1-1-2010

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JEFFREY ROGERS HUMMEL
San Jose State University, jeff@jrhummel.com

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Government’s Diminishing Benefits from Inflation

BY JEFFREY ROGERS HUMMEL

For millennia governments have resorted to expanding the money stock, either through coinage debasement or fiat money, to finance their expenditures. This expedient, with its resulting price inflation, has occurred most noticeably during wars. And the Zimbabwe hyperinflation of 2007–08, the second worst in world history, peaking at a rate of 79.6 billion percent per month, reminds us that monetary expansion remains an option for desperate governments in poor countries—even during peacetime.

For wealthy developed countries, however, inflation over the last few decades has in fact become a trivial source of government revenue. This outcome stems not merely from the worldwide decline in inflation rates that began in the 1980s. That disinflation was as much an effect of the way sophisticated financial systems now prevent governments from gaining much revenue from severe inflation.

Most libertarians have overlooked the fact that sophisticated financial systems now prevent governments from gaining much revenue from severe inflation. 

Jeffrey Rogers Hummel (jeff@jrhummel.com) is an associate professor of economics at San Jose State University. He thanks Less Antman, David Henderson, and Warren Gibson for their useful comments and suggestions.
Monetary cranks often attach undue importance to the fact that the Treasury pays interest to the central bank for these loans. Admittedly, interest earnings cover the operating expenses of the Fed, which therefore never has to go to Congress for an appropriation, and the precise incentives faced by these two separate arms of the government may differ. But the Fed ultimately rebates most of its interest earnings back to the Treasury (in 2008, for instance, $35.5 billion out of $41.0 billion, or 86 percent). If you consolidate the balance sheets of the central bank and the Treasury, the process looks exactly like simple fiat money. Even when much of the money the central bank creates is lent to private banks, as during World War I, or purchases private securities, as has been happening recently, the interest rebate to the Treasury still indirectly generates the same seigniorage as a direct purchase of Treasury securities. The new fiat money flowing into the private sector simply releases money held by others to purchase Treasuries.

**Declining Purchasing Power**

The second way that government can gain from inflation relates to transfers between debtors and creditors. If inflation is totally unanticipated or unexpectedly high, interest rates will not have risen enough to compensate for the decline in the purchasing power of any loans. Net debtors gain, and net creditors lose. Government is, of course, the economy’s biggest debtor. Unanticipated inflation therefore reduces the real value of government debt. During the Great Inflation of the 1970s private investors holding long-term U.S. Treasury securities actually earned negative real returns despite receiving positive nominal interest. As a consequence, from 1946 to 1982, while the nominal debt that the U.S. government owed to the general public rose from $242 billion to $925 billion, that debt in 1946 dollars had actually fallen to $201 billion.

The third way that government can gain from inflation stems from interaction with explicit taxes. Under a progressive income tax, inflation pushes people into higher tax brackets even if their real incomes remain constant. The U.S. government thus enjoyed automatic tax hikes requiring not one iota of change in the tax code throughout the 1970s. Under President Ronald Reagan the income tax brackets were indexed, but bracket creep continues with the alternative minimum tax. Moreover, indexing does not eliminate inflation’s tax on saving, both through the personal income and capital gains taxes. When interest rates rise to offset expected inflation, the tax rate applies to the higher nominal returns, which represent just inflation’s “phantom gains,” to borrow a phrase from David Henderson. Real returns quite likely remain constant. These tax interactions, along with seigniorage and real debt reduction, not only bring about transfers from the public to government, they also distort the economy’s performance, creating what economists call deadweight loss, additional losses to the general public that exceed any gains. But we are focusing here just on gains to government.

**Fractional Reserve Banking**

Each of these three potential sources of inflation revenue has become attenuated in developed countries. The main factor impairing the first, seigniorage, is fractional reserve banking. Banks, as private institutions that increase the money stock, can magnify inflation but do not generate seigniorage. To the extent that bank-created money causes any inflationary fall in real cash balances, the offsetting gains remain within the economy, accruing to the banks themselves or, absent monopoly privileges, flowing back via competition to their customers. The government doesn’t just fail to realize any seigniorage, its ability to do so is diminished. We can visualize why by comparing an economy in which banks hold 100 percent reserves—in which every $10 in circulation is backed by $10 of government-issued fiat money—to an economy with fractional reserves—in which every $10 in circulation is backed up by only $1 dollar of fiat money. Now assume a $100 billion increase in the total money stock. With 100 percent reserves, government
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Fiat money (also called the monetary base) increases by the full $100 billion, all of which constitutes seigniorage. With the 10-to-1 ratio, in contrast, the same increase in the money stock is driven by only a $10 billion increase in the fiat base, so seigniorage is only one-tenth as much. Nonetheless, in both cases, the $100 billion increase in the total money stock sets off the same price inflation.

In other words, the lower the reserve ratio in a fractional reserve banking system, the less seigniorage government gets from a given increase in the price level. Or what amounts to the same thing, the greater will be the inflation cost of any given amount of real seigniorage. Fractional reserve banking in effect lowers the demand for government-created base money, reducing the seigniorage tax base (that is, the public’s real holdings of non-interest-paying base money).

Public Choice and Seigniorage

This threat to seigniorage provided a major Public Choice motivation for the myriad government regulations of banking in the past, from the imposition of reserve requirements to the creation of central banks with a monopoly on the issue of bank notes, all of which helped hold up the demand for government base money. The financial innovations and regulatory changes of the last several decades, however, have all but swept away most of these constraints on bank-created money.

Outside of America’s two hyperinflations (during the Revolution and under the Confederacy during the Civil War), seigniorage in this country peaked during the Civil War under the Union, when it covered about 15 percent of the war’s cost. By World War II seigniorage was financing only a little over 6 percent of government outlays, which amounted to about 3 percent of gross domestic product (GDP). During the Great Inflation of the 1970s seigniorage was below 2 percent of federal expenditures, or less than half a percent of GDP. Consider today how little of your own cash balances is in the form of government-issued Federal Reserve notes and Treasury coin rather than in the form of privately created bank deposits and money market funds. Prior to the recent financial crisis, M2 (a broad measure of the money stock that includes all checking accounts, savings and small-time deposits, and retail money market funds) was more than eight times the size of the monetary base.

Partly that is because reserve requirements (which should not be confused with government-imposed capital requirements) became virtually a dead letter in the 1990s. Many countries, including Australia, Canada, New Zealand, Sweden, and the United Kingdom, abolished them outright. In the United States the Fed eliminated all reserve requirements on the forms of money M2 adds to M1 (a narrower measure of the money stock that includes only currency in circulation and certain checking accounts) and permitted banks to freely sweep customers’ money between M1 checking accounts and M2 accounts. Congress has furthermore given the Fed authority to abolish the remaining reserve requirements on M1 in 2012.

Conversion to Debt

The Fed’s response to the financial crisis has only accelerated these trends. It is true that in the three months after September 2008, the Fed doubled the monetary base, from $850 billion to $1.7 trillion, so that M1 now has over 100 percent reserves behind it. But the Fed simultaneously eliminated nearly all seigniorage from this unprecedented expansion of fiat money. It did so by starting to pay interest on bank reserves, something other major central banks, including the European Central Bank, were doing already. Essentially this converts any reserves that banks hold as deposit at the central bank into more government debt rather than proper fiat money. The Fed is now borrowing money from the banks and relending it to the Treasury or private parties. This means that the only forms of money that still provide the U.S. government full seigniorage are currency in the hands of the gen-

Eliminating most reserve requirements and paying interest on the rest have mostly eliminated the government’s ability to simply print money to pay its debts.
eral public and the actual cash held in bank vaults (which are a small part of a bank’s total reserves). And this new restraint on seigniorage will become tighter in the future as people replace currency with bank debit cards and other forms of electronic fund transfers.

What about the other two ways that governments have benefited from inflation? The unexpected inflation of the 1970s, through its reduction of the real value of the national debt, actually generated about twice as much revenue for the U.S. government as did seigniorage during the same period. That still is not a lot, and investors are much savvier these days. Globalization, with the corresponding relaxation of exchange controls in all major countries, allows them easily to flee to foreign currencies, with the result that changes in central-bank policy are almost immediately priced by exchange rates and interest rates. Add to this the ability to purchase from many governments securities that are indexed to inflation, and it becomes highly unlikely that investors will be caught off guard by anything less than sudden, catastrophic hyperinflation (defined as more than 50 percent per month)—and maybe even not then.

**All Pain, Little Gain**

As for inflation’s interaction with explicit taxes, while it definitely hurts taxpayers and the economy, it seems not to have helped the U.S. government much. Since the Korean War, federal tax revenue has been bumping up against 20 percent of GDP. That is quite an astonishing statistic when you think about all the changes in the tax code over the intervening half-century. Thus the Great Inflation had no obvious impact on explicit government revenues, even before the tax brackets were indexed. It would require a more complex quantitative analysis that adjusted for changes in the tax code and in the economy to determine just how much periods of high inflation boosted the tax bite, but we can safely say that the effect was not dramatic.

Because of all these factors combined, governments in developed countries have little incentive to resort to monetary expansion, which no doubt contributed to inflation’s worldwide decline after 1980. Reid W. Click, in a study of 90 countries between 1971 and 1990, finds that average annual seigniorage exceeded 5 percent of GDP in only eight countries: Egypt, Poland, Malta, Nicaragua, Argentina, Chile, Yugoslavia, and Israel. Almost none of the developed countries could boast seigniorage amounting to more than 1 percent of GDP, despite the fact that the study incorporated the inflationary years of the 1970s. Joseph H. Haslag’s smaller sample of 67 countries over a longer period, 1965 to 1994, finds that seigniorage averaged about 2 percent of total output for the entire sample, ranging from as low as 0.25 percent to as high as 9.98 percent (for Ghana). And Stanley Fischer puts the average seigniorage of industrial countries between 1973 and 1978, a period of high inflation, at 1.1 percent of gross national product. I know of no more recent studies, but with disinflation, the widespread paying of interest on bank reserves, and the consolidation of European countries under the European Central Bank, these averages should be lower for the period from 1990 to today.

**How Much Would It Take?**

By comparison, let us now run some numbers to estimate how much inflation might be needed to close the looming “fiscal imbalances” (as they are euphemistically styled) that face not merely the United States but most of the world’s welfare states. The 2010 report of the Congressional Budget Office (CBO) projects that in 25 years some combination of spending cuts or tax increases equivalent to no less than 12.3 percent of GDP will be needed to close the U.S. government’s fiscal gap. Assuming that revenues from explicit taxes remain capped at 20 percent of GDP, whether for structural or political reasons, and that politicians will have little incentive to cut spending, seigniorage will have to come up with the difference. Given that 10 percent inflation during the 1970s generated revenue amounting to 0.5 percent of GDP in the United States, a straight-line extrapolation suggests that...
covering the growing fiscal shortfall would require more than a tripling of the price level, year after year after year. Within three years the dollar would be worth only about 2.5 percent of its original value.

Such continual triple-digit inflation would be unprecedented, the highest the United States has ever experienced outside of its two hyperinflations. We admittedly have not included any short-term government gains from a reduction in the real value of its debt, which biases our inflation estimate upward, but we also have not adjusted for the loss of seigniorage on interest-earning reserves, pushing the bias downward. Moreover, seigniorage itself faces its own Laffer curve (known as the Bailey curve, after the economist Martin Bailey). To avoid higher taxes on their real cash balances, people spend money faster as inflation rises, thereby exacerbating the price increases. Higher rates of inflation thus generate proportionally ever-smaller revenue increases. Once we also acknowledge that the CBO’s projections are probably too optimistic, we can see why our estimate that financing the explosion in Social Security, Medicare, and Medicaid payments will necessitate a 246 percent annual inflation is far too low.

How likely is it that governments in the developed countries will be willing or even able to unleash such appalling currency depreciation? Recall how politically unpalatable the mere double-digit inflation of the 1970s was. Could central banks maybe cease paying interest on reserves and then reimpose or raise reserve requirements to generate more seigniorage at any given inflation rate? Although the answer is technically yes, the likelihood is slim indeed. Now that the genie is out of the bottle, any fiddling with reserve requirements (or other bank regulations) in a way that significantly increases seigniorage will destroy the banking industry as we know it. Think of reserve requirements as a tax on banks, requiring them to hold assets earning zero interest. The higher the requirement, the higher the tax rate. After ending interest on reserves, the Fed would have to multiply the current low reserve tax by a factor in the neighborhood of 15 or more, plus extend reserve requirements to money market funds, to make seigniorage truly lucrative. Given that the U.S. government has just engaged in a gigantic bailout of the banking system, I do not find this prospect probable.

Financing the exploding government debt via inflation would require a tripling of prices, year after year after year. This is extremely unlikely.

I am not denying that the future may bring higher inflation, if for no other reason than expectations of a fiscal crisis could start a flight from the dollar (or pound or euro) without any immediate change in central-bank actions. But the bottom line is that inflation’s implicit tax on real cash balances will no more be able to resolve the escalating budgetary problems of the welfare states than would an excise tax on chewing gum.