
Post-Keynesian economics and the environment: introduction to the mini symposium

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Abstract: This paper introduces a symposium on post-Keynesian economics and the environment. It points out that in spite of the huge environmental problems facing the world, and the claims by post-Keynesians about the relevance of their analysis, by any measure, little has been said by post-Keynesians on the environment. This lacuna is of significance, not least because of the potent contributions post-Keynesians could make on this vital topic. The remainder of the paper introduces the symposium, which comprises papers by Christensen, Courvisanos, Holt, and Mearman. The papers by Christensen and Mearman offer historical and institutional perspectives on the economics of the environment and in particular post-Keynesian contributions to it. The papers by Courvisanos and Holt offer post-Keynesian programmes of action, within which policy towards sustainable development can be formulated, which hint at the contributions post-Keynesians can make to the economics of the environment.

Keywords: post-Keynesianism; environmental economics; history of thought; policy; sustainable development.

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1 Introduction: post-Keynesians and the environment

There is a long-established concern about the relationship between the environment and human society, particularly its economy. Generally, this concern has focused on the sustainability of current human living practices, given the posited limited capacity of the earth to support life [e.g., 1 and 2]. Occasionally, authors have commented on the

negative impact of economic activity on human standards of living, perhaps through pollution [3]. Recently, moreover, the long-term prospect of human survival has been brought into question in the light of current practices. The possibility of catastrophic events, such as flooding, and our response to them, has recently been considered [4]. Prominent commentators have spoken of environmental problems, particularly those associated with global climate change, as being the greatest current threat to human survival [5].

It might reasonably be expected that these issues should be the most prominent for discussion by politicians, legislators, and experts. Indeed, there has been a steady increase over recent years in the number of people or publications concerned with the environment. There are now several academic journals dedicated to the science and management of the environment (for example, *Trends in Ecology and Evolution*, *Environmental Science and Policy*, *Journal of Environmental Management*, *Ecological Indicators*, *Science of the Total Environment*, and *Environmental Ethics*). Moreover, many academic and practical disciplines, such as Tourism, devote intellectual labour and capital to the consideration of the environment.

This fact also applies to economics. There has been a recent proliferation of books and courses of study on the environment. This is partly because the environment has become a contentious political topic, often split between those either denying the existence of environmental problems or advocating market solutions to those problems which have been acknowledged, and those who argue that governmental intervention and/or a fundamental change in current lifestyles are required. Moreover, as exemplified by Harris [6], there is a bifurcated literature on the environment, between those drawing on neoclassical economics and those drawing on 'other' literatures. This division is best expressed as a distinction between 'Environmental Economics,' which tends to be neoclassical, and 'Ecological Economics,' associated with, for example, Herman Daly, which tends to be heterodox in approach. This split is manifest in various ways, for example via the *Journal of Environmental Economics* and *Ecological Economics*. This journal is another example.

The school of thought in Economics known as post-Keynesianism has made several highly important and influential (if not always acknowledged) contributions to the discipline [7]. That impact mainly reflects the work of its main figures, which have inspired the sub-divisions within post-Keynesianism, often (but not uncontroversially) considered to be the Keynesian (associated with J.M. Keynes), Kaleckian (associated with Michal Kalecki), and the neo-Ricardian (associated with Piero Sraffa). Particularly, post-Keynesians have had considerable impact on the theory of (un)employment (for example, Keynes [8–9]); capital theory (Robinson [10]; Harcourt [11]); distribution (Kaldor [12]; Robinson [13]); business cycles (Kalecki [14]); pricing (Lee [15]; Downward [16]); uncertainty (Davidson [17] *et passim*); money and monetary policy (Davidson [18]; Moore [19]); fiscal policy (Wray [20]; Arestis and Sawyer [21]); and methodology (Dow [22]). Most of these contributions have come in what is called 'macroeconomics', but there is a growing literature on so-called 'microeconomic' issues. Given these contributions of post-Keynesianism to heterodox thought and to economics more widely; given the importance of the environment; and given the significance of economic debate in policy issues on the environment, it might be reasonable to expect that post-Keynesianism has contributed much to the study of the environment. However, post-Keynesianism has had little to say on the environment, relative to the orthodoxy, to

its own body of work, to other heterodox schools, and to the extent of political and social debate on the environment.

This paper first presents a sketch of the evidence of this relative lack of contribution [23]. Assessment of the amount of post-Keynesian work done can be conducted in various ways. First, one could simply survey the work of leading post-Keynesians, to ascertain whether they have addressed environmental issues. Second, one could audit heterodox journals for instances of publication of environmental work. Third, one could search for the existence of a distinctive post-Keynesian approach, as could be found on issues of growth, methodology, or monetary policy. Fourth, one could ask eminent post-Keynesians their opinion.

On the first, suffice to say that virtually none of the leading post-Keynesians, that is, those in senior professorial ranks in major graduate programs, with excellent publication records, have written on the environment. Furthermore, it is clear that only one leading current post-Keynesian has seriously addressed the environment in their work: Paul Davidson. Davidson was the post-Keynesian whose work was most often cited by respondents (see below) to this study's questionnaire. Davidson was in fact one of the earliest modern writers on environmental questions, his work dating back to 1963. Two main areas of interest can be identified in his work: valuation of environmental improvements; and the oil industry and policy towards it.

Going back further in post-Keynesian economics, there are isolated patches of concern for the environment. Galbraith's work [3], in particular, addresses the effects of economic activity on the environment, particularly pollution. He is less concerned than Davidson was with the use of natural resources; Galbraith would fall more easily into the existing category of 'environmental economics'. The same could be said of Kenneth Boulding [24], of whom many would say was a post-Keynesian. Georgescu-Roegen's [25] work might also qualify as post-Keynesian, although it also acts as seminal to ecological economics. Kahn [26] provides perhaps the earliest example of post-Keynesian concern for the environment in a paper which responds to Pigou [27] on the question of 'ideal' output. However, amongst the early post-Keynesians, based in Cambridge, this was an isolated example: Kaldor had really nothing to say on the environment; Robinson's first significant published comment came in her Richard T. Ely lecture to the American Economic Association in 1971 [13].

Winnett's [28] survey of post-Keynesian environmental economics is particularly instructive. Although he offers several useful suggestions for *future* post-Keynesian contributions on the environment [29], Winnett's piece is most illuminating in this context for its almost complete failure to cite *existing* post-Keynesian works. This indicates very strongly that there is no current, distinctive post-Keynesian approach to the environment. Moreover, post-Keynesians are generally not writing on the environment. As an indication, Mearman [30] shows that for the last five years (from 1999 up to the present), the proportion of issues of the *Journal of Post Keynesian Economics* to contain articles with significant environmental content was four out of 21 (19%) [31]. Moreover, Mearman shows that for other favourite journals of post-Keynesians, the numbers are similar.

There are others, writing in what might be called a post-Keynesian tradition, who have published elsewhere. John Gowdy, for example, has published extensively on ecological issues, particularly in *Ecological Economics* (see Gowdy [32–33]; Gowdy and McDaniel [34–35]; Miller and Gowdy [36]). Clive Spash is another example: he has

published extensively in non-economic journals; particularly *Environmental Values* (see Spash [37–42]; Spash and Biel [43]). Moreover, there are other economists who have published in books or have written their own books on the ecology (for example, Vercelli [44]; Jespersen [45]). However, overall, by the three measures – output of leading post-Keynesians, existence of a distinctive post-Keynesian approach, and the frequency of environmental articles in post-Keynesian journals – the hypothesis that post-Keynesians have had little to say on the environment is supported. Moreover, in his questionnaire survey of leading post-Keynesians, Mearman (this volume) shows that most of them agree that post-Keynesianism has had little to say on the environment; indeed, a majority of them struggled to name significant post-Keynesian work on the environment.

2 The symposium: looking backwards and envisioning

This lack of work by post-Keynesians on the environment, combined with my belief that post-Keynesian has useful things to say more generally, and my own political convictions about the environment, prompted me to do two things: investigate why it is that post-Keynesians have had little to say on the environment; and to organise a session at a recent post-Keynesian International Workshop in Kansas City. This symposium comprises the papers which were presented in that session. Two of those papers could be said to be looking backwards: Christensen's and Mearman's; the papers by Holt and Courvisanos are obviously more forward looking and envisioning developments in post-Keynesianism, ecological economics, and environmental policy.

Mearman asked why it is that post-Keynesians have had relatively little to say on the environment. Mearman surveyed leading post-Keynesian authors by postal questionnaire to ascertain their explanations for the relative dearth of work. The questionnaire responses generated several interesting issues, such as the definition of post-Keynesianism, which cannot be discussed here. However, it is a feature of post-Keynesianism, highlighted also by the papers by Christensen, Courvisanos, and Holt, that many authors of different persuasion self-identify as post-Keynesianism and that such theoretical pluralism is tolerated, even embraced by the approach. Across the board, however, there was general agreement (see above) that post-Keynesians had said little on the environment and that there were several key factors in explaining this low output, which took place against a background of growing public political concern about the environment; a concern which did not appear to be shared by post-Keynesians, at least in their published work. This lacuna is significant given the much more developed environmental literature within Institutionalism and Marxism. To explain this anomaly, Mearman focuses on the intellectual and social history of post-Keynesianism. Mearman's evidence suggests that post-Keynesians seemingly had little time to tackle environmental questions, because they were engaged in a struggle to wrestle control of economics from orthodox theorists, by developing a critique of neoclassical economics and by constructing their own theoretical positions on the key issues such as unemployment, as discussed above. Furthermore, the traditional focus on growth is seen as a reason why an environmental perspective has not been developed.

Mearman's paper raises some interesting questions – many of which remain unanswered – and insights into the dynamics of schools of thought: how their ideas develop and how social networks and their geographical location affect the development

of ideas. Moreover, Mearman addresses issues fundamental to the post-Keynesian project, such as, as mentioned above, the definition of post-Keynesianism; and the extent to which post-Keynesians should adopt neoclassical economic tools and methodology. It seems clear that although post-Keynesians have the methodology and approaches which would allow them to avoid the mistakes of neoclassical economics, they remain torn as to whether all orthodox baggage should be dispensed with. This question has particular relevance to the study of the environment: as the papers by Christensen, Courvisanos, and Holt all note, neoclassical tools and their methodological bases are fundamentally unsuited to grasping the environment. However, as Mearman notes, new developments in post-Keynesian methodology on systems thinking – reflecting in some way the earlier concerns of Georgescu-Roegen and Boulding – provide opportunities for progress. Furthermore, that progress can aid the development of post-Keynesianism but also of ecological economics approaches. Mearman's paper therefore ends on an optimistic note.

That optimism is reflected, to varying degrees, in the other papers in the symposium. All three offer encouragement to post-Keynesians that they have the tools and outlook to facilitate the development of new environmental economics theories. At first, though, Christensen's paper appears less optimistic. Christensen's paper offers a *tour de force* of the history of economics and its relation to the history of science. Christensen preempts Mearman's question to argue that the dearth of post-Keynesian environmental analysis reflects their traditional focus on the demand side and their ignorance of production. Some post-Keynesian followers of Ricardo and Sraffa might object to this analysis; however, Christensen preempts them also, by arguing that Ricardo failed to fully comprehend the physical basis of production. Ricardo was by no means unique in this neglect, nor was he the worst, according to Christensen. Rather, he argues, economics has become trapped in a Galilean-Newtonian mindset, which has prevented an effective consideration of the environmental aspects of economic life.

Perhaps unsurprisingly, Christensen trains his first fire on neoclassical economics, whose marginal productivity theory – vital to the entire neoclassical project – violates the fundamental science of matter, energy, and thermodynamics and thus has little useful to say on the issue of sustainability. Furthermore, Christensen's argument, to a large extent roots this failure of neoclassicism in Adam Smith's failure to understand the relationship between energy and production. John Stuart Mill receives similar criticism as one who was not ignorant of the developments in contemporary science but chose not to incorporate them in his economics. Alfred Marshall also contributed to the malaise, by his distinction between land and the other factors of production in terms of scarcity. Christensen acknowledges that there were seeds of ecological awareness in Marshall, but that these failed to sprout. Post-Keynesians also receive criticism: their work in the 1950s and 1960s on the capital controversies was effective in questioning the notion of aggregate capital, but, Christensen claims, was also flawed by a neglect of the physical science of capital. Such a criticism is highly relevant to contemporary concepts such as natural capital, which Holt discusses at some length, but of which Mearman is somewhat critical.

Christensen's optimism springs from his observation that for long periods in economic thought, there was a much greater appreciation of the physical aspects of production, based on an understanding of contemporary science. He highlights the preclassical work of, for example, Thomas Hobbes, William Petty, Francois Quesnay,

and Richard Cantillon, all of whom drew on the contemporary science of, for example, Harvey's circulation physiology. Petty, for example, based his theory of prices in energy and other physical bases. Christensen also acknowledges Nassau Senior's attempts to incorporate Babbage's principles of machine economy. The way forward, then, for post-Keynesianism is to combine many of its existing elements and strengths, such as diversity and methodological pluralism, with a renewed focus on the physical aspects of production. In the latter, post-Keynesians would benefit from revisiting the work of preclassical economists in particular, but also the elements within the work of Ricardo and even Marshall which did show physical (and hence, ecological) awareness. In these ways, post-Keynesianism can make a meaningful development of itself, of ecological economics and of the concept and practical policy implications of sustainable development.

The two papers by Holt and Courvisanos tackle directly the question of sustainability. This is an area in which post-Keynesians are developing effective work. Holt's paper begins with a consideration of the concept of sustainability. He argues for sustainability meaning "support before a collapse" and relates this to the post-Keynesian view of the economy: for instance, the role of government is to support the market economy rather than allow it to descend into Depression. Holt then offers a summary and critique of existing notions of sustainability. Like Christensen and Courvisanos, Holt is critical of neoclassical treatments of sustainability, including the notion of weak sustainability, which assume the perfect substitutability of physical and so-called natural capital – i.e., between man-made and natural resources. This gross substitutability assumption has, together with the assumption of ergodicity, been consistently attacked by post-Keynesians, such as Paul Davidson. Holt also attacks neoclassicism for its pursuit of efficiency for its own sake. Particular criticism is reserved for Mill in this regard.

The main part of Holt's paper is devoted to a constructive comparative analysis of post-Keynesianism and ecological economics. Holt identifies several areas of commonality between those approaches, for example, on the role of prices in addressing environmental concerns, the relationship between growth and the environment, and the notions of equilibrium, complexity, and time. Holt refers particularly to developments in complexity theory pursued by post-Keynesians like Rosser [46] as pointing to a way forward which incorporates nonlinear dynamics, systems theory, and an evolutionary perspective; it also allows economics to move beyond the Newtonian physics and associated tools in which it is currently trapped and also has the 'scientific rigour' which economists tend to demand. It could be argued that complexity theory demonstrates learning by post-Keynesians from the ecological perspective; however, also, as Holt stresses, that relationship is symbiotic. On issues on which, Holt claims, ecological economists and post-Keynesians do not completely agree, such as the precise role of markets, the definition of systems, and the concept of natural capital, post-Keynesians can inform as well as be informed by ecological economists. Furthermore, in their methodological pluralism, path dependency, a scepticism about the positive/normative distinction, treatment of time as historical and events as path dependent and uncertain, post-Keynesians can make significant contributions to ecological economics. Additionally, in so doing, post-Keynesians will remedy their lack of contact with greens, which Mearman identified as a reason for the dearth of post-Keynesian environmental analysis.

Courvisanos argues that post-Keynesians have neglected the questions of the environment and of innovation in their work. Courvisanos's own research [47] has attempted to remedy the latter. In this paper, Courvisanos attempts to rectify both omissions and to suggest ways in which innovation can generate investment which encourages sustainability. In suggesting this, Courvisanos makes several related significant points. Like the other authors in the symposium, Courvisanos is critical of neoclassical economics, which he lambastes for its treatment of sustainability and investment, and for its equilibrium framework, which, he argues, is incapable of dealing adequately with the environment. Further, he argues that neoclassical, static notions of competitiveness have been damaging in preventing innovations which would be environmentally beneficial. However, Courvisanos is also critical of post-Keynesianism and holds that it needs a more sophisticated approach to investment which pays more attention to the types of investment and its environmental consequences.

Like Christensen, Holt, and Mearman, though, Courvisanos is more optimistic about a post-Keynesian approach to the environment. He cites post-Keynesian concepts and work such as complexity theory, procedural rationality, regulation, and cumulative causation which he believes can contribute to the development of ecological economics. In particular, Courvisanos argues that post-Keynesianism can help ecological economists develop a policy framework. Specifically, Courvisanos advocates a synthesis of Kalecki's 'perspective planning' and Adolph Lowe's instrumental analysis and policy discovery process (see Forstater [48]). Both Kalecki's and Lowe's approaches encourage a longer-term approach, which in turn attempts to create short-term incentives to achieve the long-term goal. Lowe's approach in particular focuses on the need to work backwards from a long-term objective and to allow short-term policy to unfold. Crucially, Courvisanos focuses on the broad political and institutional requirement for economic policies which would meet the long-term environmental goal of sustainability. However, as is common in post-Keynesian analysis, such political factors are integral to the entire process, rather than being added on.

All four of the papers share certain characteristics: all are critical of the neoclassical approach, in particular its treatment of the environment; all speculate as to why post-Keynesians have said relatively little thus far on the environment; all are optimistic as to the future and about the capacity of post-Keynesianism to engage in a constructive, symbiotic dialogue with ecological economics in order to advance an ecologically responsible economic framework. For Christensen, more fundamental work needs to be done inside post-Keynesianism to correct past developmental errors and a neglect of the physical before, or at least alongside, a meaningful contribution can be made to the ecological economics project. Holt and Courvisanos are more optimistic: they point to key works in the post-Keynesian canon, most notably in the work of J.M. Keynes and Kalecki, which lay the foundations for a post-Keynesian approach to the environment. Although Mearman argued that the early post-Keynesians had said little directly on the environment, according to Holt and Courvisanos, the foundations are there and it is the task of current post-Keynesians to apply those older insights to the contemporary problem of creating an ecologically sustainable and socially just economy.

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- 30 Mearman, A. (2004) 'Why have post-Keynesians had (relatively) little to say on the economics of the environment?', *Paper Presented to the Post-Keynesian International Workshop*, Kansas City, June.
- 31 By significant content, it is meant that either the article was on an environmental (including natural resource) topic, or that it contained more than a passing reference to the environment. Thus, Davidson [51] and Forstater [52] make reference to the environment. Davidson is counted as having significant environmental content, because it makes a specific point to emphasise environmental issues; however, Forstater is not, because its discussion of social costs, including environmental degradation and clean up [52,p.446], is merely a passing reference. This measure of environmental content has an explicitly qualitative dimension. The same measure is applied to the other journals surveyed below.
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