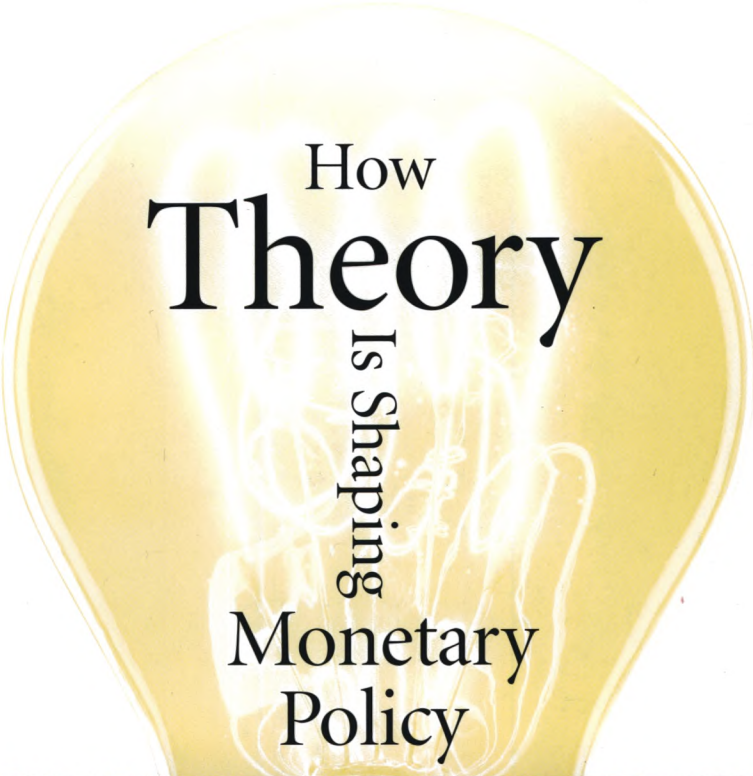


Modern Macroeconomics in Practice:



How
Theory
Is Shaping
Monetary
Policy





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Message from the President	2
How Theory Is Shaping Monetary Policy	4
Message from the First Vice President	31
Helena Branch Board of Directors	34
Minneapolis Board of Directors	35
Advisory Council on Small Businesss and Labor	36
Advisory Council on Agriculture	37
Senior Management	38
Officers	39
Financial Statements	41



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Progress in economic theory has appreciably altered the way in which macroeconomic issues are framed, the way in which models of the economy and their outcomes are viewed, and the basic choices available to policymakers. All of this has materially influenced decision making.

—*Gary H. Stern*

Message from the President



The spirit of the 2006 Annual Report essay is that macroeconomic theory has had a profound, but rather subtle, effect on monetary policy. One might wonder why such an essay was prepared; after all, we should expect a confluence of theory and practice

over time with the results apparent in the evolution of policy. This seems obvious, but many practitioners have asserted that the theoretical insights of the past 30 years or so have had no influence on day-to-day policy advice and decision making.

Authors V. V. Chari and Pat Kehoe convincingly make the case for the value and impact of theoretical developments but, if anything, they understate it. Perhaps the key sentence in the essay comes at the end of the penultimate paragraph, where they write: “It is easy to see why those economists caught up in the whirlwind of day-to-day policymaking miss the dramatic changes in policy that result from slow, secular changes in institutions, practices, and mind-sets.”

The critical word here is “mind-sets.” As a practitioner for better than 30 years, I can attest to the significant and fundamental change in mind-set that has characterized Federal Reserve monetary policy. To get a definitive sense of this, take a look at the Federal Open Market Committee transcripts from, say, 1971, with their embarrassing emphasis on the intractability of cost-push inflation and their confidence in naive Phillips-curve trade-offs. Or consider that 20 years ago, rational expectations theory was still considered an academic curiosity by most policy-

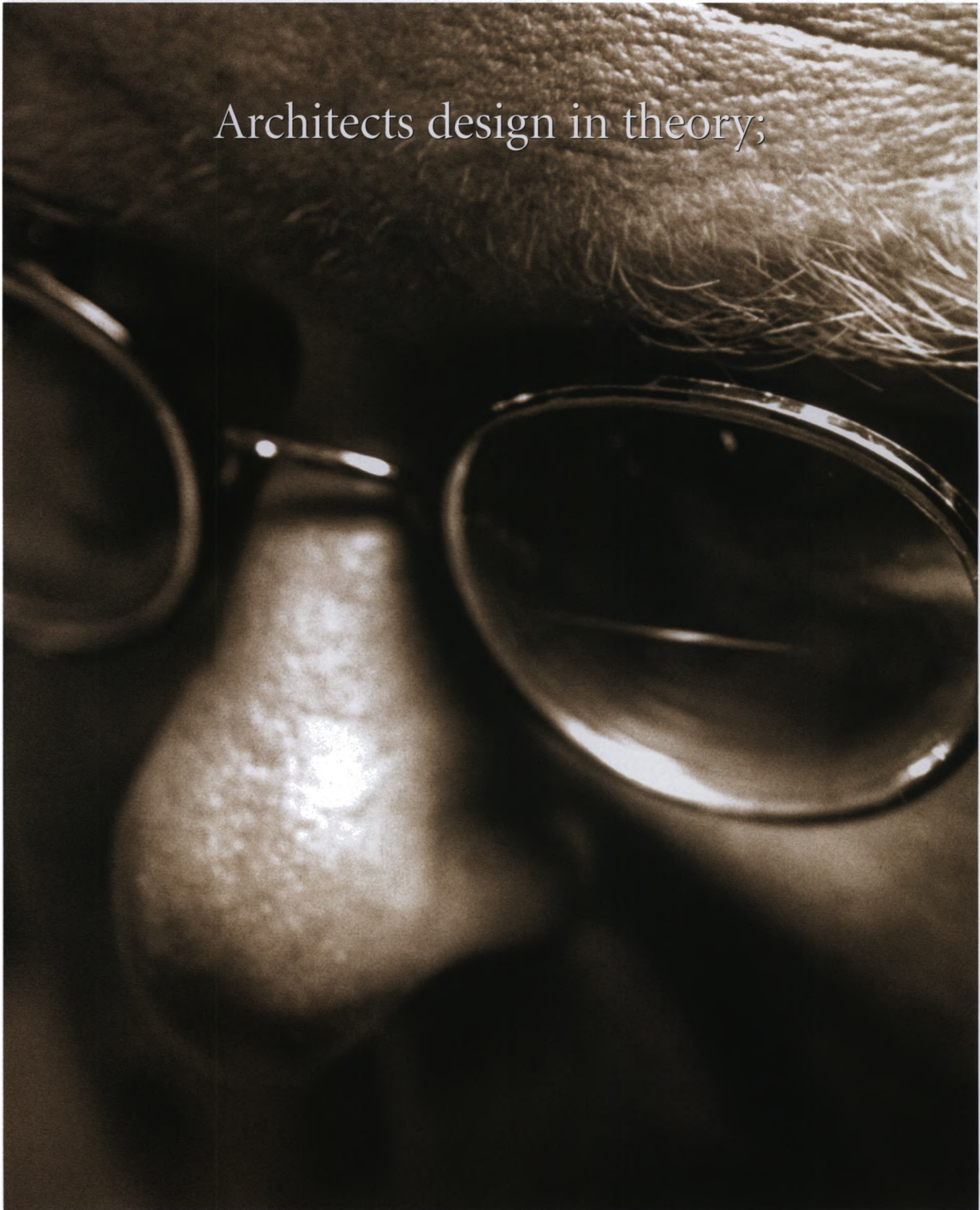
makers, whereas today it is part of the standard tool kit. More broadly, as Chari and Kehoe describe, progress in economic theory has appreciably altered the way in which macroeconomic issues are framed, the way in which models of the economy and their outcomes are viewed, and the basic choices available to policymakers. All of this has materially influenced decision making.

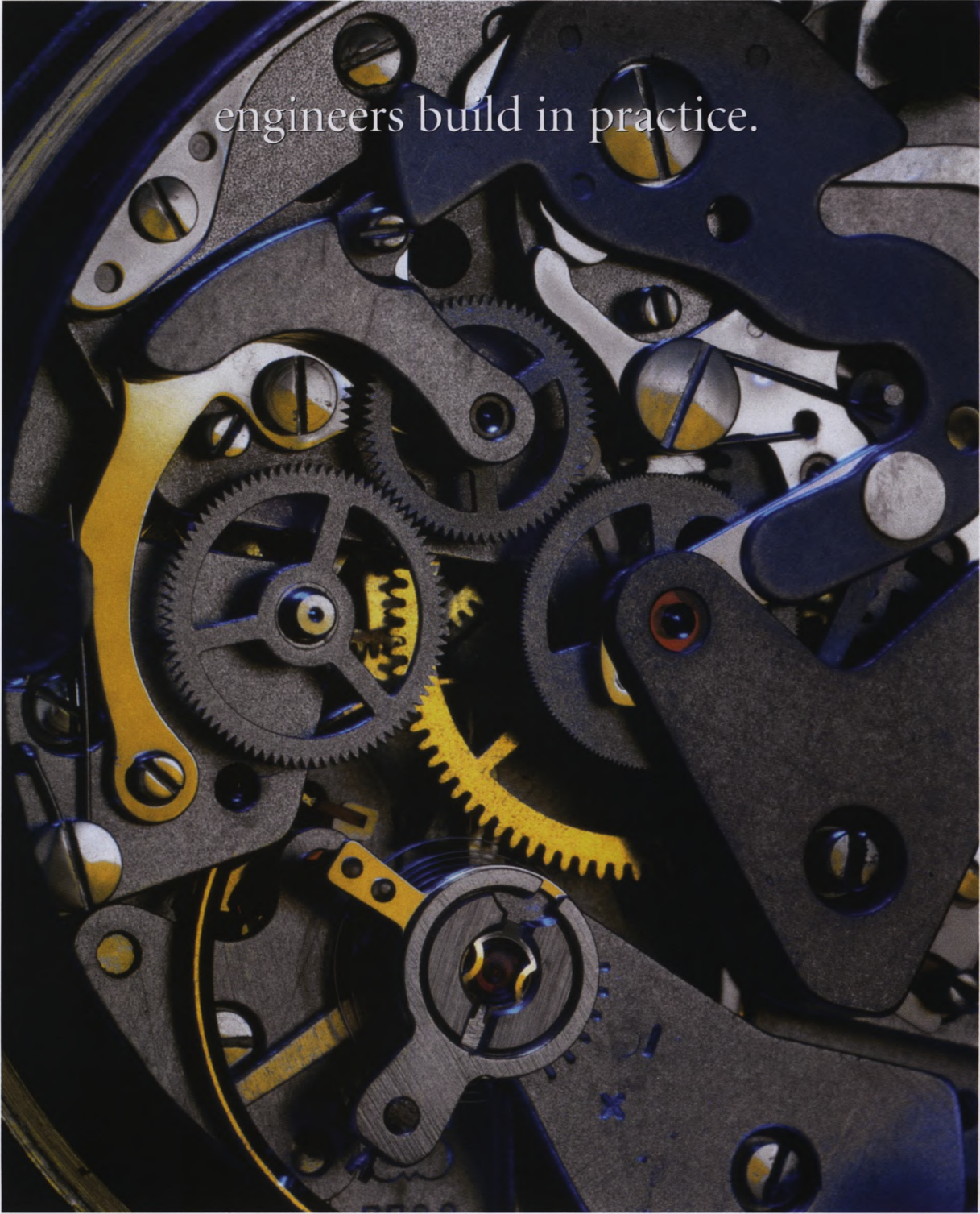
To be sure, practical experience with difficult real-world policy issues has affected the academic research agenda as well. Thus, there is a “chicken and egg” issue here in terms of: Did experience determine the research agenda or did research foreshadow policy? But this issue, though real enough, is not a problem, for we should expect, and strongly prefer, that both academic researchers and practitioners learn from each other. And they do. Here again, I reference my experience as a policymaker who has benefited from the counsel of top-notch theoretical macroeconomists. This year’s Annual Report authors are representative of a Minneapolis Fed Research unit that, over the years, has been committed to the latest theoretical work, however far removed such theory may have seemed from policy. Often, in the end, this theoretical research not only informed policy, it shaped it.

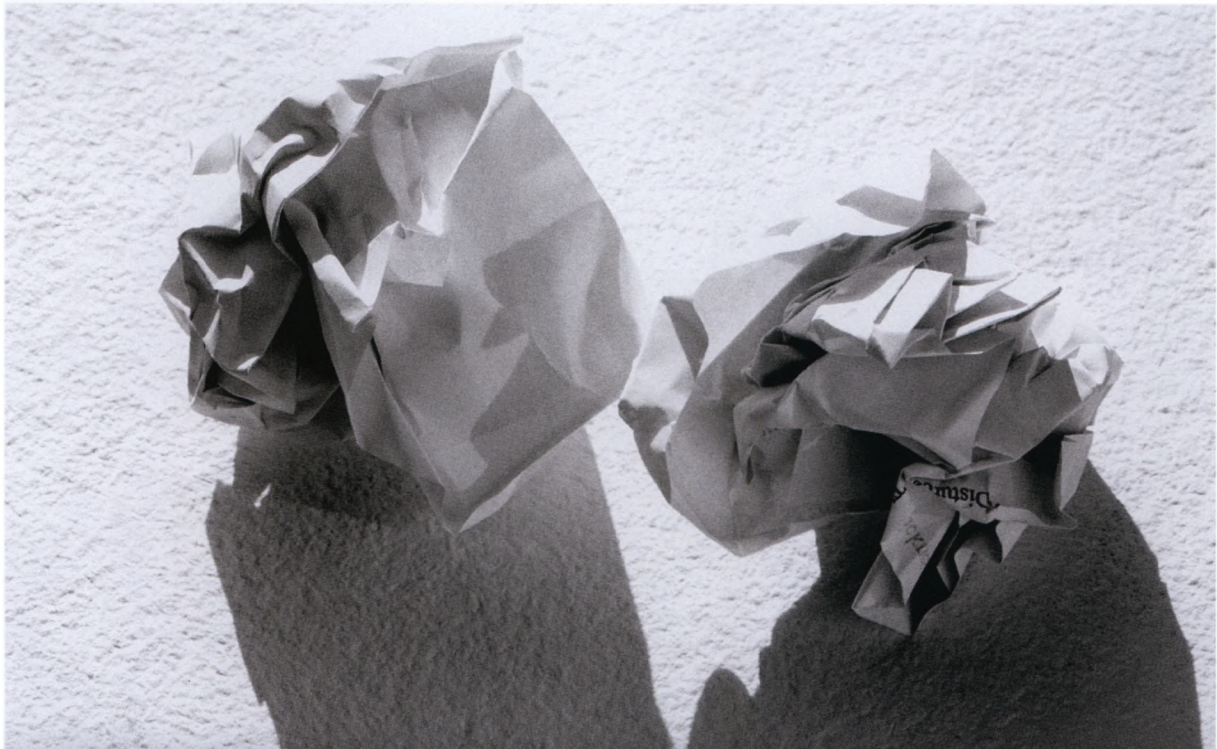
As always, I hope you enjoy this year’s Annual Report essay, and I welcome your comments. Also, please note the report from Jim Lyon, first vice president, on the status of our Bank’s operations, beginning on page 31.

A handwritten signature in black ink, appearing to read "Gary H. Stern". The signature is fluid and cursive, with a long, sweeping underline.

Gary H. Stern
President







Federal Reserve Bank of Minneapolis 2006 Annual Report

Modern Macroeconomics in Practice:

How Theory Is Shaping Monetary Policy

V. V. Chari

University of Minnesota and
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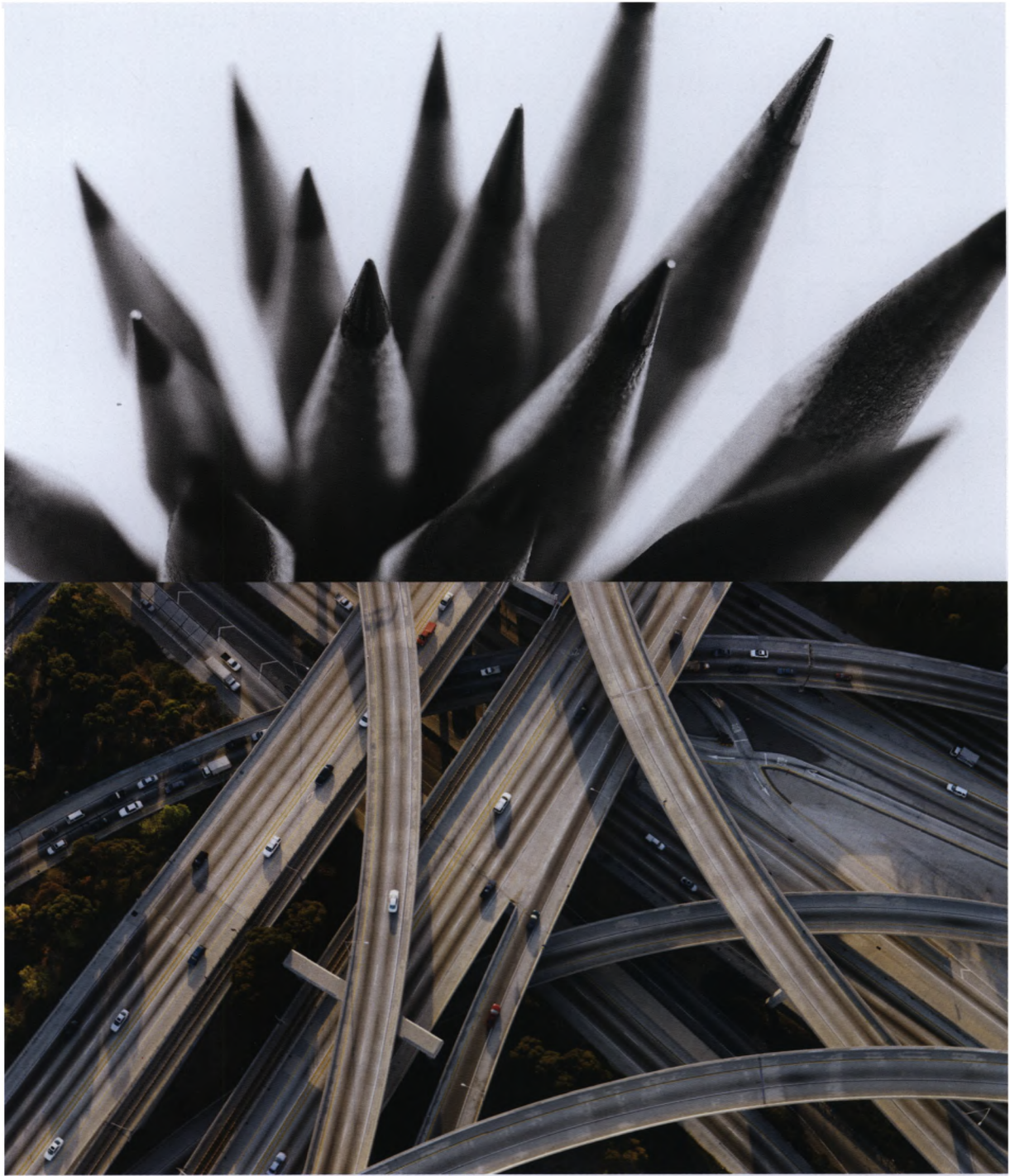
Patrick J. Kehoe

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and University of Minnesota

The authors thank Kathy Rolfe and Joan Gieseke for excellent editorial assistance.

The views expressed herein are those of the authors and not necessarily those of the Federal Reserve Bank of Minneapolis or the Federal Reserve System.

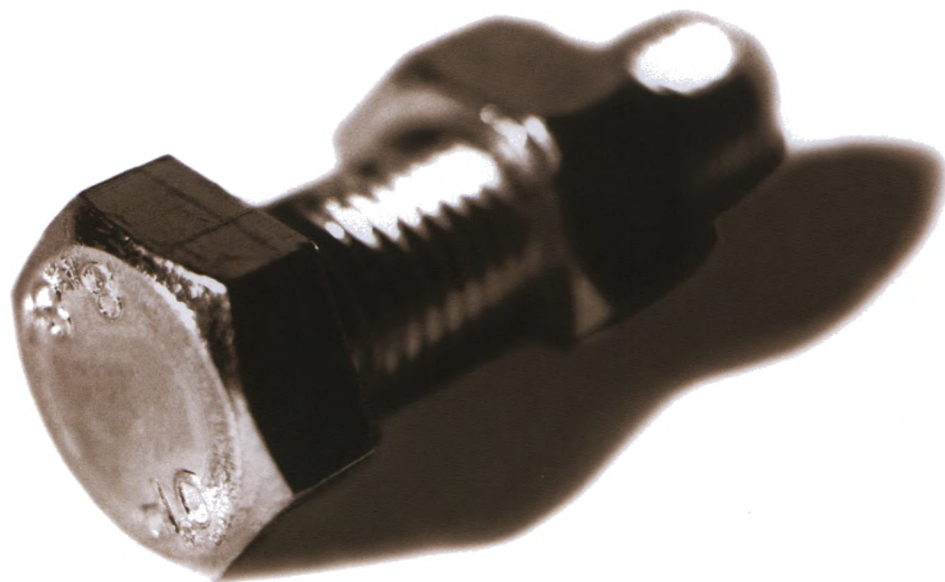
Editor's note: This essay is based on the authors' paper, "Modern Macroeconomics in Practice: How Theory Is Shaping Policy," published in the *Journal of Economic Perspectives*, Vol. 20, No. 4, Fall 2006.



We would describe architects as those who create a project in broad terms
and engineers as those who make those plans real.

OVER THE LAST THREE DECADES, macroeconomic theory and the practice of macroeconomics by economists have changed significantly—for the better. Macroeconomics is now firmly grounded in the principles of economic theory. These advances have not been restricted to the ivory tower. Over the last several decades, the United States and other countries have undertaken a variety of policy changes that are precisely what macroeconomic theory of the last 30 years suggests.

The evidence that these theoretical advances have had a significant effect on the practice of policy is often hard to see for policymakers and advisers who are involved in the hurly-burly of day-to-day policymaking, but easy to see if one steps back and takes a longer-term perspective. Examples of the effects of theory on the practice of policy include increased central bank independence and adoption of inflation targeting and other rules to guide monetary policy, which is the primary focus of this essay. However, examples also include increased reliance on consumption and labor taxes instead of capital income taxes and increased awareness of the costs of policies that distort labor markets.



Without the architect's guiding idea, the engineer is directionless;
without the engineer's applied skills, the architect's idea lies dormant.
So it is with economics.

Before we begin our exploration into the effect of theory on policy, we would like to introduce a metaphor that may help readers frame our discussion, namely, the relationship between an architect and an engineer. Of course, we don't profess expertise in either of these careers, and so we beg the forbearance of any architects or engineers in the reading audience, but for the sake of our discussion, we would describe architects as those who create a project in broad terms and engineers as those who make those plans real. Architects design in theory; engineers build in practice. Most often, if not always, the theoretical design is tweaked by the engineer to account for unexpected or unintended outcomes, but in the end, the final product greatly resembles the architect's initial plan. Without the architect's guiding idea, the engineer is directionless; without the engineer's applied skills, the architect's idea lies dormant.

So it is with economics. Without the guiding discipline and structure that theory brings, policy has no footing, no direction save the short-term whims of policymakers buffeted by untested assumptions and political demands. Imagine a house built without blueprints by workers with different ideas about how the house should look, and you have a rough approximation of policy made without theory.

TO BEGIN, THEN, we introduce three key developments in academic macroeconomics that have laid out the architecture of modern macroeconomic policy analysis: the *Lucas critique* of policy evaluation due to Lucas (1976), the *time inconsistency critique* of discretionary policy due to Kydland and Prescott (1977), and the development of quantitative dynamic stochastic general equilibrium models following Kydland and Prescott (1982).¹ Lucas argued that economic theory implies that preferences and technology are invariant to the rule describing policy but that decision rules describing private agents' behavior are not. In a series of graphic examples, he shows that then-standard policy analyses which presumed invariance of decision rules led to dramatically undesirable policy prescriptions. Kydland and Prescott argue that a regime in which policymakers set state-contingent rules once and for all is better than a discretionary regime in which policymakers sequentially choose policy optimally given their current situation.

The practical effect of the Lucas critique is that both academic and policy-oriented macroeconomists now take policy analyses seriously only if they are based on quantitative general equilibrium models in which the parameters of preferences and technologies are reasonably argued to be invariant to policy. The time inconsistency critique has been a major influence on the practice of central banking and fiscal policymaking over the last 30 years.

The quantitative general equilibrium models that were developed in response to the Lucas critique have become increasingly sophisticated over time, including models with financial market imperfections, sticky prices and other monetary nonneutralities, imperfect competition, incomplete markets, and other frictions. (See Cooley, 1995.) We think of the developers of these quantitative models as the engineers who have applied the vision of the architects, Kydland, Lucas, and Prescott. After years of

quantitative study, these engineers deduced four robust properties of optimal monetary and fiscal policies under commitment:

1. Monetary policy should be conducted so as to keep nominal interest rates and inflation rates low.
2. Tax rates on labor and consumption should be roughly constant over time.
3. Capital income taxes should be roughly zero.
4. Returns on debt and taxes on assets should fluctuate to provide insurance against adverse shocks.

Macroeconomists have also been profitably applying the basic tools of general equilibrium theory, computational techniques, and a deep understanding of key features of the data to a wide area of phenomena outside of narrowly defined macroeconomics. These include income differences across countries, fertility behavior across time and countries, the dynamics of the size distribution of firms, and the efficiency costs of the welfare state. A good illustration of this kind of work is the study of differences in labor market performance between the United States and Europe. Although work of this kind has not yet directly affected policy, it will once its policy lessons, carefully grounded in theory and data analysis, are clearly communicated to policymakers and the public.

Here we have focused on the role of theory shaping policy. In practice, of course, causality runs in both directions. Theorists often work on problems motivated by specific policy questions and specific experiences. Policymakers' mind-sets and attitudes are influenced, perhaps subconsciously, by apparently remote developments in theory. Nevertheless, the most straightforward reading of developments in macroeconomic policy is that they were strongly influenced by developments in macroeconomic theory. To make our case, this Annual Report essay

includes an analysis of optimal rules and monetary policy, which is appropriate consideration for the Federal Reserve Bank of Minneapolis, as well as a section describing how theory is pushing macroeconomics to new considerations. Our complete paper—from which this essay is based—also includes an analysis of fiscal policy. Interested readers can find the full paper in the Fall 2006 issue of the *Journal of Economic Perspectives*. (See note on page 7 for full citation.)

Modern Theoretical Developments

Expectations and Macroeconomic Policy Analysis

The Lucas critique led economists to understand that people's decision rules change when the way policy is conducted changes. Lucas (1976) forcefully argues that the question "How should policy be set today?" was ill-posed. In most situations, people's current decisions depend on their expectations of what future policies will be. Those expectations depend, in part, on how people expect policymakers to behave. Macroeconomists now agree, therefore, that any sensible policy analysis must include a clear specification of how a current choice of policy will shape expectations of future policies.

To see more concretely why analyzing policy requires specifying how policy will be set in the future, consider two examples. First, consider a monetary authority deciding on monetary policy for today. This authority needs to forecast how variables such as inflation and output will behave now and in the future, which means that it must forecast private behavior in the future. But the decisions of private actors depend on their expectations about future monetary policy. If private actors expect tight monetary policy in the future, they will react to current price and wage pressures in one way; if they expect loose monetary policy in the future, they will react differently. Thus, the monetary authority cannot predict how the economy will respond to a policy decision today unless it can also predict how

people's expectations of future monetary policy will change as a result of the current decisions. The monetary authority also needs to predict how its own behavior will change in the future as a result of its current actions.

Next, consider a fiscal authority deciding how to tax capital income. This authority needs to forecast how output, investment, and other variables will respond to its decisions. Investment decisions, for example, depend on investors' expectations of future tax rates. If investors expect future tax rates to be low, then they'll invest more today; if high, then less today. Consequently, the fiscal authority cannot predict how investment will respond, for example, to a tax cut today unless it knows how people's expectations of future tax rates will change as a result of the cut. The fiscal authority also needs to predict how its own future behavior will change as a result of its current actions.

With this concern over expectations in mind, macroeconomists now agree that a coherent framework for the design of economic policy consists of three parts: a model to predict how people will behave under alternative policies, a welfare criterion to rank the outcomes of alternative policies, and a description of how policies will be set in the future.

A commitment regime is the easiest environment to describe how future policies are set. In such a regime, all policies for today, tomorrow, the day after, and so on are set today and cannot be changed. These policies could be contingent on various events that might occur in the future. The model can then be used to predict the consequences of various plans for policy and can be used to find the optimal plan. This procedure has its origins in the public finance tradition stemming from Ramsey (1927), so this sequence of optimal policies is referred to as *Ramsey policies* and their associated outcomes as *Ramsey outcomes*.

Time Inconsistency Problem

The Lucas (1976) critique addresses situations in which expectations of future policies affect current decisions. The Lucas critique thus leads naturally to thinking about policy evaluation as comparing alternative sets of rules that describe policy both now and in the future. In practice, of course, societies may not be able to commit to future policies. In a series of graphic examples, Kydland and Prescott (1977) (soon followed by Calvo, 1978; Fischer, 1980) analyzes policies with and without commitment and shows that Ramsey policies are often *time inconsistent*; that is, outcomes with commitment are different from those without commitment. Their examples suggest that time inconsistency problems arise when people's current decisions depend on expectations of future policies. Since people's decisions have been made by the time the future date arrives, the government often has an incentive to renege on the Ramsey policies.

To better understand this problem, consider again examples from monetary and fiscal policy. The monetary policy example is motivated by the work of Kydland and Prescott (1977) and Barro and Gordon (1983). Assume that at the beginning of each period, wage setters choose nominal wages so as to attain a target level of real wages. The monetary authority then chooses the inflation rate. If inflation is higher than wage setters expected, then real wages are lower than the target level, firms demand more labor, and output is higher than its natural rate (which is its level when real wages are at their target level). The monetary authority wants to maximize society's welfare, which is increasing in output and decreasing in inflation. As output increases, the natural assumption is that the marginal benefits of increases in output fall because of diminishing marginal utility. We assume in addition that as inflation increases, the marginal costs of increases in inflation rise. This assumption holds in many general equilibrium models.

To see that there is a time inconsistency problem in this setup, consider the best outcomes under commitment, the

Ramsey outcomes. We think of commitment as a situation in which at the beginning of time society prescribes a rule for the conduct of monetary policy in all periods. The monetary authority then simply implements the rule. The best rule under commitment prescribes zero inflation in all periods. Under this rule, real wages are equal to their target level. To see why zero inflation is optimal, consider a rule that prescribes positive inflation. Wage setters anticipate positive inflation and set their nominal wages to be appropriately higher. Under this policy, real wages are still at their target level, output is unaffected, but inflation is positive. Clearly this outcome is worse than one under a policy that prescribes zero inflation.

Consider next outcomes with no commitment. We think of no commitment as a situation in which in each period the monetary authority chooses policy optimally given the nominal wages that wage setters have already chosen. In the resulting outcome, called the *static discretionary outcome*, inflation is necessarily positive while output is at its natural rate. To see why inflation is necessarily positive, suppose, by way of contradiction, that inflation rates are zero so that wage setters set their wages anticipating zero inflation. Once the nominal wages are set, however, the monetary authority will deviate and generate inflation in order to raise output. Hence, inflation must be positive. To see why output is at its natural rate, note that wage setters rationally anticipate the actions of the monetary authority so that real wages are at their target level. In the static discretionary outcome, inflation is at a high enough level so that the marginal cost of deviating to an even higher inflation rate is equal to the marginal benefit of increased output.

In the case of fiscal policy, a good example of the time inconsistency problem is based on Kydland and Prescott (1977). Consider a model in which the government needs to raise revenue from proportional taxes on capital and labor income to finance a given amount of government spending. Under commitment, society chooses a rule for

setting tax rates in all periods, and the fiscal authority implements the rule. At any instant, the stock of capital is given by past investment decisions; however, the supply of labor can be changed relatively quickly. The key influence on investment decisions that determine the capital stock in the future is the after-tax return expected in the future, whereas the key influence on labor supply decisions is the current after-tax wage rate. So the government's best policy for current tax rates is to tax capital at high rates and labor at low rates. This policy does not distort capital supply decisions, since the capital stock is fixed and irreversible in that capital goods cannot be directly converted into consumption goods. The policy also ensures that labor supply is not distorted much, since the tax rates on labor are low. For future tax rates, the best policy is to commit to set low rates on capital to stimulate investment and to raise the rest of the needed revenue with higher rates on labor.

Consider next the outcomes with no commitment. In each period, the fiscal authority still has an incentive to tax capital income heavily, since the capital stock is fixed, and to tax labor income lightly to avoid distorting labor supply. Without commitment, however, investors today rationally expect that high taxes on capital income will continue into the future—since such taxes are preferred in each time period—and investment will be low. In equilibrium, the capital stock is smaller than it would be under commitment, and both output and welfare are correspondingly lower than they would be under commitment.

The message of examples like these is that discretionary policymaking has only costs and no benefits, so that if government policymakers can be made to commit to a policy rule, society should make them do so. Our examples have no shocks. In stochastic environments the optimal policy rule is contingent on the shocks that affect the economy. A standard argument against commitment and for discretion is that specifying all the possible contingencies in a rule made under commitment is extremely diffi-

cult, and discretion helps policymakers respond to unspecified and unforeseen emergencies. This argument is less convincing than it may seem. Every proponent of rule-based policy recognizes the necessity of escape clauses in the event of unforeseen emergencies or extremely unlikely events. These escape clauses will, of course, reintroduce a time inconsistency problem, but in a more limited form. Almost by definition, deviations from such rules will occur rarely; hence, the time inconsistency problem arising from the escape clauses will be small. Commitment to a rule with escape clauses is not unworkable.

What can be done to ameliorate the time inconsistency problem short of commitment? A superficially attractive approach is to pass legislation requiring the monetary or the fiscal authority to abide by rules. This approach is more problematic than it may seem. In most macroeconomic environments with time inconsistency problems, given an initially established rule, all members of society (or a large majority) would like to deviate from it. Legislatures will have a strong incentive to allow the monetary or fiscal authority to deviate from the established rule. To be effective, therefore, attempts to ameliorate the time inconsistency problem must impose costs on policymakers of deviating from the earlier agreed-upon rules.

The most widely studied ways to impose such costs rely on either reputation or trigger strategy mechanisms. Such mechanisms can lead to better outcomes under discretion than the static discretionary outcomes. Indeed, if policymakers discount the future sufficiently little, these mechanisms can lead policymakers to choose the Ramsey outcomes.

Our illustration of such mechanisms draws on Chari, Kehoe, and Prescott's (1989) analysis of the Kydland and Prescott (1977) and Barro and Gordon (1983) monetary policy example. Consider the following trigger strategy mechanism in an infinite horizon version of this example. In this mechanism, as long as the monetary authority has chosen the Ramsey policies in the past, wage setters expect it to continue to do so; however, if the monetary authori-

ty has ever deviated from the Ramsey policies, wage setters expect it to choose the static discretionary policies forever in the future. With these beliefs of private agents, the monetary authority understands that if it unexpectedly inflates, it gets a current gain from the associated rise in output but a loss in all future periods equal to the difference in welfare between the static discretionary outcome and the Ramsey outcome. In this situation, if the monetary authority discounts the future sufficiently little, then it will not deviate. Although the use of trigger strategy mechanisms is appealing, one difficulty is that many outcomes can result from trigger strategies, and how society will coordinate on a good outcome is not obvious.

Another device for ameliorating the time inconsistency problem is to delegate policy to an independent authority (Rogoff, 1985). One notion of what it means for an authority to be *independent* is that society faces large costs to dismiss the authority and replace it with another. We illustrate this device in the Kydland and Prescott (1977) monetary policy example, modified to include potential policymakers who differ in terms of their aversion to inflation. Suppose the appointed policymaker is extremely averse to inflation. After wage setters have chosen their nominal wages, this policymaker finds engineering a surprise inflation very costly. Wage setters anticipate this behavior, and the outcome is low inflation and output at its natural rate.

Note that if dismissing the authority is not costly, the delegation device is not effective. The authority will be dismissed after wage setters have set their nominal wages, and an authority more representative of society will be appointed. Wage setters will anticipate this behavior, and the outcomes will simply be the static discretionary outcomes. Making it costly to dismiss the authority essentially makes it costly for society to deviate from some set of rules and, hence, introduces

a specific form of commitment.

Yet another device for ameliorating the time inconsistency problem is to set up institutions that ensure that policies cannot be implemented until several periods after they are chosen. To see the advantage of such implementation lags, recall the fiscal policy example. There, without commitment, the optimal policy is to set the tax rate of capital income high, since the capital stock is determined entirely by past investment decisions, and to set the tax rate on labor income low, since labor supply decisions are determined primarily by current tax rates. Suppose that the fiscal authority still chooses tax rates on capital and labor income, but that now these tax rates can only be implemented several periods after they are chosen. Under such institutions, choosing a high tax rate on capital income will tend to reduce investment, at least until the implementation date, and will lead to a corresponding reduction in the capital stock. In this environment, the delay in implementation means that policymakers are forced to confront at least part of the distortions arising from high capital taxation.

Optimal Rules and Monetary Policy

Macroeconomists can now tell policymakers that to achieve optimal results, they should design institutions that minimize the time inconsistency problem by promoting a commitment to policy rules. However, to what particular policies should policymakers commit themselves? For many macroeconomists considering this question, quantitative general equilibrium models have become the workhorse model, and they turn out to offer surprisingly sharp answers. Macroeconomists now generally agree on four properties that optimal policies should have and on when qualifications of those properties are appropriate. One of the four properties applies to monetary policy; the other three, primarily to fiscal policy.

Optimal Rules for Monetary Policy

In the area of monetary policy, the optimal rule is to set policy so that nominal interest rates and inflation will be low. This result is due to the celebrated work of Friedman (1969), which has been defended and supplemented by more recent work based on standard public finance principles.

Friedman's argument stems from an analysis of the forces determining money-holding decisions. Money has benefits to individuals and therefore to society by reducing the costs of making transactions. From each individual's perspective, the opportunity cost of money is the forgone nominal interest that could be obtained by investing it instead. From society's perspective, the opportunity cost of producing money is close to zero. Thus, society should conduct monetary policy so that the nominal interest rate equals the opportunity cost of producing money and is therefore close to zero. This recommendation for monetary policy is known as the *Friedman rule*. (This rule should not be confused with a k -percent rule for monetary aggregates also advocated by Friedman.) This recommendation holds in both deterministic and stochastic environments.

An alternative way to implement the Friedman rule is to pay interest on money. Although it may be technologically difficult to pay interest on currency, it is possible to pay interest on checking accounts and other means of making transactions. This reasoning suggests that eliminating policies that limit interest payments on demand deposits, such as Regulation Q, move us closer to the Friedman rule.

Phelps (1973) makes what looks at first like a compelling argument that a nominal interest rate close to zero is unlikely to be optimal in practice. He notes that if government revenue must be raised through distorting taxes, the optimal policy is actually to tax all goods, including the liquidity services derived from holding money, so that the optimal interest rate is substantially greater than zero. Chari, Christiano, and Kehoe (1996) show, however, that

for a class of economies consistent with the growth facts on the absence of long-term trends in the ratio of output to real balances, a nominal interest rate close to zero is in fact optimal, even if government revenue must be raised through distorting taxes. For such economies, money acts like an intermediate good, and for well-known public finance reasons, taxing intermediate goods is not optimal.

An intuitive way to think about the Friedman rule's prescription that the nominal interest rate be zero is that it prescribes that the risk-adjusted real rate of return on money should be the same as the (risk-adjusted) real rate of return on other assets. In a deterministic environment, no risk adjustments are needed, so that the Friedman rule implies deflation at the real interest rate. Some economists have interpreted the Friedman rule as always requiring deflation at the real interest rate. Chari, Christiano, and Kehoe (1996), however, show that this interpretation is mistaken by showing that in a plausible parameterized stochastic environment, even though the optimal nominal interest rate is still zero, there is no deflation. Indeed, under the optimal policy the inflation rate is roughly zero because money turns out to be a hedge against real fluctuations, paying out relatively more in bad times and relatively less in good times. Indeed, money turns out to be enough of a hedge so that even at zero inflation, its risk-adjusted real rate of return equals that on other assets.

We turn now to some qualifications. In some well-known macroeconomic models, positive nominal interest rates are optimal. Typically, in these models, if the government had a rich enough set of fiscal instruments, then a zero nominal interest rate would be optimal, but positive nominal interest rates can make sense if the set of instruments available to the government is restricted.

Positive nominal interest rates are optimal in sticky price models with nominal prices or wages set in a staggered fashion and in which the government is restricted to uncontingent nominal debt and uncontingent consumption taxes. Absent such stickiness, even when the govern-

ment is so restricted, zero nominal interest rates are optimal and volatile inflation is used to make nominal debt mimic real state-contingent debt (Chari, Christiano, and Kehoe, 1991). If nominal prices or wages are set in a staggered fashion, then such inflation volatility is costly because fluctuations in inflation induce undesirable fluctuations in relative prices. In this setting, optimal monetary policy trades off two desirable goals. One is to maintain price stability to avoid the misallocations induced by fluctuations in relative prices. The other goal is to minimize the social waste of using inefficient methods of conducting transactions. Not surprisingly, in this setting, optimal monetary policy involves a compromise between positive interest rates to reduce inflation and promote price stability and a nominal interest rate of zero (Benigno and Woodford, 2003; Khan, King and Wolman, 2003; Siu, 2004; Schmitt-Grohé and Uribe, 2004). The undesirable fluctuations in relative prices can be avoided if either state-contingent debt or state-contingent consumption taxes are available (Correia, Nicolini, and Teles, 2004).

Another set of environments in which positive nominal interest rates are optimal has a restricted set of assets available to share risk among individuals. In this setting, lump-sum transfers financed by printing money redistribute income from the temporarily rich to the temporarily poor. The reason is that inflation imposes a larger tax on those who hold more money and, in this setting, households who hold more money are the temporarily rich. Such transfers provide a form of risk sharing and therefore help raise welfare. Optimal monetary policy trades off the benefits of risk sharing against the social waste of using inefficient methods of conducting transactions, and that involves a positive nominal interest rate (Levine, 1991). Here, also, a rich enough set of fiscal policy instruments can provide a partial remedy, risk sharing, and allow the monetary authority to follow the Friedman rule (da Costa and Werning, 2003).

Thus, modern macroeconomic theory argues that pos-

itive nominal interest rates are optimal only if the set of instruments available to the government is restricted. Since this situation is highly likely in practice, optimal monetary policy involves a compromise between the goals of zero nominal interest rates and other goals. The robust finding is not that nominal interest rates should be literally zero but that nominal interest rates and inflation rates should be low.

The practical definition of low interest rates and inflation rates is a subject of continuing discussion, particularly because of biases in measuring inflation rates due to quality changes. Although no consensus has emerged on the definition of low inflation, most macroeconomists agree that a sustained inflation in excess of 3 percent per year is unacceptably high.

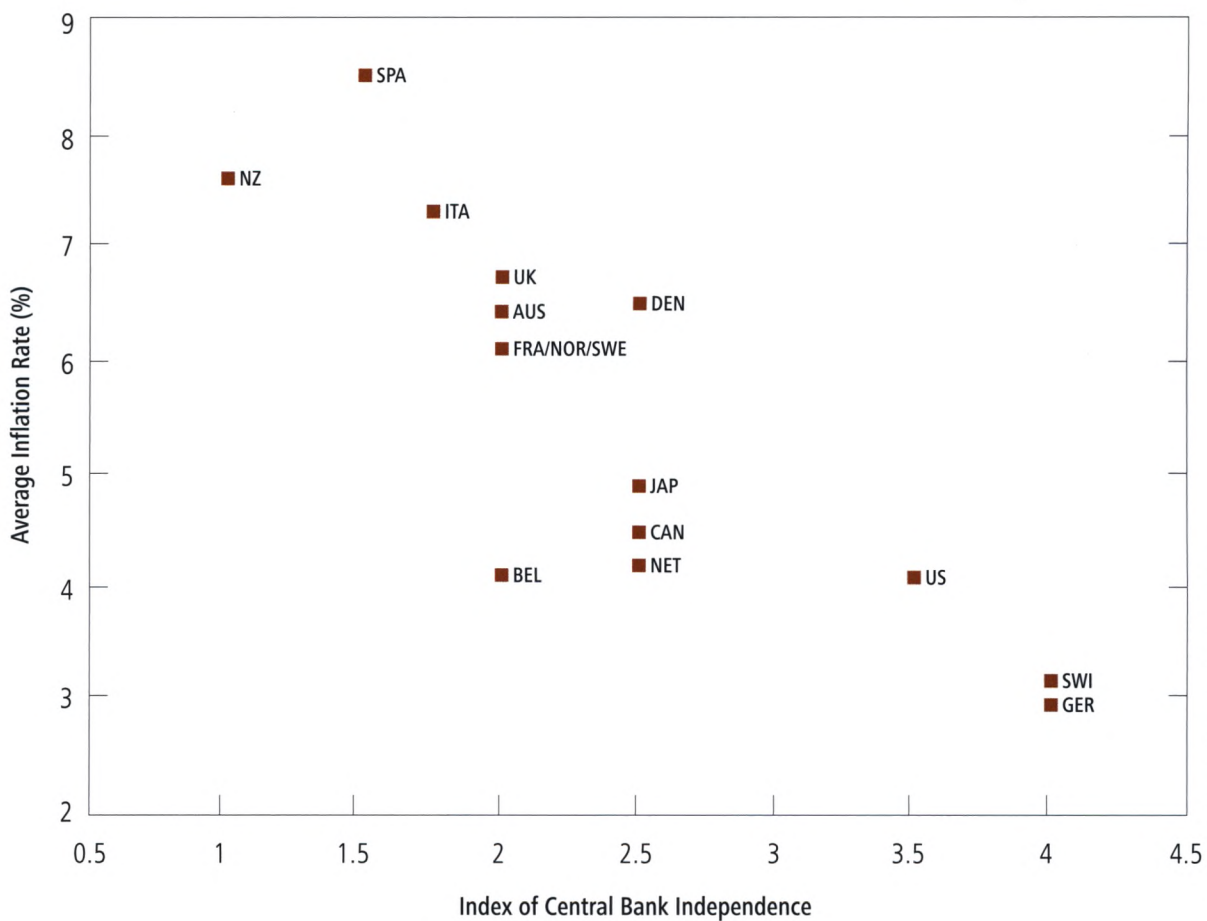
The Evolution of Monetary Policy

Over the last three decades, a variety of specific monetary policy proposals consistent with macroeconomic theory's developments have been debated and implemented around the world. Central bankers and other monetary policymakers have begun to concentrate on price stability and inflation control as their main objectives. Many countries have changed their institutional frameworks for monetary policymaking in an apparent recognition of the time inconsistency problem. These changes have emphasized the importance of characteristics key to minimizing that problem—credibility, transparency, and accountability—as well as clear statements, or rules, about the objectives of monetary policy and the methods by which that policy will respond to varying circumstances. All these changes point to a shift in the world toward the rule-based method of policymaking, which is prescribed by modern macroeconomic theory.

Two kinds of institutional changes are especially evident in the practice of monetary policy. Central banks have become substantially more independent of the political authorities, and to an increasing extent, the charters of

(Fig. 1) Central Bank Independence vs. Inflation

MEASURES OF CENTRAL BANK INDEPENDENCE VS. AVERAGE RATES OF INFLATION IN 16 COUNTRIES, 1973-88



Source: Alesina and Summers (1993)

central banks have emphasized the primacy of inflation targeting and price stability.

An extensive empirical literature has argued that central bank independence helps reduce inflation rates without any adverse consequences on output. Figure 1, which reproduces Figure 1A from Alesina and Summers (1993), shows that countries with more independent central banks tend to have lower inflation rates. Alesina and Summers (1993) also show that countries with more independent central banks do not suffer in terms of output performance. One interpretation of these findings is that institutions that promote central bank independence

ameliorate the time inconsistency problem. Under this interpretation, the findings in the literature support the key feature of the Kydland and Prescott (1977) example: Reducing the time inconsistency problem ameliorates inflation but has no effect on output.

Bernanke et al. (1999) argue that inflation targeting is moving toward a rule-based regime. Their idea (p. 24) is that “inflation targeting requires an accounting to the public of the projected long run implications of its short run policy actions.” This accounting can help ameliorate the time inconsistency problem by ensuring that the long-run implications of short-run policy actions are explicitly

taken into account in the policymaking process.

In practice, inflation targeting often involves setting bands of acceptable inflation rates. (See, for example, Bernanke and Mishkin, 1997.) In theoretical models without private information, optimal policy does not involve setting bands, but rather involves specifying exactly what the monetary authority should do in every state. In this sense, such models imply that the monetary authority should have no discretion. Athey, Atkeson, and Kehoe (2005) construct a model in which the monetary authority has private information about the economy and show that the optimal policy allows for limited discretion in that it specifies acceptable ranges for inflation and gives the monetary authority complete discretion within those ranges. In this way, Athey, Atkeson, and Kehoe provide a theoretical rationale for the type of inflation targeting often seen in practice.

Perhaps the most vivid example of both the movement toward independence and the movement toward a rule-based method of policymaking is to be found in the charter of the European Central Bank (ECB). Article 105 of the treaty establishing the central bank states that “the primary objective” of the European System of Central Banks (ESCB) shall be to “maintain price stability.” Article 107 of the treaty emphasizes and protects the independence of the central bank by mandating that “neither the ECB, nor a national central bank, nor any member of their decision-making bodies shall seek or take instructions from Community institutions or bodies, from any government of a Member State or from any other body.” Furthermore, the Maastricht Treaty and the Stability and Growth Pact contain provisions restricting fiscal policies in the member countries in order to make the pursuit of price stability easier.² The change in the conduct of European monetary policy is especially marked for countries other than Germany in the European monetary union.

Over the last 20 years, monetary policy in the United Kingdom has also moved in the direction of greater inde-

pendence as well as toward rule-based policymaking. After experiencing a major exchange rate crisis, the United Kingdom adopted a form of inflation targeting in October 1992. In May 1997 (and subsequently formalized by the Bank of England Act of 1998), the Bank of England gained operational independence from the government. The Bank of England is now specifically required primarily to pursue price stability and only secondarily to make sure that its policies are consistent with the growth and employment objectives of the government. The government periodically sets an inflation target, currently 2 percent, and the central bank is given broad freedom in achieving this target. As part of the inflation target, the government also sets ranges for acceptable fluctuations in inflation. If inflation moves outside its target range, the central bank is required to report on the causes for this deviation, the corrective policy action the central bank plans to take, and the time period within which inflation is expected to return to its target range.

The movement toward rule-based monetary policy is widespread. By 2002, 22 countries had adopted monetary frameworks that emphasize inflation targeting (Truman, 2003). The following countries are listed by the date in which inflation targeting was adopted (and in some cases readopted): in 1989, New Zealand; in 1990, Chile; in 1991, Canada and Israel; in 1992, the United Kingdom; in 1993, Australia, Finland, and Sweden; in 1995, Spain and Mexico; in 1997, Czech Republic and Israel (again); in 1998, Poland and Korea; in 1999, Brazil, Chile (again), and Colombia; in 2000, Thailand and South Africa; in 2001, Hungary, Iceland, and Norway; in 2002, Peru and the Philippines. These countries have all openly published their inflation targets and have described their monetary framework as one of targeting inflation. Clearly, inflation targeting is worldwide; the countries range from developed economies to emerging market economies. The number of countries adopting inflation targeting is growing over time.

The first country to adopt inflation targeting, New Zealand, has gone the furthest in setting up a rule-based regime. Before 1989, monetary policy in New Zealand was far from being rule-based. As Nicholl and Archer (1992, p. 316) describe:

New Zealand experienced double digit inflation for most of the period since the first oil shock. Cumulative inflation (on a Consumer Price Index (CPI) basis) between 1974 and 1988 (inclusive) was 480 percent. . . . Throughout the period, monetary policy faced multiple and varying objectives which were seldom clearly specified, and only rarely consistent with achievement of inflation reduction.

In 1989, the government of New Zealand adopted legislation mandating that the objective of the central bank be to maintain a stable general level of prices. The government and the governor of the central bank must agree to a policy target, which specifies an acceptable range for inflation. Since the act was adopted, the inflation rate has fallen considerably and has been well below 5 percent per year over the last decade or so.

Figure 2 displays the inflation experiences for four countries—the United Kingdom, New Zealand, Canada, and Sweden—that have adopted inflation targeting. The four panels of Figure 2 show the inflation rates before and after the date of the inflation targeting regime, marked by a vertical line. The bands in the figure following the adoption of the inflation targeting regime depict ranges of inflation as specified in the regime. Although the countries did not always remain within the target range for inflation after adopting inflation targeting, inflation fell substantially in all the countries after the adoption of inflation targeting. The literature contains ongoing controversy about whether this decline was solely due to inflation targeting, but also offers substantial consensus that inflation targeting played an important role in the decline.

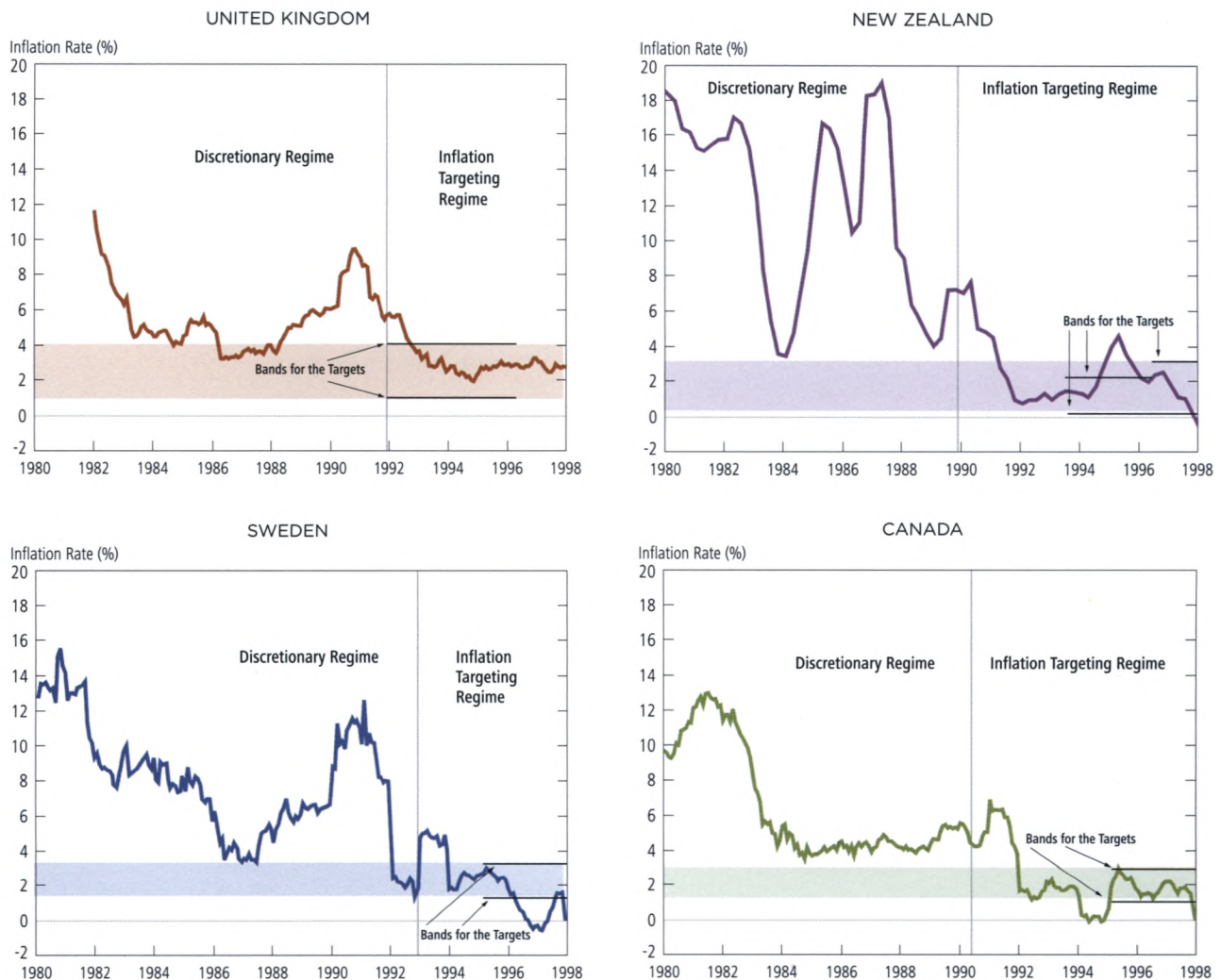
Even in countries that have not explicitly adopted inflation targeting, the institutional framework for the conduct of monetary policy has changed in a way consistent with modern macroeconomic theory. In the United States, for example, the central bank has been moving toward openness and targeting for the last 25 years. The Full Employment and Balanced Growth Act of 1978 (commonly referred to as the Humphrey-Hawkins Full Employment Act) required the Federal Reserve Board of Governors to report periodically to Congress on the planned course of monetary policy. Furthermore, the Federal Reserve Board has changed some policies in ways that increase transparency. For example, the minutes of Federal Open Market Committee meetings are now released substantially sooner than they used to be, and the FOMC's decisions regarding its interest rate target are now released immediately after the meeting. A large academic literature motivated by Taylor (1993) argues that the Fed has effectively moved toward a rule-based regime and is therefore well placed to solve the time inconsistency problem.

Although the changes in the practice of monetary policy documented above cannot be definitively linked to the recent theoretical developments in macroeconomics, the most straightforward explanation for these changes is that they are due to the identification of the time inconsistency problem by macroeconomic theorists.

Extending the Bounds of Macroeconomics

Macroeconomic theorists have long focused on frictions in the labor market as a source and propagation mechanism for business cycles. Over the last few years, a significant focus of macroeconomic research has been the effects of government policies on the secular trends of labor markets. The distinguishing feature of this research is that it is based on quantitative general equilibrium models along the lines inspired by Kydland and Prescott (1982). Although the work in this area has not yet progressed to

(Fig. 2) Examples of Inflation in Discretionary and Targeting Regimes, 1980–98



Source: Bernanke et al. (1999)

definitive policy prescriptions, it is beginning to offer powerful insights into what may have caused some problems in labor markets and what sorts of policy changes might be part of the solutions.

An issue that has captured much scientific and popular attention has been the recent stubbornly high rates of unemployment in Europe. Figure 3 shows the behavior of average unemployment rates in Europe and the United States from 1956 to 2003. Until the late 1970s, unemployment was roughly two percentage points lower in Europe than in the United States. Since about 1980, European

unemployment increased significantly while U.S. unemployment decreased. By 2003, unemployment averaged more than 9 percent in Europe, compared with only about 5 percent in the United States.

Another way to examine labor markets is to focus on employment rates, measured as the annual average hours worked per adult of working age. Figure 4 displays the behavior of this measure of employment rates in Europe and the United States from 1956 to 2003. According to this figure, employment steadily declined over the entire period in Europe, whereas in the United States, it was roughly

stable until the 1980s and then sharply increased.

What explains these contrasting patterns? The macroeconomics literature has advanced three explanations for these patterns: labor market rigidities, taxes, and unemployment benefits.

Labor Market Rigidities

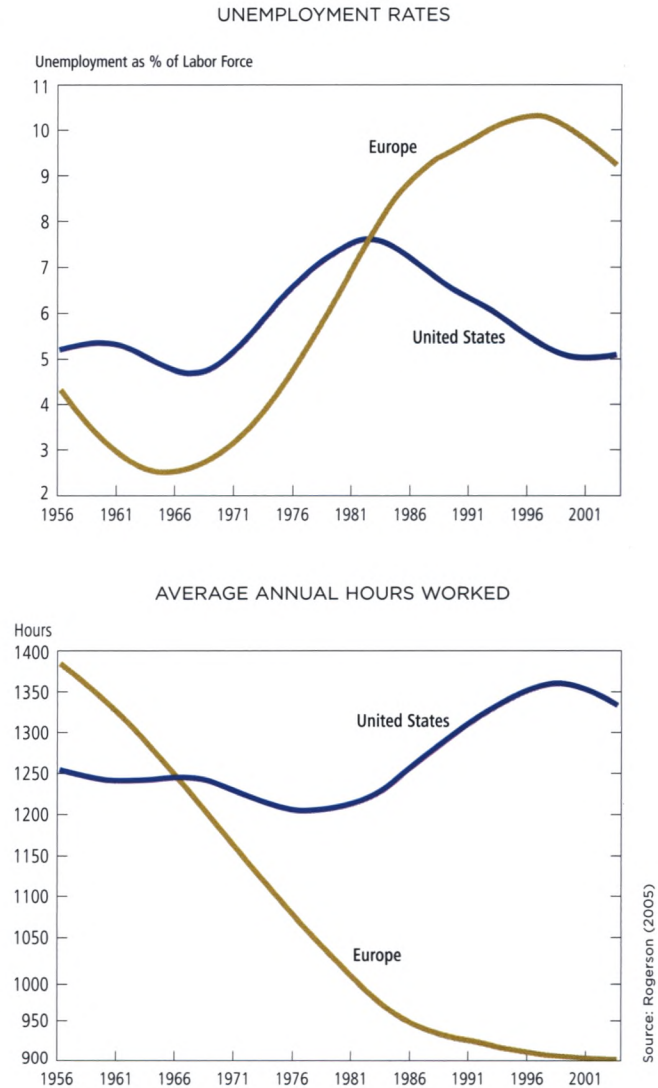
One widely held view is that labor markets are much more rigid in Europe than in the United States. For example, European legal employment protections that make it difficult to fire workers are typically more stringent than those in the United States. Hopenhayn and Rogerson's (1993) general equilibrium model points to two opposing forces of firing costs on unemployment: The costs make firms more reluctant to fire workers, thereby reducing unemployment, but at the same time, they make firms more reluctant to hire workers in the first place, thereby raising unemployment. The overall effect is ambiguous and depends on the details of the microeconomic shocks affecting individual firms' employment decisions. Using cross-country evidence, Nickell (1997) finds that the effect of hiring costs is also ambiguous.

Although the effect of firing costs on unemployment is ambiguous, the effect on productivity in the Hopenhayn and Rogerson (1993) model is not. Firing costs tend to inhibit the efficient reallocation of labor to more productive firms and thereby reduce aggregate productivity. Thus, this model implies that welfare can be raised by reducing firing costs. Note that if workers cannot borrow against future earnings to invest in general human capital, then firing costs may provide incentives for firms to invest in such capital and thus raise productivity, as in the models of Acemoglu and Pischke (1999) and Chari, Restuccia, and Urrutia (2005).

Taxes

Prescott (2002) and Rogerson (2005) point to differences in taxes as a key source of the differences in European and U.S. labor market experiences. To study this possibility, the

(Figs. 3 & 4) Unemployment and Employment in Europe and the United States, 1956–2003



discipline of general equilibrium theory is essential, because the effect of taxes on labor market outcomes depends not only on how tax revenue is raised but also, as Rogerson (2005) emphasizes, on how it is used. A tax has both a substitution effect that reduces the incentive to work and an income effect that increases the incentive to work, but the way in which tax revenue is spent can alter the income effects.

To see why the details of how tax revenues are spent are important, suppose first that the revenue is used to pro-

vide public goods that are poor substitutes for private consumption. Then, as long as the utility function has near unit elasticity of substitution between consumption and leisure, the income and substitution effects nearly cancel so that labor supply effects of taxes are approximately zero. Hence, to a first approximation, the public good expenditures crowd out private consumption dollar for dollar. Suppose next that the revenue is either transferred back to private citizens in a lump-sum fashion or, equivalently, used to purchase private goods for citizens. Then taxes have only a substitution effect—because the expenditures offset the income effect—and labor supply falls.

Prescott (2002) cleverly sidesteps these issues by noting that in a general equilibrium model, the details of the expenditures are captured by their effects on consumption. Prescott begins his analysis by noting that in a general equilibrium model with a stand-in household, the first-order condition determining labor supply equates the marginal rate of substitution between consumption and leisure to the after-tax marginal product of labor. Given consumption and the capital stock, this condition thus implies a relation between employment and the tax-induced labor wedge. In this approach, the details of how government revenues are spent play a role in determining labor supply only through its effects on consumption and the capital stock.

Assuming that both the utility function and the production function have unit elasticity of substitution, and using long-term averages to pin down share parameters, Prescott showed that this simple theory works surprisingly well in accounting for employment observations for the G-7 countries for the 1970s and the 1990s. With these functional form assumptions, the marginal rate of substitution is proportional to $c/(1-l)$, where c denotes consumption and l the fraction of time in market work, whereas the after-tax marginal product of labor is proportional to $(1-\tau)y/l$, so that the consumption-to-output ratio, c/y , summarizes the effects of the details of expen-

ditures as well as other aspects of the model, such as capital income taxes. The accompanying table is reproduced from Prescott (2002). The closeness between the predictions of his simple model and the data is remarkable.

The Prescott analysis works well in a comparison of the early 1970s and the mid-1990s, in part because tax policies clearly changed dramatically during this time. Using his analysis to compare the 1950s and the 1970s, however, does not work as well. Evidence of large changes in tax rates from the 1950s to the 1970s is hard to find, even though Figure 4 shows a sustained decline in employment rates over this period. As Prescott has acknowledged, his analysis likewise does not work well for the Scandinavian countries that have both high tax rates and high employment.

Rogerson (2005) builds on Prescott's analysis to allow for secular shifts from agriculture and industry toward services. Rogerson argues that changes in taxes and in industry composition can account for the bulk of observed differences in employment between Europe and the United States.

These analyses focus on the division of time between market work and all forms of nonmarket activities—including both unemployment and being out of the labor force. As such, these analyses have sharp implications for the behavior of the employment rate. Since they do not distinguish between search activities and other nonmarket activities that lead households to be classified as out of the labor force, they are silent about differences in unemployment rates between Europe and the United States.

Unemployment Benefits

One possible reason the unemployment rate is higher in Europe than in the United States is that unemployment benefits are more generous in Europe. A reasonable conjecture is that this greater generosity leads to higher unemployment rates by making workers more reluctant to accept job offers. The problem with this conjecture is

G-7 Countries' Predicted and Actual
Labor Supply*

Country	Tax Rate τ	Consumption- Output Ratio c/y	Labor Supply in 1970-74	
			Actual	Predicted
Germany	.52	.66	24.6	24.6
France	.49	.66	24.4	25.4
Italy	.41	.66	19.2	28.3
Canada	.44	.72	22.2	25.6
United Kingdom	.45	.77	25.9	24.0
Japan	.25	.60	29.8	35.8
United States	.40	.74	23.5	26.4

*Hours worked per week per person aged 15-64

Source: Prescott (2002)

that it seems contradicted by facts; in the 1960s and 1970s, unemployment benefits were much more generous in Europe than in the United States, while unemployment rates were lower in Europe than in the United States. Ljungqvist and Sargent (1998) develop a model that focuses on the division of time between market work and the search activities of unemployed workers while abstracting from considerations of nonmarket activities other than search. They show that in the 1960s and 1970s, more generous unemployment benefits, together with higher firing costs, led Europe to have lower unemployment rates than the United States, whereas in the 1980s, the same benefits and firing costs led to the opposite relationship.

The key difference between the earlier and later periods is that microeconomic turbulence, measured as fluctuations in individual worker productivities, has increased over time in both Europe and the United States (Gottschalk and Moffitt, 1994). As microeconomic turbulence increases, more workers find themselves in low-productivity jobs as well as in unemployment. If unemployment benefits are generous, as they are in Europe, then unemployed workers' reservation wages fall by only a small amount as turbulence increases, and the flow of workers out of unemployment does not change much.

Hence, with increased microeconomic turbulence, the overall unemployment rate rises. If unemployment benefits are meager, as they are in the United States, then workers' reservation wages fall sharply as turbulence increases, and the outflow from unemployment rises nearly one-for-one with the inflow. Hence, the unemployment rate does not change much.

The Ljungqvist and Sargent (1998) model assumes that workers are risk-neutral, in which case unemployment compensation has no benefits and is costly because it distorts the search decision. As the model stands, the policy implication is that government-provided unemployment benefits should be eliminated. With risk aversion and imperfections in private markets for unemployment insurance, unemployment insurance has benefits that need to be weighed against the induced distortions in search decisions. A growing literature has begun to analyze these trade-offs (for example, Atkeson and Lucas, 1992; Hopenhayn and Nicolini, 1997; Shimer and Werning, 2005).

In our view, explanations of patterns in European and U.S. labor markets based on labor market rigidities, taxes, and unemployment benefits all have plausible appeal, but the quantitative importance of each has not been definitively established.

Conclusion

Here we have argued that macroeconomic theory has had a profound and far-reaching effect on the institutions and practices governing monetary policy and is beginning to have a similar effect on fiscal policy. The marginal social product of macroeconomic science is surely large and growing rapidly.

Those economists caught up in the frenzy of day-to-day policymaking often view their colleagues who toil in the ivory towers of academe as having no power to affect practical policy and those economists who whisper in the ears of presidents and members of Congress as having the ability to dramatically affect policy. The truth, as we have

argued, is very far from this view. The course of practical policy is affected primarily by the institutions we devise and how well presidents and members of Congress understand economic trade-offs. The day-to-day economic adviser is useful to the extent that the adviser can educate policymakers about trade-offs, but is largely irrelevant otherwise. It is easy to see why those economists caught up in the whirlwind of day-to-day policymaking miss the dramatic changes in policy that result from slow, secular changes in institutions, practices, and mind-sets.

The toilers in academe are uniquely placed to develop analyses of institutions and to educate the public and policymakers about economic trade-offs. The essence of our argument is that, at least in macroeconomics, these toilers have delivered large returns to society over the last several decades.

Notes

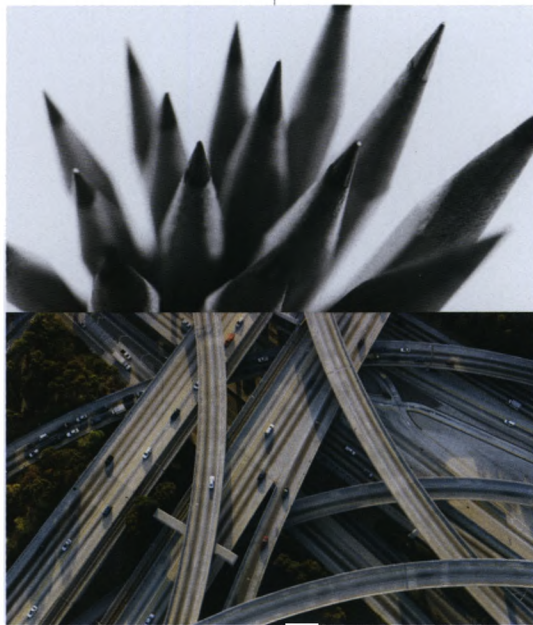
¹The use of dynamic general equilibrium models in macroeconomics has a long tradition dating back, at least, to Robert Solow (1956).

²Note that these practical concerns are consistent with the work of Sargent and Wallace (1985), who emphasize that monetary and fiscal policy are linked by a single government budget constraint, so that responsible monetary policy is impossible without responsible fiscal policy.

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Federal Reserve Bank of Minneapolis

2006 Operations Report

Message from the First Vice President



In the coming years, the Federal Reserve System faces significant change along with many challenges and uncertainties as it seeks to fulfill its mission to foster the stability, integrity, and efficiency of the nation's monetary, financial, and payment systems. The

complexity and pace of change including advances in technology, declining check volumes, consolidations in the banking and financial payments industries, security concerns, and greater emphasis on corporate governance all pose considerable challenges for the Federal Reserve in carrying out its responsibilities.

In response to these challenges, the Federal Reserve Bank of Minneapolis remains focused on effectively executing its strategic plan, which is directed at ensuring all System objectives are met while also maximizing the Bank's operational efficiency and quality of service delivery. The Bank's many achievements in 2006 demonstrate our effectiveness in executing our strategic plan.

Overall, Bank performance was strong in 2006. Adjusted for additional Check expenses approved by the Retail Payments Office (RPO) related to the implementation of Check 21 and the Helena Branch processing consolidation, the Bank's 2006 expenses were on budget. Priced services' revenue exceeded plan, efficiency measures in Check and Cash were all better than plan, and the Bank met most quality measures. Working with the RPO on the Helena consolidation, the Bank developed a new business model relying more heavily on electronic pro-

cessing and retaining a Check 21 print operation at the Helena Branch on an interim basis.

The Bank continued to effectively lead the Financial Services Policy Committee (FSPC) (the Federal Reserve System's payments policymaking arm) and the Financial Services Council (FSC). Of particular note was the success of several initiatives requiring considerable Product and Support Office coordination including strategic planning, business/technology planning, product development, customer support, and data privacy. Staff in the FSPC Support Office were also responsible for strengthening industry outreach and standards-related work. The Bank received favorable feedback on its leadership from other Reserve Banks and the Product Offices.

At the System level, Bank management played a leadership role in several important new initiatives including preparations for a potential avian flu pandemic, planning for a new identity credential, and development of a policy for sharing payments data with other supervisors and System researchers.

In partnership with external consultants, FedACH analyzed the costs and benefits of continuing operations on legacy mainframe technology versus migration to distributed technologies. Based on the results, a strategic decision was made to modernize FedACH core payments processing using technology that provides superior flexibility to accommodate changes in volumes and services, greater efficiency in software development, and higher processing throughput when compared to the other alternative technologies reviewed. Migration to the new technology is planned to occur over a five-year period.

FedACH and Customer Contact Center staff helped ensure successful completion of the conversion from FedLine DOS to FedLine Advantage by achieving all

2006 by the Numbers

In 2006, the Federal Reserve Bank of Minneapolis processed:

- 9.4 billion ACH (Automated Clearing House) payments worth approximately \$16.6 trillion. FedACH is a nationwide system, developed and operated by Minneapolis staff on behalf of the entire Federal Reserve System, that provides the electronic exchange of debits and credits.
- 769 million checks worth \$851 billion. The Minneapolis office is one of the larger check processing centers in the Federal Reserve System.
- \$10.9 billion of excess currency received from financial institutions, destroyed \$945 million of worn and torn currency, and shipped \$12.3 billion of currency to financial institutions.
- Forms, tenders, account maintenance and other customer transactions for 400,000 active Legacy *TreasuryDirect* accounts for individuals holding Treasury securities totaling \$72 billion and 4.25 million savings bond purchase requests worth \$4.1 billion, as one of two Treasury Retail Securities sites in the Federal Reserve System.
- Transaction items worth more than \$456 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.

assigned project objectives and targets before year-end 2006.

The Supervision, Regulation, and Credit Division (SRC) focused on ensuring operational excellence, creating a culture of continuous improvement, strengthening staff members' skills and expertise, conducting outreach, and contributing to System and Bank initiatives consistent with its mission. SRC complied with System policies and guidelines and had no material shortcomings in meeting reporting deadlines and internal metrics for ongoing operations. SRC successfully implemented the System's quality management guidelines across all supervision areas and implemented an enhanced risk monitoring and identification process.

The Bank is the host site for the Learning Management Support Office, which has responsibility for implementing and supporting FedLearn, the System-approved product for storing employees' training histories and the single point of access to eLearning. FedLearn has been successfully implemented at six Reserve Banks and within six business lines. FedLearn currently houses over 225,000 training records and 20,000 courses, including 1,600 eLearning offerings. The remaining Reserve Banks and business lines are scheduled to deploy FedLearn by April 2007.

While the Bank has a strong compliance and control environment, it pursued several initiatives to continue strengthening risk management practices. One 2006 high priority objective was to develop specific contingency plans for a pandemic flu outbreak. The Bank augmented its existing top-down enterprise risk management program by developing and testing a bottom-up business line approach.

Bank management places a high priority on fostering a work environment that attracts and retains a talented and diverse work force. To help accomplish this goal, the Bank launched its Leadership Link development program, which includes a number of new tools that round out the existing staff development program. Also, the Bank hired a full-time diversity coordinator to expand on

our successful diversity program and create a stronger connection among the Bank's diversity program, employee relations events, and outside volunteer activities.

The Bank pursued several initiatives as part of its continuing commitment to advance research and economic and financial literacy, as well as increase awareness of community development issues. The Bank's policy contributions included the publication of a number of scholarly articles by the Bank's economists and advisers, ongoing initiatives to promote early childhood development, and public outreach to promote understanding of community development issues.

The Bank's success in 2006 is a result of the strong commitment and diligence of our employees and Board of Directors. Together we will continue to effectively implement our strategic plan and address the many challenges we face while also carrying out the Federal Reserve System's mission to foster stability, integrity, and efficiency in the nation's monetary, financial, and payment systems.



James M. Lyon
First Vice President

Helena Branch Board of Directors



Seated (from left): Lawrence Simkins, Dean Folkvord;
standing (from left): Marilyn Wessel, John Franklin, Joy Ott

Dean Folkvord
Chairman
Lawrence R. Simkins
Vice Chairman

Appointed by the Board of Governors
Dean Folkvord
General Manager and Chief Executive Officer
Wheat Montana Farms and Bakery
Three Forks, Montana

Lawrence R. Simkins
President
Washington Corporations
Missoula, Montana

Appointed by the Minneapolis Board of Directors
Joy N. Ott
Regional President and Chief Executive Officer
Wells Fargo Bank Montana NA
Billings, Montana

John L. Franklin
President and Chief Executive Officer
First Bank of Sidney
Sidney, Montana

Marilyn F. Wessel
Bozeman, Montana

Federal Advisory Council Member

Lyle Knight
President and Chief Operating Officer
First Interstate Bank
Billings, Montana



Minneapolis Board of Directors

Seated (from left): Douglas Morrison, Jake Marvin, Randy Peterson, Greg Heineman; standing (from left): Frank Sims, Peter Haddeland, John Hoeven, Todd Johnson, James Hynes



Frank L. Sims, *Chairman* James J. Hynes, *Deputy Chairman*

Class A Elected by Member Banks

Peter J. Haddeland
President
First National Bank of Mahnomon
Mahnomon, Minnesota

John H. Hoeven Jr.
Chairman and Chief Executive Officer
First Western Bank & Trust
Minot, North Dakota

Douglas C. Morrison
Chief Financial Officer
Citibank
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Sioux Falls, South Dakota

Todd L. Johnson
President and Chief Executive Officer
Reuben Johnson & Son Inc.
and Affiliated Companies
Superior, Wisconsin

Randy Peterson
Facility Director
Lake Superior State University
Sault Ste. Marie, Michigan

Class C Appointed by the Board of Governors

James J. Hynes
Executive Administrator
Twin City Pipe Trades Service Association
St. Paul, Minnesota

Jake Marvin
Chairman and Chief Executive Officer
Marvin Windows and Doors
Warroad, Minnesota

Frank L. Sims
Corporate Vice President, Transportation
Cargill Inc.
Wayzata, Minnesota

Advisory Council on Small Business and Labor

James Hynes, Chairman
Executive Administrator
Twin City Pipe Trades Service
Association
St. Paul, Minnesota

David Brown
Senior Vice President
Commercial Lending
Home Federal Bank
Sioux Falls, South Dakota

Skip Duemeland
Chief Executive Officer
Duemelands Commercial
Properties
Bismarck, North Dakota

Rolin Erickson
President
Montana Resources LLP
Butte, Montana

Esperanza Guerrero-Anderson
President
Guerrero-Anderson Inc.
Minneapolis, Minnesota

Kim Hamilton
Owner
White River Winery
Iron River, Wisconsin

Sarah Harris
Principal
Eberhardt Real Estate Advisory
Services
Minneapolis, Minnesota

Robert Jacquart
President
Jacquart Fabric Products Inc.
Ironwood, Michigan

Harry Lerner
*Chairman
and Chief Executive Officer*
Lerner Publishing Group
Minneapolis, Minnesota

Al Lukes
President
Lukes Consulting Inc.
Bismarck, North Dakota

Nancy Straw
*President
and Chief Executive Officer*
West Central Initiative
Fergus Falls, Minnesota



Seated (from left): Kim Hamilton, Robert Jacquart,
David Brown, Skip Duemeland; standing (from left):
Harry Lerner, James Hynes, Nancy Straw,
Rolin Erickson, Sarah Harris

Advisory Council on Agriculture

Seated (from left): Don Weaver, Joel Dick, Claire Seefeldt, Dean Folkvord, Jeff Lakner; standing (from left): Rick Dale, Steve O'Reilly, Maurice Reiner, Rodney Schmidt, Tucker Hughes



Dean Folkvord, *Chairman
General Manager
and Chief Executive Officer*
Wheat Montana Farms and Bakery
Three Forks, Montana

Rick Dale
Owner
Highland Valley Farm
Bayfield, Wisconsin

Joel Dick
*Vice President
and Chief Operating Officer*
Roman Meal Milling Co.
Fargo, North Dakota

Tucker Hughes
President
Hughes & Sons Cattle Co.
Stanford, Montana

Jeff Lakner
Owner
Lakner Farms
Wessington, South Dakota

Guy Moos
President
Baker Boy Bake Shop Inc.
Dickinson, North Dakota

Steve O'Reilly
Organic Dairy Producer
Goodhue, Minnesota

Maurice Reiner
President,
Yankton Market
First National Bank of South
Dakota
Yankton, South Dakota

Rodney Schmidt
District Manager
Bayer Crop Science
Lakeville, Minnesota

Claire Seefeldt
Vice President
First National Bank
Milnor, North Dakota

Don Weaver
Chief Financial Officer
Betaseed Inc.
Shakopee, Minnesota

Federal Reserve Bank of Minneapolis
Senior Management

Seated (from left): James Lyon, Arthur Rolnick,
Duane Carter; standing (from left): Creighton Fricke,
Gary Stern, Claudia Swendseid, Niel Willardson



Gary H. Stern
President

James M. Lyon
First Vice President

Duane A. Carter
*Senior Vice President and
Equal Employment Opportunity Officer*

Creighton R. Fricke
*Senior Vice President
and Corporate Secretary*

Arthur J. Rolnick
*Senior Vice President
and Director of Research*

Claudia S. Swendseid
Senior Vice President

Niel D. Willardson
*Senior Vice President
and General Counsel*

Federal Reserve Bank of Minneapolis

Officers

Ron J. Feldman
Vice President

David G. Fettig
Vice President

Michael Garrett
Vice President

Linda M. Gilligan
*Vice President and General
Auditor*

Matthew D. Larson
Vice President

Frederick L. Miller
Vice President

Kinney G. Misterek
Vice President

Marie R. Munson
Vice President

Paul D. Rimmereid
*Vice President and Chief
Financial Officer*

Susan K. Rossbach
*Vice President and Deputy
General Counsel*

Richard M. Todd
Vice President

Cheryl L. Venable
Vice President

Mary E. Vignalo
Vice President

Warren E. Weber
Senior Research Officer

Peter Baatrup
*Assistant Vice President and
Assistant General Counsel*

Nicole Bennett
Assistant Vice President

Kelly A. Bernard
Assistant Vice President

Sheryl L. Britsch
Assistant Vice President

Jacquelyn K. Brunmeier
Assistant Vice President

James A. Colwell
Assistant Vice President

Walter A. Cox
Assistant Vice President

Barbara G. Coyle
Assistant Vice President

James T. Deusterhoff
*Assistant Vice President and
Discount Officer*

Scott F. Forss
Assistant Vice President

Jean C. Garrick
Assistant Vice President

Peter J. Gavin
Assistant Vice President

Jacqueline G. King
*Assistant Vice President and
Community Affairs Officer*

Elizabeth W. Kittelson
Assistant Vice President

Deborah A. Koller
Assistant Vice President

Todd A. Maki
Assistant Vice President

Barbara J. Pfeffer
Assistant Vice President

Mark A. Rauzi
Assistant Vice President

Randy L. St. Aubin
*Assistant Vice President and
Assistant General Auditor*

Tamra J. Wheeler
Assistant Vice President

John E. Yanish
Assistant Vice President

Helena Branch Officers

Samuel H. Gane
*Vice President and
Branch Manager*

R. Paul Drake
*Assistant Vice President and
Assistant Branch Manager*

December 31, 2006

Auditor Independence

The firm engaged by the Board of Governors for the audits of the individual and combined financial statements of the Reserve Banks for 2006 was PricewaterhouseCoopers LLP (PwC). Fees for these services totaled \$4.2 million. To ensure auditor independence, the Board of Governors requires that PwC be independent in all matters relating to the audit. Specifically, PwC 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 the Reserve Banks, or in any other way impairing its audit independence. In 2006, the Bank did not engage PwC for any material advisory services.

Federal Reserve Bank of Minneapolis

2006 Financial Statements

December 31, 2006 and 2005

Letter to Directors	42
Report of Independent Auditors	44
Statements of Condition	47
Statements of Income	48
Statements of Changes in Capital	49
Notes to Financial Statements	50



March 5, 2007

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

The management of the Federal Reserve Bank of Minneapolis (“FRBM”) is responsible for the preparation and fair presentation of the Statement of Financial Condition, Statement of Income, and Statement of Changes in Capital as of December 31, 2006 (“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 and as set forth in the Financial Accounting Manual for the Federal Reserve Banks (“Manual”), and as such, include amounts, some of which 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.

Management’s assessment of the effectiveness of the FRBM’s internal control over financial reporting as of December 31, 2006, is being audited by PricewaterhouseCoopers LLP, the independent registered public accounting firm which also is auditing the FRBM’s Financial Statements.

Federal Reserve Bank of Minneapolis

By 
Gary H. Stern
President

By 
James M. Lyon
First Vice President

By 
Paul D. Rimmereid
Chief Financial Officer

Report of Independent Auditors

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

We have completed an integrated audit of the Federal Reserve Bank of Minneapolis' 2006 financial statements, and of its internal control over financial reporting as of December 31, 2006, and an audit of its 2005 financial statements in accordance with the 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). Our opinions, based on our audits, are presented below.

Financial statements

We have audited the accompanying statements of condition of the Federal Reserve Bank of Minneapolis (the "Bank") as of December 31, 2006 and 2005, and the related statements of income and changes in capital for the years then ended, which have been prepared in conformity with the accounting principles, policies, and practices established by the Board of Governors of the Federal Reserve System. These financial statements are the responsibility of the Bank's management. Our responsibility is to express an opinion on these financial statements 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. An audit includes 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. We believe that our audits provide a reasonable basis for our opinion.

As described in Note 3, these financial statements were prepared in conformity with the accounting principles, policies, and practices established by the Board of Governors of the Federal Reserve System. These principles, policies, and practices, which were designed to meet the specialized accounting and reporting needs of the Federal Reserve System, are 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.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Bank as of December 31, 2006 and 2005, and results of its operations for the years then ended, on the basis of accounting described in Note 3.

Internal control over financial reporting

Also, in our opinion, management's assessment, included in the accompanying Management's Report on Internal Control Over Financial Reporting, that the Bank maintained effective internal control over financial reporting as of December 31, 2006 based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), is fairly stated, in all material respects, based on those criteria. Furthermore, in our opinion, the Bank maintained, in all material respects, effective internal control over financial reporting as of December 31, 2006, based on criteria established in *Internal Control—Integrated Framework* issued by the COSO. The Bank's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting. Our responsibility is to express opinions on management's assessment and on the effectiveness of the Bank's internal control over financial reporting based on our audit. We conducted our audit of internal control over financial reporting 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 effective internal control over financial

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reporting was maintained in all material respects. An audit of internal control over financial reporting includes obtaining an understanding of internal control over financial reporting, evaluating management's assessment, testing and evaluating the design and operating effectiveness of internal control, and performing such other procedures as we consider necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. 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.

PricewaterhouseCoopers LLP

March 12, 2007

Federal Reserve Bank of Minneapolis

STATEMENTS OF CONDITION

(in millions)

	December 31, 2006	December 31, 2005
Assets		
Gold certificates	\$ 211	\$ 212
Special drawing rights certificates	30	30
Coin	31	22
Items in process of collection	219	339
Loans to depository institutions	22	16
U.S. government securities, net	15,930	15,668
Investments denominated in foreign currencies	380	409
Accrued interest receivable	137	122
Interdistrict settlement account	-	38
Bank premises and equipment, net	130	133
Other assets	19	18
Total assets	\$ 17,109	\$ 17,007
Liabilities and Capital		
Liabilities		
Federal Reserve notes outstanding, net	\$ 14,893	\$ 15,065
Securities sold under agreements to repurchase	602	637
Deposits		
Depository institutions	455	388
Other deposits	1	1
Deferred credit items	288	353
Interest on Federal Reserve notes due to U.S. Treasury	16	25
Interdistrict settlement account	237	-
Accrued benefit costs	60	45
Other liabilities	5	3
Total liabilities	16,557	16,517
Capital		
Capital paid-in	276	245
Surplus (including accumulated other comprehensive loss of \$12 million at December 31, 2006)	276	245
Total capital	552	490
Total liabilities and capital	\$ 17,109	\$ 17,007

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

Federal Reserve Bank of Minneapolis

STATEMENTS OF INCOME

(in millions)

	For the years ended	
	December 31, 2006	December 31, 2005
Interest income		
Interest on U.S. government securities	\$ 721	\$ 593
Interest on investments denominated in foreign currencies	7	7
Interest on loans to depository institutions	3	1
Total interest income	<u>731</u>	<u>601</u>
Interest expense		
Interest expense on securities sold under agreements to repurchase	27	17
Net interest income	<u>704</u>	<u>584</u>
Other operating income (loss)		
Compensation received for services provided	74	31
Reimbursable services to government agencies	26	25
Foreign currency gains (losses), net	22	(66)
Other income	1	1
Total other operating income (loss)	<u>123</u>	<u>(9)</u>
Operating expenses		
Salaries and other benefits	98	87
Occupancy expense	11	11
Equipment expense	7	7
Assessments by the Board of Governors	18	18
Other expenses	41	39
Total operating expenses	<u>175</u>	<u>162</u>
Net income prior to distribution	<u>\$ 652</u>	<u>\$ 413</u>
Distribution of net income		
Dividends paid to member banks	\$ 15	\$ 15
Transferred to (from) surplus	43	(9)
Payments to U.S. Treasury as interest on Federal Reserve notes	594	407
Total distribution	<u>\$ 652</u>	<u>\$ 413</u>

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

Federal Reserve Bank of Minneapolis

STATEMENTS OF CHANGES IN CAPITAL

(in millions)

	For the years ended				
	December 31, 2006 and December 31, 2005				
	Capital Paid-In	Net Income Retained	Surplus		Total Capital
Accumulated Other Comprehensive Loss			Total Surplus		
Balance at January 1, 2005 (5.0 million shares)	\$ 254	\$ 254	\$ -	\$ 254	\$ 508
Net change in capital stock (redeemed) (0.1 million shares)	(9)	-	-	-	(9)
Transferred (from) surplus	-	(9)	-	(9)	(9)
Balance at December 31, 2005 (4.9 million shares)	\$ 245	\$ 245	\$ -	\$ 245	\$ 490
Net change in capital stock issued (0.6 million shares)	31	-	-	-	31
Transferred to surplus	-	43	-	43	43
Adjustment to initially apply FASB Statement No. 158	-	-	(12)	(12)	(12)
Balance at December 31, 2006 (5.5 million shares)	<u>\$ 276</u>	<u>\$ 288</u>	<u>\$ (12)</u>	<u>\$ 276</u>	<u>\$ 552</u>

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

Notes to Financial Statements

1. STRUCTURE

The Federal Reserve Bank of Minneapolis (“Bank”) is part of the Federal Reserve System (“System”) and one of the twelve 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 and its branch in Helena, Montana, serve 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 in the System. 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.

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. Functions include participation in formulating and conducting monetary policy; participation in the payments system, including large-dollar transfers of funds, automated clearinghouse (“ACH”) operations, and check collection; distribution of coin and currency; performance of fiscal agency functions for the U.S. Treasury, certain federal agencies, and other entities; serving as the federal government’s bank; provision of short-term loans to depository institutions; service to the consumer and the community by providing educational materials and information regarding consumer laws; and supervision of bank holding companies, state member banks, and U.S. offices of foreign banking organizations. The Reserve Banks also provide certain services to foreign central banks, governments, and international official institutions.

Notes to
Financial Statements
(Continued)

The FOMC, in the conduct of monetary policy, establishes policy regarding domestic open market operations, oversees these operations, and annually issues authorizations and directives to the FRBNY for its execution of transactions. The FRBNY is authorized and directed by the FOMC to conduct operations in domestic markets, including the direct purchase and sale of U.S. government securities, the purchase of securities under agreements to resell, the sale of securities under agreements to repurchase, and the lending of U.S. government securities. The FRBNY executes these open market transactions at the direction of the FOMC and holds the resulting securities, with the exception of securities purchased under agreements to resell, in the portfolio known as the System Open Market Account (“SOMA”).

In addition to authorizing and directing operations in the domestic securities market, the FOMC authorizes and directs the FRBNY to execute operations in foreign markets for major currencies in order to counter disorderly conditions in exchange markets or to meet other needs specified by the FOMC in carrying out the System’s central bank responsibilities. The FRBNY is authorized by the FOMC to hold balances of, and to execute spot and forward foreign exchange (“FX”) and securities contracts for, nine foreign currencies and to invest such foreign currency holdings ensuring adequate liquidity is maintained. The FRBNY is authorized and directed by the FOMC to maintain reciprocal currency arrangements (“FX swaps”) with two central banks and “warehouse” foreign currencies for the U.S. Treasury and Exchange Stabilization Fund (“ESF”) through the Reserve Banks. In connection with its foreign currency activities, the FRBNY may enter into transactions that contain varying degrees of off-balance-sheet market risk that results from their future settlement and counter-party credit risk. The FRBNY controls credit risk by obtaining credit approvals, establishing transaction limits, and performing daily monitoring procedures.

Although the Reserve Banks are separate legal entities, in the interests of greater efficiency and effectiveness they collaborate in the delivery of certain operations and services. The collaboration takes the form of centralized operations and product or service 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 Bank providing the service and the other eleven 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 billed for services provided to them by another Reserve Bank.

Major services provided on behalf of the System by the Bank, for which the costs were not redistributed to the other Reserve Banks, include application development and centralized business administration functions for FedACH payment services, the Electronic Access Customer Contact Center, the Financial Services Policy Committee, and the FedMail and FedPhone Leadership Center.

During 2005, the Federal Reserve Bank of Atlanta (“FRBA”) was assigned the overall responsibility for managing the Reserve Banks’ provision of check services to depository institutions, and, as a result, recognizes total System check revenue on its Statements of Income. Because the other eleven Reserve Banks incur costs to provide check services, a policy was adopted by the Reserve Banks in 2005 that required that the FRBA compensate the other Reserve Banks for costs incurred to provide check services. In 2006, this policy was extended to the ACH servic-

Notes to
Financial Statements
(Continued)

es, which are managed by the FRBA, as well as to Fedwire funds transfer and securities transfer services, which are managed by the FRBNY. The FRBA and the FRBNY compensate the other Reserve Banks for the costs incurred to provide these services. This compensation is reported as a component of "Compensation received for services provided", and the Bank would have reported \$67 million as compensation received for services provided had this policy been in place in 2005 for ACH, Fedwire funds transfer, and securities transfer services.

3. SIGNIFICANT ACCOUNTING POLICIES

Accounting principles for entities with the unique powers and responsibilities of the 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, which differ significantly from those of the private sector. These accounting principles and practices are documented in the *Financial Accounting Manual for Federal Reserve Banks* ("Financial Accounting Manual"), which is issued by the Board of Governors. All of the Reserve Banks are required to adopt and apply accounting policies and practices that are consistent with the Financial Accounting Manual and the financial statements have been prepared in accordance with the Financial Accounting Manual.

Differences exist between the accounting principles and practices in the Financial Accounting Manual 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 securities holdings at amortized cost, rather than using the fair value presentation required by GAAP. Amortized cost more appropriately reflects the Bank's securities holdings given its unique responsibility to conduct monetary policy. While the application of current market prices to the securities holdings may result in values substantially above or below their carrying values, these unrealized changes in value would have no direct effect on the quantity of reserves available to the banking system or on the prospects for future Bank earnings or capital. Both the domestic and foreign components of the SOMA portfolio may involve transactions that result in gains or losses when holdings are sold prior to maturity. Decisions regarding securities and foreign currency transactions, including their purchase and sale, are motivated by monetary policy objectives rather than profit. Accordingly, market values, earnings, and any 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 Bank's unique powers and responsibilities. A Statement of Cash Flows, therefore, would not provide any additional meaningful information. Other information regarding the Bank's activities is provided in, or may be derived from, the Statements of Condition, Income, and Changes in Capital. There are no other significant differences between the policies outlined in the Financial Accounting Manual and GAAP.

Notes to
Financial Statements
(Continued)

The preparation of the financial statements in conformity with the Financial Accounting Manual 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. Unique accounts and significant accounting policies are explained below.

a. Gold and Special Drawing Rights Certificates

The Secretary of the U.S. 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 U.S. Treasury. The gold certificates held by the Reserve Banks are required to be backed by the gold of the U.S. Treasury. The U.S. Treasury may reacquire the gold certificates at any time and the Reserve Banks must deliver them to the U.S. Treasury. At such time, the U.S. 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 a fine troy ounce. The Board of Governors allocates the gold certificates among 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 (“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 United States participation in the SDR system, the Secretary of the U.S. Treasury is authorized to issue SDR certificates somewhat like gold certificates, to the Reserve Banks. When SDR certificates are issued to the Reserve Banks, equivalent amounts in dollars are credited to the account established for the U.S. Treasury, and the Reserve Banks’ SDR certificate accounts are increased. The Reserve Banks are required to purchase SDR certificates, at the direction of the U.S. 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 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 2006 or 2005.

b. Loans to Depository Institutions

Depository institutions that maintain reservable transaction accounts or nonpersonal time deposits, as defined in regulations issued by the Board of Governors, have borrowing privileges at the discretion of the Reserve Bank. Borrowers execute certain lending agreements and deposit sufficient collateral before credit is extended. Outstanding loans are evaluated for collectibility, and currently all are considered collectible and fully collateralized. If loans were ever deemed to be uncollectible, an appropriate reserve would be established. Interest is accrued using the applicable discount rate established at least every fourteen days by the Board of Directors of the Reserve Bank, subject to review and determination by the Board of Governors.

Notes to
Financial Statements
(Continued)

c. U.S. Government Securities and Investments Denominated in Foreign Currencies

U.S. government securities and investments denominated in foreign currencies comprising the SOMA are recorded at cost, on a settlement-date basis, and adjusted for amortization of premiums or accretion of discounts on a straight-line basis. Interest income is accrued on a straight-line basis. Gains and losses resulting from sales of securities are determined by specific issues based on average cost. Foreign-currency-denominated assets are revalued daily at current foreign currency market exchange rates in order to report these assets in U.S. dollars. Realized and unrealized gains and losses on investments denominated in foreign currencies are reported as "Foreign currency gains (losses), net" in the Statements of Income.

Activity related to U.S. government securities, including the premiums, discounts, and realized and unrealized gains and losses, is allocated to each Reserve Bank on a percentage basis derived from an annual settlement of interdistrict clearings 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 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.

d. Securities Sold Under Agreements to Repurchase and Securities Lending

Securities sold under agreements to repurchase are accounted for as financing transactions and the associated interest expense is recognized over the life of the transaction. These transactions are reported in the Statements of Condition at their contractual amounts and the related accrued interest payable is reported as a component of "Other liabilities".

U.S. government securities held in the SOMA are lent to U.S. government securities dealers in order to facilitate the effective functioning of the domestic securities market. Securities-lending transactions are fully collateralized by other U.S. government securities and the collateral taken is in excess of the market value of the securities loaned. The FRBNY charges the dealer a fee for borrowing securities and the fees are reported as a component of "Other income".

Activity related to securities sold under agreements to repurchase and securities lending is allocated to each of the Reserve Banks on a percentage basis derived from the annual settlement of interdistrict clearings. Securities purchased under agreements to resell are allocated to FRBNY and not allocated to the other Reserve Banks.

e. FX Swap Arrangements and Warehousing Agreements

FX swap arrangements are contractual agreements between two parties, the FRBNY and an authorized foreign central bank, to exchange specified currencies, at a specified price, on a specified date. The parties agree to exchange their currencies up to a prearranged maximum amount and for an agreed-upon period of time (up to twelve months), at an agreed-upon interest rate. These arrangements give the FOMC temporary access to the foreign currencies it may need to intervene to support the dollar and give the authorized foreign central bank temporary access to dollars it may need to support its own currency. Drawings under the FX swap arrangements can be initiated by either party acting as drawer, and must be agreed to by the drawee party. The FX swap arrangements are structured so that the party initiating the

Notes to
Financial Statements
(Continued)

transaction bears the exchange rate risk upon maturity. The FRBNY will generally invest the foreign currency received under an FX swap arrangement in interest-bearing instruments.

Warehousing is an arrangement under which the FOMC agrees to exchange, at the request of the U.S. Treasury, U.S. dollars for foreign currencies held by the U.S. 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 U.S. Treasury and ESF for financing purchases of foreign currencies and related international operations.

FX swap arrangements and warehousing agreements are revalued daily at current market exchange rates. Activity related to these agreements, with the exception of the unrealized gains and losses resulting from the daily revaluation, 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. Unrealized gains and losses resulting from the daily revaluation are allocated to FRBNY and not allocated to the other Reserve Banks.

f. 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, either developed internally or acquired for internal use, are capitalized based on the cost of direct services and materials associated with designing, coding, installing, or testing 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 when events or changes in circumstances indicate that the carrying amount of assets or asset groups is not recoverable and significantly exceeds their fair value.

g. Interdistrict Settlement Account

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

Notes to
Financial Statements
(Continued)

h. Federal Reserve Notes

Federal Reserve notes are the circulating currency of the United States. These notes are issued through the various Federal Reserve agents (the chairman of the board of directors of each Reserve Bank and their designees) to the Reserve Banks upon deposit with such agents of specified classes of collateral security, typically U.S. government securities. These notes are identified as issued to a specific Reserve Bank. The Federal Reserve Act provides that the collateral security tendered by the Reserve Bank to the Federal Reserve agent must be at least equal to the sum of the notes applied for by such Reserve Bank.

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 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 and are backed by the full faith and credit of the United States government.

"Federal Reserve notes outstanding, net" in the Statements of Condition represents the Bank's Federal Reserve notes outstanding, reduced by the currency issued to the Bank but not in circulation, of \$2,549 million and \$2,789 million at December 31, 2006 and 2005, 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, and 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. 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. A member bank is liable for Reserve Bank liabilities up to twice the par value of stock subscribed by it.

Notes to
Financial Statements
(Continued)

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. This amount is intended to provide additional capital and reduce the possibility that the Reserve Banks would be required to call on member banks for additional capital.

Accumulated other comprehensive income (loss) 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 (loss) is comprised of expenses, gains, and losses related to defined benefit pension plans and other postretirement benefit plans that, under accounting principles, are included in comprehensive income (loss), but excluded from net income. Additional information regarding the classifications of accumulated other comprehensive income (loss) is provided in Notes 9 and 10.

l. Interest on Federal Reserve Notes

The Board of Governors requires the Reserve Banks to transfer excess earnings to the U.S. 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 a component of "Payments to U.S. Treasury as interest on Federal Reserve notes" in the Statements of Income and is reported as a liability in the Statements of Condition. Weekly payments to the U.S. Treasury may vary significantly.

In the event of losses or an increase in capital paid-in at a Reserve Bank, payments to the U.S. 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 U.S. Treasury in the following year.

m. Income and Costs Related to U.S. Treasury Services

The Bank is required by the Federal Reserve Act to serve as fiscal agent and depository of the United States. By statute, the Department of the Treasury is permitted, but not required, to pay for these services.

n. 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 previous year. The Board of Governors also assesses each Reserve Bank for the expenses incurred for the U.S. Treasury to issue 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 previous year.

Notes to
Financial Statements
(Continued)

o. 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 \$3 million for each of the years ended December 31, 2006 and 2005, and are reported as a component of "Occupancy expense".

p. Restructuring Charges

In 2003, the Reserve Banks began the restructuring of several operations, primarily check, cash, and U.S. Treasury services. The restructuring included streamlining the management and support structures, reducing staff, decreasing the number of processing locations, and increasing processing capacity in some locations. These restructuring activities continued in 2004 through 2006.

Note 11 describes the restructuring and provides information about the Bank's costs and liabilities associated with employee separations and contract terminations. The costs associated with the impairment of certain of the Bank's assets are discussed in Note 6. 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. Costs and liabilities associated with enhanced postretirement benefits are discussed in Note 9.

q. Implementation of FASB Statement No. 158, Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans

The Bank initially applied the provisions of FASB Statement No. 158, Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans, at December 31, 2006. This accounting standard requires recognition of the overfunded or underfunded status of a defined benefit postretirement plan in the Statements of Condition, and recognition of changes in the funded status in the years in which the changes occur through comprehensive income. The transition rules for implementing the standard require applying the provisions as of the end of the year of initial implementation with no retrospective application. The incremental effects on the line items in the Statement of Condition at December 31, 2006, were as follows (in millions):

	Before Application of Statement 158	Adjustments	After Application of Statement 158
Accrued benefit costs	48	12	60
Total liabilities	\$ 16,545	\$ 12	\$ 16,557
Surplus	288	(12)	276
Total capital	\$ 564	\$ (12)	\$ 552

Notes to
Financial Statements
(Continued)

4. U.S. GOVERNMENT SECURITIES, 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 2.033 percent and 2.089 percent at December 31, 2006 and 2005, respectively.

The Bank's allocated share of U.S. Government securities, net, held in the SOMA at December 31, was as follows (in millions):

	2006	2005
Par value		
U.S. government		
Bills	\$ 5,631	\$ 5,665
Notes	8,180	7,939
Bonds	2,023	1,939
Total par value	15,834	15,543
Unamortized premiums	177	184
Unaccreted discounts	(81)	(59)
Total allocated to the Bank	<u>\$ 15,930</u>	<u>\$ 15,668</u>

At December 31, 2006 and 2005, the fair value of the U.S. government securities allocated to the Bank, excluding accrued interest, was \$16,180 million and \$16,029 million, respectively, as determined by reference to quoted prices for identical securities.

The total of the U.S. government securities, net, held in the SOMA was \$783,619 million and \$750,201 million at December 31, 2006 and 2005, respectively. At December 31, 2006 and 2005, the fair value of the U.S. government securities held in the SOMA, excluding accrued interest, was \$795,900 million and \$767,472 million, respectively, as determined by reference to quoted prices for identical securities.

Although the fair value of security holdings can be substantially greater or less than the carrying value at any point in time, these unrealized gains or losses have no effect on the ability of a Reserve Bank, as a central bank, to meet its financial obligations and responsibilities, and should not be misunderstood as representing a risk to the Reserve Banks, their shareholders, or the public. The fair value is presented solely for informational purposes.

Notes to
Financial Statements
(Continued)

At December 31, 2006 and 2005, the total contract amount of securities sold under agreements to repurchase was \$29,615 million and \$30,505 million, respectively, of which \$602 million and \$637 million were allocated to the Bank. The total par value of the SOMA securities that were pledged for securities sold under agreements to repurchase at December 31, 2006 and 2005, was \$29,676 million and \$30,559 million, respectively, of which \$603 million and \$638 million was allocated to the Bank. The contract amount for securities sold under agreements to repurchase approximates fair value.

The maturity distribution of U.S. government securities bought outright and securities sold under agreements to repurchase that were allocated to the Bank at December 31, 2006, was as follows (in millions):

	U.S. Government Securities (Par Value)	Securities Sold Under Agreements to Repurchase (Contract Amount)
Within 15 days	\$ 825	\$ 602
16 days to 90 days	3,677	-
91 days to 1 year	3,764	-
Over 1 year to 5 years	4,557	-
Over 5 years to 10 years	1,375	-
Over 10 years	1,636	-
Total allocated to the Bank	\$ 15,834	\$ 602

At December 31, 2006 and 2005, U.S. government securities with par values of \$6,855 million and \$3,776 million, respectively, were loaned from the SOMA, of which \$139 million and \$79 million, respectively, were allocated to the Bank.

Notes to
Financial Statements
(Continued)

5. 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. Foreign government debt instruments held include both securities bought outright and securities purchased under agreements to resell. These investments are guaranteed as to principal and interest by the issuing foreign governments.

The Bank's allocated share of investments denominated in foreign currencies was approximately 1.855 percent and 2.161 percent at December 31, 2006 and 2005, respectively.

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

	<u>2006</u>	<u>2005</u>
European Union Euro		
Foreign currency deposits	\$ 116	\$ 117
Securities purchased under agreements to resell	41	42
Government debt instruments	75	77
Japanese Yen		
Foreign currency deposits	49	56
Government debt instruments	99	117
Total allocated to the Bank	<u>\$ 380</u>	<u>\$ 409</u>

At December 31, 2006 and 2005, the fair value of investments denominated in foreign currencies, including accrued interest, allocated to the Bank was \$379 million and \$410 million, respectively. The fair market 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 U.S. government securities discussed in Note 4, unrealized gains or losses have no effect on the ability of a Reserve Bank, as a central bank, to meet its financial obligations and responsibilities.

Notes to
Financial Statements
(Continued)

Total System investments denominated in foreign currencies were \$20,482 million and \$18,928 million at December 31, 2006 and 2005, respectively. At December 31, 2006 and 2005, the fair value of the total System investments denominated in foreign currencies, including accrued interest, was \$20,434 million and \$18,965 million, respectively.

The maturity distribution of investments denominated in foreign currencies that were allocated to the Bank at December 31, 2006, was as follows (in millions):

	European Euro	Japanese Yen	Total
Within 15 days	\$ 81	\$ 48	\$ 129
16 days to 90 days	44	23	67
91 days to 1 year	45	41	86
Over 1 year to 5 years	62	36	98
Total allocated to the Bank	<u>\$ 232</u>	<u>\$ 148</u>	<u>\$ 380</u>

At December 31, 2006 and 2005, there were no material open foreign exchange contracts.

At December 31, 2006 and 2005, the warehousing facility was \$5,000 million with no balance outstanding.

6. BANK PREMISES, EQUIPMENT, AND SOFTWARE

A summary of bank premises and equipment at December 31 is as follows (in millions):

	2006	2005
Bank premises and equipment		
Land	\$ 18	\$ 18
Buildings	114	114
Building machinery and equipment	15	15
Furniture and equipment	39	39
Subtotal	<u>186</u>	<u>186</u>
Accumulated depreciation	(56)	(53)
Bank premises and equipment, net	<u>\$ 130</u>	<u>\$ 133</u>
Depreciation expense, for the year ended December 31	<u>\$ 7</u>	<u>\$ 7</u>

The Bank has capitalized software assets, net of amortization, of \$5 million for each of the years ended December 31, 2006 and 2005. Amortization expense was \$1 million for each of the years ended December 31, 2006 and 2005. Capitalized software assets are reported as a component of "Other assets" and the related amortization is reported as a component of "Other expenses".

Assets impaired as a result of the Bank's restructuring plan, as discussed in Note 11, include equipment. Asset impairment losses of \$127 thousand for the year ending December 31, 2006, were determined using fair values based on quoted market values or other valuation techniques and are reported as a component of "Other expenses". There were no asset impairments for the year ending December 31, 2005.

Notes to
Financial Statements
(Continued)

7. COMMITMENTS AND CONTINGENCIES

At December 31, 2006, the Bank was obligated under noncancelable leases for premises and equipment with remaining terms ranging from approximately two to seven 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 \$273 thousand and \$271 thousand for the years ended December 31, 2006 and 2005, respectively. Certain of the Bank's leases have options to renew.

Future minimum rental payments under noncancelable operating leases with terms of one year or more at December 31, 2006, were not material.

At December 31, 2006, there were no other material commitments or long-term 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 that a Reserve Bank's capital paid-in bears 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, 2006 or 2005.

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.

8. 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 Bank's employees participate in the Retirement Plan for Employees of the Federal Reserve System ("System Plan"). Employees at certain compensation levels participate in the Benefit Equalization Retirement Plan ("BEP") and certain Reserve Bank officers participate in the Supplemental Employee Retirement Plan ("SERP").

The System Plan is a multi-employer plan with contributions funded by the participating employers. Participating employers are the Federal Reserve Banks, the Board of Governors, and the Office of Employee Benefits of the Federal Reserve Employee Benefits System. No separate accounting is maintained of assets contributed by the participating employers. The FRBNY acts as a sponsor of the System Plan and the costs associated with the Plan are not redistributed to other participating employers.

The Bank's projected benefit obligation, funded status, and net pension expenses for the BEP and the SERP at December 31, 2006 and 2005, and for the years then ended, were not material.

Thrift Plan

Employees of the Bank may also participate in the defined contribution Thrift Plan for Employees of the Federal Reserve System ("Thrift Plan"). The Bank's Thrift Plan contributions totaled \$3 million for each of the years ended December 31, 2006 and 2005, and are reported as a component of "Salaries and other benefits" in the Statements of Income. The Bank matches employee contributions based on a specified formula. For the years ended December 31, 2006 and 2005, the Bank matched 80 percent on the first 6 percent of employee contributions for employees with less than five years of service and 100 percent on the first 6 percent of employee contributions for employees with five or more years of service.

9. POSTRETIREMENT BENEFITS OTHER THAN PENSIONS
AND POSTEMPLOYMENT BENEFITS

Postretirement Benefits other than Pensions

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 beginning and ending balances of the benefit obligation (in millions):

	2006	2005
Accumulated postretirement benefit obligation at January 1	\$ 41.6	\$ 41.4
Service cost-benefits earned during the period	1.7	1.3
Interest cost on accumulated benefit obligation	2.4	2.1
Actuarial loss (gain)	10.4	(1.4)
Contributions by plan participants	0.4	0.3
Benefits paid	(2.1)	(2.1)
Accumulated postretirement benefit obligation at December 31	<u>\$ 54.4</u>	<u>\$ 41.6</u>

At December 31, 2006 and 2005, the weighted-average discount rate assumptions used in developing the postretirement benefit obligation were 5.75 percent and 5.50 percent, respectively.

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

Notes to
Financial Statements
(Continued)

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):

	2006	2005
Fair value of plan assets at January 1	\$ -	\$ -
Contributions by the employer	1.7	1.8
Contributions by plan participants	0.4	0.3
Benefits paid	(2.1)	(2.1)
Fair value of plan assets at December 31	\$ -	\$ -
Unfunded postretirement benefit obligation	\$ 54.4	\$ 41.6
Unrecognized prior service cost	-	6.2
Unrecognized net actuarial loss	-	(7.1)
Accrued postretirement benefit cost	\$ 54.4	\$ 40.7

Amounts included in accumulated other comprehensive loss are shown below

Prior service cost	\$ 5.2	\$ -
Net actuarial loss	(17.2)	-
Total accumulated other comprehensive loss	\$ (12.0)	\$ -

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:

	2006	2005
Health care cost trend rate assumed for next year	9.00%	9.00%
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	2012	2011

Notes to
Financial Statements
(Continued)

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, 2006 (in millions):

	<u>One Percentage Point Increase</u>	<u>One Percentage Point Decrease</u>
Effect on aggregate of service and interest cost components of net periodic postretirement benefit costs	\$ 0.8	\$ (0.6)
Effect on accumulated postretirement benefit obligation	\$ 7.3	\$ (6.0)

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

	<u>2006</u>	<u>2005</u>
Service cost-benefits earned during the period	\$ 1.7	\$ 1.3
Interest cost on accumulated benefit obligation	2.4	2.2
Amortization of prior service cost	(1.1)	(1.1)
Recognized net actuarial loss	<u>0.3</u>	<u>-</u>
Total periodic expense	<u>3.3</u>	<u>2.4</u>
Net periodic postretirement benefit expense	<u>\$ 3.3</u>	<u>\$ 2.4</u>

Estimated amounts that will be amortized from accumulated other comprehensive loss into net periodic postretirement benefit expense in 2007 are shown below:

Prior service cost	\$ (1.1)	\$ -
Actuarial loss	<u>1.6</u>	<u>-</u>
Total	<u>\$ 0.5</u>	<u>\$ -</u>

Net postretirement benefit costs are actuarially determined using a January 1 measurement date. At January 1, 2006 and 2005, the weighted-average discount rate assumptions used to determine net periodic postretirement benefit costs were 5.50 percent and 5.75 percent, respectively.

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

Notes to
Financial Statements
(Continued)

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, retroactive to January 1, 2004, are reflected in actuarial loss in the accumulated postretirement benefit obligation.

There were no receipts of federal Medicare subsidies in the year ended December 31, 2006. Expected receipts in the year ending December 31, 2007, related to payments made in the year ended December 31, 2006, are \$0.2 million.

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

	<u>Without Subsidy</u>	<u>With Subsidy</u>
2007	\$ 2.4	\$ 2.1
2008	2.6	2.3
2009	2.9	2.6
2010	3.2	3.0
2011	3.6	3.3
2012-2016	22.0	19.9
Total	<u>\$ 36.7</u>	<u>\$ 33.2</u>

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, 2006 and 2005, 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 2006 and 2005 operating expenses were \$2 million and (\$2) million, respectively, and are recorded as a component of "Salaries and other benefits" in the Statements of Income.

10. ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

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

	Amount Related to Postretirement Benefits other than Pensions
Balance at December 31, 2005	\$
Adjustment to initially apply FASB Statement No. 158	(12)
Balance at December 31, 2006	<u>\$ (12)</u>

Additional detail regarding the classification of accumulated other comprehensive loss is included in Note 9.

11. BUSINESS RESTRUCTURING CHARGES

In 2006, the Bank announced plans for restructuring Helena Check services to streamline operations and reduce costs. These actions resulted in charges of \$1 million for the year ended December 31, 2006, and an accrued liability of \$1 million at December 31, 2006. No payments were made during the year ended December 31, 2006. In 2005, the Bank's costs associated with the restructuring were not material.

Employee separation costs are primarily severance costs for approximately 39 staff reductions announced in 2006. Costs related to staff reductions for the year ended December 31, 2006, are reported as a component of "Salaries and other benefits" in the Statements of Income.

Restructuring costs associated with the impairment of certain Bank equipment are discussed in Note 6. Costs associated with enhanced pension benefits for all Reserve Banks are recorded on the books of the FRBNY as discussed in Note 8. Costs associated with enhanced postretirement benefits are disclosed in Note 9.

Future costs associated with the announced restructuring plans are not material.

The Bank anticipates substantially completing its announced plans by October 2007.

For more information on the Minneapolis Fed
and the Federal Reserve System,
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Useful telephone numbers
(612 area code unless otherwise indicated):

For the Public

Consumer Affairs Help Line: 204-6500

Media Inquiries: 204-5261

Research Library: 204-5509

Treasury Auction Results, Current Offerings,
Bills, Notes, Bonds: 1-800-722-2678

For Financial Institutions

Cash Services Help Line: 204-5227
or 1-800-553-9656 ext. 5227

Check Customer Service/Adjustments:
1-800-283-2830

Electronic Access Customer Contact Center
FedLine Support: 1-888-333-7010
Computer Interface Support: 1-800-769-3265

FedACH Central Operations Support:
204-5555 or 1-888-883-2180

Ninth District Customer Relations: 204-6933
or 1-800-553-9656 ext. 6933

Savings Bond Customer Service: 1-800-553-2663

