

Two Types of Paper: The Case for Federal Reserve Independence

*"The power to spend money
and the power to print
money must be separate
and independent powers
within government."*

When government runs a budget deficit, there are two types of paper that government can print to finance the deficit. One type is interest-bearing paper, known as government debt and issued by the U.S. Treasury. The other is non-interest-bearing paper, known as money or currency and issued by the central bank. From a government fiscal standpoint, creating money (printing currency) is clearly the cheapest way to finance deficits because money bears no interest. Money creation, however, causes inflation, which transfers resources involuntarily from private citizens to the government.

Created to operate independently within government, the Federal Reserve has as its principal mission the provision of a stable medium of

exchange for the nation—a stable money. This is accomplished by the establishment of currency and by the control of money's value, which, in turn, is accomplished by controlling money's supply.

Because government's fiscal incentives for inflation grow as government debt grows, and in view of the huge run-up in government debt, the principal mission of our nation's central bank is now at risk. In short, central bank independence is more important today than at any time in history.

The power to spend money and the power to print money must be separate and independent powers within government. The separation of the money-spending and the money-printing powers within government is essential to the control of inflation and to the efficient production and allocation of resources in society.

The Scourge of Inflation

Economists have extensively studied how inflation affects economic well-being and have reached considerable agreement.¹ Among its most widely cited effects, inflation has the tendency to arbitrarily wipe out the value of claims on money—such as retirement pensions, checking accounts and cash. Inflation shifts real wealth from creditors to debtors. Inflation transfers resources to the public sector, allowing the government to be larger than it otherwise would be, while reducing the purchasing power of the private sector. Inflation may shorten nominal contracts and create a reluctance to make future commitments because of the lack of knowledge of prices. Inflation can lead to an inefficient utilization of an economy's productive resources and to an incorrect mix of production in society.

In sum, inflation disrupts the production and efficient allocation of resources in society, thereby tending to reduce employment and output. It is no surprise, therefore,

that recent studies point to an inverse correlation between inflation and economic growth.²

Has Inflation Been Conquered?

Over the past several years, the Federal Reserve has made substantial headway in lowering the economy's overall inflation rate. Inflation has been reduced from double-digit rates during the 1979–81 period, to roughly 4–5 percent in the mid-1980s, and more recently, to nearly 2 percent. As a result, the economy is poised for a period of substantial long-term economic progress—progress enhanced by prices that are more stable and less uncertain. But has inflation been conquered? Is the headway made in reducing inflation secure? To see the answer to this question, one must understand fully the causes of inflation.

What Causes Inflation?

By definition, inflation is rising prices. But a price is simply the number of pieces of paper—Federal Reserve notes, or money—that it takes to buy a good. The greater the volume of money relative to goods in the economy, the greater is the price of goods. Inflation results, therefore, when the volume of money in the economy grows too fast relative to the volume of goods and services.

Evidence from 79 countries over the post-World War II period shows that when money growth is high, inflation is also high (*Chart 1*). The data thus attest to the premise that excessive money growth causes inflation.

Given that inflation is a monetary phenomenon, why don't more central banks around the world simply lower money growth to rates that lead to no inflation? Such a policy would provide price stability, similar to that experienced in Japan and Germany, and foster economic growth. The answer, most assuredly, lies in government budget deficits and the way they are financed.

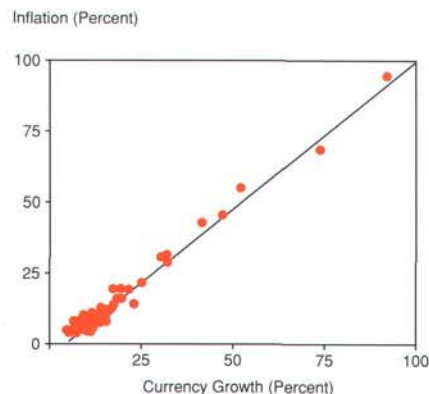
How Governments Finance Budget Deficits

Government runs a budget deficit when expenditures exceed tax receipts. The government funds the deficit by sales of debt to the private sector. The central bank can decide to allow all the increase in the public debt to remain outstanding, or it can "monetize" a portion of the deficit by, in effect, printing currency and purchasing government debt.

Consider the example of a \$150 billion U.S. budget deficit. Government expenditures exceed tax receipts by \$150 billion, which necessitates that the Treasury sell \$150 billion of newly created government securities to the private sector. Government debt thereby increases, initially, by this amount. The Federal Reserve chooses to respond by purchasing on the open market, say, \$30 billion of government securities, using for this purchase \$30 billion of newly created Federal Reserve notes (that is, currency). On net, then, Treasury paper in the economy rises by \$120 billion, and Federal Reserve paper rises by \$30 billion. Two types of paper are created as a result of the deficit.

Government budget deficits are thus financed by creating debt and money. The central bank cannot

Chart 1
Average Inflation and Currency Growth in 79 Countries



NOTE: The countries referred to are of all types—developed, underdeveloped, agricultural, industrialized, and so on. Data are from Robert J. Barro (1990), *Macroeconomics*, 3rd. ed. (New York: John Wiley and Sons), 153–54.

determine the total volume of government paper—money *plus* debt—in the economy because the central bank doesn't determine the size of the deficit. However, the central bank can and ultimately does determine the extent to which government paper in the economy is debt *or* money.

What, then, determines a central bank's choice of how much money to create? Can't the central bank simply conduct monetary policy independently of fiscal deficit or debt considerations? That is, can't money growth simply be restricted to the rate called for to control inflation, regardless of the tax, spending and debt policies of government? To answer these questions, it is important to uncover the fiscal benefits from inflation—specifically, how money creation lowers the cost to governments of running deficits.

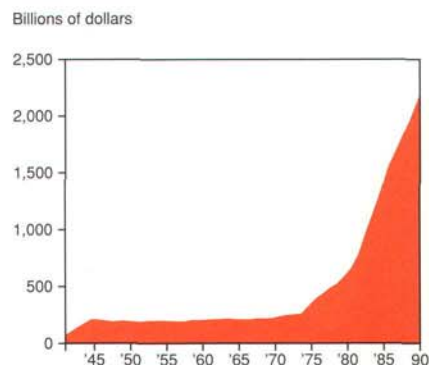
How Governments Benefit from Inflation

Governments derive fiscal benefits from easy monetary policy and from its implied inflation in three basic ways. First, inflation erodes the real value of outstanding government debt. Second, central bank purchases of government debt lower the government's net interest obligation because the interest on government debt purchased by the central bank is returned to the government. And third, purchases of government debt by the central bank tend to lower the real interest rates at which this debt is financed. These inducements for inflation can be strong, and it is helpful to explore each of them more completely.

Inflation Erodes the Real Value of Outstanding Government Debt

First, governments benefit from easy monetary policy because inflation erodes the real value of outstanding government debt. Given today's \$2.5 trillion outstanding

Chart 2
Outstanding Government Debt



stock of public debt, 10-percent inflation, for example, would erase \$250 billion in real government obligations annually (*Chart 2*). This is in contrast to a fiscal benefit of just \$52 billion from 10-percent inflation in 1980 and a fiscal benefit of only \$26 billion in 1974. In this way, the fiscal benefits from inflation have increased greatly in recent years.

Easy Money Returns More Interest Payments Back to the Treasury

A second incentive that governments have for the central bank to inflate pertains to interest payments on outstanding government debt. When the central bank purchases government debt (by printing currency), the interest payments on that debt return to government. For all intents and purposes, the government no longer has an interest obligation on government debt bought by the central bank.

Historically, the Federal Reserve has returned to the Treasury virtually every dollar of interest earned on holdings of government securities (*Chart 3*). Federal Reserve reimbursements to the Treasury totaled \$264.7 billion over the period 1947–90, and Federal Reserve interest earnings on government securities totaled \$260.5 billion—reflecting virtually complete reimbursement to the Treasury of Federal Reserve interest earnings. Thus, the creation of money by the Federal Reserve directly lowers the government's interest obligations.

"Inflationary monetary policy lowers the cost to governments of continually running budget deficits."

Easy Money Lowers the Real Interest Rate Paid on Debt

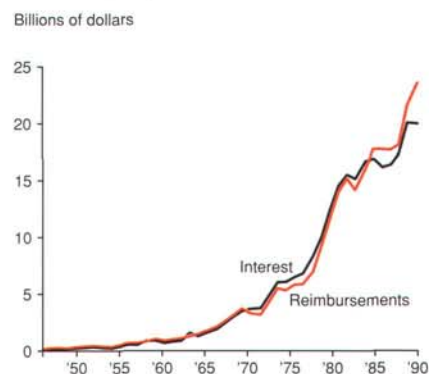
Government's third incentive for the central bank to adopt an easier monetary stance relates to the interest rates paid on government securities. To the extent that the central bank can lower the interest rates on government debt through the purchase of this debt, the government benefits from a reduction in the debt's interest burden. There is evidence that the real funding cost to the Treasury—that is, the real interest rate on government securities—is directly related to the stock of government debt in the economy and inversely related to the stock of money in the economy.

The Federal Reserve increases the quantity of money through open market operations. In essence, the Federal Reserve's open market operations replace government debt with newly issued currency, thereby decreasing the amount of government debt relative to money in the economy. By the same token, open market operations, by reducing government debt outstanding, decrease the amount of government debt relative to gross national product (GNP). Declines in either ratio tend to benefit the government with lower real funding costs. In this way, an easier monetary policy would further reduce the cost to government of financing its deficits.

What Pressure for Inflation Do Recent Fiscal Policies Imply?

Inflationary monetary policy lowers the cost to governments of continually running budget deficits. A reason, then, more central banks around the world don't simply set money growth so as to have no inflation is that there are fiscal benefits—benefits that accrue to the fiscal authorities—from a looser monetary policy, and that nation's central bank is often obliged, or even pressured, to help solve the government's fiscal problem. Such pressures can be exhibited in a

Chart 3
Interest Earned on Government Securities Versus Fed Reimbursements to the Treasury



variety of ways: through legislation or constitutional provisions that mandate the pursuit of fiscal objectives by the central bank, through participation of fiscal agents in monetary policy-making at the central bank, or through such subtle means as the central bank's attempting to hold down interest rates in the face of a rising public debt.³

Budget Deficits of the 1980s Invite Sustained Double-Digit Inflation

In the United States, with recent huge increases in budget deficits and an expanding public debt, the fiscal pressures for inflation have intensified. To get some idea of just how great the fiscal pressures for inflation have been recently, it is useful to consider three hypothetical monetary policies—policies that the Federal Reserve could have followed to help fund the fiscal budget deficits of the past decade:

Policy A: Maintain the economy's ratio of government debt to money.

Policy B: Maintain the economy's ratio of government debt to GNP.

Policy C: Monetize a constant share of the fiscal budget deficit.

The first two policies are important to consider because, had the

Federal Reserve followed either of them, it might have helped hold down the increase in real Treasury interest rates during the 1980s and thereby might have reduced the Treasury's funding costs.

The third policy is one in which the Federal Reserve would continue to monetize government budget deficits in the 1980s to the same degree as previously—say, from 1950 to 1979. For the 30-year period before 1980, the Federal Reserve monetized, on average, roughly 36 percent of budget deficits, the remaining 64 percent being financed by increases in private holdings of public debt.

Under each of these three policies, a price path distinctly higher than actual experience would have occurred over the 1980–90 period (*Chart 4*). Had the Federal Reserve continued to monetize roughly 36 percent of the deficit (policy C), the fiscal deficits of the period would have led to inflation rates averaging nearly 13 percent for the decade, with a peak inflation rate of more than 21 percent in 1982 and 1983. Had the Federal Reserve, instead, acted to maintain the economy's stock of debt relative to money at its level at the end of the 1970s (policy A), inflation would have averaged more than 10 percent for the period, reaching a peak of 16 percent in 1981. And had the Federal Reserve tried to avoid a rising debt-to-GNP ratio (policy B), the fiscal deficits would have implied an

average of more than 9-percent inflation for the period, with a high of 17 percent in 1982.

What the Federal Reserve actually did throughout the 1980s was to pursue none of these hypothetical policies but a comparatively independent monetary policy—which resulted in slower money growth than under any of the alternatives. And inflation for the period averaged only 4½ percent. This result was accomplished by the Federal Reserve's adopting a path for the supply of money that did not mirror the path of government debt. The Federal Reserve did not monetize the huge increases in government debt and, consequently, did not impose double-digit rates of inflation on the economy. But because of the refusal to monetize the fiscal budget deficits, their legacy is still with us today in the form of a huge stock of outstanding government debt. The pressure for the Federal Reserve to inflate still exists and, indeed, continues to build as government debt swells.

“Central bank independence is the key to controlling inflation.”

Is There a Way Out?

Do fiscal deficits oblige the central bank to inflate? Evidence from 17 member nations of the Organization for Economic Cooperation and Development for the period 1973–86 indicates that there tends to be no clear relationship between a country's inflation rate and its deficit-to-GNP ratio (*Chart 5*). The Netherlands and Belgium, for example, have relatively high deficit-to-GNP ratios but have relatively low rates of inflation, while Norway and Finland have relatively low deficit-to-GNP ratios but have relatively high inflation rates. What, then, enables some countries, but not others, to have low inflation rates despite high deficits?

The Key Is Central Bank Independence

The answer lies in the degree of central bank independence. Historical evidence points to a clear

Chart 4
Actual and Simulated Prices

Index, 1987 = 100

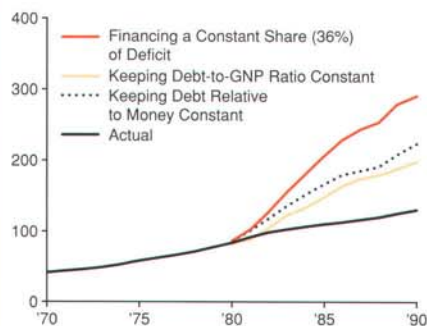
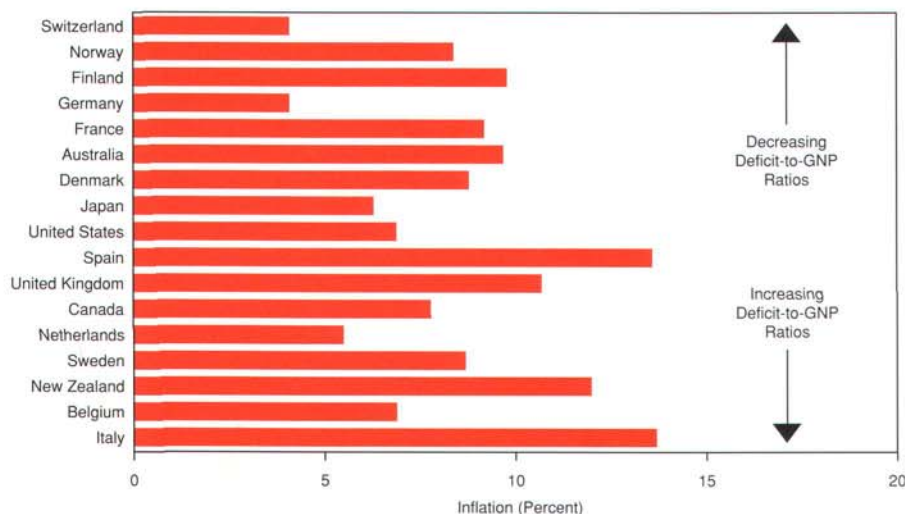


Chart 5
Government Deficit Relative to GNP and Inflation in Selected Countries



NOTE: Rankings of central bank independence shown here and in Chart 6 are from Robin Bade and Michael Parkin (1987), "Central Bank Laws and Monetary Policy" (University of Western Ontario, Department of Economics, London, Ontario, Canada, June, Photocopy), as interpreted by Alberto Alesina (1989), "Politics and Business Cycles in Industrial Democracies," *Economic Policy*, April, p. 81. Data on inflation shown in Charts 5 and 6 are from Alesina.

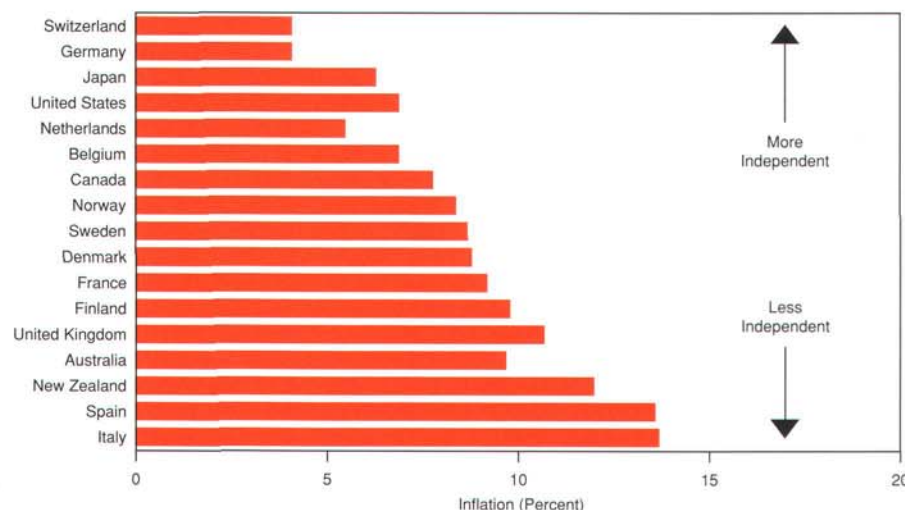
correlation between central bank independence and inflation (*Chart 6*). When central bank independence is high, inflation is generally low. But when the central bank is more tied to the fiscal objectives of government, higher inflation typically results.

Central bank independence is the key to controlling inflation. Within

government, the agency controlling the printing press must not be the same one making out the budget. Those who print money and those who spend it must not be the same, and institutional arrangements must be carefully constructed and preserved to keep both groups at arm's length.

— W. Michael Cox

Chart 6
Average Inflation and Central Bank Independence in Selected Countries



NOTE: Independence of the central bank from the executive branch of government is classified into four categories, from most independent (Category I) to least independent (Category IV): Category I—Switzerland and Germany; Category II—Japan and the United States; Category III—the Netherlands, Belgium, Canada, Norway, Sweden, Denmark, France, Finland and the United Kingdom; and Category IV—Australia, New Zealand, Spain and Italy. See also, "Wise Men from the South," *The Economist*, Feb. 2, 1991, p. 77.

This article is adapted from "Two Types of Paper: The Case for Federal Reserve Independence," in the Federal Reserve Bank of Dallas 1990 *Annual Report*.

¹ For an excellent compilation of the effects of inflation, the reader is directed to Stanley Fischer and Franco Modigliani (1978), "Towards an Understanding of the Real Effects and Costs of Inflation," *Weltwirtschaftliches Archiv*, vol. 114, pp. 810–32.

² Evidence from 79 countries over the post-World War II period shows no generally positive relationship between a country's rate of real economic growth and its rate of money creation. Real income growth tends to center in the range of 3 percent to 5 percent across countries, and countries with higher rates of real income growth do not generally tend to be those with higher rates of money expansion. A more careful look, in fact, would show that as inflation rises, it can actually lead to a reduction in output and employment.

³ Robert D. McTeer, Jr. (1982), in "Interest Rates and the Federal Reserve," *Syllogisms, Council on Economic Education in Maryland* (Towson State University), May/June 1982, discusses the issue of pressures that deficits may put on interest rates and the implications of deficits for monetary policy. Also, see Sherman J. Maisel (1973), *Managing the Dollar* (New York: W.W. Norton and Company).

The Southwest Economy is published six times annually by the Federal Reserve Bank of Dallas. The views expressed are those of the authors and should not be attributed to the Federal Reserve Bank of Dallas or the Federal Reserve System.

Articles may be reprinted on the condition that the source is credited and a copy is provided to the Research Department of the Federal Reserve Bank of Dallas.

The Southwest Economy is available without charge by writing the Public Affairs Department, Federal Reserve Bank of Dallas, Station K, Dallas, Texas 75222, or by telephoning (214) 922-5257.