GROWTH, DISTRIBUTION, AND EFFECTIVE DEMAND

Alternatives to Economic Orthodoxy

ESSAYS IN HONOR OF EDWARD J. NELL

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Cumulative Causation à la Lowe:
Radical Endogeneity, Methodology, and Human Intervention

Mathew Forstater

Students at the New School in the 1980s and early 1990s had the privilege of working with some bright lights of political economy in the prime of their research programs. Robert Heilbroner’s worldly philosophy; David Gordon’s social structures of accumulation; Pierangelo Garegnani’s and John Eatwell’s synthesis of Sraffa and Keynes; Anwar Shaikh’s dynamic analysis of the classical economists and Marx; and Edward Nell’s Transformational Growth—each articulating a paradigm that was the result of years of intellectual work. Each had a distinct style in research and in the classroom. It is hard to compete with Gordon, Eatwell, or Shaikh in the seminar room, or to match the deductive powers of Garegnani.

With Edward Nell it was not a matter of moving from point A to point B in a crisply articulate manner. Neither was it a case of unpacking a tightly woven paradigm. Studying with Nell was more a matter of being on the lookout for flashes of creative genius—making unpredictable connections, tying together unfamiliar pieces, reaching counterintuitive conclusions. Nell was clearly the most nondogmatic of the bunch—nothing was sacred except asking the tough questions. One imagined that Joan Robinson was the heterodox elder that Nell most resembled.

When Ian Steedman delivered a seminar at the New School, Nell asked about money and uncertainty and the difficulties the long-period method faces in dealing with deeper structural transformations. When Paul Davidson came, Nell asked about value and production and problems with the Marshallian remnants in Keynes. He was dissatisfied with both of the extreme positions in the Trieste debates, and so naturally neither side was very happy with his interventions. Sraffa’s work was necessary, but not enough in itself; same with Keynes, Marx is crucial, but so are French circuit theory and Schumpeter and institutional economics. And Nell’s ex-
pertise wasn’t limited to economics. He has published in philosophy, is extremely well-read in history, and there are few with whom one can have a more insightful discussion about recent political and cultural developments.

After Heilbroner, who had been at the New School as a student or professor since the mid-1940s, Nell had the longest tenure in the department, having arrived in the mid-1960s, when Heilbroner was chair and Adolph Lowe was still a major presence in the Graduate Faculty. Lowe arrived in 1940, although he was affiliated with the University in Exile (later renamed the Graduate Faculty of Political and Social Science) since its inception. Several of the original faculty had been close colleagues and collaborators of Lowe in Germany in the interwar period, and Lowe quickly became the spiritus rector of the Graduate Faculty. In the mid-1940s, Heilbroner signed up for Lowe’s graduate seminar on the classical economists and was inspired to write The Worldly Philosophers. By the early 1960s, with three bestselling books under his belt, Heilbroner declined chairs at Berkeley and elsewhere (as well as the presidency of the New School) to accept a professorship in the Economics Department. He was soon appointed department chair, and Nell was among his first hires.

Like many of the younger faculty, Nell spent a lot of time in conversation with Lowe, and eventually played an important role in the writing and publication of The Path of Economic Growth (Lowe 1976), for which he wrote the appendix (Nell 1976). Nell wrote several pieces related to Lowe’s work over the years, including articles for Festschriften and memorial volumes, an encyclopedia entry, and other books and journal symposia dedicated to Lowe (see Nell 1983a, 1983b, 1984a, 1984b, 1987, 1994, 1998a; Halevi et al. 1992). Though Lowe is not cited frequently in Nell’s General Theory of Transformational Growth (1998b)—one might even say that he is undercited—anyone familiar with Lowe’s work can see the tremendous influence. In Lowe’s political economics, economic “laws” are historically relative, since capitalism is a dynamic and evolving system passing through identifiable stages, each with its own basic tendencies and characteristics—reflecting beyond the economic sphere into all aspects of political and social life. This could easily be a description of Transformational Growth: growth is qualitative, disproportional, and disruptive, resulting in changes in the very “data” of the system itself, with methodological implications as well.

Like Lowe, Nell sees much of classical and neoclassical economics as relatively more applicable to an earlier stage of capitalism (of family firms and family farms), with Keynes’s work relatively more applicable to a later stage (mass production). Lowe and Nell both agree that the post-World War II era marks another stage of capitalism, though they differ somewhat in their analysis of that stage. While Lowe sees the modern system as disorderly, Nell sees instability but not disorder (Nell 1994). This difference has important methodological implications for Nell, because he interprets Lowe as arguing that it is disorder which necessitates the use of the instrumental method. In Lowe, however, disorder is a sufficient, but not a necessary, condition for appropriate use of the instrumental method (Forstater 1994). Lowe argued that the instrumental method is applicable to any behavioral and structural conditions (Forstater 1998, 1999). Because he did view the contemporary system as disorderly, that controversial position often attracted most of the attention of critics. But another part of the problem is that Nell does not recognize or accept Lowe’s definition of “disorder.” For Lowe any system that does not lead to satisfactory macro outcomes is disorderly, and clearly, under this definition, Nell would agree that modern capitalism fits the bill. But because Nell treats disorder as lack of behavioral regularities, he argues against Lowe’s position. Despite these differences, Nell adopts Lowe’s historical approach to theory. Of course, this tradition goes back at least as far as Adam Smith, who took the position that the labor theory of value held for an early stage of society, when there is little capital formation, but that changes in economic structure rendered the theory inapplicable and required an alternative explanation of relative prices.

Perhaps the notion in economics that the Lowe–Nell vision most resembles is cumulative causation, now recognized as one of the fundamental concepts in Post-Keynesian, institutional, and evolutionary political economy. Early proponents of the principle were Veblen (1898) and Allyn Young (1928), with later elaborations by Myrdal (1944) and Kaldor (1978). Another early, and unrecognized, expositor of the concept was Adolph Lowe himself (1935). In addition, it is not clear that the other writers directly influenced Lowe. Like Young and Kaldor, Lowe found inspiration for the notion in Adam Smith, but for Lowe it was rather the work of the classical political economists and Marx generally that exhibited the basic vision of cumulative processes, or what Lowe called variously the “dynamic chain of reciprocal causation,” the “strange process of self-generation,” or “mutual causation” (1935). Identifying and interpreting Lowe’s early and original contribution to the theory of cumulative causation is indeed an appropriate way to celebrate the contributions of Edward J. Nell.

There are several features of Lowe’s version of cumulative causation that are worth noting. First, Lowe not only speaks of cumulative processes within an “economic sphere,” but also puts forward a vision of a radical endogeneity in which nothing in the social and natural world is immune to social-historical transformation. Second, for Lowe the systemic transformations that result from cumulative processes not only require new economic theories to describe the basic tendencies of a given historical system, but may also require new methodologies to go about investigating them. The “object of inquiry” is changing, and some methodological approaches may be suitable for some systems but not for others. Third, for Lowe the cumulative processes of the last hundred years or so have resulted in an important transformation in the scope for human intervention into the cumulative processes themselves, with important implications for policy, and even ethics. Early on, Lowe had become dissatisfied with static equilibrium models of neoclassical economics, but he was also less than satisfied with work labeled “economic dynamics.” Lowe lamented the fact that in most of this work, “the time-honored distinction between dependent and independent variables—that is,
between an economic process and the underlying metaeconomic forces that drive it on and change it—is generally maintained” (Lowe 1954: 108). He did find an exception in some “dynamic process analysis” that went further in endogenizing some of the structural variables in their theories of growth, but found these attempts to be “but a dim reflection” of what is found in the old classical economists and Marx (Lowe 1954: 108). It is in this regard that Lowe highlighted as a key difference between the classical and early neoclassical approaches the entire possible range of deductive reasoning. Let us be quite clear about the disputed region. It concerns the whole natural, social, and technical environment of the economic system... and... the changes in these elements through time.... [For the classical economists and Marx] the explanation of the order and changes of these data formed part of the theoretical work of economists. (Lowe 1954: 109; emphasis added)

For Lowe, then, the classical economists applied their method over a much wider range than the neoclassical authors, to include the social-historical context of economic processes. Thus, for Lowe an evolutionary approach would aim to once again “extend the range [of analysis]... to the sphere of the natural and social data of the market process, and thus to facilitate an estimate of the direction and limits of possible dynamic changes of the system as a whole” (1935: 67). In this view, the classical approach considers areas thought to be outside the scope of economics in the neoclassical view—areas falling broadly under the heading of the social-historical context of economic processes—as legitimate targets of analysis. These areas are also therefore, to be included in a revived evolutionary approach to analyzing the contemporary political economy.

Lowe was a lifelong opponent of the idea that there exist any universal economic laws (Lowe 1935, 1977). For him economic theory is context dependent and historically conditioned. Because, as described above, the “explanation of the order and changes” of the “whole natural, social, and technical environment... formed part of the theoretical work” of the classical approach, Lowe believed that not only Marx, but also the classical approach in general, displayed something of a historical materialist approach: “Even in its loose classical form the idea of a mutual relationship between the economic and social process has some meaning of a materialist interpretation of history” (Lowe 1935: 104; see also Lowe 1954). Furthermore, Lowe believed that this aspect of the classics was an extremely important part of a revived evolutionary approach to the analysis of modern industrial economic and social systems:

Having at once realized the decisive influence technique of production exerts on modern economic dynamics, we immediately see historical materialism in a new light. It may be doubted whether it can be used as an open sesame for the whole history of mankind. But applied to the analysis of the industrial system it proves an informative working principle. It points to the strange process of self-generation in modern economic evolution which determines the institutional and psychological data of any constellation in the market by the previous results of the preceding constellation. (Lowe 1935: 111)

Lowe identified the deductive method as the method of both the classical and the neoclassical approaches (though, as seen above, in the classical approach, the range of deductive reasoning was much wider). But Lowe also came to the conclusion that not only economic theory, but also economic method, is historically contingent. Thus, while Lowe was a critic of the deductive method, especially later in his life, he believed that the conditions for the appropriate application of deductive reasoning were in fact in place during the period of classical economics. But with the historical structural-technological transformations of capitalism and associated feedback effects resulting in environmental, institutional, behavioral, and socio-psychological changes, these conditions no longer hold under modern industrial capitalism (Lowe 1977). From around the mid-1950s, Lowe believed that what he called instrumental analysis is the appropriate methodology for economic theory and public policy. This position is in part due to the fact that the “laws” or tendencies which once held in the classical era were no longer reliable, and in part due to the tremendous increase in the scope for human intervention into the system’s processes.

For Lowe, “in the industrial system the economic process itself produces and changes its data” (1935: 97). The neoclassical approach of taking the “whole natural, social, and technical environment” as given “cannot be reconciled with the experience that the economic circular flow transforms its social environment” (1935: 105-6).

Any realistic theory of the modern economic system must start from the general premise that it can no longer deal with a constant structure and with homogeneous processes, but that the economic order under consideration is subject to a evolutionary transformation. Therefore, any deductive operation with invariable data is defective from the very outset. Long period analysis cannot dispense with a previous examination of the tendencies of the data themselves, that is to say, the corresponding sociological constellation and its regular changes, and moreover of the mutual relations of the variations on both sides. Above all this dynamic chain of reciprocal causation between the economic process and its social environment calls for a theoretical system of co-ordinates which is on the one hand determinate enough to define the course of individual movements, and on the other hand elastic enough to reproduce the system as a whole. We need not expressly decide henceforth to insert sociological elements into our economic deductions—there was never any substantial statement which was not based on such premises. But we are to render manifest and open to continuous examination and revision those implications which formerly remained latent, and whose modifications were usually neglected. (1935: 138-39)
For Lowe, data can be treated as given only for short-period analysis: “If long period movements and final constellations are to be examined, the autonomous tendencies of the several data and their contact with the process under consideration are to be investigated in coincidence and in constant confrontation with the special deduction” (1985: 136).

It is the fundamental theorem of realistic theory that under the particular social conditions of the industrial system, data and process are involved in a regular and continuous interaction which makes any concrete constellation, and therefore the system as a whole, essentially unstable and liable to transformation. For this reason in any long period analysis concerning the industrial system, on principle the data are to be handled as “dependent variables.” (1985: 146–47)

Lowe’s language makes it clear that he is proposing an evolutionary approach which recognizes the principle of circular and cumulative causation. His emphasis on cumulative processes not just within the economic sphere, but throughout the entire social system (including even the natural environment), makes his version of cumulative analysis perhaps the most all-encompassing and pervasive of the various conceptions. While others have emphasized knowledge problems emanating from issues regarding the limits of human perception and human language, Lowe emphasizes the knowledge problems resulting from endogenous changes in the object of inquiry.

Lowe became increasingly convinced that a key difference between the systems described by the classical economists and the contemporary political and social economy is the degree of openness to human intervention. The world of the classics was one in which “social processes were the outcome of impersonal forces or ‘laws’ which might be observed or interpreted, but which could not be altered. . . . That which once ‘happened,’ can now more and more be made to happen, or prevented from happening” (Lowe 1971: 565–68).

In the face of this tremendous enlargement of capabilities, there is no possibility of turning away. Even doing nothing, or outlawing the further advance of our capabilities, would be as much an act of intervention as exploiting our newfound capabilities to the utmost. (1971: 568)

Lowe’s “reciprocal causation” and “mutual causation” constitute a clear exposition of the principle of circular and cumulative processes. Lowe points to some of the most important implications of recognizing the principle of cumulative causation. The economy creates, destroys, and otherwise transforms its “data,” and so nothing is “given” or remains stable in the historical analysis of evolutionary economic systems. Nothing is “exogenous,” except perhaps in the shortest of short runs. Cumulative processes result in systemic transformations that result in old systemic tendencies dying away and new ones emerging. The change in the object of inquiry implies not only a change in theory but a change in method as well. Moreover, for Lowe historical cumulative processes have resulted in a remarkable change in the degree to which human intervention is possible. Such a change not only has theoretical and methodological implications, but demands reflection on the role of the social scientist, as well as the scope and the ethical nature of public policy.

Note
1. Some of Nell’s students have contributed to recent developments of the notion of cumulative causation; see, e.g., Argyrous (1996), and Argyrous and Sethi (1996).

References


The Epistemological Status of Economic Propositions

Gary Mongiovı

"[E]conomic theories are to be judged partly by whether they are backed by a suitable scientific method which is itself backed by a sound theory of knowledge..."
—Hollis and Nell 1975: 13

Introduction

This chapter revisits a six-decades-old polemic on economic method among the economists Frank Knight, Terence Hutchison, and Adolph Lowe, and the philosopher Felix Kaufmann. The debate merits reexamination because it raised important, and still unsettled, issues about the meaning of economic propositions. The relevance of these issues, far from being diminished by the passage of time, is underscored by "the crisis of vision" of modern economic theory, which is at root a crisis of method.

Kaufmann and Lowe were members of the Graduate Faculty of Political and Social Science at the New School for Social Research. The Graduate Faculty was founded by Alvin Johnson in 1933 to assist European scholars who faced persecution under the fascist regimes of Germany and Italy. Johnson realized sooner than anyone else that the dislocation of hundreds, and eventually thousands, of Europe's finest scholars presented a unique opportunity to enrich the American intellectual landscape. Within a few years of its inauguration, the Graduate Faculty, or the University in Exile, as it was known in its early days, had earned a reputation as a center of first-rate innovative work in the social sciences.

Because the Graduate Faculty was composed almost entirely of émigrés, the
The Urgency of Full Employment

edited by
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CHAPTER 9

Full employment and environmental sustainability

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1. Introduction

History has demonstrated that unemployment and environmental degradation are normal features of unregulated or poorly regulated capitalist economies. Traditional approaches to eliminating these problems are incapable of achieving either full employment or environmental sustainability. Furthermore, approaches that seek to address only one of these problems, even if successful, would likely exacerbate the other (expanding the private sector through demand stimulus would accelerate environmental damage and altering production and consumption patterns to achieve sustainability would slow job creation).

Recently, a number of authors have proposed Public Service Employment (PSE) or a government Job Guarantee (JG) for achieving full employment (Wray, 1998; Mitchell and Carlson, 2001; Warner, Forstater and Rosen, 2001). There are a number of ways in which a PSE program run on the principles of functional finance may be used to help promote environmental sustainability. First, functional finance may be combined with ecological tax reform to reshape market incentive structures to promote environmental objectives. Second, environmental sustainability may be enhanced by the greater flexibility of an economy with a well-managed public service sector. Third, additional environmental benefits may be derived from the activities in which public service workers may be engaged.

Functional finance refers to an approach to budgetary policy that recognises that under a taxes-drive-money system, national governments do not finance their expenditure with taxation or bond sales. Modern money is not on a gold standard or backed by any other commodity at a
fixed exchange rate (except in the sense that it can be viewed as backed by labour under a PSE system). As formulated by Lerner (1943), functional finance means that government spending, lending, borrowing, taxing, buying, and selling should be judged only by the effects that such actions have on the economy and society, and not whether they accord with the tenets of “sound finance.” No particular relation between government spending and tax revenues is ‘good’ or ‘bad’ in and of itself, independently of the impact the fiscal stance has on the economy. So whether a government’s budget deficit is good or bad depends on the economic conditions that hold at a particular time and the goals of the society.

While taxes and bond sales do not finance government spending, they do have other purposes (Forstater, 1999b; Bell, 2000). “Taxes should never be imposed for the sake of tax revenues” (Lerner, 1951, 131, original emphasis). Rather, the purpose of taxation is “its effects on the public of influencing their economic behavior” (ibid.). Likewise, “borrowing” is not a funding operation; bond sales are a means of managing bank reserves and regulating the overnight rate of interest (Lerner, 1943, 355).

There are two broad categories of behaviour that taxation is intended to modify. First, taxes (and the requirement that government currency satisfy tax liabilities) create a demand for state money. Thus, the value of modern money is derived from the fact that it is needed to pay taxes. This is what is meant by a “taxes-drive-money” system (Wray, 1998). People accept state currency in exchange for goods and services or as a means of settling debt because they need it to pay taxes or know that it will be accepted by others who need it to pay taxes. This is what Lerner meant when he argued that “money is a creature of the state” (Lerner, 1947, 313). Note here that legal tender laws are not sufficient; money’s “general acceptability, which is its all-important attribute, stands or falls by its acceptability by the state” (ibid.).

The second broad category of behaviours that taxation seeks to modify are those that are deemed undesirable. A tax is levied on unhealthy goods (or ‘bads’) or technologies and undesirable behaviours to discourage people from purchasing and using these items or engaging in these activities. Note here that this kind of tax is not intended to generate revenue, but to influence behaviour. In fact, the success of the tax can be measured precisely by how little revenue it generates. The smaller the

amount of revenue generated, the less often people are purchasing the item, utilising the technology or engaging in the behaviour. If revenue is generated, it means that the tax has not been successful in discouraging the behaviour. Likewise, tax credits or subsidies are intended to encourage certain behaviours.

2. Functional finance and ecological tax reform

Ecological tax reform (here to include not only taxes, but also tax credits and subsidies, quotas, and similar incentive-based regulations) fits very nicely into the functional finance framework. The distinction made by ecological economists between money as accounting information not subject to the laws of physics and real resources that are subject to biophysical limits, is also consistent with the functional finance perspective (see Daly, 1996, 178ff.).

Ecological tax reform begins from the premise that the current tax and regulatory structures of most modern nations are not consistent with sustainable practices. Currently, taxes tend to discourage behaviours that should be encouraged, and encourage behaviours that should be discouraged. Taxes on income and employment discourage work and jobs, while low taxes and even subsidies for nonrenewable and renewable resource extraction and on ‘dirty’ technologies tend to encourage unsustainable resource depletion and pollution. In other cases, behaviours may be currently taxed in the right direction, but either the taxes (or tax breaks) are not strong enough or they need to be coupled with complementary policies for a more comprehensive effect. Most proposals for ecological tax reform support “tax shifting”, or moving away from taxes on income, employment, and innovation and toward taxes on resource depletion and pollution (see Hawken, 1993; Prugh et al., 1995; Costanza, 1997; Lawn, 2001; Roodman, 1998). They also support tax credits and subsidies (as well as some complementary changes in regulatory structures) to promote research and development in alternative energy sources and technologies, recycling, and implementation of more sustainable practices. A land tax is also often recommended, as well as modifications in the tax structure with regard to residential and business construction, buildings, and location.

Managing the value of state money requires a base tax. Taxation needs to be strong enough to create sufficient demand for the currency to
maintain its value. Ecological tax reform usually begins with some kind of proposal for ‘revenue-neutral’ changes, but, within the functional finance perspective, revenue is not an issue. Nevertheless, the proposals for land and building taxes by ecological economists may be adopted to satisfy the need for a base tax for maintaining the value of the currency. A functional finance approach to ecological tax reform can thus begin with an elimination of federal payroll and income taxes, and the adoption of certain land and building taxes (taxing high incomes might still take place, but for purposes of redistribution rather than revenue generation).

The proposal behind a tax on land values, as distinct from ‘real estate’ taxes that combine land value and building taxes, is rooted in ideas usually associated with Henry George, but that can also be found in other classical (as opposed to neoclassical) economists such as Adam Smith. The basic proposal is to tax that part of the value of land that is unearned, e.g., the part derived from its location. The tax is intended to discourage land from being a speculative commodity, and shift the primary basis for land acquisition to its use-value (Daly and Cobb, 1989). The insight is that land prices would adjust so that even with the land tax, bottom lines stay the same (see Roodman, 1998). The tax can be combined with certain zoning laws, deferments, phase-ins and other complementary regulations to promote desired behaviours and prevent undesired ones, such as discouraging sprawl, but not hurting farmers. There are also versions of this proposal that seek to address fairness issues, e.g., not penalising those who purchased under different institutional arrangements.

Unlike taxes on the rental value of land, building taxes, on their own or as part of real estate taxes, do discourage improvements, repairs, and upgrades. It may be desired that some buildings, building sizes, and certain features of buildings be discouraged for environmental reasons, but some improvements should not be discouraged. This is fairly straightforward: do not tax energy saving improvements, etc. Taxes on the rental value of land, with some building taxes, may then be combined to serve as the base tax for the currency.

Changing the tax and regulatory structure is a very important part of the shift to environmental sustainability. Markets do some things well and other things not so well. History has shown us that markets do not necessarily meet biophysical conditions for a sustainable economy, and even contribute to environmental degradation. However, market forces may be shaped and steered so that it becomes more cost effective and profitable to use resources wisely and limit pollution, making it pay to move to cleaner technologies and to recycle. Taxes, tax credits and subsidies, quotas, licenses, low- and no-interest loans, and other tax and regulatory policies must penalise unsustainable behaviours and reward green ones. Such policies can help create new industries and make others obsolete. They can in some cases alter the geographic distribution of production so that it is consistent with local assimilative capacities.

Often environmental taxes and regulations will be opposed by business because it means higher costs. There are several important factors that must be recognised here, however. First, if taxes and regulations affect all firms (or all firms in an industry) equally, then their relative competitive position should not be affected. Second, changes would reward cleaner, more efficient firms and punish the dirty, inefficient ones. Some highly inefficient, heavy-polluting firms may close. Firms that fall somewhere in the middle will have to decide whether they want to move toward sustainable practices or not, and some assistance could be provided to help make the transition. For example, low- or no-interest loans and other resources and incentives could be offered to firms that want to move to cleaner practices. Third, if taxes result in higher prices and lower output it is possible that these are more reflective of the true social costs of production. So it is not as though these are new costs so much as hidden costs becoming explicit, and redistributed to producers and consumers of the product. Full cost pricing should be the goal. Fourth, as long as costs are hidden or external, the price system will not be working to promote innovation. Higher costs and higher prices should promote innovation in just those areas where it is desirable. As long as unsustainable practices are subsidised, either by policy or through externalities, research and development into and adoption of alternatives will be less cost effective and profitable. If petrol prices were high enough, we would start to see alternatives become more attractive. Fifth, these taxes are avoidable—in fact, unlike income and employment taxes, these are taxes we want people to avoid! Sixth, the higher costs during the transition to cleaner practices will be offset by tax reductions in other areas.

Depletion quotas can be a useful tool for promoting sustainable resource use and emissions levels consistent with the assimilative capacity of the environment (see Daly and Cobb, 1989; Daly, 1993,
There are a number of advantages to targeting resource depletion. First, depletion is easier to monitor and control than pollution. Second, targeting depletion not only addresses biophysical conditions with respect to natural resources, but also with respect to the assimilative capacity, since reducing the depletion of fossil fuels also reduces pollution.

Daly also argues that there are advantages of quotas over taxes on natural resources. Taxes do not guarantee any maximum cap on the rate of resource utilisation. Quotas set a definite limit on the aggregate quantity of a natural resource used over time. In addition, taxes may only change the distribution of resources depleted, which may or may not be more sustainable.

Daly’s proposal is for a market allocation of the quotas through government auction of quota rights. While government will act as a monopolist, buyers of quota rights will behave competitively. Buyers could be limited to a certain number of permits to promote greater competition (Lawn, 2001, 295). Government will earn a scarcity rent. Higher resource prices will promote the more efficient use of resources and technological innovation. In addition, recycling will be promoted by the higher prices. For nonrenewable resources with a close renewable substitute, the quota should be set so that the price of the nonrenewable is at least as high as the substitute. Quotas can also be reduced over time, allowing for a transition to alternatives. Permits could have a life of one year, so that the total number can be modified in the light of changing circumstances. Environmentalists can choose to purchase permits and not use them.

Even with depletion quotas, pollution taxes will still be necessary. Taxes can start out low and be phased in over time in cases requiring considerable adjustment. The key advantage of taxes over direct regulation is that taxing each unit of pollution gives an incentive to reduce as much as possible, while merely setting a cap on emissions does not give the polluter an incentive to reduce emissions further than the maximum allowed. A key weakness of taxing pollution is that it does not guarantee that emissions will be reduced to levels consistent with the assimilative capacity. One way around this is through the tradable pollution permit scheme. The total amount of pollution is capped, and the market allocates the distribution. Local and global assimilative capacities need to be considered, so most permits will be tradable only within a certain area.

Taxes and regulations also need to be applied to various materials, such as pesticides and fertilisers to prevent soil erosion and biodiversity loss. Encouraging the move toward organic agriculture will also constitute a move toward more labour-intensive practices that will promote labour demand. Controls on land clearance will also need to be applied. Tax breaks and subsidies can be used to encourage fencing off and the management of native vegetation (Lawn, 2001, 298). Taxes can also be used to affect not only production but also consumption. Taxes on consumption goods that harm the environment, especially luxury items, can be utilised.

Tax breaks and subsidies can be used to try to promote the locational redistribution of industry. Industrial ecology is a growing field that must be promoted (Jackson, 1993; Allenby, 1998; Dorf, 2001). In an industrial ecology park, several firms are located in geographical proximity. The waste and other residual by-products of one firm are used as inputs by others. An attempt is made to completely close the loop in the production and waste cycles.

This is in no way a comprehensive overview of the tax and regulatory policies of a major sustainability plan. Such ecological tax reform proposals are already in existence and have been referred to above. The weakness of current proposals is their adherence to principles of sound finance. The point here is to show how an ecological tax reform plan can be based on the principles of functional finance, and to give examples of some of the policies that might be utilised.

3. The flexibility of public employment and environmental sustainability

PSE programs can be designed to endow the economy with considerable flexibility, and this flexibility can be used to promote environmental sustainability (Forstater, 1998; 1999a; 2000). A private sector running at full employment and full capacity utilisation will have considerable structural rigidity, as excess capacity and unemployment allow firms, industries and the economy as a whole to respond more effectively to structural and technological change and other market conditions. If the private sector is stimulated by traditional demand management policies,
competition and other market conditions will determine what additional goods and services are produced, what technologies and inputs are used, how much more pollution will be emitted, the geographic distribution of the additional consumption and production, and so on. Since public service activities are not for-profit, they may be designed according to different criteria. Rather than being designed according to private sector efficiency criteria, public sector activity may be designed with broader social and macroeconomic goals in mind. Environmental sustainability can inform decisions concerning what PSE workers will produce and how they will produce it.

Implementing new environmental regulations and using market incentives to promote a sustainable society will result in significant structural change. Even if such new rules are phased in slowly over time, the kinds of changes needed will result in new firms and industries, new occupations, new products, and new methods of production, with some firms, industries, occupations, products, and methods of production becoming obsolete. There will also be changes in the relative significance of various kinds of products, jobs, technologies, industries, and so on, with some expanding (or expanding at different rates) and others shrinking (or shrinking at different rates). There will also be significant geographic relocation. The more structural flexibility in the system, the less disruptive these changes will be.

Suppose the economy had been stimulated to full employment through traditional Keynesian demand management. It is difficult to imagine how the system could cope with the inter- and intra-sectoral changes in the composition of labour demand, even if aggregate demand could be consistently maintained. Either aggregate demand (or the rate of growth of aggregate demand) would have to fall, or else it would likely translate into inflationary pressures as the system attempted to cope with the changes. With a PSE program, however, there is both a job for every worker unable to find one in the private sector and a pool of employed from which the private sector can draw to fill positions that arise. Thus, full employment can be maintained and the transition can be made to a sustainable path with minimal disruption. Flexibility in terms of other resources can also be had with PSE, additionally assisting the shift to sustainability. PSE programs can be designed to make little use of capital equipment for which demand might be expected to increase during the transition. Thus, the flexibility of the PSE program may play a crucial role in minimising the disruptions associated with the significant structural changes required to move society to a sustainable path.

Since PSE activities are not for profit, they can be designed with broader social and macroeconomic goals in mind, rather according to private efficiency criteria. Since private cost minimisation is not the concern, public service activity may utilise different methods of production to perform the same service or produce the same good than it would if it were in the private sector. So public service activities first and foremost can be designed that do not use or make little use of nonrenewable resources, and that do not pollute or pollute less as possible. These advantages may be gained even if the activity is not concerned with the environment in any other particular way. There are a whole host of almost pure services that can benefit the community and yet use no natural resources and do not pollute. Even if all of the public service activities fell into this category we would still end up with a relatively more sustainable full employment system than if the private sector were stimulated to or toward full employment. PSE activities can also be used as testing grounds for alternative technologies.

Similarly, Public Service Employment activities might contribute to sustainability through the increased geographical or locational flexibility that they have over private sector activities. Private cost minimisation compels private firms to locate where it is most profitable, taking into consideration all kinds of factors, such as the location of related markets and industries, transportation and information requirements and costs, and so on. Public sector activities can locate based on social efficiency rather than private efficiency criteria. Since the assimilative capacities of the environment are both local and global, local assimilative capacities can be relieved of stress by locating public sector activities where they will do the least harm. Of course, this must be reconciled with other considerations, such as where the unemployed are located and minimising family disruption. But just as people often enter the military or the Peace Corps at least in part to travel and to acquire skills, it is not inconceivable that there may be people who would do the same in public service employment. In addition, some of the locational flexibility may be tapped without requiring that people relocate their place of residence. Relieving the local assimilative capacity of stress may only require that the place of work be located elsewhere, which is close enough to commute.
Traditional fiscal and monetary policies can and will still be used as complements to PSE. If the PSE sector is considered too large, taxes can be cut or other types of government spending may be increased. If the PSE sector is considered too small, taxes can be raised or other types of government spending cut. What if the scale and composition of the private sector, even with ecological tax reform and other regulations, is deemed inconsistent with the biophysical conditions for a sustainable economy? It is possible that a larger PSE sector, with its significant flexibility and appropriate technology, and a smaller private sector, may be warranted. Society will need to find the right balance between private sector (and normal public sector) activity and PSE activity. The right private/PSE ratio for sustainability will need to be discovered, and of course there is no reason to think this would be constant over time. As new technologies and alternative energies (and alternative lifestyles) are discovered, the sustainable size of PSE may change. But PSE provides the flexibility needed to make such adjustments, without the social costs of unemployment.

4. Public service employment and environmental service provision

PSE activities can also help promote sustainability by performing environmental services of some kind. In fact, it may be desirable to create an Environmental Service Corps, or Green Corps, along the lines of the Peace Corps. There is an enormous array of services that such a Corps might perform that can help society satisfy the biophysical conditions for a sustainable economy. It is not the purpose to provide a full catalogue of the possibilities here, but to suggest a few examples.

One of the primary areas that a Green Corps could focus on would be recycling (here including also reuse, repair, and reduce). Biophysical conditions require that society maximise its recycling efforts, and there is plenty of opportunity to increase recycling. Much of the work here is labour intensive, and much of the labour need not be specially trained. Recycling has multiple benefits, in that it not only means that society will utilise new materials at a slower rate, but it also diverts materials from landfills and incinerators. Recycling can also result in a reduction not only of new resource depletion but also of pollution, if recycling itself does not pollute as much as new extraction and refining. Reduced use of some materials not only slows the depletion rate, but also leaves resources to perform other environmental services, such as trees absorbing carbon dioxide. Recycling also can reduce costs in many areas.

Major recycling efforts should be divided into at least two major categories, community-based and industrial. Community-based recycling entails collecting, sorting, and cleaning materials, and other jobs that anyone can perform and that contribute to the community and the environment. Repair for reuse entails another whole set of operations and may be considered separately. Repair may be for the original owners or for reuse by someone else. Chicago's "Creative Reuse Warehouse" is a good model for demonstrating how such items as "used office furniture and supplies, salvaged lumber, and broken bikes are turned into valuable assets for communities, schools, and the general public" (Weinberg et al., 2000). The Green Corps can undertake both recycling and repair. Industrial recycling zones and parks may also be sites for Green Corps employees to perform certain jobs.

Another major area for the Green Corps could be in transforming homes (and some businesses) to more renewable heating, lighting, and cooling and refrigeration. This does not have to mean every building becomes completely transformed and solar powered, although photovoltaics clearly need to be exploited more, and initial efforts may inspire homeowners and businesses to go further on their own. But even simple and basic adjustments could be performed that would save people money and reduce energy use. Better insulation alone could make a huge impact. Other types of weather proofing are also possible. Green Corps teams could be trained to visit, evaluate, educate, and make suggested or even required changes in a several hour visit (patching areas, fixing items, blocking drafts, installing low-power shower heads).

Another major area that could be addressed by a Green Corps could be automobile use and traffic congestion. Long term sustainability may require larger structural changes and the move to other forms of transportation, but in the short term, a well organised van pool system could reduce traffic congestion and pollution for those areas not served by good transit. The Green Corps could drive and repair the vehicles, and experiments could be conducted using alternative vehicle types and alternative fuels. A ten-person vanpool cuts unit private, social, and environmental costs to 15-20 percent of single-operated-vehicle costs (Vuchic, 1999, 307). If the van is more fuel efficient or uses alternative materials or energy, these costs will fall even more.
The Green Corps can also transform many items in the public infrastructure over to solar. There are now effective and reliable pv-powered streetlights, school crossing lights, highway construction warning signs, and billboards (Cole and Skerrett, 1995). In addition to saving energy, decreasing pollution, and reducing costs, public use of solar in these ways will help educate the public about the efficiency and reliability of photovoltaic power.

Another important area for the Green Corps to be involved in is rooftop gardening and urban landscaping. The benefits of both of these are little known. In addition to producing food (for humans), and food and habitat for wildlife, rooftop gardens and urban landscaping help purify air, soil, and water, and can provide air conditioning, shade, and windbreaks, and provide a productive sink for organic waste (Milano, 2000, 105). Human waste could also be redirected and put to better use than polluting water. Modern composting toilet technologies are available and more user-friendly than ever.

Another area of concentration for PSE workers could be in what might be called Environmental Defense or Environmental Security, and it may be desirable to create a whole section of PSE especially for a Green Security Force. This would be specifically devoted to two major areas, monitoring and clean up.

The new laws and rules will only affect change if there is monitoring to assure compliance. Often, environmental legislation is criticised as being difficult to monitor, and that monitoring can only be done with great effort. PSE can support monitoring efforts, as well as testing. Much testing can be done with relatively basic training. Samples can be collected with almost no training, and returned to labs.

PSE workers can also support clean-up efforts. Obviously there are some types of clean up that require special skills and equipment. But there is a tremendous amount that can be done with basic training, and much that is more or less unskilled. With the support of a well-managed PSE plan, monitoring and clean up can be supported at a level that is consistent with the shift to sustainability.

Environmental sustainability requires information dissemination and lots of education. From pre-school to the University, in the community and the workplace, sustainable practices cannot be adopted without changing some of our most ingrained habits. Moving from the waste disposal society mentality to the recycle/reuse/repair society mentality requires socialisation and education. PSE workers can visit classrooms and workplaces and do presentations. They can set up tables in the community to demonstrate the effectiveness and simplicity of many sustainable practices.

PSE workers can also support research efforts. Research and development costs can be cut significantly with labour available to perform a variety of tasks. Doubtless there are many, many other areas where PSE workers can perform environmental services. The development of a Green Corps will provide a reservoir of labour that can contribute to sustainability in many ways. The possibilities are limited only by the imagination. The goal is not to provide a comprehensive listing of such services, but to point to the possibilities for enhancing the environment that are presented by a PSE program.

There are two other interesting potential environmental benefits of a PSE program. Since many workers will gain experience in the PSE related to sustainability and sustainable practices, these new skills and experiences will be brought back into the private sector if and when they are hired out of PSE. This could go some way in increasing the variety and level of green skills in the private sector labour force. Another potential benefit of the PSE relates to changing ingrained patterns of consumption, so necessary for sustainability, and also to the increasing interest in ecology and environment in the youth of the 21st century. It is possible that some youth who are dedicated to the environment might desire to be part of the Green Corps even if they could find a job in the private sector. Since PSE jobs are not remunerated extravagantly, some may see a link between their PSE job and more modest consumption practices. It is possible that other non-monetary benefits could be included in the PSE package to attract citizens committed to the environment and who want to voluntary restrict their own consumption. Here the possibilities range from free higher education for children of PSE workers to housing (possibly in experimental alternative energy run dwellings, etc.) to concert tickets. Another possibility could be for youth to have a PSE requirement, similar to the military or Peace Corps, where they will be exposed to various sustainable practices and modest consumption.
5. Conclusion

Modern capitalist economies are characterised by persistent unemployment and environmental degradation. Traditional policies to address these problems are severely limited. The Public Service Employment or Job Guarantee approach to full employment based on the principles of functional finance may also contribute to environmental sustainability. This chapter has been concerned primarily with industrialised countries, but there is no reason that such a program might not be elaborated for developing countries, taking into consideration their specific economic and environmental conditions found there.

The PSE program should not be looked as the answer to all of our environmental or social problems. But there is no reason why other policies that can address these issues cannot be developed and implemented in a complementary manner. Proposals for revising national income accounts to reflect environmental values, for example, should be considered, as should full cost pricing policies. Still, a well-managed and imaginatively designed PSE program could bring tremendous social and environmental benefits.

References


CHAPTER 10

Full employment in the United States: history and prospects

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This chapter is an edited transcript of the opening speech given to the Conference by Professor Sumner M. Rosen, Columbia University.

1. Post-War policies in the United States

As World War II was ending attention was focussed on the prospects of renewed depression after the overfull employment that resulted from massive conscription and an all-out effort to mobilise the economy for war production. A draft law to ensure that full employment would be the primary objective of national economic policy was drafted for a US Senate committee late in the war, and debated in the immediate post-war period. The draft legislation was amended, in response to resurgent conservative opposition, prior to final passage in 1946 to replace ‘full employment’ with ‘maximum employment’, and all of the explicit powers envisaged for the federal government in the earlier drafts were weakened or eliminated. In the short run this was moot because, contrary to the fears of many, accumulated savings and deferred demand, both domestic and global, powered an economy that generated high levels of demand and rising standards of living for most working families. But the commitment of active government policies that were designed to promote and sustain growth, and ensure high levels of employment, was sustained by memories of the great depression and recognition of the painful lessons it had taught about pre-Keynesian economic ideas and the policies that flowed from them. This period was guided by macroeconomic policies that embodied the Keynesian focus on demand management and progressive taxes that enabled government to extend