Heterodox economics:

A common challenge to mainstream economics?

Sheila Dow

1. Introduction

Heterodox economics has been going through a period of change. The most noticeable change has been the drawing together of heterodox economists using different approaches into the larger category of 'heterodox economics'. This has had a series of positive outcomes: notably a growing confidence in heterodox economics, and an increasing interchange of ideas among those taking different heterodox approaches. The increasing duality that this has created, between orthodox and heterodox economics, has had both positive and negative outcomes: a growing cohesion among those seeking to put forward a convincing alternative to orthodox economics, on the one hand, but the temptation to slip into a dualistic mode of thought which is more characteristic of the orthodoxy, on the other hand. While orthodox economics has been criticized for its

exclusivity, as being the ‘right’ approach so that all others are ‘wrong’, there is a danger that heterodox economics might fall into the same habit.

At the same time, orthodox economics has also been undergoing a period of change. In the 1980s it was reasonable to characterize mainstream economics as unified around the commitment to building up a general equilibrium theoretical system (see Weintraub 1985). But there has been increasing evidence of fragmentation, with the development of such apparently diverse research programmes as game theory, experimental economics, evolutionary economics, behavioural economics, complexity economics, and so on (Davis forthcoming). While many heterodox economists (such as Lawson 1997, 2003) continue to focus on the common features of orthodox economics, orthodox economists themselves (such as Pencavel 1991) tend to focus on its diversity.

A particular question posed by these developments is whether the different schools of thought in heterodox economics continue to have a useful role to play, and what that role is. It is the purpose of this paper to address this question. We approach the question in a range of ways, and at a range of levels. (This is an example of a pluralist methodology, something which we will consider explicitly during the discussion.) At the most general level, we can consider schools of thought quite apart from questions of orthodoxy and heterodoxy; is it a good way for promoting the development of knowledge for knowledge communities and/or ideas to be segmented into schools of thought? In this discussion we bear in mind the importance of issues of meaning; what are the implications of different schools of thought employing different meanings? And,

focusing on the orthodoxy/heterodoxy divide, which is the more effective strategy for promoting heterodox ideas – emphasising or de-emphasising differences within heterodoxy?

Much of the discussion of the current state of economics has contrasted it with the fierce debates between schools of thought in the 1970s (Colander 2000, Goodwin 2000, Pencavel 1991). The implication has been drawn that economics has moved on from this, regrettable, kind of division. Here already we see issues of meaning arise – perhaps schools of thought are understood differently now – or indeed differently, depending on school of thought? We start therefore by considering a range of traditional views about schools of thought. We then proceed to consider more recent views of schools of thought. Some of these issues have been discussed in more detail elsewhere (Dow forthcoming). The particular contribution of this paper is to suggest a diagrammatic framework for depicting these different understandings of schools of thought. The case is made that thinking of heterodox economics in terms of schools of thought can be enabling rather than constraining. This argument draws on the argument developed more fully elsewhere (Dow 2004) for structured pluralism. We conclude by considering the strategic issues raised for heterodox economics.

2. Open and closed systems

In considering how schools of thought have been understood, we will use the concepts of open and closed systems. These concepts can be applied to the different levels of

social systems, theoretical systems and systems of thought, and there are connections between the levels (Dow 2001). (Indeed it is the critical realist argument that open social systems require open theoretical systems and open systems of thought; see Lawson 1997, 2003.) But our primary focus here is on systems (or schools) of thought. How we understand the concepts of open and closed systems themselves is a matter for current discussion. For the purposes of this paper we employ the meaning set out in Chick/Dow (2005), which differs, for example, from the critical realist meaning. We define openness and closure as following from a range of conditions. A closed system has fixed, well-defined boundaries, and all variables within the system, and the structure of their interrelations, are identified, and their values either knowable or random. (An open *model* is a closed system, since the exogenous variables are well-defined and either known or random.)

Open systems are those in which *any* of these closed-system conditions is not met. There is a range of possibilities therefore for open systems, since all it takes is for one element of the system to be unknowable, one boundary not to be fixed, one interrelation to be indeterminate (and non-random). So open systems are not the dual of closed systems, but rather they are not-closed systems. The conditions for closed systems are very strict. Mearman (2005) has argued that it is more helpful to think in terms of poles than duals, so that we can think of systems as being more or less close to the extreme closed end of the spectrum. For the purposes of the following argument, however, we

will simplify by referring to closed and open systems, where a closed system is understood to be 'towards the polar extreme of strict closed systems'.

3. 'Old' views on schools of thought

3.1 The orthodox economics perspective

Let us consider first how schools of thought were understood in the 1980s, starting with the perspective of orthodox economics. The most common example given of differences between schools of thought is the Monetarist-Keynesian debate which was conducted in terms of the IS-LM framework. Differences in how the economy functioned were reduced to debates about the relative slopes of the IS and LM curves. To the extent that the differences were not purely technical, they were seen as ideological.

The term 'ideological' in the orthodox literature was used always to disparage. It referred to the import of political values into scientific debate. Since it was taken for granted that science in general, and economics in particular, should be value-free, political values had no place. Introductory textbooks habitually were introduced with a discussion of the distinction between positive and normative economics. The economist was to demonstrate the consequences of different policy stances in a positive manner, but it was for the politician to choose between them.

Within orthodox economics, there were different theoretical approaches, as theory moved beyond general equilibrium theory, dealing in different ways with the difficulties

encountered with specifying the microfoundations of macroeconomics. Thus Phelps (1990) could identify seven different theoretical approaches to macroeconomics, all within orthodox economics; indeed he referred to them as schools of thought. But these approaches all held in common the key characteristics of orthodox economics: rational, atomistic agents with certainty-equivalent knowledge (or some well-defined constraint on full knowledge), a fixed structure of economic relations which were knowable or random, and could thus be expressed mathematically, and clearly defined exogenous variables which produced random shocks. As a positive discipline, economics itself was value-free; disputes in principle could be tested against objective facts. In other words, positive economics (which was understood as coterminous with orthodox economics, and indeed with economics as a whole) was a closed system.

Figure 1: 'Old' heterodox view of economics

This closed system is illustrated in Figure 1 by a solid line defining the discipline. Within economics, the different theories (New Classical theory, New Keynesian theory, etc.) are illustrated as falling within the well-defined boundary of economics. But they are shown with hatched boundaries, to capture the fact that, as evolving systems within the closed system of economics, they are open systems. Since the Monetarist-Keynesian debates were classified as ideological, they fell outside economics proper, belonging rather to normative analysis. The thick closed boundaries illustrate the fixity with which these normative values were associated, and the ferocity with which they were defended. While positive economics was well-defined as orthodox economics, it was recognized that there were other schools of thought beyond Monetarism and Keynesianism. Kantor (1979) for example recognized the roots of the rational expectations revolution in Austrian economics. So there was a perception of interplay between ideas developed within an ideological framework and economics-proper (illustrated by the two-way arrows). The most obvious exception was Marxism, which was understood as an ideological system which operated quite independently of economics-proper, so no connecting arrows are shown.

3.2 The heterodox economics perspective

This period is referred to by Pencavel (1991) as tyrannical. The implication is that there was excessive criticism, from an ideological perspective. He contrasts this with what he identifies by the 1990s as a greater openness of debate, implicitly conducted within the confines of economics-proper. The period is also often associated with the ideas of Thomas Kuhn, which seemed to have removed the grounds for criticism from an agreed set of principles, exchanging it for an 'anything goes' framework. If we think of schools of thought as paradigms, then each has its own set of principles, and therefore any debate across schools of thought is a debate at cross-purposes. These ideas were embraced by heterodox economists as legitimising their alternative paradigms, taking them outside the ambit of criticism on the basis of the principles of orthodox economics (as making insufficient use of mathematical formalism, for example).

From a heterodox perspective, there was no sharp divide between positive and normative economics. Rather, as Myrdal (1953) argued, ideology, in the sense of values, was embedded in economic thought. This is captured in the range of levels at which Kuhn's paradigms are defined. The distinction then between orthodox and heterodox economics was not, as orthodox economists suggested, the distinction between positive economics and ideology, but rather a distinction between paradigms. Each paradigm was defined by its understanding of the real world (its ontology), its methodological principles and the theories which these supported. It was also defined by the meanings attached to terms; 'rational' for example was taken to mean something

very different in Post Keynesian economics from what it meant in orthodox economics. But there was an element of commonality between the different heterodox schools of thought in that they had all adopted a methodology which, while distinctive, in each case was differentiated from the closed-system methodology of orthodox economics (Dow 1985).

Figure 2: 'Old' heterodox view of Economics

This view of the discipline is shown in Figure 2. Orthodox economics is more explicitly seen as a closed system, its boundary being marked by a heavy solid line; the second, lighter, boundary line represents the particularity of meanings associated with that boundary. The radii represent the centrality of the rationality axioms to orthodox economics. But within the resulting structure, there were different theories associated with different assumptions about constraints within the over-arching general equilibrium framework (for example, constraints on expectations formation). Since these theories were continually evolving, as assumptions were revised, they are shown with hatched boundaries.

The different heterodox schools of thought (represented here by four examples) are shown by a light solid line, with a second line to capture particularity of meaning. The boundary is solid, implying only limited differentiation from the closed-system approach of orthodox economics. Indeed in the 1980s there was only limited awareness among heterodox economists of the closed-system/open-system distinction. Further,

schools of thought were regarded (at least in principle) as reasonably well-defined. The objections to such definition referred more to the fact that individuals did not necessarily fit these definitions than that schools of thought could not be understood in terms of a well-defined 'representative individual'. Indeed, the schools illustrated here are shown as overlapping, to reflect the cross-fertilisation of ideas facilitated by individual economists whose thought straddled different schools of thought (like Shackle, who was in the interface between Post Keynesian economics and Austrian economics). Some overlap is also shown with orthodox economics (Hicks being an example of an orthodox economist who nevertheless interacted with Post Keynesian economics). Again, however, no direct connection is shown between Marxian economics and orthodox economics.[i] Within each school of thought, a range of evolving theories is illustrated by hatched lines. But the heterodox schools of thought do not have an axiomatic structure as is shown for orthodox economics.

While we have seen that orthodox economists associated the 1980s with excessive (and inappropriately ideological) criticism, some heterodox economists (such as Fullbrook 2003) have associated it with insufficient criticism. At the time, Kuhn's framework had been seen as supportive of the whole notion of a range of paradigms offered as alternatives to the dominant, orthodox paradigm. But the suggestion now is that Kuhn's framework had been even more influential in protecting orthodox economics from criticism. Just as orthodox principles had only limited purview as far as heterodox economics was concerned, so the principles of heterodox economics were

seen only to apply to heterodox economics. This outcome was reinforced by the emergence of postmodernism, and constructivism more generally, which seemed to remove all grounds for criticism altogether. This development was to change the way in which schools of thought were understood.

4. 'New' views on schools of thought

4.1 The orthodox economics perspective

The view of schools of thought in orthodox economics is coloured by the growing theoretical plurality we noted in the Introduction. The perception of increasing fragmentation in orthodox economics has been welcomed (eg. by Pencavel 1991, Colander 2000, and Goodwin 2000) as an opening-up of the discipline in contrast to the ideological divides of the previous decades. These different theoretical approaches might be called schools of thought, but they were to be differentiated from schools of thought defined by ideology; these new differences were well within the boundaries of 'economics-proper'.

Economics is still seen as well-defined, and there is a consensus that this definition is at the level of method. The same commentators have noted that the increasing plurality of theories has arisen alongside an increasing monism in terms of the method of mathematical formalism. Thus economics is understood to be coterminous with orthodox economics. Since heterodox economics shares the view that economics should

not be defined in this way, it is understood as 'non-economics'. Thus, while debate occurred between orthodox and heterodox economics in the 1980s (even if it was frowned upon as being ideological), the connection is now broken.

Figure 3: 'New' orthodox view of economics

Figure 3 illustrates this perspective. Economics as such is a well-defined (closed) system, defined by method. Anything which does not conform methodologically is treated as non-economics, illustrated by a separate ellipse, with dotted boundary (since it is not well-defined other than in not employing the approved 'economic' method. There is a reluctance to use the term 'heterodox' (see eg Goodwin 2000), in that all economic discourse is now perceived to occur within the 'economics' ellipse. What would once have been heterodox is now seen as just part of the general fragmentation – as long as it employs the appropriate methodology. Anything else by definition falls outside economics. The different theories within economics, as evolving entities, are shown by hatched boundaries. Experimental economics is shown right at the boundary of economics to illustrate its interdisciplinary nature. But experimental economics, rather than psychology, is defined still in terms of method.

The different approaches within orthodox economics also are not seen as well-defined because of the influence of constructivism, which has affected orthodox economics as much as, if not more than, heterodox economics. Weintraub's (1999) account of twentieth-century economics is a good example of constructivism at work.

He shows how different histories may be written from different perspectives; there is no longer any sense that it is possible to identify a 'true' history. Similarly, there is no scope for writing a 'true' account of modern economics.

The heterodox economics perspective

4.2.1 Pure pluralism

Constructivism has had a more explicit role in the development of heterodox thought. Indeed the launch pad for constructivism in the form of postmodernism was a critique of positivist orthodox methodology. Kuhn's framework provided the basis for a critique of any attempt to establish universal appraisal criteria as inevitably being paradigm-bound. But postmodernists extended the critique to any attempt to establish even paradigm-bound appraisal criteria, a position encapsulated in their embracing of the term 'nihilism' (see for example Amariglio/Ruccio 1995). There is no role therefore for methodology as a prescriptive, rather than descriptive, exercise. Further, our understanding of the real world is subjective; it is not even individualistic, since the self itself is fragmented (Amariglio 1988). There is therefore no scope for identifying paradigms defined by shared understandings of the real world, and shared methodologies.

This postmodern reluctance to think in terms of schools of thought, and indeed of the ontologies and methodological principles which define them, is shared by the rhetoric

approach pioneered in modern economics by McCloskey (1986, 1994). According to this form of constructivism, knowledge progresses by means of good conversation. Anything which is thought to impede conversation, like identification with one school of thought or another, or discussion of methodological principles, is to be avoided. McCloskey is not a heterodox economist, and indeed her work arguably has had greater impact on the orthodox reluctance to address methodological issues. Nevertheless she is often cited by heterodox economists (such as Garnett, forthcoming), particularly in support of pluralism within heterodox economics.

While Garnett still sees a role for schools of thought in economics, others who accept constructivist arguments do not. On the one hand, postmodernists see heterodox economics as an open system, with ill-defined boundaries, and including a range of approaches, each with ill-defined boundaries. Problems of meaning are seen as endemic, and contribute significantly to the difficulties with defining boundaries. To define boundaries, ie to define schools of thought, requires shared meaning and shared methodological principles, which are ruled out by nihilism. This is illustrated in Figure 4 by the hatched boundary for heterodox economics and for the approaches within it. Orthodox economics remains well-defined by its mathematical formalist methodology and the consequences for the axiomatic structure, and content, of theory.

Figure 4: 'New' heterodox view of economics: Unstructured pluralism/dualism

Somewhat curiously, the same diagrams may be used to represent critical realism, even though, far from de-emphasising methodology, critical realists focus on it. The constructivist argument is shared, that there is no basis for demonstrable truth. Further, the difference between orthodox economics and heterodox economics is that the former takes a closed-system approach to knowledge while the latter takes an open-system approach. Schools of thought are given a role in critical realism. But the emphasis is on the over-arching open system of heterodox economics, and thus the shared basis for methodological principles. Schools of thought are differentiated merely by their 'ontological commitments', by which is meant their focus of attention within a shared ontology. The distinctions between schools of thought are thus secondary to their shared philosophical principles, and may thus be shown as if they were simply different theories within a single approach, as in Figure 4.

4.2.2 Structured pluralism

While we have been talking of the constructivist approach to schools of thought as a 'new' view, it could be said in fact to be perpetuating the old view of schools of thought as being rigidly defined, providing the basis for destructive, rather than constructive debate. Or, as in Lawson's view, differences between heterodox schools of thought may

be seen as relatively insignificant, and thus the 'old' view of schools of thought was overplayed.

But, by considering further the concept of pluralism, we can see a continuing, constructive, role for schools of thought in heterodox economics. The arguments for pluralism have been discussed ever since Caldwell (1982) first proposed it as the way forward, beyond positivism. The Salanti and Screpanti (1997) volume provides a good range of perspectives, with the editors emphasising both the ethical arguments for openness to a range of approaches as well as the methodological arguments. But there has been less discussion about what pluralism would actually consist of, leaving the impression that what is intended is the pure pluralism discussed above. Caldwell has however always emphasized the role of criticism (see eg Caldwell 1986), which suggests limits to pure pluralism, or 'anything goes'. The difficulty is the grounds on which criticism is to be made.

An answer lies in the study of science, or indeed of a social system like the economy. Pure pluralism is unworkable in practice. Unless there is some shared understanding of reality, some shared meaning of terms, and some shared view about the parameters for argument, then communication cannot take place. There would be no such thing as science. In practise, knowledge communities function by means of some sharing of ontology, meaning and means of argument. There is no need for this sharing to be perfect, and even less for it to be universal. (And we know that there is no basis for any universal standard for knowledge.) What this implies is, rather than pure pluralism, a

structured pluralism; rather than an infinite range of approaches to knowledge, a discrete number of knowledge communities (or schools of thought). Further, given the need for open systems of knowledge to address an open-system reality, this structure itself would be open (and thus provisional), with overlap between communities, shifting meanings and methodologies as reality and ideas evolve.

While it has been argued that, for functionality, such communities must form for any shared knowledge to develop, we can see further that identifying these communities can play a constructive part. Classifying economics as a set of communities according to ontology, meanings and methodologies helps us to understand each other better, communicate better (albeit imperfectly) and benefit from each other's ideas, which can then be adapted to different frameworks. Perhaps this argument is best put by means of an anthropological analogy. When travelling to visit a new country, we benefit most (and indeed behave ethically) if we attempt to learn something of the local language and customs. Then we have a better chance of understanding the people and circumstances we come across. What we learn from the experience may not be exactly how matters are understood within that country, but nevertheless can enhance our own experience, just as our encounters may enhance the experience of those we meet.

Figure 5: 'New' Heterodox view of economics: Structured pluralism

Figure 5 attempts to illustrate this view of identifying schools of thought as a constructive measure, enabling rather than inhibiting the building up of knowledge (however defined). Orthodox economics is still shown as axiomatically structured, with a range of evolving theories. It is defined by a thick line, representing a positivist methodology, with a second line to indicate particularity of meaning. But these are both shown as hatched, to capture the influence of constructivism in encouraging an avoidance of being explicit about methodology, which introduces the possibility of some openness. Mathematical formalism is still taken to define economics, but without methodological justification, and with most decisions (about which techniques to use, and how) being tacit.

Heterodox economics is defined in terms of a range of schools of thought (illustrated here by four schools). Structured pluralism is shown by double boundaries, which indicate that they are reasonably well-defined, although these definitions are provisional and partial. The purpose of defining the boundaries at a particular time is to aid communication; the process of changing these definitions as thought evolves itself is aided by having an initial set of definitions as a point of reference. Again there is overlap between the different heterodox schools of thought, and between some of these and orthodox economics.

5. Conclusion

We have made the case here for schools of thought to make a constructive contribution to the practice of economics, and to critical debate. The (inevitable) failure of positivism has meant that a range of approaches can be sustained, where none can be demonstrated to be superior to the others. That range is limited by the practical requirement for knowledge to be developed within knowledge communities of a minimum size. Seen in this light, we can continue to move on from the old idea of schools of thought as citadels to be defended at all costs, to a more helpful view of schools of thought as an inevitable feature of the scientific landscape, ie as a means of organising knowledge.

There remains however the strategic question. Knowledge communities function in an environment where power can be exercised. Far from the new fragmentation of orthodox economics opening up a new era of free competition between ideas (as suggested by Pencavel 1997), we continue to experience the exercise of market power by the socially-dominant orthodoxy. This power has now been given additional institutional form by such developments as the UK's Research Assessment Exercise, which distorts research programmes and hiring decisions according to what is *believed to be* the likely judgement of the panel of peers (see further Gillies 2006). In such an environment, would it be better to downplay divisions within heterodox economics?

Fragmentation as such need not be an issue, in that there is widespread recognition that there has been increasing fragmentation within orthodox economics, and this has been welcomed by many. Indeed heterodox economists are much better placed to

handle fragmentation among schools of thought, given the heightened awareness of methodological issues (relative to orthodox economists). The case has been made that using schools of thought as a means of classifying different approaches enables constructive criticism and more effective cross-fertilisation of ideas. It is, in contrast, unhelpful for it to be used as an inhibitor of communication. This applies to communication across the heterodox-orthodox divide as much as to communication across divides between heterodox schools of thought. The development of more *fora* for communication among heterodox economists using different approaches is thus most welcome, and there is no reason why that should not be extended to cover orthodox economics were there to be more awareness there of what is involved in communication across schools of thought.

There is indeed a case, consistent with structured pluralism applied to a plurality of methodologies, for a methodology which is itself structured and pluralist. Specifically this would involve a range of methods. This itself can be applied to strategy for heterodox economics. As argued in more detail elsewhere (Dow 2000), heterodox economics can be promoted in a plurality of ways: developing theory within schools of thought, persuasion, criticism and learning across heterodox schools of thought, and persuasion, criticism and learning with respect to orthodox economics. There is no justification for a monist strategy, any more than a justification for a monist methodology of economics.

The usefulness of the concept of schools of thought therefore rests on how they are understood. As a set of defences they can no longer be justified. But as long as they are understood as an aid to learning and communication, they have a constructive role to play in the development and communication of heterodox economics in all its diversity.

References

Amariglio, J. L. (1988), 'The body, economic discourse and power: An economist's introduction to Foucault', *History of Political Economy*, 29, 583-613.

Amariglio, J. L. and D. F. Ruccio (1995), 'Keynes, Postmodernism and Uncertainty', in Dow, S. C. and J. Hillard (eds), *Keynes, Knowledge and Uncertainty*, Aldershot: Edward Elgar, pp. 334-56.

Caldwell, B. J. (1982), *Beyond Positivism*, London: Allen & Unwin.

Caldwell, B. J. (1986), 'Towards a broader conception of criticism', *History of Political Economy*, 18, 675–681.

Chick, V. and S. C. Dow (2005), 'The meaning of open systems', *Journal of Economic Methodology*, 12, 363-382.

Colander, D. (2000), 'The death of neoclassical economics', Journal *of the History of Economic Thought*, 22, 127-143.

Davis, J. B. (2006), 'The Turn in Economics: Neoclassical Dominance to Mainstream Pluralism?' *Journal of Institutional Economics*, 2, 1-20..

Dow, S. C. (1985), *Macroeconomic Thought: A Methodological Approach*, Oxford: Basil Blackwell.

Dow, S. C. (2000), 'Prospects for the progress of heterodox economics', *Journal of the History of Economic Thought*, 22, 157-170.

Dow, S. C. (2001), 'Modernism and Postmodernism: A Dialectical Process', in Cullenberg, S., Amariglio, J., and D. F. Ruccio (eds): *Postmodernism, Economics and Knowledge*, London: Routledge, pp. 61-76.

Dow, S. C. (2004), 'Structured pluralism', *Journal of Economic Methodology*, 11, 275-290.

Dow S. C. (forthcoming): 'A Future for Schools of Thought in Heterodox Economics', in: Harvey, J., and R. Garnett (eds), Future Directions in Heterodox Economics, Ann Arbor: University of Michigan Press.

Fullbrook, E. (2003), 'Real Science is Pluralist', in: Fullbrook, E. (ed), *The Crisis in Economics*, London: Routledge, pp. 118-24.

Garnett, R. (forthcoming), 'Paradigms and Pluralism in Heterodox Economics', in Fullbrook, E. (ed.): *A Handbook of Economic Pluralism.* Cheltenham: Edward Elgar.

Gillies, D. (2006), 'Why Research Assessment Excises Are a Bad Thing', *Post-Autistic Economics Review*, 37, 2-9.

Goodwin, C. (2000), 'Comment: It's the homogeneity, stupid!', *Journal of the History of Economic Thought*, 22, 179-184.

Kantor, B. (1979), 'Rational expectations and economic thought', *Journal of Economic Literature*, 17, 1422-1441.

Lawson, T. (1997), *Economics and Reality*, London: Routledge.

Lawson, T. (2003), *Reorienting Economics*, London: Routledge.

Mearman, A. (2005), 'Sheila Dow's concept of dualism: Clarification, criticism and development', *Cambridge Journal of Economics*, 29, 619-634.

McCloskey, D. N. (1986), *The Rhetoric of Economics*, Brighton: Wheatsheaf.

McCloskey, D. N. (1994), *Knowledge and Persuasion in Economics*, Cambridge: Cambridge University Press.

Myrdal, G. (1953), *The Philosophical Element in the Development of Economic Theory*, London: Routledge & Keegan Paul.

Pencavel, J. (1991), 'Prospects for economics' *Economic Journal*, 101, 81-87.

Phelps, E. S. (1990), *Seven Schools of Macroeconomic Thought*, Oxford: Oxford University Press.

Salanti, A., and E. Screpanti (eds) (1997), *Pluralism in Economics*, Cheltenham: Edward Elgar.

Weintraub, E. R. (1985), *General Equilibrium Analysis*, Cambridge: Cambridge University Press.

Weintraub, E. R. (1999), 'How should we write the history of twentieth-century economics?', *Oxford Review of Economic Policy*, 15, 139-152.

[i] The precise details of these figures are of course highly contestable. The priority here is to suggest a framework within which detail can be debated.