

L. Randall Wray

## **Understanding Modern Money: How a sovereign currency works<sup>1</sup>**

The 'Keynesian' ISLM model that gave money and finance short shrift is dead. The Monetarist revolution that raised money's status, but tried to constrain it with growth rate rules is dead. The New Monetary Consensus that supercharged the role of monetary policy even as it dropped discussion of money is dead. How will we move forward? In my view, all orthodox macroeconomics shares a common flaw: it has no recognition that most modern nations operate with a sovereign currency. Hence, it is inapplicable to the study of most economies and it should be no surprise that it is neither able to explain how these economies operate nor is it able to offer any relevant policy advice. This chapter will offer an alternative view, starting from the observation that sovereign currencies do not operate like the fabled 'commodity monies' that purportedly replaced barter. Analysis must from the beginning recognize the real and essential connection between the state and its sovereign currency. In terminology that will be familiar to some readers, the perspectives adopted in this chapter include: endogenous money, functional finance, and chartalism (or, state theory of money).

## **A QUIZ<sup>ii</sup>**

First, we will take a quiz. No cheating! The correct answers will be given below. There are no trick questions; all have straightforward answers, either true or false. What follows is purely descriptive: the questions concern the way a sovereign currency actually works, with no mythologies, no ideologies, and no proposals for reform. All of these concern a sovereign currency, which means a currency like the US or Canadian dollar, the Turkish lira, the Mexican peso, or the Indian rupee. The key is that the currency is national and nonredeemable in the sense that the government does not promise to redeem it for either precious metal or foreign currency at a fixed exchange rate.

Question 1: Just like a household, the government faces a financial constraint.

Question 2: The role of taxes is to provide finance for government spending.

Question 3: The Federal Government borrows money from the private sector to finance the budget deficit which allows it to avoid the inflationary effects of 'printing money'.

Question 4: By running budget surpluses the government takes pressure off interest rates because more funds are then available for private sector investment projects.

Question 5: Persistent budget deficits will burden future generations with inflation and higher taxes.

Question 6: Running budget surpluses now will help build up the funds necessary to cope with the demands that the ageing population will place on health and personal care services in the coming years.

## **SOVEREIGN CURRENCY**

Before we examine the correct answers to the quiz, let us examine the nature of a sovereign currency in some detail. In this section we will explore the following questions:

\*What is money?

\*Why is it accepted?

\*What is the relation of the State to its Money?

\*What is fiscal policy?

\*What is monetary policy?

\*How does a sovereign currency create policy space?

The conventional view is that money was invented to serve as a medium of exchange, increasing efficiency. The typical story—too well known to require much explication—begins with choice of one particular commodity to serve as a medium of exchange, and along these lines general equilibrium theory sometimes adopts one commodity as the numeraire. Of course, orthodoxy recognizes that money today is not a commodity—it is usually called ‘fiat money’—although some orthodox economists would like to return to a ‘commodity money’ (notes and coins redeemable for gold), or at least want to operate a fiat money system as if it were a ‘commodity money’ system. Indeed, in his final statement to Congress, Chairman Greenspan claimed central banks had been doing just that. (Wray 2004b) In any case, one could see the Monetarist growth rate rule as an attempt to impose discipline similar to that imposed by a gold standard (which is supposed to make the money supply grow only with gold reserves). Inflation targets, prohibitions on fiscal operations (law forbidding direct sales of treasury debt to the central bank, for example), currency boards, and balanced budget requirements all follow a similar logic. The goal is always to impose constraints that would make our system operate more like the (imagined?) self-regulating commodity money system.

Unfortunately, terminology generates a lot of confusion in discussions of money so I want to be clear. We first must separate the money of account—

something that has no physical existence—from ‘money things’ that take the form of metal coins or paper notes, checks, or other representations of ‘money’ with a physical existence. In the US we use the dollar as our money of account, with many money things denominated in that money of account. We also use a green paper note, also called a dollar, with a nominal value of a dollar (there are also dollar coins but these are rarely used). Thus, both ‘money’ and ‘dollar’ are used to indicate the unit of account as well ‘money things’ denominated in the money of account, generating much confusion. Throughout this chapter, I will be careful to use the term ‘money’ to refer to the unit of account (or, more generally, to the institution we call money), and ‘money thing’ to refer to something denominated in the money of account—whether that is currency, a bank deposit, or other money-denominated liability.

To go further, in the alternative approach that I promote, money is not and cannot be a commodity or a thing. It is an institution; indeed, it is perhaps the most important institution of the capitalist economy. The money of account is social, the unit in which social obligations are denominated. In this chapter, I will not provide an analysis of the origins of money, but I have previously traced money to the wergild tradition—that is to say, money came out of the penal system rather than from markets, which is why the words for monetary debts or liabilities are associated with transgressions against individuals and

society. (Wray 2004a) In my view, money actually predates markets, and so does government. As Karl Polanyi (1971) argued, markets never sprang from the minds of higglers and hagglers, but rather were created by government. Given space constraints, I will not delve into the history of money, markets, or government involvement in these. I simply want to contrast the alternative approach with the well-known orthodox approach.

To put it as simply as possible, money was created to give government command over socially created resources. Moreover, I hypothesize that the monetary system, itself, evolved to mobilize resources to serve what government perceived to be the public purpose. Of course, it is only in a democracy that the public's purpose and the government's purpose have much chance of alignment. The point is that we cannot imagine a separation of the economic from the political—and any attempt to separate money from politics is, itself, political. Adopting a gold standard, or a foreign currency standard ('dollarization'), or a Friedmanian money growth rule, or an inflation target is a political act that serves the interests of some privileged group. There is no 'natural' separation of a government from its money. The gold standard was legislated, just as the Federal Reserve Act of 1913 legislated the separation of Treasury and Central Bank functions, and the Balanced Budget Act of 1987 legislated the *ex ante* matching of federal government spending and revenue over a period determined by the celestial movement of

a heavenly object. Ditto the myth of the supposed independence of the modern central bank—for reasons to be made more clear below, the central bank's operations cannot be independent of treasury operations. And the central bank's operations are not free of politics—it is subject to pressure from various interests, it is often a legal creature of the legislative body, and empirical analyses have demonstrated that central bank officials do take into account politics when they make decisions. (Wray 2004b)

Obviously, all of this is contrary to conventional economics, which hypothesizes a Robinson Crusoe economy that predates what we would recognize as a society. Individually self-sufficient producers come together to barter in order to increase individual utility; specialization is encouraged by exchange, according to comparative advantage. Social planning is unnecessary because atomistic pursuit of self-interest results in coordination through the market mechanism. Money simply increases efficiency. Government is introduced later—for good and bad. On the one hand, there are some areas in which private initiative alone fails to provide the optimal level of production; on the other, government, itself, is self-seeking in ways that lead to suboptimal results. With regard to money, government can generate efficiency improvements by certifying soundness of the money commodity. However, government goes further by reaping seigniorage profits. Eventually it reduces the marginal cost of money issue by adopting a fiat

currency (an improvement because it releases the money commodity for other uses) which then encourages it to issue too much (causing inflation, which on some conditions leads to suboptimal results). The details are not important for our analysis except to note the sequence: first exchange, then markets, then money, then government. Whether orthodoxy views this sequence as historically accurate is beside the point—it is a logical sequence that sheds light on orthodoxy's view of the nature of money, which is fundamentally bound up with exchange and markets. Government is mostly an interloper, with disadvantages of its interference outweighing benefits.

In the alternative view, we can think of money as the currency of taxation, with the money of account denominating one's social liability. Often, it is the tax that monetizes an activity—that puts a money value on the activity for the purpose of determining the share to render unto Caesar.<sup>iii</sup> The sovereign government names what money-denominated thing can be delivered in redemption against one's social obligation or duty to pay taxes. (Wray 1998) It can then issue the money thing in its own payments. That government money thing is, like all money things, a liability denominated in the state's money of account. And like all money things, it must be redeemed, that is, accepted by its issuer. As Hyman Minsky (1986) always said, anyone can create money (things); the problem lies in getting them accepted. Only the sovereign can impose tax liabilities to ensure its money things will be accepted. But power is

always a continuum and we should not imagine that acceptance of non-sovereign money things is necessarily voluntary. We are admonished to be neither a creditor nor a debtor, but all of us are always simultaneously debtors and creditors—as hard as we may try to avoid this. (Innes 1913, 1914 in Wray 2004a)

Another way of looking at a monetary system is as a complex system of credits and debts, denominated in a social, general, representative, money of account. Unlike nonmonetary social systems—which are also complex systems of reciprocal obligations—the monetary system quantifies obligations in money terms. Life in society inevitably creates credits and debits—both general social obligations as well as specific obligations to individuals. In a monetary economy, these take the form of IOUs denominated in money, redeemable through delivery of other money denominated IOUs. One can eliminate a monetary debt to another by delivering a monetary IOU—it must be either the IOU of one's creditor, or a third party IOU the creditor is willing to accept.

In the US, the dollar is our state money of account and high powered money (HPM or coins, green paper money, and bank reserves) is our state monopolized currency. I prefer to expand the conventional definition of currency because US Treasuries (bills and bonds) are just HPM that pays

interest (indeed, US Treasuries are effectively reserve deposits at the Fed that pay higher interest than regular reserves), so we will include HPM plus Treasuries as the government currency monopoly. Obviously, there are many money things (denominated in the government's money of account) that are not currency; these are privately issued and will be discussed momentarily.

Sovereign government spends by issuing checks or, increasingly, by directly crediting bank accounts. There is a simultaneous credit to bank reserves (the bank's assets increase due to the reserve credit, and its liabilities to the recipient of the government payment increase by the same amount). Including leakage from bank deposits to cash withdrawals, government spending creates currency dollar-for-dollar. Tax payments reduce currency outstanding dollar-for-dollar, since tax payments take the form of a deduction from the taxpayer's deposit at her bank and an equivalent deduction from the bank's reserve account at the Fed. Essentially, the bank acts as an intermediary between government and the nongovernment sector (that receives payments from government and that pays taxes to government). Government currency is 'redeemed' when taxes are paid, which simultaneously destroys currency as well as the taxpayer's liability to government.

If government emits more in its payments than it redeems in taxes, currency is accumulated by the nongovernment sector as financial wealth. We need not go into all the reasons (rational, irrational, productive, fetishistic) that one would want to hoard currency, except to note that a lot of the non-sovereign dollar denominated liabilities are made convertible (on demand or under specified circumstances) to currency. There is a 'pyramid' or hierarchy of liabilities, with nongovernment dollar-denominated liabilities explicitly leveraging currency (in the case of those that are directly convertible) or implicitly leveraging them (in the case of nonconvertible nongovernment liabilities denominated in the dollar). (Bell 2001) Legal tender laws are not necessary to induce nongovernment entities to accept currency for third party payments (that is, one can pay a liability to a bank using currency, rather than using that bank's IOU, or another bank's IOU) because a tax liability payable in currency (either directly or through a bank intermediary) is sufficient to 'drive' a currency, and normally is sufficient to ensure that currency sits at the top of the pyramid.

Banks create bank money (deposits) 'endogenously' as they make loans (buy IOUs). Because banks explicitly promise to redeem deposits for currency (and clear accounts with each other and with the government using currency), they need to be able to get currency as required. They hold some reserves of currency on hand (vault cash plus reserve deposits at the central bank), and

they can borrow reserves in interbank lending markets. (Often, the bank's portfolio of treasuries is used as collateral in such borrowing.) However, the ultimate supply of currency must come from the government. The central bank always stands ready as the residual supplier, either lending reserves at the discount window or providing them in open market operations. While bank deposits 'leverage' reserves, we should not adopt the orthodox view that reserves 'constrain' bank lending and creation of deposits through a deposit multiplier. They do not because the central bank always accommodates bank demand for reserves. This has become obvious since central banks have explicitly adopted overnight interest rate targets. To hit these targets, the supply of reserves must be 'horizontal', that is, must always accommodate demand. (Wray 1990)

To recap: A sovereign government spends by crediting bank accounts of recipients; it taxes by debiting them. A budget deficit means that credits exceed debits. This shows up as net financial wealth in the nongovernment sector, and as net reserve credits in the banking system. A budget surplus means the opposite: reduction of net financial wealth of the nongovernment sector as well as net reserve debits to the banking system. All else equal, a continuous budget deficit leads to continuous net reserve credits; this will normally generate excess reserves in the banking system, offered by banks in the overnight market. Of course, an aggregate excess cannot be eliminated

through such lending. All it can do is push the overnight rate toward zero (or the rate paid on reserves in systems in which the central bank pays a positive rate). This pressure is relieved through sales of government bonds by the central bank and treasury. Over the short term, such sales are accomplished through central bank open market operations. Over the longer term, the sales are undertaken by the treasury through new issues. This allows the central bank to hit its overnight target rate.

On the other hand, sustained budget surpluses drain reserves and can eventually cause bank reserve positions to fall short of what is desired and/or required. Over the short run, the central bank provides needed reserves through open market purchases; over the longer run, the treasury rectifies the reserve drain by retiring outstanding debt. In effect the public surrenders its interest-earning sovereign debt in order to pay 'excessive' taxes that result from budget surpluses and that would otherwise drain required and/or desired reserves from the banking system. (Bell and Wray 2003)

Bond sales (or purchases) by the treasury and central bank are, then, ultimately triggered by deviation of reserves from the position desired (or required) by the banking system, which causes the overnight rate to move away from target (if the target is above zero). Bond sales by either the central

bank or the treasury are properly seen as part of monetary policy designed to allow the central bank to hit its target.

This target is exogenously 'administered' by the central bank. The central bank sets its target as a result of its belief about the impact of this rate on a range of economic variables that are included in its policy objectives. In other words, setting of this rate 'exogenously' does not imply that the central bank is oblivious to economic and political constraints it believes to reign (whether or not these constraints and relationships actually exist). The central bank might raise its interest rate target if, for example, it believes that government deficits will devalue the currency and cause inflation, however, the interest rate hike is discretionary and not a direct result of market reactions. For this reason, the usual 'crowding out' or loanable funds stories have it exactly wrong: budget deficits place downward pressure on interest rates, and surpluses push rates up. Also note that the alternative view is that bond sales by sovereign government are not a borrowing operation and are not a part of fiscal policy. Monetary policy sets an overnight rate target and then uses open market operations plus the new issue market to drain/add reserves as necessary to hit that target within a desired band.

Banks prefer interest-earning treasury debt over non-interest earning (or lower interest earning) excess (undesired and/or non-required) reserves,

hence there is no problem selling the treasury debt to drain excess reserves. Note, also, that if banks did not prefer to buy government bonds, the treasury (and central bank) would simply avoid selling them, and, indeed, would not *need* to sell the debt as the banks preferred to hold non-interest earning reserves. In other words, far from requiring the treasury to ‘borrow’ by selling new issues, government deficits only require the central bank and treasury to drain excess reserves to avoid downward pressure on overnight interest rates. This means that the wide-spread fear that ‘markets’ might decide *not* to buy Treasury debt if budget deficits are deemed to be too large is erroneous: bonds are not sold to ‘borrow’ but rather to drain excess reserves. If ‘markets’ prefer excess reserves, then bonds need not be sold—and won’t be sold because there will be no pressure on the overnight rate that needs to be relieved.

Treasury debt can be eliminated entirely if the central bank pays interest on reserves (as in Canada—and now in the US), or if it were to adopt zero as its overnight interest rate target (as in Japan for about a decade). In either case, the central bank would be able to hit its target regardless of the amount of excess reserves created by the treasury’s deficit; hence, there would be no need for sales of sovereign debt.

In conclusion, the notion of a 'government budget constraint' only applies ex post for a sovereign nation operating with its own currency, as a statement of an identity rather than as an economic constraint. At the end of the year, any increase of government spending will be matched by an increase of taxes, an increase of high powered money (reserves and cash), and/or an increase of sovereign debt held. But this does not mean that taxes or bonds actually 'finance' the government spending. A sovereign government spends by crediting bank accounts, so its spending can never be constrained by its taxes or bond sales (unless it constrains itself through laws, constitutional amendments, or self-imposed operating procedures). Nor can it ever be forced to default on its domestic currency commitments, which can always be met by crediting bank accounts. The 'government budget constraint' is not a constraint but an ex post identity.

Since government is the only issuer of currency, like any monopoly, government can set the terms on which it is willing to supply it. If you have something to sell that the government would like to have—an hour of labour, a bomb, a vote—government offers a price that you can accept or refuse. Your power to refuse, however, is not that great. When you are dying of thirst, the monopoly water supplier has substantial pricing power. The government that imposes a head tax can set the price of whatever it is you will sell to obtain the means of tax payment so that you can keep your head on your

shoulders. Since government is the only source of the currency required to pay taxes, and at least some people do have to pay taxes, government has substantial pricing power.

In the modern economy, if government bids a price so low that there are no sellers to government, several processes are initiated that will eventually generate sellers. First, in the absence of government purchases, the government's budget moves sharply toward surplus. Taxes are paid by running down nongovernment sector 'outside' wealth—that is, currency (HPM plus Treasuries). This will tend to depress private sector spending through the usual wealth effects. It will also force banks to borrow reserves so they can make payments to government on behalf of their tax-paying customers; they will have to provide discountable collateral to the central bank. Reduction of government spending will have the usual depressive effects on the nation's spending and output through the 'multiplier'. When all is said and done, the economy will deflate until some sellers will accept the government's low bids. Obviously, this is meant to be an extreme example to demonstrate the potential pricing power of government. Real world governments do not normally recognize or use this pricing power. They also provide transfer payments that are at least partly counter-cyclical. For that reason, if government's bid prices led to no sellers and generated deflationary pressures, government's spending on transfers would partly replace its

reduction of spending on output. Still, the option to use pricing power is available to a sovereign government.

Let us conclude by briefly recapping the policy space enjoyed by a sovereign government:

1. Monetary policy can set the overnight target as desired to achieve public policy objectives. Markets do not 'dictate' an interest rate that government must accept. Indeed, government can—if it wants—set interest rates on a variety of maturities of government IOUs. Since government does not 'need' to borrow it can simply offer treasury bills and bonds with maturities ranging from overnight to ten or thirty years at specified interest rates, and then let the quantity of these 'float' in accordance with nongovernment sector portfolio preferences. Alternatively, and equivalently, it can offer deposits at the central bank with different maturities and at desired interest rates. The nongovernment sector will then choose to allocate its net financial wealth across those deposits according to portfolio preferences. Government would not set the interest rate in 'private markets' but its administered rates across maturities would have some impact on the term structure of 'market' rates.
2. Government can 'afford' to buy anything for sale in its own currency. It purchases by crediting bank accounts, so is not financially constrained

and can not become insolvent in its own currency. It can make all payments as they come due.

3. Fiscal policy always has the option of achieving full employment of all domestic resources, including labour, for the simple reason that if there are owners with idle resources, government can purchase or hire them. Full employment is a policy choice, which means that unemployment results from a policy choice to not pursue full employment. It is likely that government usually does not recognize this, and certainly does not use its power to achieve full employment. And even if it did recognize this power, it probably would not use it—out of fear that full employment would generate undesirable economic, political, or social outcomes. (The obvious orthodox fears are that full employment generates inflation and currency depreciation, strengthening the position of labour and threatening the position of the dominant classes. While I believe these beliefs are erroneous, this topic is beyond the scope of this chapter. See Wray 1998.)
4. Sovereign government has substantial pricing power. Again, it may not recognize this, and usually does not use the pricing power at its disposal.
5. Because it does not promise to redeem its currency at a fixed exchange rate, government does not have to respond to a current account deficit with austere domestic policy to try to reduce imports.

Instead, it can just let the currency float. If jobs are lost to imports, government can use policy to replace them—either through direct job creation or by stimulating aggregate demand. Government still can use fiscal and monetary policy to influence exchange rates, if it chooses to do so. But with a floating exchange rate, it can choose instead to achieve full employment and internal stability. Domestic policy need not be held hostage to the exchange rate.

Taken together, all of this implies substantial policy space for a government operating with a sovereign currency. If desired, it can use monetary and fiscal policy to pursue the public purpose. It can, if it chooses, pursue policy goals such as price and currency stability, or financial market stability. It is possible that some goals might conflict with others. However, currency sovereignty does not make these conflicts more acute, but rather opens more policy space to find solutions to the conflicts. While I believe that it is possible to formulate policy to simultaneously achieve full employment with price and currency stability through an employer of last resort program, this will not be pursued here.

## **ANSWERS TO THE QUIZ**

We are now prepared to examine the correct answers to the quiz provided at the beginning of this chapter. It will now be obvious that the correct answer to every question is 'false'.

Q1: Just like a household, the government faces a budget constraint. False.

- ▶ Unlike a household, the government is the issuer of its own currency (HPM plus treasuries).
- ▶ As such it *logically* has to spend before it can collect its own currency as revenue.
- ▶ Government spending is constrained only by what is offered for sale in exchange for its currency.
- ▶ All other constraints are self-imposed. That does not mean that all self-imposed constraints are bad. Recall that the government uses the monetary system to move resources to the public sector, but it is not in the public interest to move all resources to the public sector.

Q2: Taxes finance government spending. False.

- ▶ Taxes create sellers of goods and services purchased by the government.

- ▶ From the perspective of government, the purpose of the monetary system is to transfer real goods and services from the non-government sector to the public domain to achieve the public purpose.
- ▶ To put it as simply as possible, taxes drive money in the sense that from inception, it is the necessity to pay taxes in the government's currency that gives rise to demand for that currency. Other uses of currency derive from the tax.

Q3: The Federal Government borrows money from the private sector to finance the budget deficit. False.

- ▶ The Government does not, indeed, cannot borrow its own currency in order to run a budget deficit. When government sells bonds it simply debits bank reserves and credits the purchaser with a treasury (essentially just reserves with higher interest); government does not obtain anything to use as a medium of exchange--it merely changes the form of its liability.
- ▶ Fiat currency typically does not enter the economy via 'printing money', rather, government spends by crediting bank accounts and taxes by debiting them.

- ▶ It credits banks reserves when it spends and debits bank reserves when it taxes. Banks act as intermediaries between the government and the non-government sectors.
- ▶ Excess reserves drive the overnight rate down; insufficient reserves drive it up. The purpose of bond sales by government (central bank and treasury) is to drain excess reserves; the purpose of bond purchases and retirements (by central bank and treasury, respectively) is to add reserves. Bond sales destroy reserves; they do not provide government with more currency to spend.
- ▶ Thus, bond sales and purchases are part of monetary policy—not a borrowing operation—they help the central bank to hit its interest rate target.

Q4: Budget surpluses relieve pressure on interest rates because more funds are available for private sector investment. False.

- ▶ Budget surpluses destroy non-government sector financial wealth and income. They reduce outstanding currency. They do not provide anything to the non-government sector that it can spend.
- ▶ Budget surpluses drain reserves, hence put upward pressure on rates.
- ▶ Budget deficits actually put downward pressure on interest rates.

- ▶ The overnight interest rate is the target of monetary policy, and the target is maintained within a band through provision of the amount of reserves desired (or required) by the banking system.
- ▶ The same result can be accomplished by paying the target rate on reserves, and providing overdraft facilities at the central bank charging the target rate on borrowed reserves (the Canadian system). This eliminates the need for sales of treasuries.

Q5: Persistent budget deficits will leave the next generation with higher inflation and higher taxes. False.

- ▶ It would clearly be inflationary to keep pushing the deficits beyond the level required to achieve full employment. But up to the point of full employment, deficits are not necessarily inflationary. Still, policy needs to be aware of bottlenecks and other structural problems that can generate inflation even before full employment.
- ▶ Any past deficit does not have to be repaid by generations of the future. Future generations will be left with net financial wealth from current deficits, and as well with public infrastructure, technology, and accumulated know-how. Future interest payments on outstanding debt will be received by future generations. The sovereign government can service debt on schedule by crediting bank accounts.

- ▶ Taxes do not fund spending or government interest payments. Hence there is no reason to raise taxes in the future simply because government is committed to making interest payments. Government should raise taxes in the future (or cut other kinds of spending) only if aggregate demand is excessive at that time.

Q6: Running budget surpluses now will help to cope with the future burden of caring for an ageing population. False.

- ▶ The ability of the government to provide services for elderly persons in the future is in no way influenced by the current (or past) budget outcome(s).
- ▶ When the government runs a surplus it destroys currency, income, and financial wealth. A budget surplus does not allow government to accumulate funds to be used later.
- ▶ The government can spend so long as there are willing recipients of government spending.
- ▶ The only real constraints on government spending are the available real goods and services that can be exchanged for currency. Hence, if available production in the future is not sufficient to care for the young, the old, and those of working age, then a real crisis will result. However, there are no plausible projections of such a real crisis since

demographic changes are small relative to likely increases to productive capacity.

- ▶ I do not want to explore the challenges posed by environmental problems such as global warming. However, these are 'real' challenges, not financial problems. Currency sovereignty provides greater fiscal and monetary policy space to deal with these real challenges, but the problems will not be resolved unless real solutions are found and incorporated within policy.

## **CONCLUSIONS**

We cannot begin analysis of modern money systems with a barter paradigm. Nor can we begin the analysis without government and then add it later as an interference into a smoothly functioning 'market' economy. Modern money is state money. Money is the sovereign's unit of account, the unit in which liabilities to government are denominated. In any nation, the vast majority of money-denominated liabilities will be denominated in the sovereign money of account. There is a pyramid of these liabilities, with nonsovereign money liabilities leveraging the sovereign's currency.

Use within a nation of a sovereign currency allows government to use the monetary system to pursue the public purpose. It provides sufficient policy space so that the government is able to accomplish a great deal more than it

currently does in pursuit of the public interest. Unfortunately, governments do not realize this, believing they face financial constraints. In reality, they face only real resource constraints and political constraints. Even developing nations would be able to achieve much more than they do now if they recognized the nature of the constraints they actually face. Most constraints are self-imposed—resulting from misunderstanding of the operation of a sovereign currency. There are also real resource constraints but these are not usually operative in developed nations; nor are they reached even in developing nations, which always have massive amounts of unemployed labour and other resources.

I have not dealt with the case of nonsovereign nations, that is, those without sovereign currencies as I define them. The most important example today is found in Euroland—where individual nations voluntarily abandoned their sovereign currencies for the euro. The current crisis is exposing the folly of the current formulation of the euro system. While most critiques focus on a supposedly overly conservative management of the European Central Bank, the real problem is the emasculation of fiscal policy by separating individual nations from the currency. The crisis is demonstrating the need for much more expansive, euro-wide, fiscal stimulus. Yet individual nations do face financial constraints because they do not have their own sovereign currency. Perhaps policymakers will finally realize a need for a major revision and a

return to a sovereign monetary system. That, however, is beyond the scope of this chapter.

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<sup>i</sup> I thank participants of the workshop for valuable comments on my presentation.

<sup>ii</sup> This quiz is based on one used by William Mitchell in a joint presentation we gave in Newcastle, Australia in May 2009.

<sup>iii</sup> Both of these notions (money is the currency of taxation, and taxation monetizes activities) came out of the workshop discussions, as well as an earlier interdisciplinary workshop held in January 2009 at Tel Aviv University.

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