

Methodology, Macroeconomics and Time: 25 years after

Macroeconomics After Keynes

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Abstract

Paper uses the 25th anniversary of the publication of *Macroeconomics after Keynes* (MAK)¹ to examine Victoria Chick's contribution to methodological debate.

First, the circumstance of the publication of MAK is examined. 'Keynesianism' was in retreat and a US strand of post-Keynesian economics (PKE) was emerging as a distinct – and somewhat coherent – school of thought (I have in mind Davidson and Moore supported and encouraged – even motivated – by Hicks and Kaldor). This was successor to a number of individual contributions, not least Weintraub, Eichner and Minsky on one side of the Atlantic, and the Cambridge post-Keynesians on the other.

The US strand appeared to develop 'Keynesianism', the individual contributions to extend the *General Theory*. VC demanded a return to the *General Theory* itself. Her approach was distinct especially given her emphasis on methodology.

Underlying this methodological approach was her recognition of the necessity of a formal and substantial treatment of *time*. She understood and interpreted the *General Theory* as a theory of the macroeconomy that took time seriously. Equally, not taking time seriously was the greatest failing of the 'Keynesian' interpretations.

Three aspects of her discussion are emphasised:

- the methodological detail, with time in this central and motivating role;
- how the theoretical components of Keynes's theory are interpreted according to a distinct time sequence of events, but with feedbacks from any one marketplace to any other (drawing the analogy of frames in a film); and
- the transition from the static model of a dynamic process in part II of her work to the system in motion in part IV.

¹ VC's books (1973, 1983 & 1992) will be referred to by their initials: *TMP*, *MAK* and *MMK*.

The reception of *MAK* is examined, with emphasis on the extent to which reviewers picked up the methodological theme. And lastly, given space and time, the impact of *MAK* on present post-Keynesian debates will be questioned, not least given Davidson's attack on "Babylonian incoherent babble", and the worst prevailing notions that the *General Theory* is a static theory.

1. Introduction

As King (2002, p. **) emphasises, for Victoria Chick Keynes's revolution was one of method. Even though it was rooted in Marshall rather than Walras, the *General Theory* broke with the existing methodology of economics, to an extent that Keynes probably did not recognise and that his immediate (or at least most popular) successors certainly did not recognise. Through methodology, VC attempted to restore Keynes's economics. The central feature of this restoration and treatment of Keynes's theory was *time*.

While other post-Keynesians erected their structures around uncertainty and endogenous money, both notions were taken for granted by VC, and only treated as relevant in the context of a proper treatment of time. By contrast Walrasian and then Keynesian economics were both static systems, of scant relevance to the real world, especially to the understanding of the macroeconomy.

But to an extent that is probably not widely grasped, a theory of an economy in time is difficult, and bears very little similarity to existing theories. Perhaps for this reason, while Chick's Keynes has stimulated some authors, it has repelled the mainstream and seemingly even a good number of post-Keynesians.

Yet for the present author the need to take time seriously is a simple truism, for economics as much as for physics, probability, statistics, philosophy and most obviously history. The purpose of this paper is then to re-iterate this aspect of Vicky's vision, as central to methodology and central to a genuine understanding and appreciation of Keynes and of the world we live in.

The discussion proceeds as follows.

- In section 2, the context for her early work is outlined, with Keynesianism in retreat under the assault of monetarism and post-Keynesian economics emerging as a increasingly coherent alternative. VC's academic identity emerges in parallel with the same events.
- Section 3 turns to *MAK*. An overview of the work is presented drawing out how the theme of time underpins the whole of the discussion.
- Section 4 examines the impact of *MAK*, beginning with the reviews and then looking at the development of mainstream and post-Keynesian economics over the subsequent twenty five years.

- Section 5 addresses Paul Davidson's recent challenge to Chick's methodology which seemingly arose from debates on John King's history of post-Keynesian economics (PKE), and his development of his own – rather peculiar – methodology.
- Finally in section 6, I offer my own views of a greater relevance to the *General Theory* to practical policy than even VC maintains in *MAK*, and argue that the financial crisis is starkly exposing the invalidity of mainstream macroeconomics and the even greater importance of a return to Keynes's work.

2. Context and Early Insights

In the late 1960s the 'Keynesian' system that had been propagated through the lecture theatre and textbook was under attack from all sides. Monetarists saw deep flaws in its policy implications, especially with respect to inflation, and 'Keynesians' themselves began to criticise its theoretical construction. Curiously the latter was perhaps motivated by J. R. Hicks himself, with the first substantial critique to achieve prominence by his pupil Clower (1965) and then developed by Clower's pupil Leijonhuvud (1968) in the celebrated *On Keynesian Economics and the Economics of Keynes*.

Of course these attempts had been preceded in the UK by certain Cambridge post-Keynesians, most obviously Richard Kahn and Joan Robinson, with Michal Kalecki's and Nicholas Kaldor's contributions also regarded as important, especially for the later development of post-Keynesianism. Sidney Weintraub is justly celebrated as the first US post Keynesian; Hyman Minsky's major contributions came later (in the 1970s), but the importance he attributed to Keynes was evident to VC well before that.²

But Hicks's challenge was most fulsomely responded to by Paul Davidson (Weintraub's pupil). In 1972 Davidson published his *Money and the Real World*,³ in the same year he participated in the famous *Journal of Political Economy* Symposium for the future of macroeconomics, and in 1978 he and Weintraub established the *Journal of Post Keynesian Economics*. His book positioned his post-Keynesianism as successor to Leijonhuvud's work and was critical of that work in a manner that was in accord with Chick's emerging critique:

... trapped by his desire to use a Walrasian framework as the Rosetta stone for comparing Keynesian economics with the economics of Keynes, is unable to

² See the preface to *MAK*. Minsky's post-Keynesian credentials have been challenged by King (2002, p. 119), who argues his true "affinities were with the New Keynesians", and Davidson (2003-4, p. **) has re-enforced this charge: "Minsky was, and always wanted to be, a mainstream Keynesian who used the Modigliani variant of the ISLM system and whose major distinction from other mainstream Keynesians was that he possessed knowledge of actual real world financial markets". [REF] It is therefore unclear what he was doing trying to persuade his students, including VC, to read the *GT*.

³ Preceded by an article of the same name.

deal with monetary phenomena in his analysis of either school. (Davidson, 1978, p. xiii)⁴

From a methodological perspective, Davidson accords the greatest possible prominence to uncertainty, with time as the motivating factor:

Since production takes time, ... the entrepreneur must recognise that he will have to undertake contractual commitments in order to secure the services of the factors of production over a period of time to produce a flow of goods whose value can never be known in advance. ... Accordingly pricing, production, and purchasing decisions are, in the real world, always made under conditions of uncertainty. (*ibid.*, p. 13)

More recently, in his biography of Keynes, Davidson (2007, pp. 185-6) has told of how he converted Hicks to his cause. He met Hicks at a conference in 1971 and then privately on a number of occasions; these culminated in Hicks's own 'recantation' (Davidson's word, *ibid.*) of *IS-LM* (see eg. Hicks, 1980-81) and his concession that that his own approach was nonergodic (in a private letter to Davidson dated 12 February 1983, *ibid.*). In parallel, other post-Keynesians emerged into the limelight: Eichner, Kregel and Roy Rotheim. Then in the early editions of *JPKE* Basil Moore (eg. 1979) took up the endogenous money theme that is regarded as originating with Kaldor (though see footnote 15).

In the Preface to *MAK* VC confesses to initially not getting Minsky's attempts to teach her Keynes. She began her research as a monetary economist, and to commentate on the emerging Keynesian *versus* monetarist debate.

Her dismay at the manner in which the debate was conducted, the rigidity and narrowness of the opposing perspectives, and the consequently inadequate treatment of fundamental theoretical issues in monetary economics would lead to the emergence of her own theoretical identity. "Bob Clower's 1965 paper" was also "a great breakthrough" (*MMK*, p. 55) in her understanding. As she records, the first "published guidepost of her journey out of neo-classical Keynesianism" (*MMK*, p. 81) was a paper 'Financial Counterparts of Saving and Investment and Inconsistency in a Simple Macro Model'.⁵⁶ In this she challenged "both the separation of *IS* from *LM* and the application of Walras' Law to the *IS-LM* model" (*MMK*, p. 81). In doing so VC was already "facing up to the problem of time in economics" [DISSENTING ECONOMISTS, need REF];

[W]hen finance is considered explicitly, the model is shown to be dynamic, and the 'equilibrium' solution, with the exception of the stationary-state equilibrium, holds only for an instant of time. (*MMK*, p. 82)

⁴ In the preface to the second edition, Davidson shows that Leijonhuvud conceded his point (1978, p. xviii).

⁵ As with much of her early work, mainstream journals showed little interest. The paper was completed in roughly 1965, and not published until 1973 in *Weltwirtschaftliches Archiv*, Band 109, Heft 4.

⁶ The title indicates a theme that she would return to time and time again: the relation between saving and investment in a monetary economy. There is insufficient space for an adequate discussion, but see in particular Chick (1997).

In parallel she became dissatisfied with Clower's solution: "... although Clower had done something very important, what he had said was not, actually, quite right" (MMK, p. 55). Her approach foreshadowed Davidson's critique of Leijonhufvud and her coming contributions:

In contrast [to Clower's discussion], the *General Theory* presents a model of a *production* economy, using *money*, moving through *time*, subject to *uncertainty* and the possibility of *error*. Is it any wonder that Walras' Law does not hold!? (MMK, p. 59)⁷

As she put it: "... I saw standard macroeconomics crumble and run through my hands. ... I turned back to the *General Theory* as a result of my disillusionment, and my career thus changed its course" (MMK, p. 81).

Neither paper was well received by colleagues and by referees of the leading journals. VC had chosen to attack the theoretical validity and foundations of the mainstream debate that most were celebrating as a profound intellectual conflict.⁸ She realised that only a book would serve her purposes, and in 1973 published *The Theory of Monetary Policy*.⁹ The book was a critical examination of that debate, but also the beginnings of an attempt at unravelling real solutions to the problems treated so lightly in the mainstream. In her introductory remarks, time was again prominent:

Another major difference is ... the choice between a model which is static in nature and one which is truly dynamic. That is where Davidson's notion of Keynesian theory departs from the static interpretation held by Tobin, Patinkin, and Brunner and Meltzer in the *JPE* symposium It is the attempt to move away from the static framework that makes Keynes's *General Theory* and the Radcliffe *Report*, for example, so untidy and difficult – and relevant. (TMP, pp. 4-5).

Her return to the *General Theory* was indicated on numerous occasions.

- She first addresses the central theme of the "simple 'Keynesian' transmission mechanism" stated as " $\Delta M \rightarrow \Delta r \rightarrow \Delta I \rightarrow \Delta Y$ " (TMP, pp. 18-19):

The source of the belief that this mechanism represent Keynes is probably found in two pages of the *General Theory* [1936, p. 200, p. 298]. Keynes states flatly that "the primary effect of a change in the quantity of money on effective demand is through its influence on the rate of interest" (p. 298). The sentence has maintained a tenacious hold on the profession, while its meaning has suffered by its being torn out of context. (TMP, p. 19)

⁷ This paper was first prepared in ***, and was published finally in *Australian Economic Papers* in 1978 (thanks to the editor, Geoff Harcourt). These matters merit further examination at a later date.

⁸ See her autobiography in the *Dictionary of Dissenting Economists*. VC also tells of how at this time she began to encounter other heterodox economists, and of the unsettling realisation that she was wrestling with issues known to others, especially in Cambridge. [NEED REF]

⁹ I like Kahn's comment: "...". [*****]

- In a discussion of the Radcliffe Report, she argued that the practical result that money did not matter, did not follow from Keynes (*TMP*, p. 74).
- She challenged the mainstream “portfolio approach [that] is usually seen as a development of Keynes’s model” as “fundamentally opposed” (*TMP*, p. 98) and the necessity of addressing the “interaction between aggregate sectors” as in Keynes (and others) (*TMP*, pp. 98-107).
- VC addressed the “astonishingly weak” theory of the behaviour of prices and output, and the neglect of Keynes’s own work in this area which “seem[s] to have been simplified out of existence, or forgotten” (*TMP*, pp. 108-9)
- She charges Keynesians with neglecting Keynes’s analysis of the financing of fiscal policy as critical to its impact and of the interaction between fiscal and monetary policies (more generally this is vital to any assessment of the validity of ‘crowding out’) (*TMP*, pp. 129, 139).

In the postscript chapter of the second edition (1978) of *Money and the Real World* (p. 366), Davidson celebrated Hicks’s admission of defeat:

Hicks declares that, unlike general equilibrium concepts which “signal that time, in some respects at least, has been put on one side”, Keynes’s monetary framework was an “in [calendar] time” approach which recognised “the irreversibility of time ... that past and future are different” and that an uncertain future (and not a probabilistic one) shaped economic behaviour.¹⁰

While the two reviews of *TMP* that I have come across were highly favourable (Wood, 1975 & Herrington, 1974), the vast majority of the profession was no longer interested, and had begun its move to monetarism and then the neo-classical consensus that is still dominant today; VC on the other hand had not lost interest.

3. *Macroeconomics after Keynes*

Vicky began work on *MAK* in 1973; it was published 10 years later.¹¹ In this major work, VC set out her interpretation of the *GT* as a theory of the behaviour of a monetary economy in time, with endogenous money and uncertainty taken as given.¹²

This preoccupation is exemplified by the structuring of the book in five parts, and this is how discussion will proceed below:

¹⁰ Ellipsis and inserts are Davidson’s. He gives the source: “J. R. Hicks, ‘Some Questions of Time in Economics’, in *Evolution, Welfare and Time in Economics* ed. A. M. Tang, F. M. Westerfield and J. S. Worley (Lexington: Lexington Books, 1976) pp. 135-67”.

¹¹ The title was subtle and annoyed some reviewers. Her point was “that the macroeconomics which has followed the *General Theory* in time has not followed it in spirit” (*MAK*, p. v).

¹² Great controversy on this, see footnote 15.

| | |
|-----|-------------------------------------|
| I | Preliminaries and Fundamentals |
| II | A Static Model of a Dynamic Process |
| III | Finance |
| IV | The System in Motion |
| V | Policy Matters |

The discussion below traces time as the central thread of VC's argument. There is of course much more to *MAK* than this, especially great detail on the microfoundations for and the aggregative nature of Keynes's economics. In addition, much of her discourse was necessarily concerned with refuting enduring myths about Keynes.

The first chapter and preface set out the major themes of the work, and introduce the reader to the fundamental role of time that underpins the whole theoretical exposition. While Davidson had dealt comprehensively with uncertainty as a consequence of time, he had not systematically re-visited all aspects of theory in the light of time. For VC, under the first section heading 'A Monetary Theory of Production',

Money ... permits the separation of the act of selling goods from the act of purchasing them: that is, indirect exchange. ...

Indirect exchange means a separation in time between actions involving real goods. ...

Production also, in the nature of things, takes time. (*MAK*, p. 5, my emphasis)

Under the second section heading 'Historical Background': "All books are products of their place and time" (*MAK*, p. 6). And in the third and final section of the chapter, 'Time, Uncertainty, Money and Say's Law', VC argues that "it is not really money that causes the trouble, but time" (*MAK*, p. 10).

The second chapter, entitled 'The Method of the *General Theory*', perhaps constitutes the first formal and substantial discussion of the methodology of Keynes's macroeconomic theory. VC is at pains to point out how different this method is from setting out and solving simultaneous equations.

Keynes's method is something of a compromise, using the partial equilibrium method to analyse a market taken in isolation, then feeding the result back into the mainstream of economic events, which were themselves moving meanwhile. There is a distinct time-stream of events, in sharp contrast to general equilibrium, where everything happens at once, ... (*MAK*, p. 15)

But the analysis required statics, and VC cites Joan Robinson (1952): "Past history is put into the initial conditions, so that the analysis is static in itself, and yet is part of a dynamic theory" (*MAK*, p. 16).

Operating in time requires a sub-division according to certain time horizons, at the most simplistic into the short and long runs of Cambridge Marshallian tradition. But VC goes further and attempts to characterise sequences of decisions and actions in the processes of production, consumption, investment and saving.

A key notion that demands addressing in time is that of equilibrium. Expectations play a major role: “when expectations are falsified there is a *desire* for change. Where that desire is combined with the power to effect changes we have disequilibrium. Which expectations *are* relevant *depends on the activity*” (MAK, p. 22, VC emphasis). VC gives primary emphasis to the equilibrium of prices, output and employment in the short run, defined in terms of expected profits. She also discusses why longer-run expectations “[do] not feature in our story” (*ibid.*).¹³

Part II of the book sets out Robinson’s static initial conditions. The story begins with the principle of effective demand:

[T]he level of output as a whole and the overall level of employment are determined by the intersection of two functions of the level of employment, N : aggregate supply, $Z(N)$, and firms’ estimates of aggregate demand, $D^e(N)$. The intersection is called the point of effective demand. (MAK, p. 63)

The principle is illustrated in the first of many diagrams.¹⁴ Brief discussion of both follow, in order to explain the possibility of unemployment equilibrium and of its persistence. A chapter length discussion of ‘The Microfoundations of Aggregate Supply’ puts to bed the notion that Keynes ignored supply. Then the components of aggregate demand are set out, in the longest chapter of the book: consumption and investment. The expositions of both are somewhat influenced by the subsequent handling of these key components of Keynes’s theory by the economics profession. Yet the core of Keynes’s contribution is maintained:

- a consumption function based on the marginal propensity to consume and the level of income; and
- a “marginal efficiency schedule [that] relates investment to the interest rate – *given* expectations of future profits” (MAK, p. 129)

Two chapters then address the labour market, with a level of detail that reflected the inflationary pre-occupation of the times and perceived shortcomings of Keynes’s theory.

The Third Part of the book moves from ‘real’ magnitudes to finance. The content is motivated as follows: “the rate of interest remains a mystery, and without it the level of investment is not determined” (MAK, p. 174). Straight away she turns to her important notion that Keynes “seems to take for granted the financing of investment” (MAK, pp. 175 & 184), that would later evolve to the notion of Keynes taking money as ‘*given*’.¹⁵ From here the loanable-funds dispute and the the priority of investment over saving are addressed. With these matters set aside, in Chapter 10, VC

¹³ I consider analysis of the outcome of longer-run expectations is the crucial element of Keynes’s theory of economic cycle (Tily, 2007, Chapter 8). See also VC’s unpublished ‘Economics of action’ paper.

¹⁴ The use of diagrams sets VC’s method of exposition apart from Keynes’s, who generally did not use diagrams. The only exception in the *General Theory* was suggested by Harrod and has proved disastrously misleading.

¹⁵ The notion that Keynes took money as exogenous has proved extremely problematic; thanks to VC and Sheila Dow there now seems to be widespread acceptance that this is wrong. Referring to Dow (1997), rather than VC’s early contributions, Harcourt (2008, pp. 66-7) has recently conceded that “Kaldor chided Keynes for making the money supply exogenous. ... I think Kaldor was wrong ...”.

commences her profoundly important restoration of the theory of liquidity preference. Her analysis leads to Shackle's conclusion that interest is "an inherently restless variable" (MAK, p. 228), but – as always – matters are "better done in terms of dynamics". VC examines the historical trajectory of the rate of interest, tying beliefs about interest rates to beliefs about inflation.

Her re-statement of Keynes's theories of investment and interest illustrate why and how time matters. The theory of liquidity preference cannot be static, because it depends on views of the future rate of interest relative to the present rate of interest. Then, in terms of sequencing, the rate of interest is settled independently of, and before, the level of investment is determined by setting this rate against the marginal efficiency of capital. Equally there may then be feedbacks, if there is an excessive demand for credit which banks are unwilling to meet (though history shows this to be the exception rather than the rule).

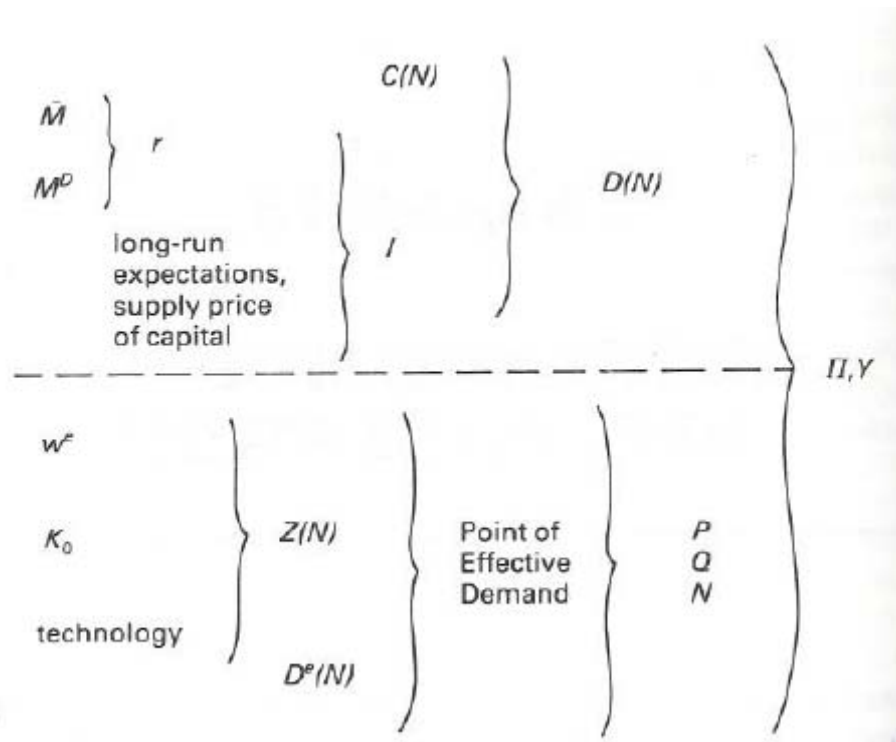
Finally in Chapter 13, with the interest rate resolved, we are able to return to the theme of part II: 'The Static Model: Recapitulation' (the chapter corresponds most emphatically to Keynes's Chapter 18 'The General Theory of Employment Re-stated'). VC opens the discussion by presenting the model 'schematically'; her diagram is reproduced in Figure 1, the notation and even interpretation should be obvious (MAK, p. 244):¹⁶

¹⁶ I have been struck by the similarity between this and Harrod's schematisation (Keynes, 1973, p. 553):

| | |
|------------------------------------|--|
| Volume of investment determined by | [marginal efficiency of capital schedule [rate of interest] |
| Rate of interest determined by | [liquidity preference schedule [quantity of money] |
| Volume of employment determined by | [volume of investment [multiplier] |
| Value of multiplier determined by | propensity to save |

In response Keynes wrote "[My theory] could not be stated better than on the first page of your letter" (Keynes, 1973, p. 557).

Figure 1: Chick's schematisation



The model just presented is static, timeless, but it represents a dynamic process, even within the confines of a single production period, for labour is hired at the beginning and sales and profits are only determined at the end. (MAK, p. 246).

Having set out the determination of aggregate income and employment, in Part IV the system is set in motion. In Chapter 14 a rise in aggregate demand is motivated not by consumption, but first by investment and “if that cannot be adequately stimulated” (MAK, p. 252) by government expenditure. The discussion then turns to the multiplier, derived according to statics (the first difference form) and dynamics (Kahn’s geometric progression), and developed with Robertson’s period analysis.

In Chapter 15, “[i]t is time to ask how an expansion of demand manifests itself: as an output change, a price increase, or some mixture of the two” (MAK, p. 271). In Chapter 16, VC discusses the cycle as determined in part by the dynamics of the marginal efficiency of capital (the theory is criticised for neglecting financial implosion through debt as in Fisher and Minsky). Finally, in Chapter 17, VC looks into the future of a money economy and the prospects for future growth given the desire to save and the potential limits to yields on capital investment and revisits the notoriously difficult issues thrown up in Keynes’s own Chapter 17.

VC turns lastly to ‘Policy Matters’ in Part V. At the start of the book she had confronted the reader with the

... astonishing conclusion that the chief cause of unemployment is not so much that the real wage is too high, but that the *rate of interest* is too high. What an implausible thing to say. What relationship could there possibly be between unemployment, the most human of problems, and the rate of interest, the driest of economic variables? That is a major theme of the *General Theory*. (MAK, p. 10)

Setting aside Keynesian prescriptions, VC has an improvement in employment depending on altering the propensity to consume or investment. “The first might be done through redistribution of income.” The second through “rais[ing] the *mec* – which in effect means profit expectations – or lower[ing] the rate of interest (MAK, p. 317)¹⁷. Only in the absence of opportunities for these is government expenditure prescribed. For VC monetary policies were a very important part of Keynes’s conclusions. “The impotence of monetary policy was not intended as the *general* proposition it became” (MAK, p. 328). Indeed, far from it.

In the final two chapters VC develops her theme of the *General Theory* as a theory of its time. Chapter 19 re-prints an earlier paper that sought to explain the emergence of inflation as a consequence of both the misapplication and misunderstanding of Keynes’s policies. The central theme is of real constraints to the authorities’ ability to perpetually foster expansion through stimulating investment.¹⁸ In doing so VC attempts to show the inflation of the 1970s as perfectly explainable within Keynes’s theory. Nonetheless the circumstances of the publication of MAK were very much not the circumstances of the publication of the *General Theory*. (VC set out ‘Six Key Assumptions’ of “the world Keynes was looking at” (MAK, p. 354).) VC argues that the *General Theory*, properly understood, still provides the foundations for understanding the world, but that the changed circumstance demands extension and development of that theory. The worst outcome would be to abandon that theory altogether.

4. Impact

But the profession was not listening. Neo-classical theory and policy doctrine was embraced to an extent that must have been terrifying. And while the reception of *TMP* had been favourable, most reviews of MAK were not. Yet there was no fair hearing; those who dismissed her arguments failed to confront the issues and subtleties with which she was concerned, and did not adequately put forward her case. However, the fact that one of the reviews in the latter category was by Robert Solow indicates for me that the profession recognised that she had a case to answer, even though it was unwilling to do so on even terms.

¹⁷ “... Keynes, when he spoke of monetary policy, clearly meant a policy of open market operations, designed to affect interest rates.” (MAK, p. 318)

¹⁸ At the end of the chapter she briefly addresses the role of changes to the ‘monetary system’, noting especially “While the Bretton Woods system was breaking down, the private banking system was transforming itself ... The money supply has become very elastic indeed, ...” (MAK, p. 350).

In the *Journal of Economic Literature*, John McCallum (1985) did “not think that the author achieves her major stated objective, which is to offer a convincing case for abandoning the IS/LM models of the textbook and bringing the *General Theory* back into mainstream thinking” (97)¹⁹. *MAK* failed because “the author’s own representation of Keynes is little different from the standard Keynesian model that she seeks to discredit” (97). Yet this conclusion is drawn without any discussion of the methodological issues on which the *MAK* argument is based (beyond noting “The author’s basic objection to the standard model seems to be that its simultaneous nature disguises the causal structure of the *General Theory* ...”). With IS-LM safe, McCallum concedes the raising of some “basic questions” (97) which have not been treated adequately, and so overall finds the work a “most stimulating book” (98).

John Fender’s (1984) review in the *Economic Journal* was more unpleasant. Most of his argument is aimed at the ‘six key assumptions’ that VC introduced in her final chapter, but no context whatsoever is offered. He does not even bother to mention VC’s dissatisfaction with IS-LM and her methodological approach.

J. Stephen Ferris (1985), writing in *The Journal of Money, Credit and Banking* was matter of fact about VC’s aims and gave a good deal of attention to the methodological detail. “Chick’s Keynes is not a Keynesian. Rather, he is concerned with the set of analytical problems arising from the intersection of money, production, time, and uncertainty as the central characteristics of a modern economy” (409). Ferris goes on to pick up on the central role of time. But he relates VC’s treatment of time only to the sequencing of events, and has only sequence “destroy[ing] the appropriateness of timeless simultaneous general equilibrium analysis...” (410). Ferris then moves to reject *MAK* on the grounds that it is not adequate to break Say’s Law on the basis that such an equilibrium does not exist, and by attributing to VC an over-saving argument with which he disagrees. He discarded the work: “[i]f the message intended by Keynes has been lost ... Chick’s path to recovery and research program for the future does not appear to be the most promising one” (411).

To Solow (1984) then, in *The Journal of Political Economy*. In the longest review he manages to be flippant, generous and dismissive, without squarely facing VC’s core argument. After puzzling about the title, he expressed disquiet at the emergence of:

... a minor industry of this sort that brings with it the obvious danger that the *General Theory* will become a kind of holy scripture; some “fundamentalists” already seem to ask of a proposition in macroeconomics not whether it is true or false but whether it is “truly Keynesian.” (784)

VC is absolved of this charge, but:

[t]here is a bit of the fundamentalist in her, however. She is one of those who think that the modern “Keynesian economics” – especially that old devil IS-LM – has somehow betrayed the *General Theory*. Now there is nothing wrong with that attitude in principle, although I do think it gives inadequate weight to the extent to which any substantial body of science is a collective product. (784)

¹⁹ In all the coming paragraphs the page numbers refer to the review under examination.

(So IS-LM is probably valid because lots of people have contributed to it.)

He approved in particular of VC's treatment of uncertainty, and conceded the position as Keynes's own. He goes on "Of course Keynes might have been wrong in his judgement, but that needs to be argued back and forth" (785). But then Solow argues that those who take this view "... ought to be investing a lot of effort in finding a reasonably coherent way to deal with true uncertainty" (785). That this is the main theme of VC's whole book is not mentioned; he merely offers: "It will not do to retreat into Delphic utterance and answer a real question with a rhetorical question, as I fear Chick occasionally does" (785). In the same way he cannot fathom VC's hostility to simultaneous equations, and will not abandon his own use of them. Handling the fundamental issues in this way is not to argue them 'back and forth'. Yet he still manages to conclude that "Chick cares about many of the right things, pursues them tenaciously, and is not bemused by fashionable fluff" (787).

John Foster in *Economica* reviewed *MAK* favourably. He set out a fair account of VC's intentions, and stressed that "The important theme in the book tends to be a methodological one" (361) (though he chose to emphasise aggregate behaviour as not being the sum of the parts, rather than time). His criticisms merely concerned what was not in the book. Overall: "It is refreshing to turn again to consider the *General Theory* from such an intellectually honest and constructive standpoint" (361).

Lastly, Roger W. Garrison reviewed *MAK* for the *Southern Economic Journal* with apparent great authority. Initially he portrayed *MAK* as one of a number of existing variants of interpretations of the *General Theory*. "[B]ut Chick is much closer to Keynes himself than to either Shackle or Hicks. She reasons, at times, within the IS-LM framework but always pays more attention to the shifting of curves than to the movements along them." He was equally alive to the importance of time: "The recurring distinction between statics and dynamics ties these chapters together. The two modes of analysis create a certain tension in the *General Theory*. Carefully distinguishing between them is what allows Chick to sort out the arguments". He is unhappy on only two theoretical counts, VC's maintaining that the "marginal efficiency of capital (and presumably the rate of interest) can and should be driven to zero", and her arguments using excess profits. But Garrison is unhappy only insofar as "... they are not likely to set well with most economists on this side of the Atlantic". On policy, however, he appears to object to VC's notion that the *GT* policy was of its time, and challenges the reader to reconcile that view with Keynes's own views of the longer term, concerning the euthanasia of the rentier and the socialisation of investment. **NEED PROPER PAGE REFERENCES**

While Garrison thought in conclusion that he could safely predict this book "will become a standard for future students of Keynesianism", unfortunately the post-Keynesian variant was rarely taught in the classroom. Perhaps economics had appeared open for genuine impartial debate as she had begun her career. But in retrospect matters appear more of a staged-managed event to accompany and justify global shifts in political prejudice. By the time *MAK* was published, there was no interest in views rival to monetarism. *MAK*'s contents would be debated and its influence confined to the margins of the profession.

That said, it has not become the handbook for PKE that it might have. Most obviously it has perhaps been overshadowed by Davidson's *Money and the Real World* and his approach more generally. But, in my view, and in spite of his claims to the contrary, Davidson's approach is not Keynes's approach. His theoretical structure sets aside the marginal efficiency of capital and his interpretation of liquidity preference leads to more ambiguity about the role of the long-term rate of interest than in Keynes.

Moreover, since Keynes's death, many different theoretical approaches have been regarded as PKE. (Indeed the most straightforward categorisation of PKE is on the grounds of sharing a common enemy.) The major theoretical differences between these schools have never been resolved. Most take as a foundation stone the notion of endogenous money, though the Cambridge variant continues to give less emphasis to the monetary side. Some persist with loanable-funds theories that diminish liquidity preference, others use endogenous money to set aside liquidity preference and many have the long-term rate as determined by expectations of the short rate. The importance of the saving–investment identity has not been widely recognised.²⁰ And many set aside the marginal efficiency of capital and as a consequence the leading role for the stimulation of investment in Keynes's policy prescriptions.

The methodological approach has perhaps been the best received characteristic of her work, and has plainly influenced a number of authors, not least Sheila Dow, but perhaps also the critical realist school. Yet while her views on detailed theoretical issues have often not been confronted, recently the methodological considerations have come under attack.

5. Paul Davidson's (new?) methodology

In 2002 John King published his *A History of Post Keynesian Economics Since 1936*. Davidson appears to have used this work as a vehicle to cast PKE more in his own image. His response objects to what he regards as King's 'big tent' characterisation so that it features the wide range of perspectives that have commonly been regarded as PKE, and he argues that as a consequence mainstream economists might legitimately dismiss the approach as incoherent. While there might be merit in confronting the 'Keynes' heritage of each of these approaches,²¹ Davidson's approach is only one of any number of such attempts, and a highly contentious and hardly rigorous one at

²⁰ Basil Moore has recently given the identity greater prominence in his own work (2006, Chapter 7), but as I have argued (Tily, 2006): "[he] is remiss when it comes to the heritage of the identity. No precedent is cited for the modern recovery of the relationship, taking account of the finance of investment (Chick 1983, ch. 9, and 1997; Dalziel 2001, chs 5 and 6). Keynes is distanced from the relation through simply asserting a standard 'Keynesian' story 'He argued that saving and investment were equilibrated by changes in the level of income and output, not by changes in interest rates' (p. 157)".

²¹ King describes post-Keynesians as either 'recovering' or 'extending' Keynes's theory; it might be useful to explicitly recognise an additional category of those seeking to dismiss or refute certain of Keynes's conclusions.

that.²² In Cambridge Joan Robinson's galvanising role at the 1971 conference of the American Economic Association is recorded, but Sraffa's and Kalecki's contributions are dismissed.²³ Harrod's and Kaldor's roles are recognised, but Davidson has almost nothing of substance to say on the latter, who must be a controversial figure. Kahn is scarcely mentioned, a failing that is King's too. Of the Americans, Davidson gives prominence to Weintraub as well as himself. Minsky and Eichner are set aside as respectively "a mainstream Keynesian who used the Modigliani variant of the ISLM system" (9) and as having a model that "had a greater affinity to New Keynesianism than to the ... *General Theory*" (14) (Kregel survives the assault).²⁴ Later there are various listings of approved post-Keynesians, comprising: Harcourt, Rothschild, Steindl, Galbraith, Tarshis, Bryce, Moore, Asimakopoulus, Cornwall, Thirlwall and Vickrey (15-16).

Several names are notable by their omission. VC's contributions are seemingly attacked by association with Davidson's assault on methodology, which is introduced as follows:

Chapter 9 discusses the role of uncertainty, expectations and method in defining the school of Post Keynesianism. Some [Carabelli (1988), Fitzgibbon (1988), O'Donnell (1989)] have argued that Post Keynesianism should be defined in terms of method rather than a theoretical position (p. 181)

In his response to these contributions, Davidson re-defines his own methodology in a deeply confusing manner, but at the same time over-simplifies methodological debate.²⁵ He opens his account as follows: "In essence these writers are rebelling against mathematical formalism as developed by the Bourbakian mathematician, Gerard Debreu" (18-19).²⁶ Davidson then contrasts Keynes's theory with (what he

²² Davidson is however happy to accept King's four points that distinguish Keynes's analysis from today's mainstream economics: "(1) Keynes was basically a Marshallian (p. 15), (2) 'a monetary theory of the rate of interest was an essential part' of Keynes's *General Theory* (p. 14); (3) the marginal product curve relating the level of employment to the real wage is 'fundamentally different' from the demand curve for labor (p. 21); and (4) the importance of a non-probabilistic uncertain future (pp. 31-4)". **CHECK FOR ACCURACY AND JK RESPONSE**

²³ I have some sympathy here, but why Robinson would be so supportive of their approach remains a substantial puzzle.

²⁴ Davidson tells of his agreement made in 1970 with Minsky never to attack the other's writings: "... John King's book has indicated a need to set the record straight" (11).

²⁵ The origin of this account is not clear to me. I have seen it deployed in this response, in a dialogue on pluralism, again between King and Davidson, in the *Post Autistic Economic Review* (PAER, King, 2004, Davidson, 2004 & King, 2005) and in Davidson's latest biography of Keynes (2007). Roy Weintraub's (2002) *How Economics Became A Mathematical Science* is cited a lot.

²⁶ Extract from Wikipedia: "Nicolas Bourbaki is the collective pseudonym under which a group of (mainly French) 20th-century mathematicians wrote a series of books presenting an exposition of modern advanced mathematics, beginning in 1935. With the goal of founding all of mathematics on set theory, the group strove for utmost rigour and generality, creating some new terminology and concepts along the way. While Nicolas Bourbaki is an invented personage, the Bourbaki group is officially known as the Association des collaborateurs de Nicolas Bourbaki ("association of collaborators of Nicolas Bourbaki"), which has an office at the École Normale Supérieure in Paris. Bourbaki is a respected name now, but it was initially a clever prank played on the entire scientific establishment. For a few years, people thought that Nicolas Bourbaki existed and admired his talent, which was of course the combined talent of the group".

attributes to) Debreu. Both theories are regarded as based on ‘restrictive axioms’ that imply an associated degree of generality. Davidson regards Keynes’s theory as based on fewer restrictive axioms than the Walrasian general equilibrium model, and hence as more general.²⁷ But Debreu regards the goal not as maximum generality, but the right level of generality: “Keynes’s analysis could be discarded for not having the right degree of generality” (19). The rest of the profession appear to have gone along with this.

But while Debreu’s approach was dominant, Davidson saw a problem because of its not accounting for “the concept of an all-pervasive unpredictable uncertainty regarding crucial economic decisions” (19) and hence not being relevant for the world we live in. In later contributions Davidson (eg 2007) specifies the three axioms imposed by Debreu but not by Keynes that permitted Keynes the relevant degree of generality: neutral money, gross substitution and ergodic.

Having established this position, it is set against what are referred to as “Babylonian and Critical Realism attempts to identify the proper method of economics”. Citing King,

For “Babylonians there are *no* critical axioms but rather several ‘strands of argument’ ... and no single method of conducting scientific research ... Babylonians favour ‘open system thinking’” (p. 196).

I have objected to this Babylonian approach as permitting “anything goes” in economics. This Babylonian philosophy has been the Achilles heel of Post Keynesian theory for Babylonian incoherent babble permits mainstream economists to ignore Post Keynesianism as utterly without consistence and/or “rigor”. But Keynes’s general theory was coherent and rigorous, and these characteristics were not lost in Weintraub’s elegant elaboration of Keynes’s aggregate supply and demand analysis. If Post Keynesians are ever going to be taken seriously by a majority of the profession, it must avoid this Babylonian argument.(20)²⁸

No names are mentioned here, but in the *PAER* Davidson (2004) directly addresses Chick and Dow following King’s (2004) bringing them to bear on his argument for pluralism. King re-iterated their arguments on the role of formalism in economics (Chick and Dow, 2001). Davidson dismissed their approach as follows:

I believe that Chick and Dow are confusing Debreu’s Bourbakian variant of formalism with the use of formal logic. In Chick’s and Dow’s view what problems are susceptible to Debreu’s formalism is, I think, a matter of taste, style and politics. (Davidson, 2004, p. 4)

27 Davidson also claims that Keynes knowingly took this methodological approach. Two examples: (a) “Keynes called his theory a ‘general theory’ because it used fewer restrictive axioms” (19). He cites evidence from the Preface to the German edition of the General Theory that has been left out of the reprint of the *GT* (CW VII); and (b) “Keynes indicated that he used the formalistic axiomatic method” on p. 16 of the General Theory. I have discussed this in my review of Davidson (2007) (Tily, 2008).

28 Though interestingly the next paragraph lets critical realists off the hook: “Clearly the Critical Realist approach is consistent with the Post Keynesian argument that for many important decisions, the future is nonergodic (uncertain)” (20).

This is not a sophisticated answer to Chick's and Dow's thoughtful analysis or to King's point. Moreover his whole approach to methodology in these contributions is quite bizarre. King (2005, p. 2) responded that Davidson's notion of the general theory as a axiomatic-based approach was an "astonishing proposition", and saw no evidence whatsoever that Keynes understood his work in this way. Davidson's methodological approach appears at odds to his earlier contributions which gave front place to uncertainty and time (see section 2). It appears to set out a history of economic debate that is hard to reconcile with reality. It narrows down methodological debate to the use of mathematics, and fails to mention that the substance of Chick's argument concerns time, and the inability of simultaneous equation models to adequately reflect economic processes occurring in time, rather than an outright rejection of simultaneous equation models for no reason.

Yet whatever its validity matters come full circle. Chick sought to re-discover Keynes according to methodology. Davidson uses methodology to undermine that contribution. But he does not squarely face her methodological argument, he constructs a new argument and invalidates her contribution on the grounds that she has failed to recognise it. The approach is at least consistent with that of most of her reviewers.

In the meantime the mainstream has moved far away from the monetarist stance that prompted these debates in the first place. A policy stance less at variance with Keynes's has gradually emerged, with active use of fiscal and monetary policy recognised as necessary. So in a sense Chick and other post-Keynesians have been proven correct. But the mainstream's formal mathematical approach has become embedded deeper than ever. Changes in policy stance have been justified through diverting mathematical trickery, but there is no underlying model that can help meet the economic problems of the world. With the present financial crisis, this state of affairs has been brutally laid bare.

6. A personal view

In my view, the present financial crisis is exposing a more general relevance and even more profound importance to the *General Theory* than even VC suspected. The inflationary environment of the 1970s led VC to portray the *General Theory* as in part a theory of its time, as discussed. But the emergence of that inflation and subsequent policy response should instead be regarded more as indicative of an even deeper and graver misunderstanding of Keynes's intentions that has prevailed since his death.

In *MAK* VC was perhaps the first of the new generation of post-Keynesians to see a valid role for monetary policy, in spite of what the Keynesians said. I go further and argue that monetary policy was Keynes's central pre-occupation, and his goal was far more extensive management of monetary policies by the authorities. He wanted central banks to manage exchange rates through purchases and sales of currency, and interest rates – not just the discount rate, but the whole spectrum of rates on government securities – set low or cheap using debt management policy. In *W.W.* II he set out policies to achieve these goals in both international and domestic arenas.

The Bretton Woods Agreement watered down his policies on the former, the policies for the latter were gradually dismantled, despite the best efforts of the post-war Labour Government to pursue a cheap money policy.

Nonetheless the global environment of the post-war era did permit the achievement of relatively low long-term rates of interest. But with the re-instatement of active discount rate policy under the 1951 Churchill government, the stop-go process was established. As time went by policy became more haphazard, in the manner described by VC. Matters culminated in the beginnings of financial liberalisation of the 1970s, with the abandoning of Bretton Woods and, in Britain, Competition and Credit Control and the 'Barber boom'. Inflation was hardly a surprising consequence of this vast drift from Keynes's strictures.

But the response to this inflation was even worse: increased liberalisation and an abrupt shift to dear rates of interest.

The spectacular rise in interest rates during the 1970s and early 1980s pushed many long-term market rates on prime credits up to levels never before approached, much less reached, in modern history. A long view, provided by this history, shows that recent peak yields were far above the highest prime long-term rates reported in the United States since 1800, in England since 1700, or in Holland since 1600. In other words, since modern capital markets came into existence, there have never been such high long-term rates as we recently have had all over the world. (Homer and Sylla, 1991, p. 1)

The world was returned that which confronted Keynes, to the dear money that he came to understand should be avoided "as we would hell-fire" (CW XXI, p. 389). Moving to the present, central bank independence and inflation targeting reflect the same prejudice and theory of the gold standard. The financial crisis may reflect the process coming full circle. Equally, the authorities conditioning the public for hard times while refusing to act – to cut interest rates and if necessary withdraw the inflation target – echoes the policymaker stance in the run up to the end of the gold standard.

7. Conclusion

The economics profession refused to accept the *General Theory* when it was first proposed by Keynes. It should be unsurprising that they have been less than receptive to Vicky's attempts to re-discover and re-assert that theory. Yet her methodological perspective should have put the distinction between neo-classical and Keynes's theory into even sharper relief, and clarified the implausibility of the former as a theory of reality.

Vicky may have put her colleagues opposition down to methodological prejudice, my own suspicion is that there has also been a prejudice against the ultimate practical and political implications of Keynes's work. But we can only hope that the repeated failure of mainstream practical initiatives makes indefinite opposition to hers and

Keynes's theory ultimately unsustainable. As I write, the deep flaws of the mainstream approach are being starkly exposed in the wake of the financial crisis. Any solution necessitates setting that theory aside.

7. Bibliography

- Carabelli, A. (1988) *On Keynes's Method*, London: Macmillan.
- Chick, Victoria (1973) *The Theory of Monetary Policy*, Oxford: Basil Blackwell.
- . (1983) *Macroeconomics After Keynes*, Cambridge, Massachusetts: The MIT Press.
- . (1992) *On Money, Method and Keynes: Selected Essays*, Philip Arestis and Sheila C. Dow, Eds, London: Macmillan; New York: St Martin's Press.
- . (1997) 'The Multiplier and Finance', in G. C. Harcourt and P. A. Riach, Eds, *A 'Second Edition' of The General Theory*, Vol. I, London and New York: Routledge.
- Chick, V. and S. C. Dow (2001) 'Formalism, logic and reality: a Keynesian analysis', *Cambridge Journal of Economics*, 25 (6), Nov., 705-21.
- Clower, R. W. (1965) 'The Keynesian Counter-Revolution: A Theoretical Appraisal', in F. H. Hahn and F. Brechling, Eds, *The Theory of Interest Rates*, London: Macmillan, 103–25.
- Dalziel P. (2001) *Money, Credit and Price Stability*, London, Routledge.
- Davidson, Paul (1972) 'Money and the Real World', *Economic Journal*, 82 (325), March, 101–15.
- . (1978 [1972]), *Money and the Real World*, Second Edition, London: Macmillan.
- . (2003-4) 'Setting the record straight on *A history of Post Keynesian economics*', *Journal of Post Keynesian Economics*, 26 (2), Winter, 245-72.
- . (2004) 'A Response to King's Argument for Pluralism', *post-autistic economics review*, 24, article 1, Mar.
- . (2007), *John Maynard Keynes*, London: Macmillan.
- Dow, S. C. (1997) 'Endogenous Money', in G. C. Harcourt and P. A. Riach (Eds), *A 'Second Edition' of The General Theory*, Vol. 2, London: Routledge.
- Fitzgibbon, A. (1988) *Keynes's Vision: A New Political Economy*, Oxford: Clarendon Press.
- Foster, John (1984) review of *MAK*, *Economica*, New Series, 51 (203), 360-1.
- Fender, John (1984) review of *MAK*, *The Economic Journal*, 94 (373), Mar. 169-70.
- Ferris, J. Stephen (1985) review of *MAK*, *The Journal of Money, Credit and Banking*, 17 (3), Aug., 409-11.
- Garrison, Roger W. (1985) review of *MAK*, *Southern Economic Journal*, 51 (3), Jan., 949-51.
- Harcourt (2006) *The Structure of Post-Keynesian Economics*, Cambridge University Press.
- Herrington, P. R. (1974) review of *The Theory of Monetary Policy*, *The Economic Journal*, Vol. 84, No. 335, Sep., pp. 657-658.
- Hicks, J. R. (1980–81) 'IS-LM: An Explanation', *Journal of Post Keynesian Economics*, 3 (2), Winter, 139–54.
- Homer, S. and Sylla, R. (1991) *A History of Interest Rates*, 3rd edition, New Brunswick, NJ: Rutgers University Press.

- Keynes, J. M. (1936) *The General Theory of Employment, Interest and Money. Collected Writings*, London: Macmillan.
- . (1973) *The General Theory and After; Part I Preparation. Collected Writings*, Vol. XIII, London, Macmillan for the Royal Economics Society.
- King (2002) *A History of Post Keynesian Economics Since 1936*, Cheltenham: Edward Elgar.
- . (2004) ‘Three Arguments for Pluralism in Economics’, *post-autistic economics review*, 23, article 2, [**].
- . (2005) ‘A Defence Of King’s Argument(s) For Pluralism’, *post-autistic economics review*, 25, article 3, [**].
- . (2005) ‘Unwarping the Record’, *Journal of Post Keynesian Economics*, 27 (3), Apr.
- McCallum, John (1985) review of MAK, *Journal of Economic Literature*, 23 (1), Mar., 97-8.
- Moore, Basil J. (1979) ‘The Endogenous Money Stock’, *Journal of Post Keynesian Economics*, 2 (1), Fall, 49–70.
- . (2006) *Shaking the Invisible Hand: Complexity, Endogenous Money and Exogenous Interest Rates*, Basingstoke: Palgrave Macmillan.
- O’Donnell (1989) *Keynes: Philosophy, Politics and Economics*, London: Macmillan.
- Solow, Robert M. (1984) review of MAK, *The Journal of Political Economy*, 92 (4), Aug., 784-7.
- Tily, Geoff (2008) review of *John Maynard Keynes* by Paul Davidson, *Economic Issues*, 13 (1), Mar., 102-4.
- . (2008) ‘Post Keynesianism for central bankers’, review essay on Basil John Moore, *Shaking the Invisible Hand : Complexity, Endogenous Money and Exogenous Interest Rates*, Basingstoke: Palgrave Macmillan, *History of Economic Ideas* , 14, (3), 139-44.
- . (2007) *Keynes’s General Theory, the Rate of Interest and ‘Keynesian’ Economics*, Basingstoke: Palgrave Macmillan.
- Weintraub, Roy (2002) *How Economics Became A Mathematical Science*, Durham: Duke University Press.
- Wood, J. H. (1975) review of *The Theory of Monetary Policy* , *Economica*, New Series, Vol. 42, No. 166, May, pp. 217-218.