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Functional Finance: What, Why, and How?

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In 1943, Abba Lerner wrote an essay entitled *Functional Finance and the Federal Debt* . The essay elucidates, in just fourteen pages, the principles that Lerner believed should guide the government's budgetary policies. It opens with a recognition that "[a]part from the necessity of winning the war, there is no task facing society today so important as the elimination of economic insecurity" (1943, p. 38). Aware that what was to follow would strike his readers as fantastically naive, he cautioned that it was essential to "grapple with this problem even if it involves a little careful thinking and even if the thought proves somewhat contrary to our preconceptions" (1943, p. 38). The purpose of the essay was to set out the principles by which the government could use its fiscal powers to maintain prosperity.

Lerner referred to "the new fiscal theory", which was "formulated by Alvin Hansen . . . and put forward in substantially complete form by J.M. Keynes" as a somewhat less audacious rendition of his own theory (1943, p. 38). Thus, Hansen, who argued that deficit spending was appropriate so long as the ratio of debt to national income remained at some tolerable level, did not support the use of fiscal policy as unabashedly as Lerner did. From Lerner's more fearless perspective, the government's budget was to be used to *permanently* maintain economic prosperity. Lerner accused Hansen of "appeasing" the opposition and claimed that in so doing, he "opened the way to an extremely effective opposition to Functional Finance" (1943, p. 43). Rather than trying to appease his opponents, Lerner forcefully applied his purely logical analysis, unleashing "all the unorthodox implications" which followed from it (1943, p. 39).

An Unstable System: Causes, Consequences and Solutions

One of the more unorthodox implications to emerge from Lerner's analysis was his indictment of the economic system as inherently demand-constrained. Although he did not delve too deeply into the factor(s) causing the insufficient demand until his 1951 book, *Economics of Employment* , the reasons are well known among Post-Keynesians, Institutionalists, Marxists, etc. -- The tendency for money-using (in particular, capitalist) economies to be plagued by chronic deficiencies in aggregate demand derives from the inherent characteristics of such a system. This, as Keynes (1946), Minsky (1986), Davidson (1982), and others have recognized is due to the existence of fundamental uncertainty (a nonergodic world, in Davidson's terminology) and its implications for the financing of positions in capital assets. Dudley Dillard recognized not only the reason for this instability but also its social consequences. Commenting on these, he maintained:

> [T]he motivation to production derives from the expectation of profit. Business men have the power, the legal right, and often the incentive to withhold from use the means of production to which the labor of the community must be applied in order to produce the goods and services that provide the basis of community welfare. When businessmen decide to let their factories remain idle, they serve their own interest but they do not serve the interest of the community. This is perfectly "natural." It is not in the nature of business accounting to be directly concerned with what happens to the national income when wages and salaries fall because of unemployment. (Dillard, 1948, p. 104)

Thus, it is in the "nature" of business enterprise to generate two related sources of instability: First, as a consequence of the whims of the business man, the system tends to generate unemployment. Second, this unemployment is likely to persist, because it is not in the nature of business accounting to generate self-correcting forces.

Unemployment could persist, in Dillard's view, because of a persistent gap between total income and total spending by the private sector. The reason for the gap, he opined, was the following:

> At a level of income corresponding to full employment, the gap between total income and total consumption is so great in advanced industrial economies that private investment is inadequate to fill it. If unemployment is to be avoided, the gap must be bridged either by filling in with government expenditure

> or by reducing the size of the gap by increasing the propensity to consume. (Dillard, 1948, p. 102)

Keynes was not optimistic about the likely success of policies designed to raise the propensity to consume. In specifying the factors responsible for determining the propensity to consume, he distinguished the objective from the subjective. The latter, he maintained "include those psychological characteristics of human nature which, though not unalterable, are unlikely to undergo a material change over a short period of time except in abnormal or revolutionary circumstances" (Keynes, 1964, p. 91). Although Keynes also recognized six objective factors, capable of altering the propensity to consume, he did not believe that they could be manipulated easily enough to make targeting them an efficient means of closing the gap. Thus, as Dillard notes, Keynes concluded that "the chief burden for maintenance of high levels of employment falls on *public expenditures* designed to fill in the existing gap between income and consumption at full employment. (Dillard, 1948, p. 103; my emphasis).

It might be thought that simply 'priming the pump' could close the gap. Pump-primers suggested that it might be necessary for the government to use its fiscal powers to stimulate demand but that *repeated* stimuli were not necessary. However, as Dillard noted, pump-priming "rests on the assumption that a *temporary* new expenditure will have a lasting tendency to raise the level of economic activity" (1948, p. 106). By the time he wrote the *General Theory,* Keynes, like Lerner, realized that pump-priming was not going to do the trick.

Implicit in the theory that the pump merely needs to be primed is the belief that the system has been in a state of "*unstable* equilibrium before the injection of new spending pushes it back on the track from which it has been derailed by some fortuitous event" (Dillard, 1948, p. 106). Keynes, of course, recognized that the system was characterized by *stable* under-employment equilibrium:

> [I]t is an outstanding characteristic of the economic system in which we live that, whilst it is subject to severe fluctuations in respect of output and employment, it is not violently unstable. Indeed, it seems capable of remaining in a chronic condition of sub-normal activity for a considerable period without any market tendency either towards recovery or complete collapse. Moreover, the evidence indicates that full, or even approximately full, employment is of rare and short-lived occurrence. (GT, pp. 249-50)

Lerner opposed pump-priming, for its formulation often implicitly called for the balancing of the government's budget as an objective goal: a practice which (as we will see) is fundamentally at odds with the theory of Functional Finance.

Having rejected the use of pump-priming as an appropriate means of eliminating unemployment (i.e. closing the gap between the full employment and the underemployment levels of aggregate spending), Lerner proposed his two "laws" of Functional Finance. The first law placed upon the government the responsibility for maintaining the total rate of spending on goods and services at the level necessary to purchase all of the output that it was possible to produce. In elucidating this law, Lerner explained that when spending was at the requisite level it would prevent both inflation and unemployment.[1] In order to manipulate total spending, he suggested that the government increase its own expenditures or reduce taxes so that private spending would increase. Similarly, the government could cut its spending or raise taxes in order to reduce the total rate of spending:

> By these means total spending can be kept at the required level, where it will be enough to buy the goods that can be produced by all who want to work, and yet not enough to bring inflation by demanding (at current prices) *more* than can be produced. (Lerner, 1943, p. 40)

The above should not be read as support for a non-accelerating inflationary rate of unemployment (NAIRU). Such a reading, as Colander argues, would ascribe to Lerner a position which "is not inherent in the functional finance rules" (Colander, 1997, p. 203).

Indeed, what Lerner advocated, in this essay, was the maintenance of true full employment (i.e. employment for all who *want* to work), which he believed could be attained without setting off inflation.

While his views regarding the conditions under which inflationary pressures might begin to emerge initially differed from Keynes', Lerner, in his *Economics of Employment* , appears to have moved closer to Keynes on this matter. In Keynes' view, inflation was not to be associated with price increases taking place *before* full employment (i.e. zero involuntary unemployment) had been reached. Indeed, expansionary policy was considered inflationary only if it spent itself entirely on an increase in prices, with no further stimulus to output. In Keynes' words:

> When a further increase in the quantity of effective demand produces no further increase in output and entirely spends itself on an increase in the cost-unit fully proportionate to the increase in effective demand, we have reached a condition which might be appropriately designated as one of true inflation. Up to this point the effect of monetary expansion is entirely a question of degree, and there is no previous

> point at which we can draw a definite line and declare that conditions of inflation have set in.[2] (GT, p. 303)

Thus, Keynes recognized that prices were likely to rise before labor became scarce or capacity limits began to bind. While Lerner did not initially believe that inflation would emerge before full employment had been reached, he later recognized that prices might begin to rise before all resources were fully employed. He noted that:

> [A]s long as it is possible for the supply of goods to increase along with the increase in spending, there will be no (permanent) increase in prices. (Lerner, 1951, p. 8)

Although prices might begin to rise prior to the attainment of full employment, they would not *remain* high and, thus, should not induce an abdication of the government's responsibilities with respect to the first law of Functional Finance.

The first law of Functional Finance is designed to eliminate a shortfall in total spending, while the second decrees the specific *manner* in which the deficiency is to be funded. Specifically, the second law calls for the sale of interest-bearing government debt only in the event that private spending would *otherwise* generate excessive aggregate demand. Under ordinary circumstances, Lerner argued, it is expected that capitalist economies will suffer from insufficient rather than excessive aggregate demand so that it would not be necessary to offer bonds in exchange for money as a means of tempering inflationary pressures. Instead, Lerner believed that bonds should be sold to the central bank or to private banks "on conditions which permit the banks to issue new credit money based on their additional holdings of government securities, [which] must be considered for our purposes as printing money" (1943, p. 41).

In sum, capitalist economies are typically demand-constrained. This tendency to generate insufficient effective demand for all output (even when the system is operating at less than full capacity) is the *cause* of the system's instability; the *consequence* is unemployment. The *solution*, according to Lerner, was to make it incumbent on the government to cover the shortfall by spending enough to bring about full employment.

Covering the Shortfall

The optimal method by which to finance deficit spending remains a controversial topic among many economists (see Modigliani, 1992; Trostel, 1993; Ludvigson, 1996; and Smith et al., 1998). Although most would agree that governments can finance their spending by imposing taxes, borrowing from the public, or printing money (or some combination of these), there is often strong disagreement regarding the macroeconomic *consequences* of these choices.

The Barro-Ricardo thesis, for example, maintains that the financing choice is inconsequential. This, it is argued, is because the knowledge that bond-financed government spending will require higher taxes in the future simply induces households to save more now. The induced saving, which is just sufficient to purchase the new government debt, leaves private net wealth unchanged, and thereby completely neutralizes the stimulative effect of government spending. Similarly, as Tobin (1998) recognized, spending financed by issuing demand obligations (i.e. printing money) might lead a monetarist Ricardian to suggest that a "money rain," like a "bond rain," will have no effect on aggregate private wealth or consumption since adjustments in the price level will prevent the *real* quantity of money from changing. With the real quantity of money unaffected, decision-makers are said to have no reason to alter their spending behavior. Thus, the macroeconomic consequences of bond- or money-financed deficit spending are thought to yield results 'equivalent' with those that would have resulted if all spending had been financed by contemporaneous taxation. In other words, it just doesn't matter whether the government chooses to tax, sell bonds, or print money; each will affect the economy in an identical way.

In contrast, 'Keynesians' (Blinder and Solow, 1973, 1976; Buiter, 1977; Tobin, 1961), generally agree that the economic consequences of borrowing and printing money can differ substantially from those obtained when government spending is financed solely by contemporaneous taxation. Inspired by Christ (1967, 1968), Blinder and Solow (1973) investigated the optimal method by which to finance government (deficit) spending, concluding that the expansionary effects from borrowing would outweigh the stimulative effects of financing by creating new money. Although 'Keynesians' recognize that there will be different macroeconomic consequences, depending on the *manner* in which the shortfall is made up, they do not generally share Lerner's preference for printing money to finance the deficit.

Post-Keynesians and Institutionalists, however, tend to be more amenable to Lerner's position. For example, Wray (1998) discusses at length the possibility (and the desirability) of printing money to finance government expenditures. Similarly, focusing on the macroeconomic consequences of alternative financing methods, Chick (1983) concludes:

> Common sense, superior here, indicates that finance by new money, both because it introduces new liquidity into the system and because there is no effect from the policy action itself on the rate of interest, will have a greater expansionary effect than finance by borrowing. (Chick, 1983, p. 321)

On the same subject, Dillard (1948) recognizes that when the government simultaneously spends and collects taxes, it is simply substituting public for private spending, whereas "the expenditure of funds raised by borrowing represents mainly new expenditure and therefore an addition to total effective demand" (Dillard, 1948, p. 109). Elaborating on this point, Dillard maintained that:

> The greatest stimulation to employment will result when a public construction program financed by borrowing replaces a public relief program which was paid for out of taxation. (Dillard, 1948, p. 109)

Thus, while 'Keynesians' typically conclude that the macroeconomic consequences of bond- vs. tax-financed spending will differ, Dillard goes further, claiming that "there are significant differences between various *types* of loans and taxes" (1948, p. 110; my emphasis). Like Lerner, Dillard recognized that the expansionary effects would be greater when bonds were sold to banks rather than to the non-bank public (i.e. when spending was financed by printing money):

> In the former case, no one need restrict either his consumption or his investment. The bond is purchased with new money created within the banking system in the form of new check-book money. The total quantity of money is increased by the lending activities of the banking system. There is no transfer or giving up of means of purchase by one party for expenditure by the government; there is merely the creation of additional means of purchase. (Dillard, 1948, p. 110)

The least desirable method for financing spending involved the taxation of funds that would have been spent if left in the hands of taxpayers. Thus, like Lerner, Dillard recognized that the consequence of taxing or borrowing from the public was to leave private individuals with less money to spend. Because of this, Dillard proposed that the government close the spending gap by creating additional money (i.e. a net injection) to finance its spending. Once the gap was closed, Dillard, again siding with Lerner, maintained that the method of finance should shift in favor of taxation and/or borrowing in order to forestall inflation (Dillard, 1948, p. 112).

Lerner, anticipating a knee-jerk opposition to his recommendation that the government 'resort' to printing money, stated that:

> The almost instinctive revulsion that we have to the idea of printing money, and the tendency to identify it with inflation, can be overcome if we calm ourselves and take note that this printing does not affect the amount of money *spent* . That is regulated by the first law of Functional Finance. (1943, p. 41)

Again, the consequence of taxation and bond sales is to leave the public with less money to spend. Such a result would, from Lerner's perspective, be "desirable . . . when they would otherwise spend enough to bring about inflation" (Lerner, 1943, p. 40). The idea, then, is to allow a private sector, unfettered by taxes, to come as close as possible to satisfying Say's Law. In the absence of such robust demand conditions, however, Lerner advocated the printing of money to finance the spending necessary for the maintenance of full employment. Again, the idea is to sell bonds to banks (private banks or the central bank) as opposed to the non-bank public, so that funds which might otherwise be spent are not lured away (or "crowed out") by the government. Thus, while most economists would argue that the government should *borrow* [3] from the public (i.e. sell bonds in exchange for *existing* money) in order to finance the excess of spending over taxation, Lerner believed that the government should do this "only if it is desirable that the public should have less money and more government bonds" (1943, p. 40).

How Can the Government Print Money?

How might a country print money in conformity with Lerner's second law? Economists typically apply the term 'printing money' to the crediting, by the monetary authority, of the fiscal authority's checking account as a consequence of purchasing its debt instruments. But Lerner wanted to broaden the application of the term. In his view, if *private* banks are capable of purchasing government debt by crediting a government account, this, too, should be considered printing money. Thus, when either the central bank or a private bank purchases newly-issued government debt by issuing credit or bank money, they are, in effect, printing money. Because printing money is essential for the adoption of the principles of Functional Finance, it is, perhaps, prudent to devote some space to the balance sheet effects of these two methods for printing money.

First, a government could create its own spendable balance by allowing its monetary authority to credit the account of its fiscal authority. This, as Figure 1 indicates, can be accomplished through the purchase of the fiscal authority's IOU (e.g. a government bond) by the monetary authority. Thus, if the central bank purchases a newly-issued security from

the Treasury, it will do so by crediting the Treasury's account. The balance sheet effects of this purchase/sale are shown in Step A. Once the fiscal authority draws on this account in order to acquire goods and services, it can be said to have paid for its purchase by 'printing' money. Asterisks indicate, in Step B, the amount of narrow *and* high-powered money that will have been created - both 'inside' and 'outside' money have increased (*ceteris paribus*).

Second, the government could sell bonds to a private bank.[4] Lerner (correctly) characterized this as a means of printing money. The balance sheet effects of allowing private banks, as opposed to the central bank, to create deposits for the Treasury are shown in Example 2.

Figure 1 The sale of newly-issued bonds to the Central Bank

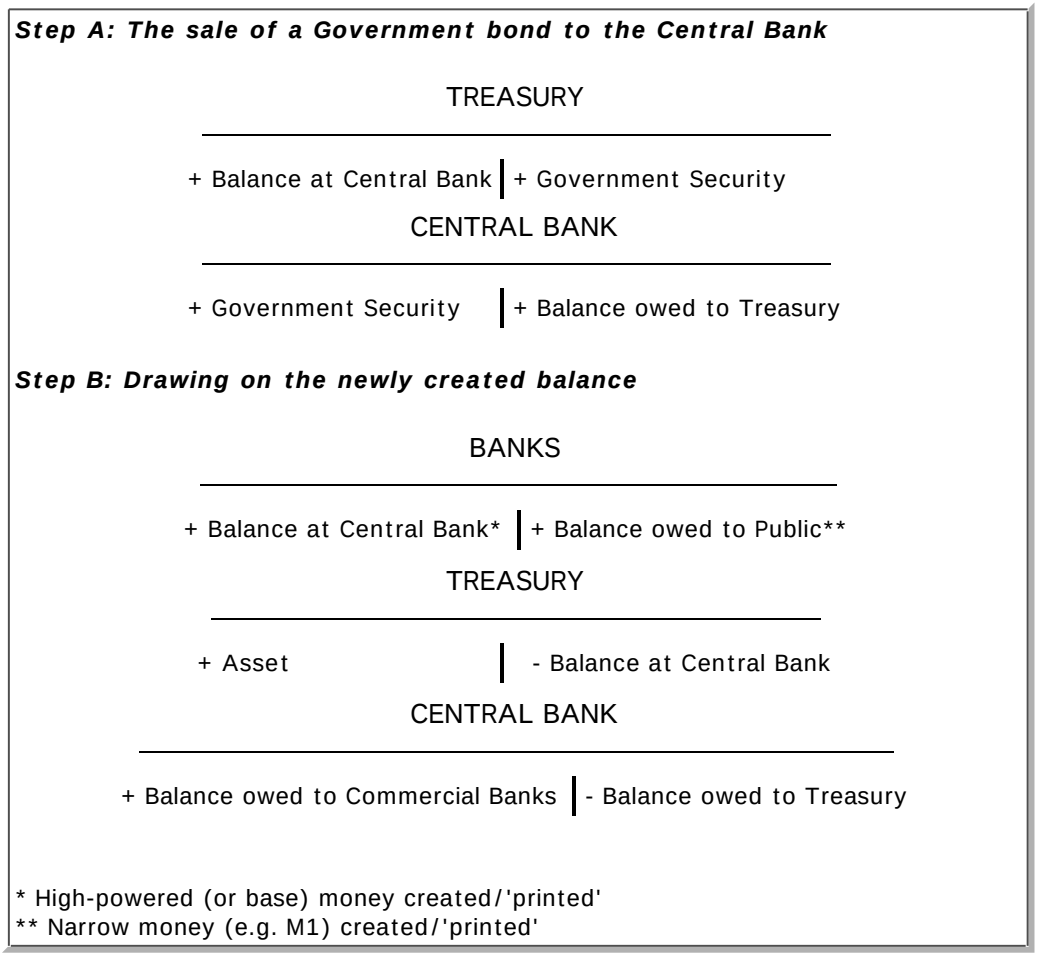


Figure 2 *The sale of newly-issued bonds to Note-Option Banks* [5]

Step A: The Sale of a Government Bond to a Note-Option Bank

NOTE-OPTION BANK	
+ Government Securities	+ Tax & Loan Account

TREASURY	
+ Tax & Loan Account	+ Government Securities

Step B: Transferring Funds from Tax & Loan Account to Central Bank

NOTE-OPTION BANK	
- Balance at Central Bank	- Balance owed to Treasury

TREASURY	
- Balance at Note-Option Bank + Balance at Central Bank	

CENTRAL BANK	
	- Balance owed to Note-Option Bank + Balance owed to Treasury

Step C: Spending from Account at Central Bank

BANKS	
+ Balance at Central Bank	+ Balance owed to Public

TREASURY	
- Balance at Central Bank + Asset	

CENTRAL BANK	
	+ Balance owed to Commercial Banks - Balance owed to Treasury

In this example, narrow and base money do not each rise by an equivalent amount. In particular, there is no net increase in the quantity of base money as a consequence of the government's spending.[6] This is why economists do not generally refer to this form of government finance as having resulted in the printing of money. Under Lerner's more general definition, however, whenever private or public banks, act "as agents for the government in issuing credit or bank money," they may be said to be printing money for the purposes of government finance (Lerner, 1943, fn., p. 41). Not only *can* they print money on behalf of the government, but, as dictated by the second law of Functional Finance, Lerner argues that they *should* do so. In precluding the sale of government bonds *for the purpose of borrowing existing funds* from the private sector, Lerner unabashedly denied any intelligent grounds for the adoption of so-called "sound" finance:

> In brief, Functional Finance rejects completely the traditional doctrines of "sound finance" and the principle of trying to balance the budget over a solar year or any other arbitrary period. In their place it prescribes: first, the adjustment of total spending (by everybody in the economy, including the government) in order to eliminate both unemployment and inflation, using government spending when total spending is too low and taxation when total spending is too high; second, the adjustment of public

> holdings of money and of government bonds, by government borrowing or debt repayment, in order to achieve the rate of interest which results in the most desirable level of investment; and, third, the printing, hoarding or destruction of money as needed for carrying out the first two parts of the program. (1943, p. 41)

As Colander notes, "Lerner's purpose in proposing [the] rules of functional finance was to change the focus of thinking about government finance from sound finance principles that made sense for individuals -- such as balancing the budget -- to sound finance principles that made sense for the aggregate economy" (Colander, 1997, p. 202). Lerner realized that a continually increasing national debt might be a consequence of rejecting the principles of "sound" finance.

The Usual Objections

Today, economists from within and outside the mainstream typically object to a number of the implications that follow from Lerner's proposal. Even Keynes is said to have initially "recoiled from" some of its more unorthodox implications (Colander, 1997, p. 202). But he reconsidered his position, stating in a letter to Lerner:

> It is a grand book worthy of one's hopes for you. A most powerful piece of well organized analysis with high aesthetic qualities . . . I shall have to try when I get back to hold a seminar of the heads of the Treasury on Functional Finance (quoted in Colander, 1997, p. 202).

Lerner dealt with some of the more common objections in his original essay, and a number of others have been addressed by Wray (1998) and Forstater (1997). Because at least some of these objections are likely to creep into the current reader's psyche, it is best to address (some of) them here.

First, and probably most obvious, is the belief that implementing Functional Finance will prove inflationary. Indeed, this is a standard (i.e. mainstream) argument against expansionary fiscal policy. In the textbook story, however, a *fully employed* economy is usually taken as the point of departure. Thus, it is usually assumed that the additional spending adds to a level of aggregate demand which is just sufficient to bring about full employment. As Figure 3 shows, the result is an outward shift in the aggregate demand curve and a *permanently* higher price level.

Figure 3 *The Inflationary Effects of Deficit Spending* [7]

From the initial state of full employment equilibrium (point A), then, expansionary fiscal policy shifts the aggregate demand curve from D_0 to D_1. At this point (point B), the price level has risen by six percent. As workers and employers begin to adjust to the new (higher) price level, the aggregate supply curve shifts in (and to the left) until it intersects D_1 at point C, causing the price level to rise further.[8] Equilibrium is reestablished at point C, where the price level has risen a full 12 percent from its original level.

As a basis for a critique of Functional Finance, the above is not very compelling. Indeed, it appears to be wholly incompatible with the theory of Functional Finance, which precludes *any* additional spending (government or otherwise) once full employment has been attained. Thus, expansionary fiscal policies are to be implemented *only* when the economy is operating *below* full employment. Echoing Lerner's sentiments on this subject, Wray contends that:

> Once full employment is reached, additional deficit spending will generate additional income that is likely to cause inflationary pressures -- except in the unlikely case that all additional income represents desired net saving. Beyond full employment, then, any further reduction of taxes or increase of government spending (increasing deficit spending) is likely to reduce the value of money as prices are bid up. (Wray, 1998, p. 84)

Moreover, even if the CPI (or some other standard price index) *did* begin to rise before full employment had been reached, it is not at all clear that the 'costs' associated with

moderate price increases would outweigh the (social and economic) benefits of reduced unemployment. Indeed, there are even studies that argue that moderate inflation is itself a net benefit rather than a net cost.[9]

Second, it might be objected that, owing to the existence of a *financial* (budget) constraint, the government cannot run the sort of substantial, persistent deficits that might emerge as a consequence of adopting the principles of Functional Finance. Thus, it is standard practice to write:

$$G - T = \Delta B + \Delta M$$

where ΔB represents the change in the quantity of outstanding bonds issued by the federal government and ΔM indicates a change in the quantity of newly-created money and to argue that beyond some point, the deficit (G - T) cannot be increased further because there is no demand for additional government bonds or money. Equation 1 is usually referred to as a government budget 'constraint' (or 'restraint').

The equation, itself, is not troubling. Indeed, it holds perfectly well as an *ex post* accounting identity. As an *ex ante* financial constraint, however, it seems, as Chick noted, "paradoxical," since:

> [T]here are the possibilities of borrowing and creating purchasing power simultaneously with the spending, and when the tax receipts are unknown at the outset: it is either a completely *ex post* relation between inflows and outflows of funds like an income statement . . . or it represents a consistent plan, where the financial implications are recognised." (Chick, 1983, p. 319)

Thus, as Chick notes, it is awkward to refer to a government which is capable of creating money at will as being subject to a *financial* constraint.

Another equation, which might be offered to support the claim that the government's debt cannot increase indefinitely is given by:

Thus, when the deficit is financed by borrowing, some say that there is a finite limit to the quantity of government debt that the public will willingly hold. From Equation 2, this "willingness" determines b^*, the sustainable debt-to-GDP ratio, simultaneously constraining deficit spending beyond d^*.

Lerner, while not sympathetic to them, spelled out his opponents' fears regarding 'excessive' indebtedness:

> If the interest on the debt must be raised out of taxes . . . it will in time constitute an important fraction of the national income. The very high income tax necessary to collect this amount of money and pay it to the holders of government bonds will discourage risky private investment, by so reducing the net return on it that the investor is not compensated for the risk of losing his capital. This will make it necessary for the government to undertake still more deficit financing to keep up the level of income and employment. Still heavier taxation will then be necessary to pay the interest on the growing debt — until the burden of taxation is so crushing that private investment becomes unprofitable, and the private enterprise economy collapses. (Lerner, 1943, p. 44).

If the entire system were likely to collapse as a consequence of adopting the principles of Functional Finance, there would indeed be cause for concern. In response to this charge, three important points should be made. First, as Nell (1999) notes, if there *is* an upper limit (either of debt-to-GDP or its related ratio of interest payments on public debt-to-tax receipts), it is irrelevant, because:

> For such upper limits to matter it must be shown that there are plausible and economically meaningful circumstances in which those upper limits will be reached *before* full employment is reached. (Nell, 1999, p.1)

Second, there can be no burden on society *as a whole* as a consequence of the interest payments that have to be made. While it is true that choosing among taxes, borrowing, and printing money will have distributional effects, any burden must be measured "by the inconveniences involved in the process of transferring the money from the taxpayers to the bondholders"(Lerner, 1943, p. 46). As Baumol and Blinder note, "[t]hese transfers may more may not be desirable, but they hardly constitute a burden on the nation as a whole" (1997, p. 334).

Third, a growing debt (on which interest must be paid) is not a *necessary* consequence of continuously rising deficits. But we have already seen that when the deficit is financed either by printing money or borrowing, it involves the sale of interest-bearing debt, which naturally implies an increase in the quantity of interest-bearing debt outstanding. How, then, would it be possible to run persistent deficits *without* generating a growing debt? Could the government run deficits without issuing any interest-bearing debt at all? This question was asked by Dillard (1948):

> Is not the creation of new money properly a government function, and if so, what is there to prevent the government from issuing money directly, without paying interest on bonds to commercial banks?" (Dillard, 1948, p. 113)

Of course Dillard was not suggesting that the government should just print up mountains of cash and go around making purchases with it. What he argued was that the default risk on government debt was so slight that it was unnecessary

to 'compensate' holders of this type of debt for parting with their more liquid (government) liabilities. Although he recognized that a government's ability to adopt such a scheme depended on the "nature of central monetary authority," (Dillard, 1948, p. 114), he explained that:

> In the United States, the Treasury could issue non-interest bearing notes to the Federal Reserve banks with instructions to increase the government deposits to the extent of the value of the notes. The government could then spend its balances in the usual fashion for public works and other expenditures. (Dillard, 1948, p. 114).

The balance sheet effects of this type of sale/purchase of non-interest bearing notes are shown in Figure 3.

Figure 3 *The issue of non-interest bearing notes to the Central Bank*

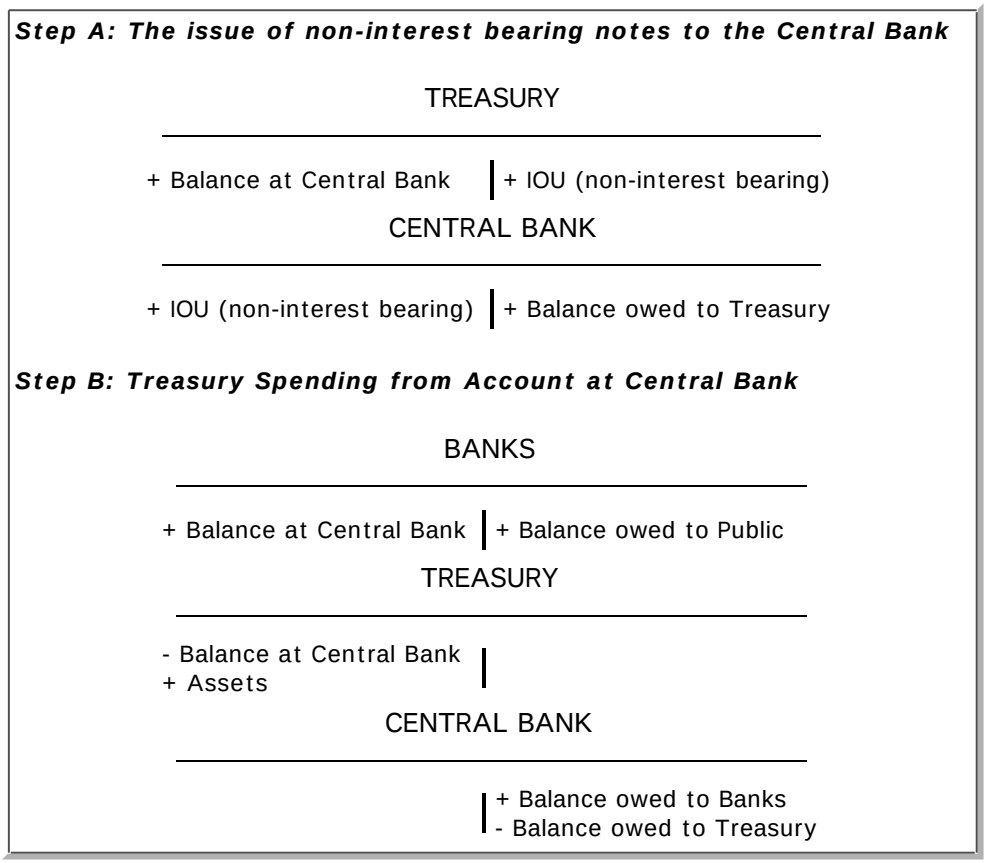


Figure 3 shows that, like in the example in which the Treasury sold *interest-bearing* debt directly to the Central Bank (Figure 2), the effect of drawing on an account that was credited through the sale of *non* -interest bearing notes is an increase in both the quantities of narrow (e.g. M1) and base (i.e. high-powered) money.

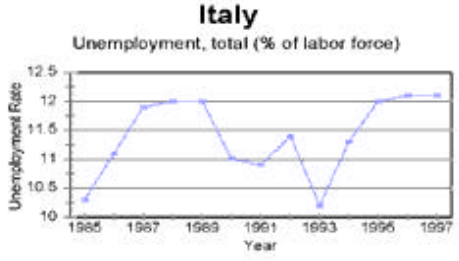
If the government followed Dillard's proposal, not only would there be no increase in the quantity of outstanding debt as a consequence of rising deficits, but one could not argue that beyond some point, the Treasury would run into a financial constraint. Thus, as long as there remained the political will to create Treasury balances in this manner, there would be no limit to Treasury's ability to acquire credits to its balance sheet. The only limitation to the government's ability to *spend* these funds, as Wray (1998) recognized, would depend upon the private sector's willingness to provide goods and services in exchange for government money. A government could, then, undertake Lerner's Functional Finance, continuously making up a shortfall in aggregate spending, *without* increasing the quantity of outstanding debt (or the interest that must be paid on it).

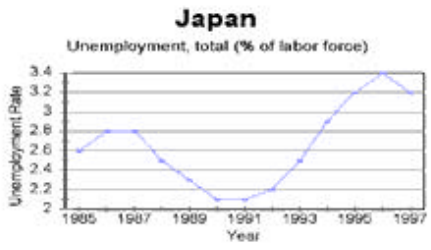
The Need for Policies Guided by the Principles of Functional Finance

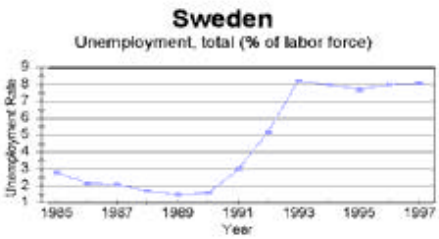
This section is intended to provide a (very) general picture of the unemployment trend in a number of world economies. It must be said, however, that the need for policies based on the principles of Functional Finance does not depend on the current economic outlook. Indeed, as we have already seen, money-using economies tend to "suffer from periodic, if not chronic, unemployment," (Wray, 1998, p. 84) which means that something like Functional Finance

(perhaps the Employer of Last Resort (ELR) program supported by Wray (1998) and Forstater (1997)) is needed as part of the on-going implementation of fiscal policy, irrespective of the current economic situation.

Below is a sample of unemployment conditions in twenty industrialized countries.







It is clear from the graphs that what Lerner referred to as the 'spending gap' is sizable enough to generate substantial unemployment in most of the countries sampled here. The nations chosen, it should be noted, hardly comprise a biased sample. Indeed, all eleven countries participating in European Economic and Monetary Union (EMU), Australia, Canada, Japan, the United Kingdom and the United States are among those sampled.

At the end of 1997, 80% of the countries included in the sample had annual unemployment rates measuring more than 6%, the rate long-believed to be the 'natural' rate of unemployment (at least in the United States). Of those, half (or 40%) had rates of 10% or more. Moreover, of the eight countries with double-digit unemployment rates at the end of 1997, all but one was a member of European EMU. This, as Modigliani, et al. argued, is probably no coincidence, since preparation for entry into Monetary Union caused countries to pursue highly restrictive fiscal and monetary policies in

order to meet the convergence criteria established in the Maastricht Treaty.[12]

While unemployment is fairly low in Japan, Luxembourg, the Netherlands and the United States, the current performance in these countries, again, does not excuse the need for something like Functional Finance. Indeed, as Godley (1999) points out, the US economy, currently the envy of almost all industrialized nations, could face an "unusually protracted recession with a large rise in unemployment" unless steps are taken to implement a "coordinated fiscal expansion worldwide" (Godley, 1999, pp. 4-5).

Conclusion

In the final paragraph of his essay, Lerner addresses the prospects for the adoption of the principles of Functional Finance under various systems of governance. Specifically, he maintained that "Functional Finance is not especially related to democracy or to private enterprise. It is applicable to a communist society just as well as to a fascist society or a democratic society" (1943, p. 50). He adds, moreover, that "[i]ts relationship to democracy and free enterprise consists simply in the fact that if the people who believe in these things will not use Functional Finance, they will stand no chance in the long run against others who will" (1943, p. 51).

It is important to note that although Lerner appears to have considered the implementation of Functional Finance an option under any *system* of governance, he recognized that not all governments could, under existing *institutional* arrangements, practice it. Forstater (1999) has also recognized this point, arguing that the institutional "structure under EMU makes it nearly impossible for a country to enact a counter-cyclical fiscal policy [e.g. Functional Finance] even if there were the political will [to do so]" (p. 32). The conditions under which Functional Finance can be undertaken include: "a government's ability to tax, declare public receivability, create and destroy money, buy and sell bonds, and administer the prices it pays for goods and services purchased from the private sector" (Forstater, 1999, p. 32).

We might say that those governments that are capable of adopting the principles of Functional Finance are those for whom the national currency is, as Lerner described it in 1947, 'a creature of the State.' The United States, Canada, the United Kingdom, and Australia are among such systems. In contrast, countries participating in EMU and those adopting currency boards or otherwise fixing their exchange rates are examples of governments which, due to their monetary arrangements, are constrained in their ability to follow the principles of Functional Finance.

APPENDIX

A T-account can be used to reflect the *change in* a balance sheet as the result of a single transaction. Although it is not the only way to depict this (one could prepare a full balance sheet before, and a full balance sheet after, a transaction), it is, in most instances, preferable to more time-consuming methods.

A few examples should provide the reader with sufficient conceptual understanding to cope with the T-accounts used in the paper. Let us begin with Bank "A", whose initial balance sheet is reflected as:

Initial Balance Sheet of Bank "A"
(thousands of dollars)

Cash	$100	Demand Deposits	$4000
Federal Reserve Account	1000	Time Deposits	2100
Loans	3000		
Securities	2000		
ASSETS	=	LIABILITIES + NET WORTH = 6100	

If we wish to show the effects of a single transaction, say when a customer writes a check (to a friend who banks elsewhere) for $100 on his checking account, we could laboriously construct an entirely new balance sheet as:

Balance Sheet of Bank "A" After Check Clears
(thousands of dollars)

Cash	$100	Demand Deposits	$3900
Federal Reserve Account	900	Time Deposits	2100
Loans	3000		
Securities	2000		

Or we could simply use a T-account to show the transaction:

Bank "A"

Federal Reserve Account	- $100	Demand Deposits	- $100

When we use T-accounts, only the asset or liability accounts *affected* by the transaction are written down, and each is preceded by a plus or minus sign to indicate whether the account was increased (credited) or decreased (debited). Additionally, a T-account must always "balance". In other words, there must be equal pluses (or minuses) on opposite sides, or offsetting plus-minus entries on the same side.

Continuing with Bank "A" as our guide, let us pursue a few more examples to ensure that the reader is comfortable with this tool.

1. A depositor withdraws $50 cash from her time deposit:

Bank "A"

Cash	- $50	Time Deposits	- $50

2. A depositor writes a check for $100 on his checking account and deposits it into his time deposit:

Bank "A"

		Demand Deposits	- $100
		Time Deposits	+$100

3. The bank borrows $100 of reserves from the Federal Reserve:

Bank "A"

Federal Reserve Account	+$100	Loan from Federal Reserve	+$100

Footnotes

1. A word of caution is in order here. In laying out the theory of Functional Finance in 1943, Lerner clearly believed that two economic ills -- inflation and unemployment -- had to be repressed if economic insecurity was to be eliminated. Importantly, he did not believe that there was any inherent trade-off or inverse relation between these two ills. Indeed, he opined that inflation would set in only after the system was pushed beyond full employment. Later, however, Lerner recognized that inflation would begin to set in much sooner. In fact, throughout much of his remaining career, he devoted himself to the study of policies designed to combat inflation (market anti-inflation plans, incomes policies, wage-price controls, etc.). He even began to talk of pursuing "high" full employment vs. "low" full employment (Lerner, 1951; Lerner and Colander, 1980), rather than simply "full employment," which was his stated objective in 1943.

2. Although Keynes, in this passage, focused on the output and price effects following an expansionary monetary policy, nothing of substance would change if, instead, fiscal policy had provided the stimulus.
3. We must be very clear about the difference between 'borrowing' and 'printing money'. Following Lerner, 'borrowing' will be used to refer to the sale of newly-issued government bonds, purchased by drawing on existing deposits. 'Printing money', in contrast, will be used to refer to the sale of newly-issued government bonds, purchased by crediting a government account.
4. If it wishes to finance its spending by 'printing' money, however, it cannot allow the bank to purchase the bonds by drawing on an account with the monetary authority. But, as explained in Chapter Four, this is something the Treasury can specify.
5. Note-option banks are private (US) banks in which government funds can be kept. The importance of these accounts in coordinating the government's spending is described in Bell (1998).
6. Depending on the institutional arrangements, base money may rise in the next 'reserve period'. That is, if banks are subjected to reserve requirements, additional reserves (i.e. base money) may be required as a consequence of the government's spending.
7. This example is taken directly from Baumol and Blinder (1997).
8. While the textbooks usually concede that the inflationary effects depend upon the degree of slack present before the expansionary policy is undertaken, the imagery of the inflationary effects of deficit spending tends to prevail.
9. See: Schultze (1959); Minsky (1986); and Ackerlof, et al. (1996).
10. Although Ott and Ott (1965) may have been the first to specify the 'budget restraint,' Christ's work received greater attention (1967, 1968), spawning countless extensions and refinements.
11. Personal notes from Tony Aspromourgos (1999).
12. Particularly troubling is the fact that these countries may now, as a consequence of joining EMU, be unable to effectively deal with these levels of unemployment.

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