Reinventing Functional Finance
Transformational Growth and Full Employment

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Preface

In 1941, Professor Abba Lerner of the University of Kansas City (later the University of Missouri–Kansas City) laid out the principles that he believed should guide the government’s budgetary policies. These principles, spelled out in his article, 'The Economic Steering Wheel,' which appeared in the University of Kansas City Review, were offered as an alternative to the orthodox principles of so-called 'sound finance.' Lerner later moved to the New School for Social Research where he elaborated his ideas in 'Functional Finance and the Federal Debt,' published in 1943 in the New School's Graduate Faculty journal, Social Research.

The New School’s Program on Transformational Growth and Full Employment, under the direction of Edward J. Nell, Malcolm B. Smith Professor of Economics, has revived the tradition that Lerner began. Part of this revival, a conference on 'Functional Finance and Full Employment,' was held in the spring of 1998 at the New School, attracting economists from around the globe. The conference re-examined monetary and fiscal relationships – both in theory and policy – in the light of Lerner’s prescient principles.

Among the participants were Harvard University Professors Richard Musgrave, the father of modern public finance, and James Duesenberry, best known for formulating the relative income hypothesis, an alternative to the permanent income and life-cycle theories of consumption. The late Robert Eisner of Northwestern University, former President of the American Economic Association, and the late Lynn Tutro of Hofstra University both presented papers at the conference. This would be the last such activity for both of these important scholars of fiscal and budgetary policy. David Colander of Middlebury College, who collaborated with Abba Lerner, presented a paper, and the New School’s own Robert Heilbroner, whose book on the deficit influenced President John F. Kennedy, gave a talk, and both took part in the roundtable discussions.

In 'Functional finance and the federal debt,' Lerner proposed his principles of functional finance, which he believed the government should implement to bring about full employment:

The central idea is that government fiscal policy, its spending and taxing, borrowing and repaying of loans, its issue of new money and its withdrawal of money, should all be undertaken with an eye only to the results of these actions on the economy, and not to any established traditional doctrine about what is sound and what
Toward a new instrumental macroeconomics: Abba Lerner and Adolph Lowe on economic method, theory, history and policy

Mathew Forstater

This chapter argues that the ideas of Abba Lerner and Adolph Lowe contain overlapping and complementary insights and themes that may contribute to the development of a new approach to macroeconomics, and that have rather specific practical policy implications. This approach might be called Instrumental Macroeconomics, after Lowe’s instrumentalism, but it could be termed Functional Macroeconomics after Lerner’s functional finance without changing the intended meaning. Terminology aside, what is required today is a macroeconomics that considers macro policy goals at the ground level of theoretical practice – a political macroeconomics; a macroeconomics that recognizes that the system is dynamic and transformational, with major features changing over time – a historical macroeconomics; a macroeconomics that pays careful attention to institutional frameworks and arrangements – an institutional macroeconomics. What is required is a macroeconomics that, rid of neoclassical microfoundations, nevertheless considers sectoral as well as aggregate relations, technological change as well as monetary production – a structural macroeconomics that avoids the unacceptable mechanisms of aggregate models that bypass the complexities of human agency through their insertion of unacceptable motivational and behavioral assumptions.

The works of Lerner and Lowe serve as an interesting point of departure in thinking about such a new approach to macro theory and policy. While there are important areas of overlap in their work and thought, Lerner and Lowe diverge in their emphases, but, it shall be argued, in ways that are strikingly complementary. Lerner’s functional finance deals with aggregate proportionality and balance, while much of Lowe’s work emphasizes sectoral relations. While full employment and price stability were lifetime concerns for both, Lerner – following Keynes – focused more on monetary factors, while Lowe emphasized issues of structural and technological change. A Lowe–Lerner synthesis offers a powerful starting point for fleshing out an alternative approach to macroeconomic theory and policy, one which – because of its careful attention to historically changing social and institutional structures – is as fresh and relevant today as it was when Lerner and Lowe began formulating their historical and institutional approach to macroeconomic theory and public policy.

INSTRUMENTAL ANALYSIS AND THE METHOD OF FUNCTIONAL FINANCE

Lowe’s investigations of the technological and structural features of contemporary capitalism from the 1920s to the 1950s led him to the position that modern industrial systems exhibit inherent macroeconomic instability, necessitating an abandonment of the traditional deductive method and its replacement with an alternative instrumental method for economic theory and public policy. Rather than taking only initial conditions as given and employing deductive analysis to predict and explain, Lowe proposed as also given, a vision of desired macro outcomes. These macro goals would not be determined by economic analysis but, rather, would be independently determined by democratic political process. Analysis would then work backwards from the macro goals to the economic means for their attainment (Lowe, 1965; Forstater, 1999).

Such a conceptualization of the means–ends relation is also found in Lowe’s functional finance. Functional finance was first put forward by Lowe in his article, ‘Functional Finance and the Federal Debt’ (1943) and in his Economics of Control (1944). Sound finance confuses means and ends; a balanced budget seen as ‘good’ in and of itself is taken to be the end. In many cases it is even a politically stipulated goal. For Lowe what matters are the effects of the government budget and other fiscal and monetary policies: Is the current fiscal stance goal-adaptive? Does it promote our macroeconomic goals?

Traditional economics would say that positive and normative economics are mixed here. But both Lowe and Lerner rejected the overly dichotomous positive–normative distinction. Lowe refers to the approach that begins analysis without consideration of macro outcomes as ‘a radical positivism interested only in the explanation and prediction of movements “wherever they might lead”’ (Lowe, 1969: 7). For Lowe, the separation of the positive and normative ‘can no longer be justifiable; . . . recent developments demand the conscious integration of the analytical and normative aspects’ (1967: 180).

Lerner echoes this view when he distinguishes between ‘objective’ and ‘normative’ based not on whether one considers macro outcomes, but whether
defending precious freedoms, Lerner and Lowe simply do not accept the argument that economic policy by its nature violates individual freedom, or that the absence of policy guarantees that freedom is protected. While both support a democratic political process as the means for stipulating macro goals, it is clear that historical experience, study of the economy and legislation — such as the Full Employment Bill and the Humphrey–Hawkins Act — have led them each to assume some basic set of macro goals as desirable: at the most fundamental level, full employment and price stability (for example, see Lowe, 1965, 1976; Lerner, 1943, 1951, 1972). They both also considered a decent standard of living for all as a fundamental and, in a sense, ultimate goal to be achieved by job creation and the maintenance of the purchasing power of income. Thus these goals serve as points of departure in their analyses.

FUNCTIONAL FINANCE AND MONEY AS A CREATURE OF THE STATE

Lerner’s insight was a fundamentally Keynesian one: The economy is likely to find itself in an unemployment equilibrium with no inherent tendency to move to full employment. Lack of effective aggregate demand requires that the federal government run a deficit to exactly offset the shortfall so that there can be aggregate balance at the full employment level of output. This is based on fundamental accounting relations as represented in the national income accounts. Keynesian unemployment is due to lack of effective demand. Deficits are not one-time injections, but may have to be run continually, permanently. The size of the deficit depends on the relation of actual and desired net saving.

Lerner’s policy prescription is thus firmly in the strong fiscal Keynesian tradition: Government should run a deficit that closes the recessionary gap. This not only rejects the ‘deficit hawk’ position, it also transcends the ‘deficit dove’ stance. The confusions regarding national budget deficits and the debt are important and real. There are measurement problems; mistreatments (or non-treatments) of capital budgeting; fallacies concerning ‘crowding out’ and the relation of deficits and interest rates (and of deficits and inflation); unfounded views on the ‘burden’ on future generations; and more (see, for example, Heilbroner and Bernstein, 1989; Eisner, 1994; Cavanaugh, 1996). As Bator (1962) pointed out some time ago, however, while these are all debating points, concentration on these areas maintains discussion at a level that actually conceives too much. For example it may be true that due to measurement and accounting problems, the deficit (or debt) is ‘not as big as it looks,’ but this line of attack implicitly condones the ‘sound money’ view that smaller is inherently better. Functional finance simply refers to an approach to public
finance that sees the federal budget and the management of the national debt as a means to economic prosperity. This notion need not assume any particular a priori relation between government expenditures and revenues or set in advance a most desirable absolute or relative size of the national debt.

The central idea is that government fiscal policy, its spending and taxing, its borrowing and repayment of loans, its issue of new money and its withdrawal of money, shall all be undertaken with an eye only to the results of these actions on the economy and not to any established traditional doctrine about what is sound and what is unsound. This principle of judging only by effects has been applied in many other fields of human activity, where it is known as the method of science opposed to scholasticism. The principle of judging fiscal measures by the way they work or function in the economy we may call Functional Finance. . . . Government should adjust its rates of expenditure and taxation such that total spending in the economy is neither more nor less than that which is sufficient to purchase the full employment level of output at current prices. If this means there is a deficit, greater borrowing, 'printing money,' etc., then these things in themselves are neither good nor bad, they are simply the means to the desired ends of full employment and price stability. (Lerner, 1943: 354)

Thus functional finance does not say anything about what the budget should be prior to economic analysis. If it is concluded that under particular circumstances a balanced budget describes the best means to economic prosperity, then even a balanced budget is not inconsistent with a functional approach to public finance. 'Sound money' is therefore only inconsistent with functional finance if the balanced budget is seen as an end in itself, rather than as a means to an end. If a balanced budget – or surplus in order to decrease the national debt – is insisted upon, even if it may be shown to have negative economic consequences (or be impossible), then this is not functional finance (it is, actually, 'dysfunctional finance'). Likewise, functional finance does not stipulate that bigger deficits are 'better' or that deficits are 'good' in and of themselves; it is the effects with which we are concerned.

Such an approach has an immediate implication that at first glance may appear shocking or surprising but which economists and policy makers would do well to consider: neither taxing nor government 'borrowing' are funding operations. Decisions concerning taxation are to be made only with regard to their economic effects in terms of the promotion of full employment, price stability or other economic goals, and not ever because 'the government needs to make money payments' (Lerner, 1943: 354). Likewise 'the government should borrow only if . . . the effects of borrowing are desired, for example if otherwise the rate of interest would be too low' (Lerner, 1943: 355). These points of view were repeated and elaborated by Lerner in his 1951 book The Economics of Employment: 'Taxes should never be imposed for the sake of the tax revenues. It is true that taxation makes money available to the government, but this is not an effect of any importance because money can be made available to the government so much more easily by having some created by the Treasury' (1951, 131). Likewise 'borrowing' is also not a funding operation for Lerner.

What are the purposes of taxation and borrowing, if not to fund government spending? The purpose of taxation for Lerner is, first, the role it plays in endowing otherwise worthless bits of paper with value and, second, its 'effect on the public of influencing their economic behavior' (Lerner, 1951: 131, original emphasis). Like taxation, borrowing is not a funding operation; rather, it is a means of managing reserves and controlling the overnight interest rate in the face of government spending and running budget deficits:

[T]he spending of money . . . out of deficits keeps on increasing the stock of money [and bank reserves] and this keeps on pushing down the rate of interest. Somehow the government must prevent the rate of interest from being pushed down by the additions to the stock of money coming from its own expenditures. . . . There is an obvious way of doing this. The government can borrow back the money it is spending. (Lerner, 1951: 10–11)

Note here the crucial implication that 'borrowing' logically follows, rather than precedes, government spending. In fact, this analysis questions the accuracy and relevance of the term 'borrowing' itself for discussing government bond sales.

The role of taxation and borrowing, reserve management and interest rate maintenance will become clearer upon examination of another, less prominent Lerner article – 'Money as a Creature of the State' – an article that places Lerner squarely in the Keynes–Knapp Chartalist school and that is key to fully understanding the possibility and effectiveness of functional finance (Lerner, 1947). The ability of the government to conduct fiscal and monetary policy according to the principles of functional finance is made possible by the fact that, as the title of Lerner's paper states, 'money is a creature of the state':

The government – which is what the state means in practice – by virtue of its power to create or destroy money by fiat and its power to take money away from people by taxation, is in a position to keep the rate of spending of the economy at the level required to fill its two great responsibilities, the prevention of depression, and the maintenance of the value of money. (Lerner, 1947: 314)

In adopting this view Lerner followed Keynes in accepting the main thrust of Knapp's 'State Theory of Money' (Keynes, 1930: 4, 6, n. 1; Knapp, 1924). Of course, the basic starting point can be traced back at least as far as Adam Smith who put forward the idea that 'a requirement that certain taxes should be paid in particular paper money might give that paper a certain value even if it was irredeemable' (Cannan, 1904: 312). The state has the power not only to tax but
to designate what will suffice to retire tax obligations, that is, what it will accept at its pay offices. By determining public receivability, the state can create a demand for otherwise worthless pieces of paper, leading to general acceptability. The state can issue this currency, and use it to purchase goods and services from the private sector:

The modern state can make anything it chooses generally acceptable as money and thus establish its value quite apart from any connection, even of the most formal kind, with gold or backing of any kind. It is true that a simple declaration that such and such is money will not do, even if backed by the most convincing constitutional evidence of the state’s absolute sovereignty. But if the state is willing to accept the proposed money in the payment of taxes and other obligations to itself the trick is done. Everyone who has obligations to the state will be willing to accept the pieces of paper with which he can settle the obligations, and all other people will be willing to accept those pieces of paper because they know that taxpayers, etc., will accept them in turn. On the other hand if the state should decline to accept some kind of money in payment of obligations to itself, it is difficult to believe that it would retain much of its general acceptability. . . . What this means is that whatever may have been the history of gold, at the present time, in a normally well-working economy, money is a creature of the state. Its general acceptability, which is its all-important attribute, stands or falls by its acceptability by the state. (Lerner, 1947: 313)

Thus a variety of state powers, such as 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, constitute a menu of instruments with which full employment and stability of the value of the currency may be achieved.

We have cited Smith, Knapp and Keynes, but perhaps we would do well to examine more recent examples of this view. It can be found in other ‘Post Keynesian’ authors after Lerner (see, for example, Kurilhar, 1950: 34–39; Bator, 1962). But the skeptic will argue that these pronouncements of the 1950s and 1960s are of a day long gone by. It is thus constructive to note the following:

In advanced societies, the central government is in a strong position to make certain assets generally acceptable media. By its willingness to accept a designated asset in settlement of taxes and other obligations, the government makes that asset acceptable to any who have such obligations, and in turn to others who have obligations to them, and so on. (Tobin, 1998: 27)

Goodhart has also used the ‘Cartalist’ framework to argue against the Mengerian–metallist–monetarist position on optimal currency areas (Goodhart, 1997, 1998).

Mosler (1997–98) and Wray (1998) incorporate these insights into a framework that draws on Post Keynesian monetary theory and a rigorous institutional analysis of the relation of the Treasury, the central bank and the banking system. The central bank does not control the money supply; it does, however, have significant ability to determine the short-term interest rate. The central bank is the lender of last resort, a necessary function for the stability of the financial system. Open market operations, government spending and lending, borrowing and taxation all affect reserves in the banking system. Excess reserves will cause short-term rates to tend to zero, while insufficient reserves will send rates toward infinity. Thus bond sales are essentially a reserve drain used to maintain a positive overnight rate of interest (interbank lending rate). Government borrowing is not to fund untaxed spending. Government spending comes first; then the government borrows what it does not tax in order to drain reserves and maintain interest rates. The national debt is the total number of dollars that have been drained from the banking system in order to maintain the fed funds rate (overnight rate). A more appropriate name [for the national debt] would be the Interest Rate Maintenance Account (IRMA). (Mosler, 1995: 14). Since money is a creature of the state, the Government does not need to tax or borrow to spend. Taxation is not to fund government spending; it is a means of creating a demand for fiat currency, while ‘borrowing’ is a reserve drain to support short-term interest rates. There is no problem ‘financing’ full employment. From the functional finance perspective, the goals are full employment and price stability, not any particular relation between either government expenditure and tax revenues or the sales and purchases of government bonds. Obsession with budget balancing for its own sake makes no sense whatsoever, but threatens the health of the economic system and blocks the way to full employment.

The importance of the Lernerian contributions of functional finance and money as a creature of the state are hard to overstate. There are two in some respects related problems, or areas, where this framework remains incomplete by itself. Lerner recognized one issue quite early on, and he dedicated a good bit of his life to it. In his early versions of functional finance, inflation was seen as the result of excess aggregate demand and therefore increasing taxation was seen as the cure. But as it became apparent that there were other sources of inflation, this simple policy for demand-side inflation was no longer sufficient for managing the value of currency. Thus Lerner dedicated himself to the study of stagflation and the evaluation and formulation of various incomes policies, market anti-inflation plans (MAPs), wage-price controls and so on. The second issue regards the meaning of full employment. In addition to other types of inflation, Lerner also began to notice that inflation did not begin at true full employment but well before that point. Thus he even began to use terms like ‘low full employment’ and ‘high full employment,’ neither of which actually meant zero involuntary unemployment (Lerner, 1951). For those who reject NAIRU and ‘natural rates’ of unemployment and who are
interested in zero involuntary unemployment, these terms are not adequate. As Lerner admits, then, functional finance—as formulated, and by itself—is not capable of attaining and maintaining zero involuntary unemployment with price stability.

This brings us to the work of Lowe. Lowe did not believe that what he called ‘primary interventions’ (regular fiscal and monetary policies) were adequate to bring about full employment. These were not sufficient by themselves because, even when the assumption is made that such policies can bring an economy to full employment, there is then the issue of maintaining full employment in the face of ongoing structural and technological change, that is, changes in the supply of labor and natural resources, capital- and labor-displacing technical changes and changes in the composition of final demand. Not only aggregate proportionality and balance must be considered, but sectoral relations as well. In addition to Keynesian unemployment, structural unemployment—meaning unemployment due to structural and technological change—must also be addressed. This was precisely the focus of Lowe’s ‘structural analysis.’ Issues of structural rigidity and elasticity of the production system must be confronted, as well as technological unemployment and the reserve army of labor and issues of sectoral relations. All of which brings us back to issues of price stability.

LOWE’S FULL EMPLOYMENT PROPOSAL

Lowe’s structural analysis is concerned with a realistic evaluation of the elasticity of the production system, its adaptability in the face of structural and technological changes, such as capital- or labor-saving technical innovations, changes in labor supply and the supply of natural resources and changes in the composition of final demand. A viscous system, having trouble with quick adaptation to such changes, may be characterized by bottlenecks in production, sluggish growth, inflationary pressures, significant structural, frictional, and technological unemployment and periods of plant and equipment underutilization. Conversely, the more elastic the production system, the better its ability to respond to structural and technical change without structural rigidities. Such an economic climate is more conducive to high employment economic growth without inflation.

Structural analysis highlights the impediments to rapid adjustment—structural disequilibria, the disproportionalities and the physical–technical consistency conditions for system viability (reproduction)—that confront in particular an economy brought to full employment by, for example, Keynesian demand management. In neoclassical theory there is a trade-off between flexibility and reality; in structural analysis there is a trade-off between flexibility and full employment of resources.

Lowe’s proposal for full employment, which he called ‘planned domestic colonization,’ is what is better known as direct job creation by government. Lowe, while seeing a number of clear advantages to public employment programs, was very skeptical about the possibility of attaining or maintaining full employment through indirect means such as stimulating private sector demand: ‘Unlike private investors, public investors are not hampered by uncertainties about future demand, because they themselves determine the purpose that investment and its final output is to serve, for instance, the items that make up the infrastructure’ (1988: 107). Lowe saw in public works a degree of variability and flexibility not possible in the private sector where competitive pressures dictate methods of production, the composition of output and the types of capital equipment and natural resources utilized, and where private decisions governed by narrow economic motives may not be consistent with what is best for society as a whole (Forstater, 1998).

For Lowe, some of the major obstacles to full employment were rooted in the technological conditions of production. Employment of workers available as a result of labor-displacing technical change or increases in labor supply depends on the prior construction of real capital. But the public sector has the ability to vary the labor intensity of productive activity in ways that the private sector cannot. The public sector may choose to utilize a more labor-intensive method of production that would be ‘inefficient’ for a private firm but that is quite reasonable from the perspective of social well-being. For the purpose of altering overall capital–labor ratios, or easing the utilization of certain types of capital equipment or increasing the utilization of yet other types, the public sector may also vary public sector employment between different tasks. The spectrum of choices includes activities that approach the level of ‘pure services in the fields of health, education, and general welfare,’ as well as activities that do not use or make more limited use of precious natural resources and that do not pollute (1988: 107). A public sector employment program can also deal with the unequal geographical distribution of unemployment, which highly aggregated demand stimulus programs do not necessarily address.

Functional Finance and Full Employment . . . and Price Stability

Lerner himself recognized the weaknesses of functional finance for attaining true full employment, and wrote of the role to be played by government direct job creation (Lerner, 1944: 315–16). His peers recognized the need to go beyond highly aggregated demand management to direct government job creation if true full employment were the goal (see especially, Pierson, 1945: 33ff). More recently a number of proposals along these lines have appeared (see, for example, Harvey, 1989; Collins et al., 1994; Gordon, 1997; Mosler,
productivity growth. Second, such workers may be employed in activities that help reduce expensive social and environmental costs, such as environmental protection. Third, the increase in expenditure on Public Service workers will be at least partially offset by decreases in other forms of expenditure on the unemployed or the effects of unemployment. Expenditures on unemployment insurance and other forms of general assistance can be expected to decline with the job opportunity program. Savings may also be expected in the form of decreased expenditures on indirect costs of unemployment. These factors range from reductions in spending on crime prevention and prosecution, criminal justice related to unemployment, reductions in medical bills and savings on other social and economic costs of unemployment. Fourth, public works tend to be less inflationary than 'the dole' because the former increases both supply and demand, while the latter increases only demand. Fifth, as Lowe pointed out, government has a degree of discretion unavailable to the private sector in choosing between alternative methods of production and alternative productive activities, which can be used to avoid bottlenecks and structural rigidities without sacrificing employment.

CONCLUSION

The work of Lowe and Lerner challenges us to go beyond the received wisdom of current economic theory and policy to reconsider the methodology of economics and its relation to public policy. It also provides theoretical insights that may inform the crafting of a new macroeconomics – a political macroeconomics, an institutional macroeconomics, a historical macroeconomics, and a structural macroeconomics. A Lowe–Lerner synthesis also provides a framework for incorporating both monetary production and structural and technological change, and for analysing both Keynesian and technological unemployment. Instrumental analysis and functional finance are more than oddities to be studied in history-of-thought journals, or worse, simply forgotten. These are approaches that must be carefully considered for their potential contribution to the formulation and implementation of effective practical policies for today and the future.

NOTES

1. Admittedly both terms are problematic, as ‘instrumentalism’ and ‘functionalism’ carry baggage that has nothing to do with either Lowe’s instrumental analysis or Lerner’s functional finance.

2. The basic principles of functional finance – though not the term – can be found in ‘The Economic Steering Wheel,’ published in 1941.
3. The details of this and related propositions under contemporary institutional arrangements in the US have been demonstrated by Bell (2000).

4. Likewise Samuelson, at least as late as 1961, fully and explicitly embraced functional finance (see Samuelson, 1966[1961]; A.C.L. Day is one example of an author whose analysis of the government’s reserve management and interest rate control clearly echoes the Lernerian analysis (Day, 1957). Way (1998) has additionally documented recent Chartist tendencies in authors such as Minsky and Boulding, among others.

REFERENCES
Lerner, Abba P. (1943), ‘Functional Finance and the Federal Debt,’ Social Research,

Toward a new instrumental macroeconomics

Lerner, Abba P. (1944), The Economics of Control, New York: Macmillan.