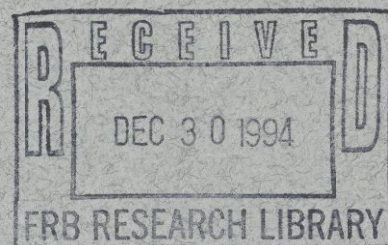


Do NOT Remove
From Drawer

Economic Review

September/October 1994
Volume 79, Number 5

Federal Reserve
Bank of Atlanta



In This Issue:

**Financial Repression and
Economic Development**

**Federalism and the Fed:
The Role of Reserve Bank Presidents**

**Review Essay—*Second Thoughts: Myths
and Morals of U.S. Economic History***

Economic Review

Federal Reserve
Bank of Atlanta

Editor
John H. Williams
Editorial Board
James G. Hamilton
Michael J. Melvin
Richard W. Miller
Robert L. Shiller

Editorial Board
John H. Williams
James G. Hamilton
Michael J. Melvin
Richard W. Miller
Robert L. Shiller

Editorial Board
John H. Williams
James G. Hamilton
Michael J. Melvin
Richard W. Miller
Robert L. Shiller

Editorial Board
John H. Williams
James G. Hamilton
Michael J. Melvin
Richard W. Miller
Robert L. Shiller

Economic Review

September/October 1994, Volume 79, Number 5

Economic Review

Federal Reserve
Bank of Atlanta

President

Robert P. Forrestal

**Senior Vice President and
Director of Research**

Sheila L. Tschinkel

Research Department

B. Frank King, Vice President and Associate Director of Research
William Curt Hunter, Vice President, Basic Research and Financial
Mary Susan Rosenbaum, Vice President, Macropolicy
Thomas J. Cunningham, Research Officer, Regional
William Roberds, Research Officer, Macropolicy
Larry D. Wall, Research Officer, Financial

Public Affairs

Bobbie H. McCrackin, Vice President
Joycelyn Trigg Woolfolk, Editor
Lynn H. Foley, Managing Editor
Carole L. Starkey, Graphics
Ellen Arth, Circulation

The *Economic Review* of the Federal Reserve Bank of Atlanta presents analysis of economic and financial topics relevant to Federal Reserve policy. In a format accessible to the nonspecialist, the publication reflects the work of the Research Department. It is edited, designed, produced, and distributed through the Public Affairs Department.

Views expressed in the *Economic Review* are not necessarily those of this Bank or of the Federal Reserve System.

Material may be reprinted or abstracted if the *Review* and author are credited. Please provide the Bank's Public Affairs Department with a copy of any publication containing reprinted material.

Free subscriptions and limited additional copies are available from the Public Affairs Department, Federal Reserve Bank of Atlanta, 104 Marietta Street, N.W., Atlanta, Georgia 30303-2713 (404/521-8020). Change-of-address notices and subscription cancellations should be sent directly to the Public Affairs Department. Please include the current mailing label as well as any new information. ISSN 0732-1813

Contents

Federal Reserve Bank of Atlanta *Economic Review*
September/October 1994, Volume 79, Number 5

1 **Financial Repression and
Economic Development**
**Marco Espinosa and
William C. Hunter**

With the reemergence of Latin American economies and the opening up of formerly communist countries in Central and Eastern Europe, interest in the concept of financial repression has revived. In particular, the interplay of legal restrictions on financial intermediaries with the development of informal or parallel unregulated markets has received increased attention. This article highlights the importance of this interplay and describes the institutional setting in which financial repression can actually be optimal for economies in general and for developing economies in particular.

According to the analysis, a key determinant of whether some amount of financial repression will prove superior to a strategy of pure financial market liberalization is the size and recurrent nature of government budget deficits and the availability of alternative financing means. Reviewing recent developments in the financial intermediation literature as they pertain to economic development, the authors conclude that the models this literature contributes help form a more solid foundation for researchers who venture policy prescriptions concerning financial intermediaries and government financing needs. While not conclusive, the small sample of the literature reviewed helps to clarify issues underlying the ongoing debate.

Financial Repression and Economic Development

12 **Federalism and the Fed: The Role of Reserve Bank Presidents**

Bobbie H. McCrackin

This article examines the role of the Federal Reserve Bank presidents in monetary policy deliberations. The author reviews the discussion and debate during the founding of the Federal Reserve System to ascertain what its framers had in mind in creating a policy role for Reserve Banks. She concludes that the structure selected was intended to establish an arrangement of checks and balances that would work to ensure the incorporation of different viewpoints into policy decisions.

These original views on central bank governance, the author argues, are relevant to current practice in that they reflect fundamental values deeply rooted in U.S. history, traditions, and political philosophy. These values include the importance of individual and minority rights in the context of majority rule, a balance between local and central authority—whether political or economic—and a balance of public and private interests.

24 **Review Essay—*Second Thoughts: Myths and Morals of U.S. Economic History***

edited by Donald N. McCloskey

B. Frank King

In this collection of articles, McCloskey seeks to puncture some enduring myths about economic policy issues and to demonstrate that the application of modern analytic and statistical methods to historical incidents can provide general guides for thinking about a broad range of issues. The reviewer observes that several articles provide ample evidence of the advantages of such an approach. Despite his caveats about some of the book's shortcomings, such as its sketchy documentation, the reviewer finds that in most cases the articles clearly identify the relevant issues and present their analysis in a straightforward, nontechnical way. The book should, he feels, stimulate thought and debate about a number of important issues.

Contents

Introduction	1
Chapter 1: The Federal Reserve System	15
Chapter 2: Monetary Policy	35
Chapter 3: Fiscal Policy	55
Chapter 4: The Money Market	75
Chapter 5: The Bond Market	95
Chapter 6: The Stock Market	115
Chapter 7: The Real Estate Market	135
Chapter 8: The Labor Market	155
Chapter 9: The International Market	175
Chapter 10: The Future of the Economy	195

Financial Repression and Economic Development

Marco Espinosa and William C. Hunter

Many developing countries impose legal restrictions on financial intermediaries. Interest rate ceilings on bank deposits and loans, compulsory credit allocation, excessive reserve and liquidity requirements, and various types of prohibitions on international financial transactions are among the government-mandated requirements that serve to “financially repress” economies in less-developed countries (LDCs) (Ronald I. McKinnon 1973; Edward S. Shaw 1973).

Advocates of such restrictions often claim that financial repression offers two advantages: (1) more effective control over the money supply and thus better control over inflation and (2) a better allocation of credit, the assumption being that the government is more efficient than the private sector in allocating credit, at least in the early stages of economic development. Proponents of financial liberalization, on the other hand, stress the damaging effects of financial repression policies on economic growth and welfare. They advise, in contrast, channeling credit allocation through financial intermediaries and “liberalizing” these intermediaries and the markets in which they operate as a means to achieve rapid growth and development.

Recently, however, these policy recommendations have come under closer scrutiny. Developments in the financial intermediation literature have highlighted some of the weaknesses of earlier recommendations of financial liberalization, which for the most part ignored government deficit-financing requirements, were derived from models assigning roles that were not well specified to financial intermediaries, and failed to address general equilibrium considerations. More recent analyses of financial repression have

Espinosa is an economist in the macropolicy section of the Atlanta Fed's research department. Hunter is a vice president in charge of the financial team and basic research. The authors thank Mary Rosenbaum and Frank King for helpful comments.

reevaluated the feasibility and desirability of various types of financial liberalization strategy. Some of these studies argue that a fully liberalized financial sector may be neither possible nor desirable in a developing economy. Some also question the growth impetus ascribed to financial intermediaries. For instance, these studies suggest that developing countries' aggregate output as measured, for example, by gross domestic product (GDP) may not necessarily grow more under a regime of financial liberalization than under one characterized as financially repressed (see, for example, Valerie Bencivenga and Bruce Smith 1991).

It is not the intent of this article to challenge, *per se*, the view that financial liberalization should be the dominant or preferred policy prescription for long-term economic growth and development in LDCs. It does seem important, however, to temper the popular view among many development specialists that a policy of financial liberalization is optimal in all developing countries at all times without qualification.¹ The discussion presents a framework for analyzing the potential that financial repression may have to contribute to economic welfare.

The analysis first lists some of the adverse effects of financial repression cited by early proponents of liberalization. It then presents an overview of some of the chief challenges to the financial liberalization policy. In this regard, some economists take issue with the claim that credit allocation through financial intermediaries may not necessarily increase efficiency. Yet another challenge comes in the form of empirical evidence that fails to find strong support for the claim that increased levels of financial intermediation are superior in terms of generating growth and development in LDCs. The article considers some welfare and growth implications of financial repression as highlighted in the recent literature examining financial intermediation. It explores the condition underlying the view that some amount of financial repression can be welfare-enhancing in an LDC that is faced with the need to finance large government deficits.

Adverse Effects of Financial Repression

Opponents of financial repression such as McKinnon (1973, 1991) and Shaw (1973) stress the damaging effects such policies can have on economic growth and development, noting that "these mandated restrictions interact with ongoing price inflation to reduce the attractiveness of holding claims on the domestic

banking system. In such a repressed financial system, real deposit rates of interest on monetary assets are often negative, and rates also become highly uncertain. Thus, the demand for domestic money—broadly defined to include savings and term deposits as well as checking accounts and currency—falls as a proportion of Gross National Product" (McKinnon 1991, 11). In short, a major side effect of financial repression is a drop in an economy's savings.

Followers of the McKinnon and Shaw school also hypothesize that repressing a country's financial system results in the fragmentation of its domestic capital market, with highly adverse consequences for the quality and quantity of real, or inflation-adjusted, capital accumulation (investment). More specifically, these researchers note that a financially repressed economy is likely to be adversely affected in the following ways:

1. The flow of loanable funds through the organized banking system is reduced, forcing potential borrowers to rely more on self-finance.
2. Interest rates on the reduced flow of bank lending vary arbitrarily from one class of favored or disfavored borrower to another.
3. The process of self-finance within business enterprises and households is itself impaired. If the real yield on deposits, as well as coin and currency, is negative, firms and families cannot easily accumulate liquid assets in preparation for making discrete investments. Socially costly inflation hedges look more attractive as a means of internal finance.
4. Significant financial deepening outside the repressed banking system becomes impossible when firms are dangerously illiquid and/or inflation is high or unstable.² Robust open markets in stocks and bonds and intermediation by trust and insurance companies require monetary stability. (McKinnon 1991, 11-12)

In short, financial repression as seen by the McKinnon and Shaw school leads to premature liquidation of illiquid assets, high inflation rates, and credit rationing with a consequent negative impact on economic growth and welfare. Not surprisingly, the prescription offered almost universally by opponents of financial repression is the removal of onerous legal restrictions. Their view is that by eliminating excessive reserve requirements, interest rate ceilings, and mandated allocations of cheap credit, higher economic growth and overall welfare gains should be realized in the economy. In this context, it is easy to understand why the dictum of

financial liberalization has been prominent among the policy advice given to LDCs and why such advice, until recently, went virtually unchallenged.

Challenges to the Liberalization Prescription

The Neostructuralist Critique. To be sure, there is little consensus among development economists regarding the macroeconomic impact of fueling development exclusively through financial intermediaries. In particular, the view that credit allocation through intermediaries necessarily results in higher real economic growth has recently been challenged in the development literature. According to the so-called Neostructuralist school, there is reason to believe that individuals confronted with legal restrictions that reduce their welfare will circumvent these restrictions by engaging in informal or unofficial transactions (see, for example, Edward F. Buffie 1984, Sweder van Wijnbergen 1985, or Lance Taylor 1980). These informal transactions give rise to markets commonly referred to as “black markets,” “the underground economy,” and “the informal sector.”

Development economists have become increasingly aware of the potential importance of informal markets as their scope has increased, and it is often conjectured that these markets do a good job of allocating credit. That is, to the extent that these informal markets, unhindered by onerous legal restrictions, are efficient relative to the repressed official markets they replace, the economy may actually enjoy faster rates of growth. For example, the Neostructuralists emphasize that the process of financial liberalization may actually have negative macroeconomic effects if it draws funds away from the informal markets, which have no reserve requirements, into the formal banking sector, which does.

Some Empirical Evidence. The empirical evidence on the efficacy of the liberalization prescription is best described as less than conclusive. Although the less repressed economies of the world generally exhibit high real rates of economic growth, there are counterexamples to the pattern. Yung Chull Park (1993), in examining growth in South Korea and Taiwan during the 1980s, noted that these countries’ experience does not support the view that financial liberalization is the most effective solution to the problem of underdevelopment. During the period studied, both countries operated under various forms of financial repression and closedness, and both continued their financial expansion,

as measured by various ratios of financial assets to gross national product (GNP) or GNP growth or by the rate of industrialization.

Rudiger Dornbusch and Alejandro Reynoso (1989), in contrasting the Asian and Latin American experiences, noted that the South Korean economic reform program of the late 1970s and early 1980s was successful in generating a high rate of real economic growth for reasons other than financial liberalization. Other factors, including fiscal reforms, played a significant role. They conclude that financial liberalization cannot be clearly singled out as the leading determinant of the country’s successful economic performance. Dornbusch and Reynoso’s study also examined the economic performance of a cross-section of forty-one developing countries and was not able to establish that a higher degree of financial liberalization or financial deepening is positively correlated with economic growth. On the basis of these findings, the authors suggest that the growth effects attributed to financial liberalization may well be “episodic” and not widely supported by empirical evidence.³

Financing Government Programs: The Need for Seigniorage

A key feature characterizing financially repressed economies is the need to finance large government deficits, as measured by the ratio of the government deficit to GDP. This need, and the belief that tight control of the financial sector allows government to finance its deficits while restraining inflation, plays an essential role in the design of financial repression measures in an economy.

Government involvement in developing economies takes many forms. One common example is the direct allocation of subsidized credit by LDC governments, typically based on the belief that private commercial banks allocate credit in a largely speculative and socially undesirable fashion. For instance, in the case of Mexico, public authorities were apparently concerned with the manner in which commercial banks allocated funds as early as 1935. According to David H. Shelton (1964), a distinction between productive and unproductive uses of funds had begun to be drawn by 1935 when the new Mexican banking law declared, “As the funds available in the money market have continued to increase . . . it has been the constant preoccupation of the government to channel these funds in such a way as to assure their application to productive purposes and

developmental purposes, removing them consequently from inactivity or from speculative operations, both of which are sterile and prejudicial to economic life.” Similar programs of government involvement in direct subsidized credit allocation have been implemented in Nicaragua, Colombia, and Yugoslavia, among other developing countries.

As well intended as these credit allocation programs were, it has generally been the case that tax collection procedures were unable to generate sufficient revenues for financing them. As a result, sizable budget deficits were incurred and monetary policy was called on to fill the void resulting from the lack of fiscal discipline. These developments in turn created a demand on the part of government to create “seigniorage.”

To illustrate the way the tax works, assume that the government hires a contractor but does not want to raise conventional taxes to pay for the services. It can issue fresh currency to do so. At first, while there is more nominal money in circulation, the decision to issue money has no effect on the real value of holdings. However, the addition of the new currency means that each dollar in circulation is worth less. In fact, the value of the contractor’s services obtained via the new issue of money equals the purchasing power loss of currency holdings.

Faced with a direct tax, people try to avoid it by shifting to activities with a lower tax burden. Similarly, as inflation picks up, individuals will try to economize on their holdings of fiat currency. Holding less fiat currency in turn brings down the tax base and consequently the revenues the government can earn by increasing the inflation tax rate. As with any other tax, governments have to grapple with a trade-off between the inflation tax base and rate.

Nonetheless, it is easy to see why the inflation tax may prove more appealing than ordinary taxes to a country’s rulers. Monetary expansion is a much easier method of financing government expenditures. The money is simply printed or appears as the remitted profits of the central bank, which uses reserves to hold government securities. No government tax collectors are required, and government expenditures appear to be financed at little cost to the public. Legislative approval is often not required. On the other hand, regular taxes—income taxes, excise taxes, and so forth—often must be wheedled out of parliaments or congresses. Furthermore, these taxes must be collected, and the act of collection calls attention to the drain on the country’s resources that the increased government spending entails.

Seigniorage extraction is a less problematic method of raising revenue. It can be accomplished, for example, by imposing large reserve requirements on commercial banks. Essentially, these reserve requirements force commercial banks (and thus, indirectly, the public at large) to hold government liabilities such as currency or government bonds beyond the point they would otherwise consider optimal. Given that these liabilities pay zero or below-market rates of interest, these forced holdings of fiat currency cause a de facto increase in the seigniorage.

If, for example, the government operates with 100 percent reserves—that is, every dollar deposited with the bank must be held as reserves at the central bank—then whenever the nominal money supply increases by a given quantity, the government has exactly this additional

A key feature characterizing financially repressed economies is the need to finance large government deficits.

Economists sometimes call the revenue garnered from government’s money creation inflationary finance. However, it is traditionally known as seigniorage—a word derived from the French word *seigneur*, which means lord.⁴ In medieval times one of the rights of the feudal lord was to coin money that his subjects had no choice but to accept, no matter how little gold or silver it contained. Seigniorage was the profit the lord made by exercising this right. Today, seigniorage is extracted when the government periodically increases the amount of fiat money in the economy.

Seigniorage is a type of tax, which, because it is based on inflation, is often referred to as an inflation tax. Like other taxes, it has two components, a tax rate and a tax base. The inflation tax rate is simply the rate of inflation or, in the case of growing economies, the sum of the inflation rate and the rate of growth. The inflation tax base is the real value of private holdings of currency. Thus, the larger the value of fiat currency holdings, the larger the inflation base; the higher the inflation rate, the higher the inflation tax rate.

quantity of seignorage base. The higher reserve requirements are, the greater is the government's potential to extract seignorage. As will be discussed below, reserve requirements play a key role in determining the extent to which developing countries' economies are financially repressed and influence the speed at which the economies can be liberalized.

Many, if not most, LDCs and countries in transition do not have effective taxation programs. They operate with extensive government involvement in the economy and have central banks that are easily pressured into supporting inflationary financing programs. In the prototypical repressed economy, the central bank is frequently called upon to accommodate a loose or incoherent fiscal policy. As discussed in, for example, Shelton (1964) and Marco Espinosa (forthcoming), open market operations tend not to be a viable option for conducting monetary policy in these economies because they lack liquid and efficient markets for government securities or because governments do not want to pay market rates of interest. Thus, the monetary authority, in accommodating the government's fiscal deficits, is forced to rely almost exclusively on reserve requirements, resulting in inflationary finance.⁵

By imposing large reserve requirements on financial intermediaries, the monetary authority, and eventually the government, avails itself of part of the economy's savings that would otherwise remain with financial intermediaries. Given that this financing scheme extracts real revenues (resources) from the public by issuing currency, the larger the quantity of currency in the hands of the public and the banking sector, the larger the base from which seignorage can be extracted. This relationship helps explain why LDC economies with large government deficits have also tended to have high reserve requirements. The larger the portion of the government's deficit to be financed using this financing scheme, the larger the legal reserve requirements will be.⁶

Based on this brief description, slaying the dragon—eliminating government deficits—would appear to be the best approach for LDCs. However, despite its simplicity and attractiveness, such a policy prescription may not always be feasible or desirable. To continue the metaphor, the size and tenacity of the dragon should be considered. That is, optimal policies should take into account the size of the budget deficit as well as whether it is an isolated or a recurrent phenomenon.

In most developing economies and economies in transition, fiscal deficits are significant and persistent and, hence, require an ongoing program of financing.

Recently, some economists have devoted increased attention to the need for seignorage as the rationale for government adoption of financial repression measures. They argue that in many LDCs, monetary policy has by design included financial repression to expand the base from which a government can extract resources and finance larger budget deficits. As J. Huston McCulloch (1982) noted, a government that can create money has at its disposal an easy means of financing its expenditures. In fact, the government is the only entity capable of such "monetizing" to fund social programs, military projects, government buildings, agriculture export subsidies, or any of the multitude of other amenities. In such a context, as explained below, unbridled liberalization may not be optimal for the economy, and the question of how to deal most effectively with the continuing budget deficit essentially translates into a question of determining the optimal degree of financial repression for an economy.

The following analysis reexamines the role financial intermediaries play in the development process and delineates some of their unique features. The discussion then considers some of the welfare and growth implications of financial repression highlighted in recent financial intermediation literature.

Financial Intermediation and Growth

A thorough discussion of financial liberalization prescriptions must begin by carefully specifying the explicit role of financial intermediaries in the economy. Doing so allows evaluating the financial sector's part in an economy's rate of capital accumulation and long-run growth, the desirability of financial repression, and the merits of arguments for and against liberalization. The discussion that follows focuses on a few representative papers from the voluminous literature examining the functions of financial intermediaries in the economy.⁷

To assume that financial liberalization invariably leads to higher economic growth and then on the basis of that assumption to recommend that LDCs embark on programs of financial liberalization is tautological. Raymond W. Goldsmith's caution against a policy prescription of unbridled financial liberalization still holds wisdom. In reviewing the case of Mexico he states, "We are not even certain that financial structure and development do exert a significant influence on economic growth. Still less are we in a position to say how, when and why the financial superstructure and the

real infrastructure interact, or to make more confident statements about the effects such interactions have on economic growth" (1969, 53). McKinnon (1991) likewise has suggested caution, noting that policy reforms that are rational in a successfully liberalizing economy can be counterproductive in a repressed one, depending on the nature of fiscal deficits.

Research by Jeremy Greenwood and Boyan Jovanovic (1990) is representative of the modern view of financial intermediaries as collectors and analyzers of information. Under this view, financial intermediaries perform the key function of directing the flow of an economy's resources toward activities (investment

Optimal policies should take into account the size of the budget deficit as well as whether it is an isolated or a recurrent phenomenon.

projects) with the highest return rates. Greenwood and Jovanovic examine the connection between financial structure and economic development, showing that economic growth provides the resources and impetus necessary for developing a viable financial structure. This financial structure in turn enhances economic growth by allowing more efficient capital investment. Their analysis concentrates on the sophistication of financial intermediaries as opposed to the economy's level of financial liberalization. Typical to this perspective, the financial institutions and services offered arise endogenously; that is, the economic environment is modeled in such a way that financial intermediaries fulfill a role that other private agents cannot. Given that in these models the environment is such that there are no outside or exogenously imposed (by government) restrictions on these intermediaries' duties, an implicit assumption is that any financial intermediaries are liberalized. Although these types of models do not explicitly address details of financial repression, they do lay the foundation for a more meaningful analysis of financial repression by specifying the conditions under which intermediaries can

improve the efficiency of resource allocation and enhance economic welfare.

Bencivenga and Smith (1991) built a model of the financial sector based on the following stylized activities of financial intermediaries: (1) banks accept deposits from and lend to a large number of agents, implying that withdrawals will be fairly predictable; (2) banks issue liabilities that are more liquid than their primary assets (loans and government securities), eliminating the need for self-financing of investments; and (3) reserves fulfill a liquidity role in the economy—liquid reserves are held against predictable withdrawals.

The first two characteristics of the Bencivenga-Smith model help explain how depository financial institutions, by pooling the savings of numerous risk-averse individuals, can hold illiquid assets—that is, make loans that would not otherwise be made. By exploiting the fact that they have large numbers of depositors and are therefore better able to predict withdrawal demand, banks can economize on liquid reserve holdings that do not contribute to capital accumulation. At the same time, the loans they hold are essential to economic growth because they are used to finance capital purchases. These illiquid assets offer higher rates of return than do liquid assets. However, individuals still hold liquid assets, despite their lower rate of return, because they face the probability of a sudden liquidity need. Liquidating an illiquid asset prematurely yields a lower rate of return than liquid assets. Thus, liquid assets are held to avoid liquidity shocks.

Regardless of economic agents' risk-taking propensity, financial intermediaries, acting as liquidity providers, enhance welfare by eliminating the need for premature liquidation of illiquid assets. Since premature liquidation results in real resource loss, the economy will have more resources available when financial intermediaries are operating. Hence, financial intermediaries help in the creation of capital and, consequently, growth.

In Bencivenga and Smith's model, the economy does not experience lower savings in the absence of financial intermediaries, as often claimed in the financial liberalization literature. Their model delivers the same level of savings with or without financial intermediation. The potential economic growth benefits of having financial intermediaries come not from the volume of savings but from the way financial intermediaries allocate those savings.

From this perspective, the overall impact of financial intermediaries on the formation of capital, and thus on the rate of economic growth, will be a function

of the degree of risk aversion among the agents in the economy and the liquidity shocks that these agents actually face. In an economy in which savers exhibit a low degree of risk aversion—that is, they are not averse to acquiring riskier illiquid assets—and are not subjected to liquidity shocks that cause premature liquidation of illiquid assets, the contribution of financial intermediaries to the rate of economic growth will be negligible.

As the above discussion makes clear, this line of research concentrates on the role of financial intermediaries as liquidity providers. This is not the only role that financial intermediaries fulfill. Stephen D. Williamson (1987), for example, has concentrated on their role in drafting loan contracts. These contracts link borrowers and lenders in such a way as to economize on the cost lenders incur in monitoring borrowers when borrowers have private information concerning their likelihood of repayment. Williamson assumes that since borrowers cannot guarantee lenders a fixed rate of return, repayment becomes contingent on the state of the economy at the loan's maturity. If the borrowers are really unlucky, they may declare bankruptcy and pay nothing. Williamson also assumes that lenders cannot costlessly verify whether borrowers are telling the truth. In this context, there is a moral hazard problem, and a costly state verification problem arises. That is, under the assumption of private information, lucky borrowers could, for example, declare that they have been unlucky and skip payment to the lenders. On the other hand, lenders could, at a cost, verify the borrowers' claims. In this context, overall welfare in the economy can be improved by having financial intermediaries, on behalf of the lenders, draft contracts that reduce the verification costs.

As in the Bencivenga and Smith model, a prominent feature ascribed to financial intermediaries in the Williamson model is the ability to exploit the law of large numbers—that is, the fact that not all borrowers default simultaneously. This advantage allows intermediaries to guarantee lenders a payment—independent of the state of individual borrowers—that is higher than the expected return they could obtain if intermediaries did not exist in the economy. As in Greenwood and Jovanovic's model, financial intermediaries arise endogenously in Williamson's model. Consequently, there is little scope for explicitly examining the details of financial repression. However, if financial repression is interpreted as the general prohibition against financial intermediation, a move from a state of repression to one of liberalization in the form of full-fledged financial intermediation would undoubtedly result in improved societal welfare because monitoring costs

would be reduced. By eliminating the duplication of monitoring costs, additional resources can be channeled to productive activities, allowing for higher rates of economic growth.

When May Financial Repression Be Necessary?

Bencivenga and Smith (1992) extended their model to analyze the case in which bank deposits and currency are held to satisfy liquidity needs. In this model government budget deficits are continuing and must be financed, and capital assets pay higher rates of return than bank deposits but are illiquid. Agents are assumed to face uncertainty about when they will want to consume, and thus they hold currency and bank deposits as liquidity insurance. In models of this type, financial repression occurs whenever the government forces agents in the economy to hold more currency than they would hold voluntarily. As noted above, a government can easily do so by increasing the level of legal reserve requirements in the banking sector. As the previous discussion established, if the government increases reserve requirements too much—if the legal restrictions become excessive—the incentive for agents in the economy to hold bank deposits decreases, and parallel informal markets develop.⁸ As capital shifts to the informal markets, fewer funds are subject to reserve requirements. Reduced reserves, in turn, provide the government with lower seigniorage revenue. Because the Bencivenga and Smith model requires continued financing of the government's deficit, the only means available to hold nominal government revenue constant is increased inflation.

The Bencivenga and Smith analysis also shows that if reserve requirements are very high, agents will bypass financial intermediaries and will hold a portion of their savings directly in capital or capital assets. And as is explained below, such accumulation of capital will not, in general, be as efficient as that observed under intermediation. In the event that these agents find themselves in need of additional liquidity, they will have to liquidate their capital holdings prematurely, entailing a waste of resources. On the basis of this analysis, when financial repression is severe enough to result in the creation of an extensive informal financial sector, welfare can always be increased by financial liberalization via a reduction in reserve requirements.

Bencivenga and Smith show, however, that there exists a level of reserve requirements at which agents

continue to hold bank deposits, all investment activities are financed through the intermediary sector, and the government is able to finance its deficit via seigniorage. Furthermore, they show that in an economy operating with a continuing positive deficit that must be financed, some financial repression is desirable on welfare grounds.⁹

Recall that financial repression in this context means the enforcement, via reserve requirements, of larger holdings of currency than financial intermediaries would otherwise hold voluntarily. At first glance, one may resist the notion that an economy “needs” some degree of repression. After all, financial intermediaries hold currency voluntarily for precautionary reasons, and the government in turn is able to extract some seigniorage. Why, then, would the government need to repress the financial system?

In choosing the optimal level of repression, a government is able to evaluate the seigniorage tax base and rate trade-off, something financial intermediaries cannot do on their own. In choosing the private holdings of currency, financial intermediaries would not take into account the impact of their decision on the economy’s inflation rate and its social welfare impact. From their perspective, they care only about reducing the burden of seigniorage finance, which would be achieved by reducing to a minimum their holdings of currency—that is, the base on which they would be taxed. Consequently, if the government relied exclusively on low voluntary holdings of currency as the seigniorage base, the inflation rate necessary to finance a deficit would be fairly high and therefore not optimal from a social standpoint. On the other hand, the government’s different incentives enable it to account for this trade-off and to establish reserve requirements that would maximize social welfare, subject to the government’s financing needs. In this second-best world, private agents, left to their own devices, fail to produce an optimal economic outcome. When this condition coexists with a requirement for government expenditures, some degree of financial repression may make sense.

The Bencivenga and Smith result is quite general, and the logic of their analysis can be applied to other forms of legal restrictions in addition to reserve requirements. For example, for ceilings on deposit interest rates, proponents of the liberalization strategy would argue that raising rates by removing legal ceilings would not affect the level of aggregate demand in the economy but would simply shift the composition of aggregate demand away from consumption toward savings, thereby increasing the real capital ac-

cumulation in the economy. Stated differently, drawing funds away from the informal or parallel markets back to the banking or intermediation sector would make more funds available for financing firms’ investments and lead to real capital accumulation and real growth.

Neostructuralists, on the other hand, would argue that drawing funds away from the informal or parallel markets would adversely affect the growth potential of the economy since interest rates in the informal market would rise, choking off project financing. In addition, the total amount of funds available for investment spending would be less because these funds, once placed into the official banking sector, are subject to reserve requirements that are higher than those in the informal financial market. Thus, the short-run impact of this type of financial liberalization constrains both aggregate demand and supply and is likely to result in slower real growth. As in the analysis of reserve requirements, it should be possible to show in a simple model that if government has a positive deficit that must be financed, then there exists a ceiling on deposit rates and a level of reserve requirements that are jointly optimal in the sense of maximizing the overall economy’s welfare.¹⁰

While it can therefore be legitimately argued that extant prescriptions of financial liberalization are generally robust in generating real economic growth in developing and transitioning economies, under certain institutional arrangements (such as those outlined above) unbridled financial liberalization may reduce economic welfare. The implication of these results is that specific institutional arrangements and preconditions existing in developing and transitioning economies must be identified and incorporated into macroeconomic policy prescriptions if these prescriptions are to enhance economic welfare.¹¹

This discussion has emphasized the need to enhance seigniorage extraction as one of the main rationales for imposing financial repression measures. In this context, it sometimes may make sense to financially repress an economy. Is it only when there is a need to finance large government deficits that doing so makes sense?

Recent theoretical work by John H. Boyd and Smith (1994) suggests that even when one ignores deficit finance considerations, LDCs may be better off under some degree of financial repression. These authors use a dynamic open economy model to examine the output patterns of a developed country and an underdeveloped country. The two countries are assumed to be identical in all respects except their initial capital stocks. Boyd and Smith show that as a result of finan-

cial market frictions, the equilibria exhibited by this model imply that the underdeveloped country can grow at a faster rate if its financial sector is closed to international financial transactions (a very stringent form of financial repression). This result occurs because information asymmetries between borrowers and lenders in the two countries create a costly problem of state verification. As was discussed in regard to the Williamson model, borrowers are assumed to have an informational advantage over lenders concerning such things as the expenses incurred in carrying out their investment or production activities and the true returns associated with these activities. To divert resources away from lenders, borrowers have incentives to exaggerate the level or need for such expenses or to understate the level of returns earned. Lenders who cannot costlessly observe the expenses or realized profits of projects they have funded have to spend resources in order to verify borrowers' reports. The presence of these state verification costs reduces lenders' net returns and their willingness to commit funds to otherwise desirable investment projects.

In the Boyd and Smith analysis, poorer countries are also the ones with the highest verification costs. As shown by Ben S. Bernanke and Mark Gertler (1989), capital investors' ability to provide additional internal finance (equity) tends to mitigate the costly state verification problem because more of the investors' own money is at risk, giving them greater incentives to invest in desirable projects and to make value-maximizing decisions. Because lenders incur smaller state verification costs, there are increased levels of productive investment. Thus, a country with a high capital stock will have a superior ability to finance investments internally, *ceteris paribus*, and as a result a wealthier economy is a more attractive home for lenders or investors.

On the other hand, the more abundant a production input, the lower its marginal product and its rate of return. One would therefore, in principle, expect to see a flow of capital from rich to poor countries in an attempt to improve return rates. However, in this model, as is often observed in developing economies, the opposite is true. The explicit modeling of financial intermediaries with costly state verification helps explain this counterintuitive result. Lower state verification costs can offset the fact that capital stock in the wealthy country may actually have a lower marginal product. Thus, the more attractive net expected capital returns in the wealthy country mean that if both economies open their capital markets, capital flight will occur from the poor country to the wealthy country. The capital stocks of the poor and rich countries never converge.

In such a setting, it is easy to see why opening up a poor country's formerly closed economy can have negative consequences for long-run growth. By keeping the economy closed to international banking (lending), the poor country can grow at a faster rate. Since financial capital is reinvested domestically, the country's capital stock grows and over time may approach that of the rich country but never equal it. Alternatively, without the underlying factor of costly state verification, convergence of the two economies is quite possible. The policy implications of this work are extremely significant for international development agencies given that these agencies often view the opening of an LDC's financial sector as a sure means of increasing domestic growth rates.

Conclusion

The concept of financial repression has received increased attention in recent years as a result of Latin America's reemergence and the opening up of formerly communist countries in Central and Eastern Europe. These developments have also refocused the attention of development economists on problems faced by LDCs as they pursue various liberalization strategies. The role of legal restrictions on financial intermediaries and the interplay of these restrictions with the development of informal or parallel unregulated markets have attracted much attention. This article highlights the importance of this interplay between legal restrictions and the development of informal markets and describes the institutional setting in which financial repression can be optimal for economies in general and for developing economies in particular.

The analysis shows that a key determinant of whether some amount of financial repression will prove superior to a strategy of pure financial market liberalization is the size and recurrent nature of government budget deficits and the alternative financing means. Given that such deficits have to be financed, whenever noninflationary taxes are not an option the optimal amount of repression is the amount that provides for financing the deficit but does not lead to the development of parallel or informal financial markets that siphon resources from the formal financial sector. Hence, by selecting its legal restrictions judiciously, government economic policy can actually induce the highest level of well-being for its citizens.

The article also highlights the virtues of recent developments in the financial intermediation literature as they

pertain to economic development literature. Using these models as foundations, researchers are better equipped to venture policy prescriptions concerning financial in-

termediaries and government financing needs. While the findings have not provided all the answers, they have better outlined the underlying issues of the debate.

Notes

1. Not all proponents of financial liberalization offer unqualified recommendations. McKinnon (1991), McKinnon and Mathieson (1981), and Courakis (1984), among others, do qualify their financial liberalization recommendations. However, much of the financial liberalization literature and the prescriptions therein seem to have been developed without full regard for the involvement of government in the financial intermediation sector and the impact of this involvement on the development process.
2. Financial deepening refers to the general process by which a country's financial infrastructure develops and expands. It can be measured, for example, by a country's ratio of tangible assets, such as buildings and capital equipment to financial assets, such as checking deposits and investment securities. See Goldsmith (1969) for a comprehensive discussion.
3. Examples of the failure of various liberalization strategies in Chile, Argentina, Uruguay, and Turkey are cited by Diaz-Alejandro (1985).
4. This discussion draws directly on chapter 5 of McColloch (1982).
5. Given this discussion, it is easy to understand why many monetary economists and analysts favor separating a country's central bank from the executive branch of government. An independent central bank, with a clear goal of monetary stability, will be better able to resist the pressures from government to cooperate in its attempts to engage in inflation-ary financing. In cases in which the central bank is truly independent of political pressures, the government will generally not be able to monetize its deficits easily. Thus, politicians will have to limit the scope of government involvement in the economy to its ability to finance its spending programs through the collection of taxes.
6. In considering the case of Mexico prior to World War II, Shelton (1964) detailed how the monetary authority was left to assume the burden of the deficits created by the lack of a coherent fiscal policy and had to accommodate large deficits leading to the adoption of high, restrictive, and contrived reserve requirement schemes.
7. The older literature is summarized in Spellman (1982, chap. 12) and the references contained therein. A survey of the modern literature can be found in Bhattacharya and Thakor (1993).
8. This development occurs because of the zero or negative real rate of return earned on reserves.
9. It should be noted that in the Bencivenga and Smith analysis, it is never optimal to repress the economy to the point where formal and informal markets coexist.
10. Results along these lines are established by Espinosa and Hunter (forthcoming).
11. For a detailed analysis of how the lack of coordination of real and financial sector reforms in developing and transitioning economies can worsen budgetary conditions, see Hunter (1994).

References

- Bencivenga, Valerie, and Bruce Smith. "Financial Intermediation and Endogenous Growth." *Review of Economic Studies* 58 (1991): 195-209.
- _____. "Deficits, Inflation, and The Banking System in Developing Countries: The Optimal Degree of Financial Repression." *Oxford Economic Papers* 44 (1992): 767-90.
- Bernanke, Ben S., and Mark Gertler. "Agency Costs, Net Worth, and Business Fluctuations." *American Economic Review* 79 (March 1989): 14-31.
- Bhattacharya, Sudipto, and Anjan V. Thakor. "Contemporary Banking Theory." *Journal of Financial Intermediation* 3 (1993): 2-50.
- Boyd, John H., and Bruce Smith. "Capital Market Imperfections, International Credit Markets, and Nonconvergences." Federal Reserve Bank of Minneapolis Working Paper 522, May 1994.
- Buffie, Edward F. "Financial Repression, the New Structuralists, and Stabilization Policy in Semi-Industrialized Economies." *Journal of Development Economics* 14 (1984): 305-22.
- Courakis, Anthony S. "Constraints on Bank Choices and Financial Repression in Less Developed Countries." *Oxford Bulletin of Economics and Statistics* 46, no. 4 (1984): 341-70.
- Diaz-Alejandro, Carlos. "Good-bye Financial Repression, Hello Financial Crash." *Journal of Development Economics* 19 (1985): 1-24.
- Dornbusch, Rudiger, and Alejandro Reynoso. "Financial Factors in Economic Development." *American Economic Review Papers and Proceedings* 79 (May 1989): 204-9.

- Espinosa, Marco. "Multiple Reserve Requirements." *Journal of Money, Credit, and Banking* (forthcoming 1995).
- Espinosa, Marco, and William C. Hunter. "Financial Repression and Economic Development: A Theoretical Analysis." Forthcoming.
- Goldsmith, Raymond W. "Financial Structure and Development." New Haven, Conn.: Yale University Press, 1969.
- Greenwood, Jeremy, and Boyan Jovanovic. "Financial Development, Growth, and the Distribution of Income." *Journal of Political Economy* 98 (1990): 1076-1107.
- Hunter, William C. "Interaction of Real Sector Reforms and Budget Deficits in Financially Repressed Economies." Federal Reserve Bank of Atlanta unpublished working paper, 1994.
- McColloch, J. Huston. *Money and Inflation: A Monetarist Approach*. New York: Academic Press, 1982.
- McKinnon, Ronald I. *Money and Capital in Economic Development*. Washington: Brookings Institution, 1973.
- _____. *The Order of Economic Liberalization: Financial Control in the Transition to a Market Economy*. Baltimore: Johns Hopkins University Press, 1991.
- McKinnon, Ronald I., and Donald J. Mathieson. *How to Manage a Repressed Economy*. Princeton Essays in International Finance, No. 145. Princeton, N.J.: Princeton University Press, 1981.
- Park, Yung Chull. "The Role of Finance in Economic Development in South Korea and Taiwan." In *Finance and Development: Issues and Experience*, edited by Alberto Giovannini, 121-50. New York: Cambridge University Press, 1993.
- Shaw, Edward S. *Financial Deepening in Economic Development*. New York: Oxford University Press, 1973.
- Shelton, David H. "The Banking System." In *Public Policy and Private Enterprise in Mexico*, edited by Raymond Vernon, 111-89. Cambridge, Mass.: Harvard University Press, 1964.
- Spellman, Lewis J. *The Depository Firm and Industry*. New York: Academic Press, 1982.
- Taylor, Lance. "IS/LM in the Tropics: Diagrammatics of the New Structuralist Macro Critique." In *Economic Stabilization in Developing Countries*, edited by William Cline and Sidney Weintraub, 465-506. Washington: Brookings Institution, 1980.
- van Wijnbergen, Sweder. "Macroeconomic Effects of Changes in Bank Interest Rates: Simulation Results for South Korea." *Journal of Development Economics* 18 (1985): 541-54.
- Williamson, Stephen D. "Costly Monitoring, Loan Contracts, and Equilibrium Credit Rationing." *Quarterly Journal of Economics* 102 (February 1987): 135-46.

Federalism and the Fed: The Role of Reserve Bank Presidents

Bobbie H. McCrackin

The Federal Reserve System is a powerful and important public policy organization in the United States, just as its counterparts in other industrialized countries are. Through its influence on interest rates, overall credit availability, bank safety and soundness, and the efficiency and finality of various means of paying for business transactions, the Fed affects the lives of individuals and businesses in the economy on a daily basis. Yet, unlike most public policy organizations, the Fed—and central banks in most industrialized economies—has been afforded a significant degree of insulation from the pressures of day-to-day politics. Features such as extended tenure of appointments, budgetary autonomy, and legal restrictions on public debt financing render central banks somewhat independent from those elected to carry out society's public policy decisions.

In the case of the Fed, a decentralized structure, with different functions assigned to the Board of Governors in Washington, D.C., and to the twelve Reserve Banks and their branches, is a key element of its independence. In addition, the Fed is an amalgam of public and private elements, in some ways structured like most other public policy organizations while in other ways quite different, even its most public elements. For example, members of the Board of Governors, although chosen by elected officials, are appointed for fourteen-year terms in order to provide some degree of inde-

The author is vice president and public affairs officer in the Atlanta Fed's research division. She wishes to thank Eric Leeper, Tom Cunningham, and Frank King for helpful comments on an earlier version.

pendence from those same officials. Reserve Bank presidents, who also play a policy-making role as members of the Federal Open Market Committee (or FOMC), are even further removed from day-to-day political pressures by virtue of their selection process, which involves being appointed by regional boards of directors subject to Board of Governors approval.

Today many countries around the world, from New Zealand to a number of developing economies, are taking steps to make their central banks more independent and thus more like the Fed. However, from time to time the fact that central banks, as public policy organizations, seem to be held to a different standard of accountability than other public institutions becomes a salient social issue. Indeed, it was largely on the basis of the issue of accountability (or the perceived lack thereof) that the Fed's predecessor as an institution, the Second Bank of the United States, was eliminated from the public policy arena when its charter was purposely not renewed in the early nineteenth century. Of course, issues of accountability are periodically raised in regard to many public policy institutions. Even today the debate over term limits and ethical standards for elected officials reflects an abiding social concern that leaders in democratic systems be accountable to the societies they serve. Given the normal nature of ebbs and flows in this public policy debate, the importance of the central bank as a public policy institution in an advanced economy like the United States merits a better understanding of the principles of governance that have been applied to create a balance of independence and accountability.

Beyond the value of ongoing civic education that this exercise provides, examining the governance of the Fed may offer implications for other countries seeking to move to closer economic integration. As countries in Europe attempt to harmonize macroeconomic policies and eventually establish monetary union, there may be lessons from the Fed's structure. While all countries interested in economic integration with one another are likely to share an appreciation of the potential long-run gains of increased monetary and fiscal coordination, there may remain significant disparities, not only in terms of income levels but also vis-à-vis social preferences regarding such issues as the short-run trade-off between inflation and unemployment. Events in European currency markets in the last two years have shown how serious these differences can be even when a common long-run goal is embraced. A country may be unwilling to bear the short-run costs associated with macroeconomic policies that undergird currency alignment, for example.

More generally, monetary union can be much harder to attain when the countries are not joined in a political union. In this context, it may be quite difficult for a central bank to attain an adequate degree of accountability to society as a whole, or in the case of potential monetary unions, to the collective of nations. The reason is that shocks, such as changes in energy prices or the macropolicy measures adopted by western Germany upon absorbing eastern Germany, can affect other countries quite differently. Certain countries may find particular monetary policy measures taken in response to these shocks unacceptable, given that there are limited means on the fiscal side to offset their effects. Thus, a review of the Fed's structure—crafted to be independent from short-run political considerations yet accountable to a heterodox society—may offer insights to those groups of countries seeking to move toward monetary union.

This article looks at one aspect of the Fed's structure, namely, the role of Reserve Bank presidents. The argument is made that the role of Fed presidents is part of the long-standing structural arrangement of checks and balances that works to ensure the incorporation of different viewpoints into economic policy deliberations. While only one element in the Fed's structure, Reserve Bank presidents are a significant aspect of Fed governance because they are policymakers—that is, through their votes and participation in the FOMC they help set the course for monetary policy. The approach taken in the analysis is derived largely from intellectual history and political philosophy. The discussion and debate during the founding of the Federal Reserve System is reviewed to ascertain what the System's framers had in mind in creating the structure they did insofar as it pertains to the role of Federal Reserve Bank presidents and how those viewpoints relate to a major strain of American politics.

While circumstances have obviously changed over the last eighty years since the Fed's establishment, these views on central bank governance are relevant to current practice in that they reflect more fundamental principles, principles that are deeply rooted in U.S. history, traditions, and political philosophy. Thus, comparing the Fed's current structure with these broad traditions, and their expression in the more specific intentions of those who established this complex structure, can result in a better understanding of the structure's relevance today, both domestically and among countries seeking to establish monetary union. The final section of this article briefly compares the results of this essentially political analysis with contemporary economic thinking on this subject, embodied in the so-called time inconsistency problem.

Balancing Accountability and Independence in Central Banks

In coming to an understanding of how the role of Reserve Bank presidents fits into the Fed's balance between accountability and independence, it is necessary to comprehend what is meant by accountability and why central banks are typically insulated from short-run political influence. Of course, there is no formal answer to the "correct" degree of accountability. At its most basic level, social accountability implies responsiveness to the wishes of society or its delegated leaders and sanctions for actions that are against society's wishes. For elected officials the ultimate sanction is at the voting booth, but this approach allows considerable discretion between elections. The so-called pure democracy of town meetings grants much less decision-making autonomy as do referendums or the plebiscites that were common in post-World War II France. At the other end of the spectrum the selection and election process can mute society's influence as illustrated by the indirect nomination of candidates through political parties and the indirect election of the U.S. president through the electoral college. Even in the intermediate process of choosing nominees for the U.S. presidency, there is much variation across states and across time. Primaries, involving all voters in the selection process, have become widespread, whereas caucuses, involving political party "insiders" who have more knowledge of potential candidates and current issues and whose smaller numbers permit greater deliberation, were once the norm and still exist in some states. Trade-offs are made according to prevailing social values and some rough calculus of the costs and benefits of various degrees of accountability.

Autonomy may vary among institutions on the basis of function and culture. Hence, it is important to keep in mind the reasons for the degree of autonomy typically afforded central banks. It is true that different countries have selected different degrees of accountability. Within countries the independence of the central bank from day-to-day political influence, particularly that of fiscal authorities, also has varied at different points in history. In England and many other countries, the central bank has traditionally had close ties to the finance ministry (comparable to the U.S. Treasury Department) and thus has been subject to considerable political influence. In others such as Germany there is more independence from elected officials. Generally, those countries with the most independent central banks—Germany and Switzerland, for example—have the low-

est inflation rates; nations with less independent monetary authorities, such as the Bank of England, tend to have higher inflation over time (see, for example, Alberto Alesino and Lawrence H. Summers 1993). Of course, this correlation does not prove causality. It is quite likely that social preferences in countries with highly independent central banks are much more averse to inflation, and that aversion gave rise to the independence in the first place. In Germany, for example, experiences of hyperinflation during the 1920s have left a legacy that puts a high value on price stability. Hence, people in these nations have a greater social preference for an independent, inflation-resistant central bank.

Notwithstanding these variations, modern central banks around the world have been designed to have at least some degree of formal decision-making independence from those responsible for government revenue and expenditure decisions as insulation from short-term political considerations. The correlation with price stability cited above points to the fundamental reason for this arrangement. History is replete with examples of governments that have turned to the monetary authority to finance deficits and thereby have furthered short-term ends, only subsequently engulfing the country with sometimes rampant and lasting inflation. When a society's political leaders have had access to the mechanism for money creation, it has proven very hard to resist the temptation of debasing the currency or of printing more money to deal with wars and other pressing problems that create a need to raise revenues. The result has often been an extended period of high inflation (see Ellis W. Tallman 1993). In fiat, or inconvertible paper, monetary systems, hyperinflation can result because there is no limit on how much money can be put into circulation.

If the ill effects could be felt immediately, perhaps such measures would be unnecessary. But since they are not, central banks, like individual savings plans, are put at arm's length. In a sense societies make a decision to optimize their long-run interest in both stable prices and fast output growth by agreeing to give up some control over short-run decisions about these matters.

Given this strong case for independence, what is the basis of the argument for accountability? The earliest central banks were essentially private institutions. Why not continue this practice? For one thing, independence does not guarantee price stability, as witnessed by the United States' experience in the 1970s. Another, more direct, answer can be found in the "free silver" debate of nineteenth-century American history. That episode

illustrates the negative view of a high degree of insulation from social pressures, in this case resulting from being on a strict gold standard: proponents of free silver argued that monetary growth under this regime was so inflexible that economic and employment expansion was less than the potential of the nation's resources (technological or human) to grow.

Even in today's policy context, raising interest rates to stem a rising tide of inflation may have the near-term side effect of higher unemployment, bankruptcies, and foreclosures. Conversely, unduly stimulative monetary growth designed to ameliorate a cyclical downturn may have a negative long-term effect of higher inflation. Such inflation can, in the extreme, rob pensioners of savings. It can also discourage and distort investment, putting a premium on assets like gold that tend to hold their value in the face of mounting price pressures while undermining capital spending on projects that raise an economy's productivity over time. Thus, longer-term growth might be slower than it otherwise would have been. More generally, unanticipated inflation redistributes wealth. These examples show that monetary policy is a powerful but, in a sense, blunt instrument. Such power in democratic societies implies the need for parameters within which the monetary authority can exercise its power.

Thus, the institutional structure of policymaking within central banks tends to have complex and subtle mechanisms intended to strike a balance between independence from political expediencies and ultimate accountability to society as a whole and its chosen officials. The Fed's founders built in many features that were intended to insulate the central bank from short-term political pressures, and this independence was furthered by subsequent reforms of the Federal Reserve System. The Board of Governors, for example, is protected in several ways against short-term political pressures. Governors are appointed to fourteen-year terms, and the Treasury, whose senior officials are appointed by each new president, has not been represented in Fed policy-making bodies since the 1930s. The U.S. central bank is also prohibited from directly purchasing securities from the U.S. Treasury. This restriction is an explicit, legislatively based division of power. Although it does not prevent the Fed from monetizing the entire federal debt, its legal existence symbolizes the desired intent of the Fed's founders. Finally, the fact that Congress has given the Fed multiple mandates that are at times mutually contradictory implies that a good deal of discretion is intended for the central bank.¹

A Historical Perspective

While these institutional attempts to foster central bank independence are widely recognized, less well known are the founders' views of the role of the Reserve Banks and Reserve Bank presidents. To shed light on the institutional roles intended for Reserve Bank presidents and directors—local/regional control, a counterbalance to national political interests, and a mutual check within the private sector—it is useful to review the history of this debate going back to the origins of the Federal Reserve System with passage of the Federal Reserve Act in 1913. These debates are not just of historical interest but also offer insight into the current public discussion of Fed accountability as it pertains to Federal Reserve Banks: by highlighting how the framers of the System expected it to work in various situations and how these expectations were related to more fundamental American political traditions, one can assess its current performance. While the particular situations they envisioned may no longer be relevant, the more fundamental political traditions they reflect are still very much alive; thus, both elements serve as benchmarks for evaluating proposals for change.²

A primary challenge for public policy on money in the early twentieth century was to create an elastic money supply, one that would respond to both the seasonal needs of the nation's many farmers and to the liquidity squeezes that prompted intermittent bank panics such as that of 1907. Paul M. Warburg, who later served on the Federal Reserve System's Board of Governors, recalled the contrast he observed on his arrival in the United States from Germany in 1903: "In Europe, reserves were centralized, note issues were elastic, and commercial paper (loans) permitting of immediate sale formed the quickest asset of banks. . . . In the United States the note issue, based on government bonds, was inelastic, gold reserves were decentralized, and investments in unsalable single-name commercial paper were locking up the funds of the banks, while call loans on the stock exchange constituted their most liquid asset" (1930, 1:17). The lack of an elastic currency had been more of a microeconomic seasonal problem than a macroeconomic cyclical problem when the country's economy was based largely on family farming and most households were self-sufficient economically. However, as industrialization proceeded during the nineteenth century and the economy became much larger and more complex, a more elastic monetary system had become necessary to meet its ever-shifting financial needs.

The commercial bank clearinghouses that existed in many major cities in the nineteenth and early twentieth centuries were the existing mechanisms for addressing the liquidity problems that occurred from time to time (Tallman and Jon R. Moen 1990). These clearinghouses provided their members added liquidity in times of financial upheaval and thus tried to prevent adverse financial conditions at a few troubled institutions from pulling down healthy ones. Clearinghouses also disciplined members so that they did not incur excessive risk. Nonetheless, these institutions were private and decentralized, and thus they were ultimately ineffective when problems reached nationwide proportions. By having an institution larger than the clearinghouses,

This association would be a centralized organization with branches around the country. Run primarily by bankers and business people, it would represent the primary forces of credit supply and demand. There would be public representation but not domination on its controlling body. (Four of the forty-six members of the Association's Board of Directors were to have been presidential appointees—the Secretaries of the Treasury, Agriculture, and Commerce and Labor Departments as well as the Comptroller of the Currency.)³

This approach, which was embodied in the bill introduced by Senator Nelson W. Aldrich of Rhode Island, was the fruit of the National Monetary Commission and its extensive study of European monetary systems. (The National Monetary Commission had been established by legislative mandate after the financial panic of 1907.) In Europe central banks like the Bank of France had played the role of stabilizing liquidity for over a century. Often these central banks were largely associations of the nation's private banks, and public influence over their policies was limited.

In a period of U.S. history when government intervention in the economy was still quite minimal and much of the popular sentiment toward reforming abuses centered on returning to the status quo ante of laissez-faire capitalism through antitrust legislation, it should be no surprise that there was widespread support for the view that the nation's monetary system should be largely in private hands. Aside from purely philosophical opposition to a larger public sector role, many people distrusted government because of the reputation for corruption that had become commonplace through the spoils system, whereby political appointees rewarded their supporters with appointments, purchases, and the like, without regard to competence or qualifications.⁴

There was also opposition to political influence on the grounds that political appointees, whether prone to corruption or not, would simply not bring the necessary expertise to the job.⁵ Nonetheless, the bill was not enacted before the end of the congressional session.

When Woodrow Wilson won the 1912 election, a new plan was soon put forward, featuring much less centralization and a combination of public and private elements. Instead of a central reserve association with branches, Wilson embraced a plan based on regional reserve banks. Such a decentralized approach addressed one widespread concern, namely, that a national reserve association would give too much power to particular regions and interests associated with a surplus of credit—Wall Street, the East, “plutocrats”—to the perceived disadvantage of the credit-hungry farmers and business developers of the Midwest and West. To be sure, Wil-

The Fed's founders built in many features that were intended to insulate the central bank from short-term political pressures.

proponents of a central banking system argued, commercial banks would be able to avoid calling loans from even sound borrowers and instead could “mobilize” their illiquid loans by converting them into financial resources against which they could pay off depositors as needed, or even make new loans. Thus, rather than exacerbating an incipient downturn, banks could turn to such a nationwide institution to staunch the outflow of funds and continue to meet the credit demands from other borrowers when economic conditions called for it (Richard H. Timberlake 1978, 186ff, 204ff).

One approach to forming a national institution that would create an elastic currency and address liquidity problems was envisioned as a largely private-sector solution. It called for a nationwide banking association that would provide credit to commercial banks in times of tight liquidity. Essentially, banks could borrow, on a discounted basis, against their good loans to stem a rising tide of deposit outflows and meet the credit needs of the economy, rather than calling in these loans to meet other obligations and, thereby, forcing an implosion in credit and accelerating a decline in business activity.

son did not favor a purely decentralized approach but instead called for some coordinating mechanism to act as a capstone. In the plan Wilson embraced, however, unlike the Aldrich Plan, the coordinating agency—the Board—had no banker representation. Moreover, the important function of discounting bank paper (loans) was to be decided on locally.

Thus, structural elements of the System that would ensure an elastic currency had a strong regional basis under Wilson's plan. Reserve Banks were designed as quasi-independent entities that would be knowledgeable about and have the financial power to address local and regional credit needs. In contrast, the branches of the National Reserve Association would have offered some information flows to a centralized body but had only the most limited ability to address the particular liquidity needs of their locality if they were at variance with national policy.⁶ (While in today's fully integrated financial markets the Fed cannot address the credit needs of particular regions of the country, Fed presidents are decisionmakers and not merely information conduits. As such, they are in a position to temper decisions unfavorable to their own region to some extent.)

The congressional testimony that took place over several months reveals in vivid terms what people at the time expected, either negatively or positively, from such an institutional arrangement. While the subject matter of testimony was wide-ranging, the commentary relevant to the current debate over the role of Reserve Bank presidents is quite germane, especially if one looks beyond the specific issues and positions taken to the reasons for those stands. The principles that came forth quite clearly are the desirability of some local control, a balance of public and private interests, and checks and balances within the private sector. All of these principles are embedded in major constants of American politics—in particular, an insistence on counterposing responsiveness to the majority with some representation of “minority” interests.

This issue of local control was portrayed by the Federal Reserve Act's supporters as essential to the federal nature of U.S. values. For example, a senator posed a question about why the Federal Reserve System should not be more centralized, given that individual Reserve Banks would have to coordinate their policies in times of crisis. In response, Parker Willis (a former economics professor at Washington and Lee University who had worked on an earlier commission to study a mechanism for improving monetary elasticity, had acted as advisor to Carter Glass's House Banking and Currency Committee, and was at that time a financial writer for the *Journal of Commerce*) said that unlike Russia,

which also faced problems of huge geographic span, making coordination more difficult than in European countries, people in the United States believe that “local powers are lodged in local governments. . . . The chief idea in this bill, the main idea is just that of keeping within every district the power of passing upon its own paper—deciding what shall constitute the basis of credit—instead of having that decided somewhere else” (U.S. Congress, Senate 1913, 3:3075). Likewise, Oscar Newton, who later became president of the Federal Reserve Bank of Atlanta, testified in favor of the Federal Reserve System because under its provisions elected directors would represent their region and be familiar with local credit needs (U.S. Congress, Senate 1913, 2:1644).

Features like the decision-making role of Reserve Bank presidents (and directors) created an accountability that goes beyond responsiveness to the will of the majority and reaches to society as a whole.

Interestingly, some witnesses argued that the bill did not go far enough toward local control over monetary decisions: O.M.W. Sprague, professor of banking and finance at Harvard University and author of several books on the U.S. banking system, objected to the fact that three of the six directors representing agriculture, commerce, and manufacturing were accountable, through their appointments, to the Board of Governors in Washington (U.S. Congress, Senate 1913, 1:525). Other witnesses expressed the fear that the Board, being essentially a political body, would appoint as these “Class C” directors people who were incompetent to understand the financial problems to be dealt with by Reserve Banks. As F.A. Drury, president of Merchants National Bank in Worcester, Massachusetts, put it, “[Country bankers] believe that [Federal Reserve Banks] should be managed by bankers, and good bankers, and that the people who manage the institutions should not be people appointed for political reasons” (U.S. Congress, Senate 1913, 2:1222).

In addition to its enhancement of local control, the Federal Reserve System was touted by its supporters as

offering a better balance between public and private interests as compared with the National Reserve Association. When Robert L. Owen of Oklahoma, Chairman of the Senate Banking Committee, introduced the Federal Reserve Act into the Senate, he pointed out this feature in terms of the representation of banking and government (Warburg 1930, 411-12). Senator Joseph L. Bristow of Kansas echoed this view (U.S. Congress, Senate 1913, 2:1227).

Similarly, Samuel J. Untermyer, an antitrust lawyer who served as counsel for the committee that had investigated the Pujo "Money Trust" in regard to concentration of credit resources among a few Wall Street firms, stressed the banklike nature of the Federal Reserve Banks and the "governmental" nature of the Board of Governors. In his view, the Federal Reserve Banks would in effect present paper (loans) to the government to turn it into currency (U.S. Congress, Senate 1913, 2:1319).

Parker Willis also emphasized in his testimony the importance of incorporating the practical knowledge of banking into the operations of the nation's central bank. Willis believed that the fact that banks would have a financial interest in the Reserve Banks through stock ownership would result in better policy outcomes (U.S. Congress, Senate 1913, 2:3052). This view came out in an interchange between Willis and Senator James A. O'Gorman of New York. The senator asked why stock ownership in the Federal Reserve should not be publicly subscribed, with legal limits set to prevent excessive concentration of ownership. The added public accountability such ownership would create could be enhanced, he argued, by having public representatives, appointed by the Board, run the Reserve Banks. Willis replied, "But the government is a far distant entity; it is not very close to the ordinary man. I think the ordinary man would take more interest in these banks and that the banks would be better run, if he has something to do with the appointment of directors than if the Government simply names a set of directors for him" (U.S. Congress, Senate 1913, 3:3049-50).

This importance of the balance between public and private influences sought through the Federal Reserve is highlighted by comparing the components proposed by the Federal Reserve System with the structure of the National Monetary Commission. The latter, as noted above, gave much more influence to bankers at both the national and local levels, but the decision making was more concentrated at the national level. Under the Aldrich plan each branch of the National Reserve Association would have had twelve directors, of whom six would have been elected by local reserve associa-

tion vote, four in proportion to their banks' capital, and only two representing agriculture, commerce, and industry. While the last could not be bank officers, directors, or stockholders, the representation of "business" clearly was relatively smaller. Moreover, they were elected by the ten others (Warburg 1930, 1:374). In contrast, the Reserve Banks were, through the directors, to be decision-making bodies.⁷

The National Reserve Association would have achieved some degree of public accountability by moving the center of power from New York to Washington. As Senator John W. Weeks of Massachusetts pointed out in the hearings, "We already have de facto a central bank—it's in New York and private. . . . That's what we're trying to get rid of" (U.S. Congress, Senate 1913, 3:3066). He was, of course, referring to the important role of large financial institutions in catalyzing and stabilizing financial panics at the turn of the century. The National Reserve Association would have shifted control over these decisions through the public appointments to the Association, but bankers would have continued to play a key role.

In contrast, the structure of the Federal Reserve went further in providing a double counterbalance. One element gave some power to localities and regions over the expansion of money and credit rather than concentrating such decisions in Washington. The other gave a formal decision-making role to the private sector (largely bankers) because of its technical knowledge of credit to balance the public sector influence (and lack of banking knowledge and experience) that the Board would represent. (Bankers were precluded from serving on the Board because of the perceived conflict of interest.)⁸

Even within the Federal Reserve Banks, the directors were seen by supporters of the Federal Reserve System as acting as checks on one another, thus rendering the system preferable to one such as the Hitchcock Plan in which public accountability was quite direct. Untermyer pointed to the politicization of banking that would occur under a publicly dominated system and characterized such a system as inevitably "autocratic" in contrast with the proposed Federal Reserve System with its important role of directors selected by bankers drawn from various localities, "whose check on one another would assure some measure of justice in passing on the collateral from which currency is to be issued" (U.S. Congress, Senate 1913, 2:1290-91). Warburg, one of the chief architects of the Aldrich plan, added the view that since the chairman (or Federal Reserve Agent) was by law a Board appointee, he could not run the bank and also represent the Board:

“This would have vitiated the theory of the autonomy of the reserve banks; . . . it could have created the very central bank with branches which the writers of the act had so passionately denounced” (1930, 1:171).

The Fed—An Alternative Approach to Accountability

As this brief retrospective indicates, the founders of the Fed intended to insulate it from the majority in power in the White House or Congress. However, they also created in it mechanisms that foster accountability to society. Features like the decision-making role of Reserve Bank presidents (and directors) created an accountability that goes beyond responsiveness to the will of the majority and reaches to society as a whole. As a cumbersome amalgam of public and private interests, geographic perspectives, short-term and long-term perspectives, and debtor and creditor (pro- and anti-inflation) forces, at times the Fed may be less than wholly responsive to current political demands of the majority, emanating from either the executive or legislative branch in Washington; at the same time, this structure actually promotes accountability. It does so by building into the structure of the Fed itself a variety of viewpoints and interests and thus ensures minority rights as well as majority rule.⁹

During hearings in 1922 a bill was introduced into the Senate requiring expansion of the Board to include a representative of agriculture such as the Secretary of Agriculture because one-third of Americans were, directly or indirectly, still engaged in farming at the time (U.S. Congress, House 1922, 4). Again in 1934 a subcommittee of the House Committee on Banking and Currency held hearings on HR 7157, which would have established the Federal Monetary Authority. During the course of the hearings the configuration of the Board came up again, raising the question of whether it should be required to have one representative from agriculture, one from industry, one from banking, and two at large or whether all should be selected by the president. Clearly, legislators have long sought to achieve accountability in the Fed through formal representation in its structure.¹⁰

Today, by law, representatives of business, labor, agriculture, consumer, and community interests are the only ones eligible to chair Reserve Banks, and these individuals are not formally nominated by local banks nor may they own bank stock; rather they are named by the Board of Governors. Of course, these people

must also be based in the respective Federal Reserve District. In this way the Fed's internal checks and balances parallel the kind of social oversight more direct legislative or executive controls achieved in Europe. A comparison with the situation in a parliamentary system like those common in European countries is illustrative, pointing up why the Fed's structure is better suited to American political traditions.

The European Model

For a variety of historical reasons most European (as well as the Japanese) political systems are generally based on a concentration of power, subject to democratic restraints such as elections. Of course, even within Europe there is a wide array of central bank structures and levels of independence. The point here is to illustrate the distinct nature of the American political tradition. Unlike the United States, European governments typically experience no split between the executive and legislative branches because the head of the executive branch, the prime minister, is the head of the party in power in parliament. (Other executives like a monarch or president play a symbolic role, representing the entire country, not a particular party.) In addition, the judicial branch does not exercise the same kind of limiting authority that its U.S. counterpart does on the types of laws that can be enacted (Daniel Boorstin 1965, 400ff, 406). Thus, a party in power in a typical parliamentary democracy finds it much easier to carry out its platform.

Moreover, within a party there is much more uniformity and centralization. Traditionally, delegates have been chosen by the party and have not represented a locale or region. The number chosen depends on the percentage of the popular vote the party has won, and the choice of particular delegates depends on their rank in the internally determined party queue. In Britain, where the conservative tradition articulated by Edmund Burke informs political views more than the individualistic philosophy of John Locke, even when delegates are elected from a district, they have historically been expected to vote for the good of society as a whole as they see it according to their ideology, not for their local constituency. This custom, known as virtual representation, stands in sharp contrast to the U.S. tradition of direct constituency representation.

In view of this social acceptance of concentrated power legitimized by majority vote—represented by the winning party or coalition of parties—it is not surprising that central banks can be granted considerable

autonomy, as in Germany, with a broad social mandate to contain inflation. Such a social attitude toward political power is also quite consistent with having a monetary authority closely linked to the finance ministry and directly responsible to the party in power through the prime minister and parliament. The American political tradition—informed more by Locke and Baron de Montesquieu—is much less tolerant of concentrated power, as discussed below (Alpheus Thomas Mason 1971, 3-7, 134).

Applying the U.S. Model Internationally

Comparing the monetary authorities and their underlying political systems in other industrial countries with the U.S. system suggests significant differences. However, with European efforts to move to a single currency and monetary union, there may be lessons that can be drawn from American customs and traditions for balancing public control and central bank independence in a context of social heterogeneity. The checks and balances that are deeply rooted in American history and political values may provide a model for European countries until they attain political union.

American society has historically valued the rights of the individual and the minority very highly, whereas other traditional and contemporary societies place a higher relative value on the community (Kenneth M. Dolbear 1969, 11ff).¹¹ Americans are afraid that the government or the majority may implement policies unacceptable to the individual's or minority's natural rights. In the case of the Fed, the present system of governance works to achieve this balance by including "minority," or opposing, viewpoints in the decision-making process. Since governors are appointed by the U.S. President, they inherently represent a majority view at the time of their appointment. Only by setting aside a quota of voting slots to District presidents do minority interests—whether that of creditors, farmers, businesses, or consumers, or, perhaps, the long term—have any hope of being represented systematically. By building an elaborate structure that encompasses such diverse interests, policies are likely to be the result of consensus and thus tolerable even to those in the minority. This type of governance could facilitate the willingness of nations whose economic performance or social preferences are currently quite different from those of the leading or "majority" countries to participate in a monetary union.

This argument raises the question of why such structural mechanisms for minority viewpoints are not needed in other policy arenas such as taxes and spending or regulation. To some extent they exist in such areas as the minority and majority committee structure in Congress. Moreover, in many fiscal policy decisions, competing interests can be accommodated. For example, Congress can raise taxes to exercise fiscal restraint but aid particular areas or industries deemed socially worthwhile to support through subsidies, tax breaks, and the like.

Ultimately, however, accountability at the central bank is likely to be different from that of most other public policy organizations. The incentive structure of many agents in society is short-term. Business and political leaders are both rewarded for tangible accomplishments over a short time horizon—one year, two years. Business executives, like politicians, know certain short-term decisions may not foster the best conditions over time, but their bonuses, promotions, and reelections are geared toward near-term results. Their only means of promoting what they know is best for the long term is through an act of enlightened self-interest: setting up a structure that institutionally promotes both the short- and long-term "good" even though this arrangement can produce tensions between the central bank and other institutions in society when long-term and short-term objectives seem at odds. This conclusion means that central bank accountability cannot take the same form as that of other public policy institutions.

Historically, Reserve Banks were empowered to bring grass-roots concerns, largely from capital-short, "debtor" regions into the decision-making process, subject to local institutional influence of creditors (bankers) and the private sector (businesses). As Europeans consider how to coordinate their monetary and fiscal policies more closely, they may want to establish measures that build in institutionally the likelihood of continuing differences of opinion—a dynamic and healthy tension.

Ensuring Long-Term Commitments

In a logical sense, this structure of checks and balances embedded in the Fed by the writers of the Federal Reserve Act anticipates a problem contemporary economists have noted in public policy. Called time inconsistency, this problem refers to the conflict of short-term and long-term objectives and the associated

temptation of policymakers to make future promises that they do not keep: government budget deficits will be cut in later years, subsidies will be removed once industries mature, a little faster inflation will be tolerated in the present but countered in the future (see, for example, Finn Kydland and Edward Prescott 1977; Robert J. Barro and David B. Gordon 1983; Keith Blackburn and Michael Christensen 1989). Some economists use a game theoretic approach in which the players consist of policymakers and private economic agents. The latter are forward looking in their behavior but dispersed (atomistic) and therefore less powerful; the former cannot precommit to announced policies because they stand to gain some short-term payoff by not doing so.¹² Those who have analyzed this pattern of unfulfilled commitments have generally concluded that the only solution that avoids suboptimal policies over time is to limit the options available to policymakers so they can and must precommit.¹³

In effect, the Federal Reserve Act writers built into the system a decision-making apparatus that works in a similar fashion. By including private and public sector agents in the decision-making process, it limits monetary policymakers from renegeing on long-term commitments. Of course, the main tool of monetary policy has shifted from discount window lending at the Reserve Bank level to open market operations that have a nationwide impact, and the lending that does occur through the discount window also has a national impact on today's integrated financial markets. However, the internal checks and balances provided by the tension between decisionmakers appointed by the public and private sectors serves to constrain monetary policy actions from going too far in the direction of socially suboptimal outcomes. This mechanism remains a relevant principle for the governance of U.S. monetary policy making today and may provide insights to other groups of countries seeking closer economic integration.

Conclusion

Public policy institutions in democratic societies should be accountable to the societies they are set up to serve. Central banks are no exception. However, in order to separate those with authority to spend public

money from those with control over its creation, in many countries over many years central banks have been granted more latitude from elected officials than most public policy institutions. When the United States established a central bank in 1913, the authors of the legislation created a system that was, in many respects, even more insulated from day-to-day political pressures than those of other countries at the time. One critical aspect of this insulation was the decision-making power over money and credit expansion that was granted to a segment of the Federal Reserve System outside the direct sphere of influence of elected officials, namely, Reserve Banks.

To some extent this decision reflected a contemporary desire for local economic control over such decisions, a control that is not possible in the current setting wherein money and capital markets are integrated on a national and even international scale. However, as this article has tried to show, the power granted to Reserve Banks was also based on more fundamental political principles and customs, with deep roots in American history and still adhered to today.

While these principles were expressed in congressional testimony at the time of the founding of the Federal Reserve System primarily as a desire to ensure a diversity of viewpoints in Fed decision making, the emphasis placed on guaranteeing that diversity reflects more fundamental American political values. These include the high value placed on individual and minority rights in the context of majority rule, dislike of concentrated power—whether political or economic—and a consequent preference for checks and balances between public institutions, both at the federal level among the executive, legislative, and judicial branches and between the federal and state governments.

A broad social accountability obtains in this present system. That accountability arises from the structured inclusion of a diverse array of interests—public and private, national and regional, and those with their sights on longer-term objectives against those who focus more on short-term social goals. Ultimately, this arrangement works to encompass conflicting interests and viewpoints and, in the process, builds a broader consensus among all parts of society and, by taking into account longer-term considerations, from one generation to the next.

Notes

1. The Fed's mandates include maximum sustainable output and employment growth as well as price stability; in contrast, the German central bank's sole mandate is price stability.
2. Although much of the discussion revolved around mobilizing economic resources to staunch an incipient downturn, the founders of the Fed did not envision the full potential of the central bank to conduct countercyclical policy. This realization did not occur until the 1930s with the statutory establishment of the FOMC. Nonetheless, there were nascent countercyclical and seasonal concerns, and the principles discussed in regard to these remain germane today. Thus, to the extent that the principles embraced by the Federal Reserve Act's framers are still consistent with American values, one can conclude that they are appropriate to the U.S. precepts of governance.
3. This plan is described and explained in National Monetary Commission (1912, 12-14). See also Link (1954, 44-45).
4. In the case of central banking functions, the memory of perceived favoritism during the gold crisis in 1906-1907, when New York banks were almost the sole beneficiary of government deposits, was still alive. Earlier, the federal government's efforts to adjust credit regionally via deposits in various banks around the country had led to allegations of favoritism synthesized in the term "pet banks." See McCulley (1992, 123). See also Timberlake (1978, 221, 43-45, 50-51).
5. Senator Aldrich, head of the National Monetary Commission, strongly embraced this view as evidenced in a speech he gave in 1913 against the Federal Reserve Act, in which he said that the Federal Reserve System would be "under the control of political appointees, the majority of whom of necessity cannot have the knowledge or experience to qualify them for the important duties assigned to them" (Warburg 1930, 755).
6. Another approach—the Hitchcock Plan, named for Senator Gilbert M. Hitchcock of Nebraska—would have created an institution dominated by public representatives (a set of fifty subtreasuries in major cities with facilities to lend to commercial banks which had paid in a percentage of their capital). Secretary William G. McAdoo had proposed a similar centralized plan earlier on. See Link (1956, 208).
7. Only later did it become apparent that the Reserve Bank presidents, then called governors, would be far more than implementers of board of director decisions because of the day-to-day demands of the position versus the occasional gatherings of directors (see Moore 1990, 31-32). In the case of the Atlanta Fed, this misconception about who would have the paramount role—the chairman or the governor—led the Bank's first chairman, Max Wellborn, to leave that position and become governor in order to play the role he desired. See Gamble (1989, 27-28).
8. See the interchange between Senator John F. Shafroth of Minnesota and Minneapolis flour manufacturer Edward Wells regarding the lack of banker representation on the Board of Governors (U.S. Congress, Senate 1913, 1:957ff).
9. For a formalized, mathematical presentation of this argument, see Faust (1992).
10. Ironically, the FOMC's establishment by law in the mid-1930s actually reduced the relative power of the Fed presidents by bringing the Board of Governors into the periodic meetings. Federal Reserve Bank presidents had long found it necessary to coordinate open market sales and purchases. However, Congress did not shift the coordinating and decision-making authority to the Board of Governors entirely, and federal lawmakers extended governor terms from ten to fourteen years, increasing the Fed's independence.
11. Boorstin (pp. 51-52, 65-72) takes a somewhat different position, arguing that the American experience entails a strong communitarian thrust, particularly as people moved out across and settled the continent. However, he acknowledges that many of these organizations were short-lived and ad hoc in purpose and that most were local and nongovernmental in nature. Indeed, Boorstin asserts that these communities tended to blur the line between public and private because they were created to serve the private interests of their members. Thus, the contrast between the individualistic American tradition and socially based value systems in Europe as well as Japan remains valid.
12. Blackburn and Christensen (1989, 14) summarize the argument clearly: "When the policy maker has unrestricted discretion, there is always an opportunity to fool private agents by inflicting inflationary surprises. The incentive to do this lies in the policy maker's preference for raising output above its natural rate. Rational agents, however, understand this incentive and take it into account when forming their inflationary expectations. As these expectations rise, so too must actual inflation and so too does the marginal disutility of inflation." This argument is applied by Kydland and Prescott (1977) to other public policy arenas such as flood plain projects and energy investments, not just monetary policy.
13. However, Rogoff (1985) points out that employment variance may be suboptimal when inflation-rate stabilization is optimized; he also explores a different approach, namely the appointment of monetary policymakers who place a large but not total weight on price stability.

References

- Alesino, Alberto, and Lawrence H. Summers. "Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence." *Journal of Money, Credit, and Banking* 25 (May 1993): 151-62.
- Barro, Robert J., and David B. Gordon. "A Positive Theory of Monetary Policy in a Natural Rate Model." *Journal of Political Economy* 9 (August 1983): 589-610.
- Blackburn, Keith, and Michael Christensen. "Monetary Policy and Policy Credibility: Theories and Evidence." *Journal of Economic Literature* 27 (March 1989): 1-45.
- Boorstin, Daniel. *The Americans: The National Experience*. New York: Vintage, 1965.
- Dolbeare, Kenneth M. *Directions in American Political Thought*. New York: John Wiley and Sons, Inc., 1969.
- Faust, Jon. "Whom Can We Trust to Run the Fed? Theoretical Support for the Founders' Views." Board of Governors of the Federal Reserve System. International Finance Discussion Papers, April 1992.
- Gamble, Richard H. *A History of the Federal Reserve Bank of Atlanta, 1914-1989*. Atlanta: Federal Reserve Bank of Atlanta, 1989.
- Kydland, Finn, and Edward Prescott. "Rules Rather Than Discretion." *Journal of Political Economy* 85 (June 1977): 473-91.
- Link, Arthur S. *Woodrow Wilson and the Progressive Era: 1910-1917*. New York: Harper and Row, 1954.
- _____. *Wilson: The New Freedom*. Princeton: Princeton University Press, 1956.
- Mason, Alpheus Thomas. *Free Government in the Making: Readings in American Political Thought*. New York: Oxford University Press, 1971.
- McCulley, Richard T. *Banks and Politics during the Progressive Era: The Origins of the Federal Reserve System, 1897-1913*. New York: Garland, 1992.
- Moore, Carl H. *The Federal Reserve System: A History of the First 75 Years*. Jefferson, N.C.: McFarland and Co., 1990.
- National Monetary Commission. *National Monetary Commission Report: Letter from Secretary of the National Monetary Commission Transmitting, Pursuant to Law, the Report of the Commission*. Washington, D.C.: Government Printing Office, 1912.
- Rogoff, Kenneth. "The Optimal Degree of Commitment to an Intermediate Monetary Target." *Quarterly Journal of Economics* 100 (November 1985): 1169-89.
- Tallman, Ellis W. "Inflation: How Long Has This Been Going On?" Federal Reserve Bank of Atlanta *Economic Review* 78 (November/December 1993): 1-12.
- Tallman, Ellis W., and Jon R. Moen. "Lessons from the Panic of 1907." Federal Reserve Bank of Atlanta *Economic Review* 75 (May/June 1990): 2-13.
- Timberlake, Richard H. *The Origins of Central Banking in the United States*. Cambridge, Mass.: Harvard University Press, 1978.
- U.S. Congress. House. Committee on Banking and Currency. *An Act to Amend the Federal Reserve Act: Hearings on S. 2263*. March 15-16, 1922. 67th Cong., 2d sess., 1922.
- U.S. Congress. Senate. Committee on Banking and Currency. *A Bill to Provide for the Establishment of Federal Reserve Banks, for Furnishing an Elastic Currency, Affording Means of Rediscounting Commercial Paper, and to Establish a More Effective Supervision of Banking in the United States, and for Other Purposes: Hearings on H.R. 7837 (S. 2639)*. 63d Cong., 1st sess., 1913. 3 vols.
- Warburg, Paul M. *The Federal Reserve System: Its Origin and Growth, Reflections and Recollections*. 2 vols. New York: Macmillan, 1930.

Review Essay

Second Thoughts: Myths and Morals of U.S. Economic History

Edited by Donald N. McCloskey.
New York: Oxford University Press, 1993.
208 pages. \$24.95.

B. Frank King

Are less economically developed countries failing in their attempts to improve the material lives of their citizens? Would a return to the classic gold standard add stability to the world's economies and to foreign exchange rates? Were antidiscrimination laws sufficient for increasing African Americans' incomes relative to whites' incomes? What is the relationship between economic competition and innovation? Many who deal with economic policy issues think they know the answers to these questions, and their answers guide their policy positions.

In a collection of articles, *Second Thoughts: Myths and Morals of U.S. Economic History*, Donald McCloskey sets out to show that some widely held beliefs about policy issues are at least questionable and often quite wrong. The unifying approach of the articles is stated in the book's introduction: "The quickest route to economic wisdom in our time . . . is a detour through the nineteenth and early twentieth centuries."

Much of the path of McCloskey's detour was charted in the 1950s and 1960s by two pioneering economic historians, Robert Fogel and Douglas North, who were awarded the Nobel Prize in Economic Science in 1993 for their work. By applying modern analytic and statistical techniques and demonstrating the results of major, systematic efforts to gather historical data, Fogel and North opened a new window for both professional and popular

*The author is vice president
and associate director of
research at the Atlanta Fed.
He is grateful for the
comments of his colleagues
Andrew Krikelas and
Bobbie McCrackin.*

understanding of economic behavior and policy. Their contributions have also inspired a number of economists who continue to follow historical routes to enlighten modern policy debates.

In this book McCloskey, who is a professor of economics and history at the University of Iowa and an influential economic historian in his own right, assembles a set of articles written by several of Fogel and North's intellectual offspring. Aimed at a sophisticated lay audience, the articles are generally based on more extensive research published elsewhere. As the book's title implies, the purpose of each article is to apply modern methods of analyzing economic history to evaluating propositions that guide influential segments of the public in their economic policy prescriptions. These studies show that much orthodox thinking is seriously wanting at least in evidence and often in logic.

History Lessons

The book's twenty-four articles are classified into six sections: International Relations and Foreign Affairs; Workers and Employment; Women and Minorities; Government and the Economy; Regulation, Deregulation, and Reregulation; and Technology and Competitiveness. They deal with issues raised in the introduction to this essay as well as others, including migration policy, the workplace safety impacts of workers' compensation insurance, the trade deficit, American farm problems, the costs of government giveaways, the effectiveness of price controls, and the purposes of the Securities and Exchange Commission. Within the sections there is no clear ordering of issues, and the quality of information and analysis varies considerably among articles.

A telling example of the disparate quality of analysis is seen in the section on international relations and foreign affairs, which contains two of the most enlightening articles in the book. Jeffrey G. Williamson's analysis of recent third world economic development progress begins by reciting pessimistic conclusions generally drawn by current observers. He then asks what relevant control group provides a standard for development progress. He rejects the current practice of using modern developed economies as a point of comparison because their characteristics differ greatly from those of current less developed countries (LDCs). Instead, he investigates long-run trends in the nineteenth century's successful developing countries—nations of Western Europe, the United King-

dom, and the United States. He draws from data developed in four decades of historical studies by many economists and historians. Williamson concludes that overall average rates of total and per capita income and output growth, longevity, food availability, and management of urbanization in all twentieth-century LDCs are generally much more impressive than improvements in these characteristics in the nineteenth century's developing nations. This conclusion leads Williamson to advocate resistance to many calls for scrapping current development strategies because of their alleged ineffectiveness.

A second useful article in this section, one by Julian L. Simon and Rita James Simon, addresses American immigration policy. After reviewing immigrants' substantial contribution simply to the size of the U.S. population, the authors present the results of an impressive group of studies on the characteristics of immigrants to the United States and other countries. In their conclusion, they bash the popular stereotype of immigrants and figuratively deface the inscription on the Statue of Liberty. They show that immigrants to the United States have been younger, healthier, and better trained than the general American population. Studies of Canada and Australia are shown to corroborate the U.S. experience. The view of "tired, poor, huddled masses" who would (implicitly) be a drag on the economy does not stand up to the logic or the data offered by Simon and Simon. Although this situation could change, the work of Simon and Simon makes it clear that making immigration policy on the basis of Emma Lazarus's profile of the immigrant population should always be questioned.

Though they discuss important issues, the other two articles in this section contain little of the imaginative analysis and broad uncovering of historical data found in their companions. One article, by Lance E. Davis and Robert A. Huttenback, takes a doubting view of the economic contributions of colonies to imperial powers, though it considers only costs and only the United Kingdom and the United States. The other, by Robert Higgs, proclaims the negative effects of defense mobilization. Each article is less focused and complete in its arguments and evidence than the pieces by Williamson and Simon and Simon. Each uses information drawn from several sets of historic experience with little discussion of the contexts of those experiences. Brevity of the article format may account for some of the shortcomings; however, these articles in particular suffer from the book's general lack of documentation that makes it difficult for the interested reader to follow up on its articles' backgrounds.¹ These

two unsatisfactory articles have parallels elsewhere in the volume.

Challenging the Myths

The majority of the articles, however, systematically draw on modern methods of historical economics to develop insights that should be useful to public policymakers. A few examples underline the contributions of the discipline. In the section on women and minorities, Robert Margo uses decennial Census information on incomes of African American families from the Civil War to the present. He first finds substantial growth of African American family income relative to the income of white families over the 1865-1960 period. This period preceded major legislation aimed at equal opportunity for all races. Drawing on modern insights into investment in human capital to analyze this income growth, Margo attributes most of the increase to substantial relative education gains for African Americans, particularly from 1865 until 1920, and to the large migration of African Americans from low-productivity agricultural jobs in the South to higher-productivity industrial jobs in the North and West after 1920. Margo argues that educational advances had prepared the migrants for these higher-productivity jobs and points out that migrating African Americans generally earned higher wages than northern-born African Americans with comparable experience. (It is worthwhile to compare Simon and Simon's findings on immigration to the United States to Margo's discussion of African Americans' migration from the South.)

Margo concludes that though legal changes effecting equal rights may have been a necessary condition for African Americans' relative income gains after 1960, these changes were probably not, by any means, sufficient conditions. It is difficult to ignore the potential relevance of his conclusions about education and income for current policies aimed at the poorer regions of the country and the world.

In the section on regulation, deregulation, and reregulation, Hugh Rockoff questions a principle dear to economists' collective heart. His article—"Can Price Controls Work?"—deals with the regulation-promoting and inflation-suppressing effects of price controls. He describes several instances of general price controls in the United States from 1623 through 1972-73 and finds a general pattern of avoidance, expanding regulation, and postcontrols inflation. Of the

instances Rockoff studies, the one in which the country did not experience classic postcontrols inflation involved controls connected with the Korean War. During this period, inflation was well behaved both during and immediately after the period of controls. Using an analytic framework that involves both the money stock and government spending, Rockoff points out that money growth was under close control and demand growth was limited even during the war period. On the basis of his evidence, he argues that permanent controls are doomed by ever-increasing regulation and that temporary controls may theoretically work under certain rare conditions. He concludes that arguments that such conditions exist should be viewed with considerable doubt.

In the section on government and the economy, Barry Eichengreen's analysis of what might be called the "aftermyth" of the nineteenth-century gold standard also attacks a widely held modern perception that a return to some sort of metals standard for international exchange would automatically coordinate government macroeconomic policies and increase stability in modern economies. On the basis of careful enumeration of the Bank of England's coordination attempts in the gold standard period, several nations' unsuccessful attempts to adhere to the standard, and the amplitude and frequency of business fluctuations during the gold standard period, he finds little about the gold standard structure that was automatic or a stabilizing influence on either economies or exchange rates.

The section on technology and competitiveness begins with a cautionary study that is closely related to proposals recently emanating from certain quarters in our nation's boardrooms and its capitol. The study, by Gary M. Walton, relates to the push for greater market concentration and other types of producer protection designed to increase American competitiveness. His evidence closely fits a long-held and powerful set of economists' contentions that deal with the dynamics of competition. Walton considers the impact of the institution in 1811 and lifting in 1817 of Robert Fulton's grant of a monopoly on shipping via steamboat on the lower Mississippi River. He concludes that the monopoly suppressed both shipping and steamboat innovation during the short period of its effectiveness. In fact, the upsurge in shipping innovation that followed the removal of the monopoly was at least partly responsible for a subsequent tenfold decline in shipping costs. The historical lesson lies in the question about the implications for America's expansion to the West had the shipping monopoly with its atten-

dant high prices and suppressed innovation held. As policy advice, the study is subject to objections about its applicability in other situations, and no caveats are included in the text.

The points of Walton's case study are bolstered by two other articles, however. Peter Temin deals with the breakup of the Bell system and the role of MCI, and Nathan Rosenberg discusses the major role of economic incentives in motivating scientific advancement. These three pieces all provide support to the proposition that monopoly, by restricting competition, suppresses innovation.

One of the book's most interesting articles is primarily a historical/sociological study that seems a bit out of place. But this is petty carping because Elyce J. Rotella's study of the Equal Rights Amendment is provocative and enlightening. This work summarizes attempts to protect women and their rights in the United States, particularly in labor markets, during the nineteenth and twentieth centuries. Rotella first points out that before 1940 most laws affecting women in the labor markets were protective, dealing with hours, night work, job restrictions, and the like. Given this fact, it is little wonder that when the newly formed National Women's Party proposed an Equal Rights Amendment in the 1920s, many employers' organizations supported the ERA while most labor unions opposed it. Many readers may be surprised at Rotella's finding that most women's groups joined with the labor movement in opposition.

Conclusion

In addition to puncturing some enduring myths, McCloskey seeks also to demonstrate that application of modern analytic and statistical methods to historical incidents can provide general guides for thinking about economics and economic policy.² This theme carries on arguments for which he is well known. The basis of these is clearly stated in a 1976 discussion of the value of studying economic history.³ In that article McCloskey named five principal contributions of historical information to the study of economics: (1) The long reach of the historical record contributes many additional observations of behavior. (2) It can occa-

sionally provide more accurate (less biased) information. (3) It often provides more varieties of economic and institutional background to test theories against. (4) The approach gives greater opportunities to find constants (or nonconstants). (5) It illuminates impacts of previous choices of theory and policy.

Several articles in this book provide ample evidence of the advantages that such an approach has for understanding a broad range of policy issues. However, the articles also underline some of the disadvantages of studying history as a guide for policy. Two of these are most apparent. First, history's provision of a wide range of institutional and technological background requires great care in choosing study periods and specifying common and uncommon factors among periods. This problem is particularly true in case studies involving only one or two instances. Second, much of the policy guidance is in terms of what not to do. This factor does not discount the value of having myths exploded; however, policy advice is incomplete if no prescriptions emerge. "What if" questions and simulations are substantially more difficult in historical contexts, where one is unlikely to find sufficient and consistent data and specific details of institutional arrangements are difficult to know. After exploding policy myths, most articles in this collection only implicitly provide alternative policy prescriptions and support for them.

This book is for readers who are interested in the warnings of economic history for economic policy. In most cases the issues discussed are clearly identified, as are the modern versions of the historical situations. Presentation is straightforward, generally to the point, and nontechnical. Some readers, like this one, will be put off—way off—by sketchy documentation and occasional *ex cathedra* statements. Some will want to know more about studies that underlie the articles. Some will (and should) approach the articles with questions about selection of the time periods and economies, the existence of counterexamples, and the general applicability of the evidence developed. However, the strong articles, like those by Williamson, Eichengreen, and Margo, will repay the reader. Even the weaker ones provide copious facts to stimulate thought and doubt and to support myriad "devil's advocate" positions in political discourse.

Notes

1. The volume has a section of suggestions for further reading at the end, but the listing is rather lean and generally not specifically related to articles in the book.
2. McCloskey argues further that precise prediction and prescription are demonstrably beyond studies of the modern, post-1920 economy also.
3. Donald N. McCloskey, "Does the Past Have Useful Economics?" *Journal of Economic Literature* 14 (June 1976): 434-61.

Now available

Regional Update

Special Report on School Finance

The U.S. public education system spends over \$200 billion annually to prepare the nation's children for the future. What are the issues driving the debate on school finance in America?

The Federal Reserve Bank of Atlanta *Regional Update* for the third quarter of 1994 is devoted to the questions of paying for public education. Based on the Atlanta Fed/Georgia State University Conference on State Fiscal Policy Issues in September 1994, this special report focuses on

- *Sources of funding*—how tax structures affect education;
- *Equity and adequacy*—how states try to provide equal opportunities and ensure that minimum standards are met in all districts;
- *Efficiency*—how to spend education dollars for the greatest return.

The report covers presentations by over twenty-five economists, policymakers, and education experts from government, the private sector, academia, and the media.

If you aren't a *Regional Update* subscriber, just call 404/521-8020 for a copy of the report, or fax or mail your request to

Federal Reserve Bank of Atlanta
104 Marietta Street, N.W.
Atlanta, Georgia 30303-2713

Fax Number: 404/521-8050

Federal Reserve Bank of Atlanta Working Papers

The Research Department of the Federal Reserve Bank of Atlanta publishes a working paper series to convey the research of staff economists and visiting scholars and stimulate professional discussion and exploration of economic and financial subjects. To subscribe to the working paper series or to receive single copies of recently published papers (sent automatically to current subscribers), please check the appropriate box(es) below and return the form as indicated.

- | | |
|--|--|
| <p>94-1 <i>Government Expenditure Financing in an Endogenous Growth Model: A Comparison</i>
Theodore Palivos and Chong K. Yip</p> <p>94-2 <i>When Do Long-Run Identifying Restrictions Give Reliable Results?</i>
Jon Faust and Eric M. Leeper</p> <p>94-3 <i>The Income Smoothing Hypothesis: An Analysis of the Thrift Industry</i>
Iftekhar Hasan and William C. Hunter</p> <p>94-4 <i>Bargaining a Monetary Union</i>
Roberto Chang</p> <p>94-5 <i>Toward a Modern Macroeconomic Model Usable for Policy Analysis</i>
Eric M. Leeper and Christopher A. Sims</p> <p>94-6 <i>Data Aggregation and the Problem of Measuring a Bank's Interest Rate Exposure</i>
Hugh Cohen</p> <p>94-7 <i>Inflation Uncertainty and the Nominal Term Structure: A Survey</i>
Peter A. Abken</p> <p>94-8 <i>Generalized Method of Moments Estimation of Heath-Jarrow-Morton Models of Interest-Rate Contingent Claims</i>
Peter A. Abken and Hugh Cohen</p> <p>94-9 <i>The Effect of Tick Size on Treasury Auctions</i>
Hugh Cohen and Douglas McBeth</p> | <p>94-10 <i>Commitment, Coordination Failures, and Delayed Reforms</i>
Roberto Chang</p> <p>94-11 <i>Bank Holding Company Capital Targets in the Early 1990s: The Regulators versus the Markets</i>
Larry D. Wall and David R. Peterson</p> <p>94-12 <i>Clearinghouse Access and Bank Runs: Trust Companies in New York and Chicago during the Panic of 1907</i>
Jon R. Moen and Ellis W. Tallman</p> <p>94-13 <i>Market Breakdowns and Price Crashes Explained by Information Ambiguity</i>
Jie Hu</p> <p>94-14 <i>Banks, Payments, and Coordination</i>
James McAndrews and William Roberds</p> <p>94-15 <i>Open Market Operations with Conventional, Lasting Real Effects</i>
Marco Espinosa and Steven Russell</p> <p>94-16 <i>A Welfare Rationale for Multiple Reserve Requirements</i>
Marco Espinosa and Steven Russell</p> <p>94-17 <i>Contractual Opportunism, Limited Liability, and the Role of Financial Coalitions</i>
Thomas H. Noe and Stephen D. Smith</p> |
|--|--|

- Please start my subscription to the Working Paper Series.
- I currently receive other Federal Reserve Bank of Atlanta publications. (To expedite your order, please provide the subscriber number that appears above your mailing address: R _____).
- Please send me a copy of the following working papers:

- | | | | | | | | | |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|
| <input type="checkbox"/> 94-1 | <input type="checkbox"/> 94-2 | <input type="checkbox"/> 94-3 | <input type="checkbox"/> 94-4 | <input type="checkbox"/> 94-5 | <input type="checkbox"/> 94-6 | <input type="checkbox"/> 94-7 | <input type="checkbox"/> 94-8 | <input type="checkbox"/> 94-9 |
| <input type="checkbox"/> 94-10 | <input type="checkbox"/> 94-11 | <input type="checkbox"/> 94-12 | <input type="checkbox"/> 94-13 | <input type="checkbox"/> 94-14 | <input type="checkbox"/> 94-15 | <input type="checkbox"/> 94-16 | <input type="checkbox"/> 94-17 | |

Name _____

Address _____

City _____ State _____ ZIP _____

Return this form to the Public Affairs Department, Federal Reserve Bank of Atlanta, 104 Marietta Street, N.W., Atlanta, Georgia 30303-2713. Some previously published working papers are also available. For more information write to this address or call 404/521-8020.

FEDERAL
RESERVE
BANK OF
ATLANTA

Public Affairs Department
104 Marietta Street, N.W.
Atlanta, Georgia 30303-2713
(404) 521-8020

Bulk Rate
U.S. Postage
PAID
Atlanta, GA
Permit 292