56)
Bank premises and equipment, net	$ 120	$ 121
Depreciation expense, for the years ended December 31	$ 6	$ 6

The Bank leases space to outside tenants with remaining lease terms ranging from three to six years. Rental income from such leases was $288 thousand and $85 thousand for 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	$	307
2011		310
2012		311
2013		243
2014		221
Thereafter		129
Total	$	1,521

The Bank had capitalized software assets, net of amortization, of $11 million and $6 million at December 31, 2009 and 2008, respectively. Amortization expense was $2 million for the years ended December 31, 2009 and 2008. 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 expenses" 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.

At December 31, 2009, the Bank was obligated under noncancelable leases for premises and equipment with remaining terms ranging from three to approximately four years. These leases provide for increased rental payments based upon increases in real estate taxes, operating costs, or selected price indices.

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, was $272 thousand and $292 thousand for the years ended December 31, 2009 and 2008, respectively.

Future minimum rental payments under noncancelable operating leases, net of sublease rentals, with terms of one year or more, at December 31, 2009 were not material.

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.

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 1 percent of eligible pay. The Bank's Thrift Plan contributions totaled $4 million for the years ended December 31, 2009 and 2008, 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	$ 54.3	$ 48.3
Service cost benefits earned during the period	2.3	2.1
Interest cost on accumulated benefit obligation	3.4	3.2
Net actuarial loss	3.0	3.3
Curtailment gain	–	(0.6)
Contributions by plan participants	0.6	0.4
Benefits paid	(2.8)	(2.6)
Medicare Part D subsidies	0.2	0.2
Plan amendments	0.4	–
Accumulated postretirement benefit obligation at December 31	$ 61.4	$ 54.3

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.

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	2.0	2.0
Contributions by plan participants	0.6	0.4
Benefits paid	(2.8)	(2.6)
Medicare Part D subsidies	0.2	0.2
Fair value of plan assets at December 31	$ –	$ –
Unfunded obligation and accrued postretirement benefit cost	$ 61.4	$ 54.3
Amounts included in accumulated other comprehensive loss are shown below:		
Prior service cost	$ 1.5	$ 2.8
Net actuarial loss	(10.6)	(8.2)
Deferred curtailment gain	–	0.2
Total accumulated other comprehensive loss	$ (9.1)	$ (5.2)

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):

	One percentage point increase	One percentage point decrease
Effect on aggregate of service and interest cost components of net periodic postretirement benefit costs	$ 0.9	$ (0.7)
Effect on accumulated postretirement benefit obligation	7.5	(6.2)

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 for benefits earned during the period	$ 2.3	$ 2.1
Interest cost on accumulated benefit obligation	3.4	3.2
Amortization of prior service cost	(0.9)	(0.9)
Amortization of net actuarial loss	0.6	0.2
Total periodic expense	5.4	4.6
Curtailment gain	(0.2)	(0.4)
Net periodic postretirement benefit expense	$ 5.2	$ 4.2

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	$ (0.9)
Net actuarial loss	0.6
Total	$ (0.3)

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.

Net curtailment gains associated with restructuring programs that are described in Note 14 were recognized in net income in the years ended December 31, 2009 and 2008, related to employees who terminated employment during 2009 and 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 $0.2 million for each of the years ended December 31, 2009 and 2008. Expected receipts in 2010, related to benefits paid in the years ended December 31, 2009 and 2008, are $0.1 million.

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

	Without subsidy	With subsidy
2010	$ 3.3	$ 3.1
2011	3.6	3.4
2012	3.9	3.6
2013	4.2	3.9
2014	4.3	4.0
2015 - 2019	25.4	23.1
Total	$ 44.7	$ 41.1

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 $5 million and $4 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 $1 million, and are recorded as a component of "Salaries and other benefits" in the Statements of Income and Comprehensive Income.

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	$ (1)
Change in funded status of benefit plans:	
Net actuarial loss arising during the year	(3)
Amortization of prior service cost	(1)
Change in funded status of benefit plans-other comprehensive loss	(4)
Balance at December 31, 2008	$ (5)
Change in funded status of benefit plans:	
Net actuarial loss arising during the year	$ (3)
Amortization of prior service cost	(1)
Change in funded status of benefit plans-other comprehensive loss	(4)
Balance at December 31, 2009	$ (9)

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

14. Business Restructuring Charges

2009 Restructuring Plans

In 2009, the Bank incurred restructuring charges due to reduced check support functions as a result of declining check processing volumes. In addition, the Financial Services Policy Committee Support Office was transferred from the Bank to the Federal Reserve Bank of Cleveland.

2007 and Prior Restructuring Plans

The Bank incurred various restructuring charges prior to 2008 related to announced plans to align the check processing infrastructure and operations with declining check processing volumes. As a result, the Helena branch operation was consolidated to the Denver processing site in 2007 and the Minneapolis operation was consolidated to the Cleveland processing site in 2009. Additional announcements in 2007 included restructuring plans associated with U.S. Treasury operations.

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

	2009 restructuring plans	2007 and prior restructuring plans	Total
Information related to restructuring plans as of December 31, 2009:			
Total expected costs related to restructuring activity	$ 269	$ 5,914	$ 6,183
Estimated future costs related to restructuring activity	27	–	27
Expected completion date	2010	2009	
Reconciliation of liability balances:			
Balance at January 1, 2008	$ –	$ 4,282	$ 4,282
Employee separation costs	–	948	948
Payments	–	(813)	(813)
Balance at December 31, 2008	$ –	$ 4,417	$ 4,417
Employee separation costs	242	77	319
Adjustments	–	(251)	(251)
Payments	(71)	(3,071)	(3,142)
Balance at December 31, 2009	$ 171	$ 1,172	$ 1,343

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.

15. Subsequent Events

There were no subsequent events that require adjustments to or disclosures 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.