

The Logic of Post Keynesian Economics

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Despite its diversity post-Keynesian macroeconomics has consistently respected two canons, one of which is that the future is uncertain, and the other a method that I will call the economics of the real world. Uncertainty has been used to account for the volatility of investment and the possibility of sustained economic disequilibrium, but it also signifies a departure from neo-classical economics because the maximisation of utility or profits is not meaningful if the future is unknown. The economics of the real world means we cannot necessarily attribute to the economic phenomena the properties of a theory which has been simplified for purposes of explanation: post-Keynesians reject the classical method of making economic theory itself, rather than the web of economic relationships, the proper focus of intellectual interest. These two canons are not always obviously consistent, since uncertainty is understood to mean *complete* ignorance, which is itself a simplifying assumption. However both can arguably be discerned in the *General Theory*, and uncertainty accounts for economic crises, which are otherwise difficult to explain.

Hence the significance of recent insights into Keynes's theory of logical probability, which theory, though it was formally developed only in his *Treatise on Probability*, permeated all of his works. The reader can get some sense of the logical theory of probability from chapter eighteen of the *General Theory*, where after summarising the formal elements of his theory, such as the marginal efficiency of capital and the multiplier, Keynes described how his economic theory might assist policy formulation:

There is not one of the above factors which is not liable to change without much warning, and sometimes substantially. Hence the extreme complexity of the actual course of events. Nevertheless these seem to be the factors which it is useful and convenient to isolate. If we examine any actual problem along the lines of the above schematism, we shall find it more manageable; and our practical intuition (which can take account of a more detailed complex of facts than can be treated on general principles) will be offered a less intractable material upon which to work (GT: 249).

As this and other passages indicate, Keynes did not imagine that central controllers would have to wrestle with a completely uncertain situation. He thought that the economy was too complex to be fully modelled, from which he concluded that an economic theory should be a simple statement of strong relationships rather than comprehensive. However Keynes also assumed that the policy maker would have partial information about relevant variables that were not explicitly included in the theory. To facilitate decision making therefore, a theory needed to be supplemented by the policy makers' reasoned judgement or informed intuition.

In his formal philosophy of probability Keynes presented radical uncertainty as nothing more than an extreme at the end of the range of possible states of knowledge. Keynes noted that under conditions of radical uncertainty a decision might well be made according to nothing more than whim or chance, but the main theme of the *Treatise on Probability* was the possibility of rational decision making given the existence of non-quantitative information. It is therefore notable that post-Keynesian economics has not analysed decision making in conditions of non-quantitative partial knowledge. A student who wants to get some sense of

the interacting logic and intuition that is evident in Keynes's account of macroeconomic decision making still has to read the *General Theory*.

So far this probability theory has been cordoned off at the philosophic level, but it is obvious that if it were embraced there would be implications for macroeconomic theory. It might be expected that a theory of partial knowledge would be potentially subversive of the IS-LM system, which system implicitly assumes that the central controllers have super minds. However the *Treatise* also invites us to re-examine the uncertainty canon, and to this extent raises issues concerning the direction of post-Keynesian economics.

Revisiting the Post-Keynesian Debate

Because of its nihilist policy conclusions the assumption of radical uncertainty has always been objectionable to the critics of post-Keynesian economics. Radical uncertainty leaves the policy maker, as well as the economic agent, without an instrument of thought; if we ask what in particular is the simple macroeconomic model that is supposed to be elaborated by the policy makers' judgement and intuition, post-Keynesian economics has no satisfactory answer. This is why Solow complained that post-Keynesian economics offered "no systematic description or example of what it conceived to be the right way to do macroeconomic theory"; and Coddington declared that if the post-Keynesian task were accomplished, "there would be nothing left but for the whole profession to shut up shop." Whatever the defects of the IS-LM system, the post-Keynesians have had no adequate defence against the taunts of their neo-classical critics, because under conditions of radical uncertainty a carefully formulated macroeconomic policy is a contradiction in terms. Regardless of how narrow and mechanistic IS-LM may be, policy makers will not replace a sometimes operational theory, whatever its faults, with nothing; for macroeconomic policy cannot and will not proceed in an intellectual vacuum.

To report these views is not to deny the force of the post-Keynesian objections to the IS-LM model. The essential objection to any general equilibrium system is that it cannot process, and is not designed to help the mind assimilate, qualitative information. The IS-LM model and other general equilibrium versions of Keynesian economics are built on equations that were derived by assuming certainty, and yet macroeconomic crises only occur because the state of knowledge is incomplete. To put the matter simply, if the IS and LM equations were known to the policy maker - or even if the policy maker could rely on the approximate existence of these curves - then unemployment would not be the problem that it is. But these objections to the IS-LM system follow because we cannot assume quantitative knowledge about the future, and do not require that the future should be utterly dark.

Shackle's Nihilism

It was Shackle who taught the post-Keynesians that radical uncertainty would always dominate the economic world and exclude any possibility of rational action. Expectations, he said, "can undergo complete transformation in an hour or even a moment, as the patterns in the kaleidoscope dissolve at a touch"; and even if the economic forms of uncertainty were assumed away, total social disintegration "can happen abruptly in a manner unforeseen, unplanned and perhaps almost universally undesired". Because uncertainty was total there was no such thing as qualitative knowledge: "Any and every probability greater than zero can correspond to perfect possibility", meaning that any probability not equal to zero was equal to one.

Uncertainty was not a specifically Keynesian assumption, and in particular Frederick von Hayek regarded it as a stimulus to a creative response. The difference between Hayek and Keynes did not lie so much in their perceptions of uncertainty, as in their diametrically opposed reactions to what it meant. Whereas uncertainty led Keynes to develop a different

way of understanding the economy - his real world method - uncertainty led Hayek into an attempt to *save* classical economics. Hayek postulated a "division of knowledge" between the economist who only understood classical economic theory in the abstract, and the agent whose knowledge was restricted to a private domain of consumption and production. And Shackle, despite his great admiration for Keynes, also postulated a division of knowledge.

In other words the post-Keynesian theory of expectations has been derived from a source that was fundamentally hostile to an economics of the real world. Tony Lawson and I have shown that Shackle imposed an interpretation on Keynes that omitted the element of deliberation and reasoned judgement that Keynes had once made central. The *General Theory* is not a nihilistic book, and as Shackle admitted, it explicitly indicated the possibility of rational action. The essential irrationality of economic life was a discovery made by Shackle himself; Keynes, according to Shackle, supposedly failed to understand his own theory. "The kaleidic method ... was invented and used unconsciously and by accident, and exists in the *General Theory* as a mute, unformulated possibility". Subsequently that mute possibility became one of the themes of post-Keynesian economics.

The Complementarity of Uncertainty and Judgement

The nihilism that Shackle wrongly attributed to Keynes has historically been used as a weapon against the tradition in which Keynes was located. Philosophic nihilism was first enunciated by David Hume, the eighteenth century sceptic and the first neo-classical economist, in the course of his efforts to replace the Aristotelian world view with a "Newtonian", or mechanical, version of social science. Hume argued that the radical uncertainty inherent in the human condition negated the possibility of practical reason. Logical and mathematical theorising were the only possible forms of intelligent thought.

Keynes's *Treatise on Probability* was not intended to prove that we all float on the Great Sea of Unknowing. To the very contrary, Keynes's target in the *Treatise* was Hume, and his main objective was to refute the very doctrine of radical uncertainty which would ironically be attributed to Keynes himself. A reader who picks up the *Treatise* will see that chapter one begins by quoting Leibniz with approval and foreshadowing a new type of logic:

J'ai dit plus d'une fois qu'il faudrait une nouvelle espèce de logique, qui traiteroit des degrés de Probabilité.

That was the central argument; Keynes had conceived of a new species of logic which, unlike formal logic, applied when there was partial and non-quantitative knowledge. Keynes defined probability to include a wide range of information, from anything short of luminous certainty to complete ignorance, and argued that everyone used probable logic all the time. The fact that people were not omniscient did not doom them to lives of brute unreason.

We are not dealing here with a mistaken scholarly interpretation of Keynes but with a major shift in Keynesian economics which has been every bit as significant as the neo-classical misinterpretation of Keynes. It is a myth that Keynesian economics went off in a single false direction. Rather, Keynesian economics bifurcated towards two poles, one of which assumed that the policy makers possessed full knowledge, and the other of which emphasised that "we simply do not know". Yet can we conclude even from this phrase that Keynes denied the existence of qualitative knowledge?

About these matters there is no *scientific* basis on which to form any *calculable* probability whatever. We simply do not know. (Keynes, XIV: 114, my italics)

Surely both versions of Keynesian economics have made contributions. At the very least the reduction of the *General Theory* to a few equations was a useful simplification that encouraged the permeation of such important ideas as the deficiency of aggregate demand and the possibility of countercyclical action. On the other hand Shackle was right to protest that the IS-LM model was highly misleading because it failed to portray the volatility of the

economic system; and as Paul Davidson said, the whole principle of deficient demand was discredited when the limits of the IS-LM model became apparent in the nineteen seventies. But the main point is that between them these two different versions of Keynes, a total knowledge system and a total ignorance system, have defined away the central range of experience.

As a result that there is a disastrous ghost and a machine dichotomy in Keynesian economics. Intermediate states of knowledge between radical uncertainty and omniscience, which are the proper concern of macroeconomic theory, have been ignored by Keynesian economists. The classical theory of quantitative expectations has not been challenged by a serious intellectual alternative because Keynesians have recoiled from recognising qualitative expectations and the logical process of judgement. Their objection should not be to rationality, but to the assumption that all knowledge could be put in quantitative terms. Yet Keynesians stopped thinking in terms of pragmatic evaluation and response.

The Economics of 'as If'

Post-Keynesians are inclined to reject the neo-classical version of Keynesian economics, even when it is formulated by sympathetic Keynesians such as Solow and Leijonhufvud, because they seem committed to theories of utility maximisation which are inconsistent with the possibility of unemployment. Profits and utility can only be maximised except in conditions of perfect knowledge, which conditions are incompatible with deficient demand. No one can maximise anything against an unknown constraint; maximisation requires that the constraint is known, and uncertainty means that the constraint is not known. Keynes was well aware of this contradiction, which was why he linked the *General Theory* with attacks on utilitarianism, Bentham and rational economic man.

Monetarists escape this contradiction very simply by saying that the investor acts *as if* he were maximising profits, just as (this is the example that Milton Friedman gave) the professional billiards player acts as if he understands the laws of mechanics. Such "as if" behaviour, which is now graced with technical appellations such as act-utilitarianism or consequentialism, is plausible when the end is declared and simple and the degree of uncertainty is low. However "as if" market behaviour still implies Say's Law, because investors who acted "as if" would have no speculative demand for money, and supply would create its own demand. The "as if" hypothesis is inconsistent, just as certain knowledge is, with the phenomena of cyclical unemployment.

Shackle was well aware of this contradiction between classical value theory and Keynesian monetary theory, and he tried to solve the conundrum by developing his version of the "division of knowledge". Instead of unambiguously rejecting classical economics, Shackle introduced a "two domains" model (the actual term was applied much later by Gerrard) into economics. This drew a strict dichotomy between "objective" (or neo-classical) economic theories that abstracted from uncertainty; and "expectational" (or Keynesian) theories that recognised uncertainty but were too loose to have a practical application. On the neo-classical domain where certainty could be assumed decision making could proceed according to neo-classical precepts, which were useful even though they were not ultimately true. On another and entirely separate sphere where radical uncertainty reigned Keynesian economics really was true, but the only point of Keynesian theory, apart from providing an explanation of the demand for money, was to promote creative contemplation about the existential problems of life. The conclusion was that a macroeconomic theory could have no policy implications ("the test of success in an expectational system is the maximum attainment of a good state of mind ... the expectational test is to be applied *ex ante*"), because neither the policy maker nor the economic agent could have a rational motive for action.

I do not accept that Keynes secretly embraced an "as if" philosophy that he failed to ever mention, and that was a close cousin to the utilitarianism he repeatedly and emphatically denounced. Nevertheless the objections to the two domains model do not depend on what Keynes might or might not have thought:

- (a) In the first place it is not true that "as if" maximisation is possible whenever the degree of uncertainty is less than total. The Keynesian controllers who were mentioned at the beginning of this paper did not know enough to optimise, and yet they had some knowledge of the macroeconomic situation. A whole range of situations is excluded by the two domains model, because uncertainty is not complete and yet neither is it sufficient to allow as if maximisation.
- (b) The *relative* unpredictability of a macroeconomic situation might still be sufficient to cause volatile economic behaviour, even though uncertainty falls short of total ignorance. Indeed, it is very dangerous to imply that only conditions of total and radical uncertainty can create unemployment and macroeconomic crises. Experience indicates that unemployment is a recurring norm, but no one can argue (at least without cobweb metaphysics) that the public's ignorance of commercial prospects is always unqualified and complete.
- (c) The two domains model adopts a deliberately misleading scientific method. It would be ridiculous to suggest that Euclidean geometry is a separate theory to non-Euclidean geometry, which latter supposedly comes into play only at extreme points where the parallel lines intersect. The fact is that the general case is non-Euclidean geometry that reduces to the Euclidean version when the axiom of parallels can be assumed. Likewise in macroeconomics, the general case is an extended sense of judgement or practical reason, that reduces to optimisation only when it can be safely assumed that there is something like full information about the future.

Macroeconomics would be very simple if we all lived on two worlds at the same time. There would be no macroeconomic problem on the classical world where people knew everything, and there would be nothing to be done on the radical uncertainty world because cause and effect would have broken down. Macroeconomic problems arise because in reality there is usually some information about the future but never enough. Like Blake's heaven and hell, ignorance and knowledge mingle co-extensively throughout the world, and are rarely met in a pure condition.

Practical Reason and Macroeconomic Theory

In conclusion Keynesian economics should be depicted as *the economics of uncertainty and judgement*, rather than as the economics of radical uncertainty, because the point of Keynes's theory was to mentally organise the facts prior to evaluation and *practical action*. If only post-Keynesian economics could formally incorporate the need by both agents and central controllers to respond to qualitative knowledge, it might emerge from its intellectual ghetto, and assume its proper position at the centre of macroeconomic discussion and debate. However a move towards the centre should not be made by making concessions to neo-classical economics that are unworkable and false. The only genuine way, whether it succeeds or not, is to try to convince neo-classical economists that their epistemology is presumptuous and their theories are only part of a wider truth.

If such an endeavour is to succeed it should not be seen or presented as anti-theoretical, any more than (say) the recognition that oligopoly is a common market form is an anti-theoretical observation. There can be no general equilibrium theory of macroeconomics for the same reason that there is no general theory of microeconomics, i.e. because reality is complex and an exact theory needs to make unrealistic and restrictive assumptions. If either the IS-LM or rational expectations theory were true there would be no trade cycle, because the

central controllers or the markets would smooth it out, and if Shackle's nihilism were true we would all live in some sort of bedlam or chaotic hell. But even though it is nonsense to claim that these particular theories are general, they can usefully illustrate tendencies, and be relevant to particular instances provided their assumptions are fully understood. To reply to one of Coddington's points, I agree that post-Keynesians should not try to convince model builders of the folly of their ways; but post-Keynesians should try to convince model builders of their assumptions hidden in their ways, especially given a widespread tendency to ascribe to the real world assumptions that have been made for theoretical simplification.

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