

Currency Sovereignty and the
Possibility of Full Employment

by
L. Randall Wray*

Working Paper No. 28

August 2003

* Senior Research Associate, Center for Full Employment and Price Stability, University of Missouri-Kansas City, and Senior Scholar, Jerome Levy Economics Institute

CURRENCY SOVEREIGNTY AND THE POSSIBILITY OF FULL EMPLOYMENT

L. Randall Wray, Senior Research Associate, Center for Full Employment and Price Stability, University of Missouri, Kansas City.

Orthodox theory makes a fine distinction between fiscal and monetary policy. Monetary policy has to do with controlling the private creation of money (mostly, bank deposit expansion) through control over the quantity of bank reserves emitted. Reserves are increased either through open market purchases by the central bank, or through loans at the discount window. The central bank can choose either a money target or an interest rate target; in the simplest models (without stochastic variables), this reduces to much the same thing. Fiscal policy has to do with government spending and taxing, and if tax revenues prove insufficient, then with “financing” government spending through borrowing. Both theory and policy reject with horror the possibility that fiscal and monetary operations might be combined, for example, through government “finance” of its spending by “printing money”. For this reason, to a greater or lesser degree, central bank “independence” is maintained to prevent the hyperinflation that would surely result from confusion of fiscal and monetary policy operations.

I will argue that this orthodox view is useless for analyzing the operations of a nation operating with what I will term a “sovereign currency”. Before going further it is necessary to define this term as I use it. By “sovereign currency” I mean a “nonconvertible”, floating, currency that is accepted by the government issuer in payment of taxes and other liabilities due to the government. Let me be clear on what I mean by nonconvertible: I mean that the government does not promise to convert its currency to gold (or other precious metal) or to foreign currency at a fixed exchange rate. Of course there can be exchange markets in which the currency is bought and sold, and the government might even dabble in those markets to try to affect the exchange rate. Finally, the government issuer must be able to impose tax liabilities on the population (in a democracy, this is supposed to be a self-imposition, but the key is that tax payment is not voluntary at the individual level) that are denominated in the same currency. Hence, the dollar in the US, or the yen in Japan are examples of what I mean by sovereign currencies. When Argentina operated with a currency board, it did not have a sovereign currency. Today it does. Orthodox theory may well have been useful for analyzing Argentina before it abandoned the currency board, but it is no longer useful.

Unfortunately, economists and politicians are so accustomed to thinking of the operation of non-sovereign currencies (say, the gold standard) that they have great difficulty in understanding the economic possibilities of nations that operate with sovereign currencies. Countries with non-sovereign currencies probably cannot (as a general rule) “afford” full employment programs. However, any country with a sovereign currency can “afford” full employment programs—such as Argentina’s heads of household program, which is a limited “employer of last resort” (ELR) type program. It is in this sense that I argue that a sovereign currency is a pre-requisite to ELR. I do not wish to debate here the question whether a country with a non-sovereign currency might be able to achieve full employment without an ELR type program, but I think the real world evidence is strong against that. What I do want to argue, however, is that any country

with a sovereign currency *can* afford an ELR program with which it *will* achieve full employment.

Let me first briefly describe operation of fiscal policy in a nation with a sovereign currency. I will then turn to a brief analysis of monetary policy in such a nation. I will conclude with some balance sheets to demonstrate the main points made. For shorthand, let me refer to a nation with a sovereign currency as a “sovereign nation”. I realize that traditional definitions of “sovereignty” would include additional powers and concepts, but clearly the ability to impose taxes, to issue a currency, and to name what will be accepted in payment of taxes are all critical sovereign powers.

In a sovereign nation, the government imposes a tax, with that liability denominated in the government’s currency—say, the dollar. The citizens must obtain at least that many dollars so that they can meet their tax liabilities. The government also names exactly what it will accept in payment of taxes. For simplicity of analysis, we can examine the case in which government issues a currency in the form of paper dollars and accepts only those paper dollars in tax payment. Because the government is the monopoly issuer of the paper dollars, and because taxpayers must obtain them, the government can set the terms on which it will provide the paper dollars. Of course, in a market economy, government would use the paper dollars to buy on the market the combination of goods and services it wishes; sellers of goods and services to government can then use the paper dollars to pay taxes. When the paper dollars return to government, it either burns them or stores them for re-use, whatever is more efficient. However, today in all sovereign nations, governments actually use banks to intermediate payments. Governments accept checks written by taxpayers on their bank accounts, then debit bank accounts at the central bank, which operates as an agent of the government (more below on this). Governments buy goods and services by issuing a check on the treasury, or, increasingly, by crediting the seller’s bank account. In either case, the seller’s bank receives a credit to its reserve account at the central bank. To summarize, we can say that government purchases lead to reserve credits to the banking system; tax payments lead to reserve debits. Things can get a bit more complicated if sellers to government demand cash (bank reserves are debited and the government provides cash in the mix of notes or coins desired by the nonbank public), or if the treasury and central bank establish complicated operating procedures to minimize reserve effects (more below)—but the essentials remain the same.

If over a year the government’s spending equals its tax revenue, then there is no net effect on reserves. If government spends more than it taxes (runs a deficit) then the net effect is to raise bank reserves. If government taxes more than it spends, then the net effect is to debit reserves. Note that from inception, government cannot run a surplus unless it has another method of providing reserves—it cannot debit reserves that don’t exist! It is commonly believed that if government runs a deficit, it must “borrow” or “print money” to “finance” the deficit spending. This cannot apply to a sovereign nation. A sovereign nation spends by crediting bank accounts, or by cutting treasury checks (which then leads to a reserve credit when the check is “deposited”). Whether or how much the government collects as taxes is not relevant to its spending. The implication of

a budget deficit, as we saw above, is that bank reserves increase. Modern sovereign nations do not “print money”—they credit bank accounts. Nor do they “borrow”, at least in the manner that non-sovereign entities borrow. One could call a net credit of reserves to banks a “borrowing” operation in the sense that the government’s outstanding stock of liabilities (bank reserves) has risen. But what is the government liable *for*? It is liable to accept its currency in payment of taxes; more specifically in this case, it is liable to accept a check drawn on a bank in payment of taxes, at which time it will debit the reserves of the bank.

Of course, one might object that we do observe sovereign nations, like the US, issuing sovereign debt—bills and bonds. When the treasury sells bonds, bank reserves are debited by an equivalent amount (directly, if the banks buy the bonds, indirectly if the nonbank public buys the bonds using checks drawn on bank accounts). Essentially, then, bond sales merely substitute bonds for bank reserves. Why is this done? We don’t want to explore the historical or political reasons for such operations, but they probably derive from operations of nonsovereign governments. The *economic* significance of bond sales by sovereign nations is, however, to replace non-interest-earning reserves with interest-earning bonds (in a few sovereign nations, such as Canada, reserves already pay interest and hence bond sales serve no real economic purpose). It is best to think of bond sales by a sovereign nation as an “interest rate maintenance operation” rather than as a borrowing operation, because the *purpose* is to provide an interest earning alternative to non-earning reserves.

Turning to what is usually called monetary policy, Post Keynesians long ago recognized that the deposit multiplier is simply an ex post identity, useless for analyzing constraints on bank deposit expansion or interest rate determination. All modern economies operate with a pyramid or hierarchical monetary system. Bank money leverages reserves, or high powered money (HPM), which is used for clearing accounts among banks and with the government sector, and for meeting cash withdrawals. The central bank cannot refuse to provide reserves through overdrafts as needed for smooth functioning of the clearing system. In addition, the demand for reserves is highly interest inelastic, so excess reserves rapidly push overnight rates toward zero while insufficient reserves cause rates to rise rapidly. For this reason, the central bank cannot allow “market forces” to set overnight rates—it cannot but target the overnight rate and accommodate all demand at that rate.

Central bank actions are always defensive, offsetting undesired fiscal impacts on bank reserves, as well as accommodating any disturbances arising from the nongovernment sector. Fiscal operations potentially have huge impacts on the quantity of HPM—spending by government generates reserve credits while taxes debit reserves. Government deficits equal to 5% of GDP (\$500 billion in the case of the US!) would lead to huge net reserve credits that would generate large excess reserve positions. For this reason, the treasury and central bank coordinate operations to drain the excess through new bond issues and open market sales. In a run on an individual bank, the central bank acts as a lender of last resort to accommodate cash withdrawals. Most bank runs today take the form of a run on CDs, which only shifts reserves about, however, should

aggregate desired reserves rise in prospect of a panic, the central bank would necessarily accommodate. There is simply no plausible reason to believe that a modern central bank would refuse to supply desired reserves, or that it would leave undesired reserves in the system (unless, like the Bank of Japan, it has chosen an overnight target of zero). Nor is there any reason to believe that a central bank adopts “expansionary policy” by increasing reserves (through open market purchases) as in the deposit multiplier story. Such activity would simply generate zero overnight rates until, and if, excess reserves could be absorbed.

The belief that the central bank can be independent from government misunderstands the interest rate setting procedure. If deficit spending by the treasury results in excess reserves, the central bank must drain them through an open market sale. If treasury operations leave banks short of reserves, the central bank must provide them through an open market purchase (or at the discount window). The alternative to coordinating central bank operations with those of the treasury is to leave the overnight rate fluctuating from near zero (in the case of excess reserves) to rising without limit (in the case of insufficient reserves). Further, if the central bank is going to operate a clearing system, it cannot refuse to provide needed reserves. Is an *independent* central bank going to bounce treasury checks? Of course not—indeed, if it ever did, its “independence” would be eliminated immediately by the legislature of any sovereign nation. Rather than bouncing a treasury check because a member bank does not have sufficient reserves, the central bank will always clear the check by loaning reserves to the bank. Similarly, operating procedures are adopted to ensure the treasury always has “money in its bank account” at the central bank to “cover” its checks. These procedures are numerous and can be complex (see Bell and Wray 2003)—the treasury transfers deposits from special tax and loan accounts at private banks; it sells bonds to special banks that are permitted to buy them by crediting the treasury’s account without a reserve debit (effectively, “creating money”); or it might sell bonds directly to the central bank. Ultimately, these procedures can be adapted and multiplied as necessary to ensure that a) the treasury can spend up to the amounts authorized by the legislature, b) that undesired impacts on bank reserves are minimized, c) that the central bank can hit its overnight interest rate targets, and d) that treasury checks never bounce.

Let us now go through some simple balance sheets to demonstrate the most important points made above. First we will look at the impacts of fiscal policy on balance sheets. Recall that in the loanable funds model, a government deficit adds net demand for loanable funds, hence, pushes up interest rates. In the ISLM model, a government deficit will (except in the case of extreme parameters) raise income and money demand, raising interest rates in the face of a fixed money supply. However, neither model can apply to a sovereign nation on a floating exchange rate. In such countries, government spends by crediting bank accounts and taxes by debiting them. As discussed above, then, deficits lead to net credits of reserves. Rather than pressuring interest rates, net reserve credits must—all else equal—push overnight rates toward zero. We then turn to some of the constraints adopted by modern sovereign governments.

We will start with the simplest example, in which government buys a bomb from the private sector by crediting a bank account. In Case 1A, government first imposes a tax liability and then purchases a bomb of equivalent value, balancing its budget.¹ By contrast, in Case 1B, the government deficit spends. This then generates excess reserves in the banking system that are drained through government bond sales. Note that in comparison with Case 1A, deficit spending by government does not reduce private sector wealth, but changes its form from illiquid (bomb) to liquid (bond).

CASE 1A: Government imposes tax liability, and buys a bomb by crediting an account at a private bank

Government			
Asset		Liability	
+Bomb		+Reserves	
+ Tax liability		+ Net Worth	

Private Bank		Private Nonbank Entity	
Asset	Liability	Asset	Liability
+Reserves	+DD	-Bomb	+Tax liability
		+DD	- Net Worth

Taxes are Paid

Government			
Asset		Liability	
-tax liability		-Reserves	

Private Bank		Private Nonbank Entity	
Asset	Liability	Asset	Liability
-Reserves	-DD	-DD	-Tax liability

Final Position

Government		Private Nonbank Entity	
Asset	Liability	Asset	Liability
+Bomb	+Net Worth	-Bomb	-Net Worth

Case 1B: Government Deficit Spends

Government			
Asset		Liability	
+Bomb		+Reserves	

Private Bank		Private Nonbank Entity	
Asset	Liability	Asset	Liability
+Reserves	+DD	-Bomb	
		+DD	

Government Sells Bond

Government	
Asset	Liability
	-Reserves
	+Bond

Private Bank	
Asset	Liability
-Reserves	
+Bond	

Final Position

Government			
Asset		Liability	
+Bomb		+Bond	

Private Bank		Private Nonbank Entity	
Asset	Liability	Asset	Liability
+Bond	+DD	-Bomb	
		+DD	

Note that we have assumed that required (or desired) reserve ratios on the newly created demand deposits are zero, but nothing of significance is changed if we allow for positive reserve holdings. Government would simply sell fewer bonds since fewer reserves would have to be drained. It might be objected that Case 1B is too simple because real world governments often impose upon themselves restrictions that prevent them from directly crediting private bank accounts. Let us add two extensions. In Case 2, government must first “borrow” (sell bonds) before it can deficit spend. In Case 3, we separate the treasury from the central bank, and add a requirement that the treasury can only write checks on its account at the central bank. Further, the central bank will be

prohibited from “creating money” by making loans to the treasury, or by direct purchase of treasury’s new issues. It will be seen that none of these restrictions actually changes anything of substance—the result is the same as in Case 1b.

Case 2: Government must sell bonds before it can deficit spend

Government		Private Bank	
Asset	Liability	Asset	Liability
+DD	+Bond	+Bond	+DD govt

Government Buys Bomb, Writing Check on Private Bank

Government			
Asset		Liability	
-DD			
+Bomb			

Private Bank		Private Nonbank Entity	
Asset	Liability	Asset	Liability
	-DD govt	-Bomb	
	+DD private	+DD	

Final Position

Government			
Asset		Liability	
+Bomb		+Bond	

Private Bank		Private Nonbank Entity	
Asset	Liability	Asset	Liability
+Bond	+DD	-Bomb	+DD

Case 3: Treasury Can Write Checks only on its Central Bank Account

Treasury		Private Bank	
Asset	Liability	Asset	Liability
+DD private	+Bond	+Bond	+DD treasury

Treasury Moves Deposit to Central Bank Account

Treasury		Central Bank	
Asset	Liability	Asset	Liability
-DD private +DD cb		+Loaned Res	+DD treas

Private Bank	
Asset	Liability
	-DD treas +Borrowed Res

Treasury Buys Bombs

Treasury		Central Bank	
Asset	Liability	Asset	Liability
-DD +Bomb		-Loaned Res	-DD treas

Private Bank		Private Nonbank Entity	
Asset	Liability	Asset	Liability
	+DD -Borrowed Res	+DD -Bomb	

Final Position

Treasury	
Asset	Liability
+Bomb	+Bond

Private Bank		Private Nonbank Entity	
Asset	Liability	Asset	Liability
+Bond	+DD	-Bomb +DD	

Note that in the middle steps of case 3, when the treasury moves its deposit from the private bank to the central bank, the central bank must debit the private bank's reserves. However, the private bank does not have (excess) reserves to be debited, hence, the central bank must provide an "overdraft" of loaned reserves. Once the treasury deficit spends, the bank's reserves are credited, allowing it to retire the overdraft.

In conclusion, deficit spending by the treasury leads to a net credit of reserves for the banking system, regardless of the operating procedures chosen. These are drained through bond sales (even if the operating procedures require that the bonds are sold in anticipation of the deficit spending). If this were not done, excess reserves in the banking system would drive the overnight interest rate down—precisely the opposite prediction to that of loanable funds and ISLM theories.

What are the implications for operation of an ELR program? Above we assumed the government is buying “bombs”, that is, output of the private sector. Nothing of significance would be changed if government instead bought labor services from the private sector—all the balance sheet operations would look about the same. So long as the private sector were willing to sell labor services for money (that is, for credits to bank accounts at private banks), government would always be able to buy the labor services. In such a system, there can be no question about the government’s ability to “afford” such purchases.

None of this should be interpreted to mean that government should always spend as if “the sky is the limit”, nor to deny that government deficit spending might have undesired economic effects or might face political constraints. But the usual arguments—that a big deficit will eventually lead to default, or to rising interest rates, or to inability to sell debt to “finance” the deficit—do not apply to sovereign nations. So long as the private sector is willing to sell goods and services to government, it can purchase them by crediting bank accounts. Government does not need to sell bonds to “finance” deficits—rather, as we’ve seen above, bond sales logically follow deficit spending, and are logically undertaken to drain excess reserves. Indeed, it is best to think of bond sales as required to maintain positive overnight rates—at the target rate chosen by the central bank—rather than as a borrowing operation. Still, it is worthwhile to point out that government deficits might have an impact on the foreign exchange rate of the sovereign currency. It is also possible that government deficits might have an impact on the domestic value of the currency—that is, on the inflation rate. Such considerations should be taken into account when determining the desired level of government spending. While this is not the place to pursue this issue, a properly designed ELR program will not lower the foreign or domestic value of the currency—precisely because government’s spending on the program will be “market determined” by labor willing to work at the program’s fixed wage. Our main point of this article, however, is to argue that a sovereign currency makes it financially feasible to operate an ELR program that guarantees a job to all job-seekers willing to work at the program’s “going wage”. On the usual definition, this is a position of “full employment”.

REFERENCES

Bell, Stephanie and L. Randall Wray. "Fiscal effects on reserves and the independence of the Fed", *Journal of Post Keynesian Economics*, Vol. 25, No.2 (Winter 2002-3): 263-271.

ⁱ Note that logic dictates that imposition of tax liabilities must come before there is a demand for the government’s currency (or, for credits to bank accounts)—“taxes drive money”. Here we are implicitly assuming that a tax system, a floating currency, markets and prices denominated in the currency, and a hierarchical monetary system (with HPM at the top) already exist.