*Contributions to Political Economy* (2024) 1–20



# VICTORIA CHICK (1936–2023), A RESTLESS CHALLENGER TO MAINSTREAM ECONOMICS: AN APPRECIATION[§]

Maria Cristina Marcuzzo[*], Constantinos Repapis[†], Jan Toporowski[‡]

[*]*University of Rome, "La Sapienza"* [†]*Goldsmiths, University of London*
[‡]*SOAS, University of London*

In this article on Victoria (Vicky) Chick (1936–2023), we intend to cover the main research areas into which Chick devoted her life's work. We categorise the contributions into three broad fields. First, her work on Keynes's *General Theory* and the message that economists have taken from it since its publication. Chick wrote extensively on the many misinterpretations of the *General Theory* that have clouded its message. Instead, through her writings, she offered an alternative perspective and interpretative line that became central to the post-Keynesian school of thought. Second, her work on Keynes gave her the starting point for her novel understanding on the monetary nature of the economy and was the inspiration in the development of the banking stages of history approach that shows the evolutionary nature of banking theory and practice. Finally, the way in which *The General Theory* built its argument and the misinterpretation that many mainstream economists took from it led Chick to develop her methodological approach on open and closed systems of analysis and the importance of developing judgement as part of teaching in economics.

## I. INTRODUCTION

The passing of Victoria (Vicky for all of us) Chick, in London, on 15 January 2023, is a serious bereavement for the community of post-Keynesian and heterodox economists of different schools. We lose one of the most intelligent interpreters of Keynes who tenaciously defended him from so many spurious and sometimes misleading reinterpretations and who put forward an original interpretation of his work. Chick was the author of penetrating analysis of contemporary monetary theory and policy and an original and insightful thinker who will be missed for years to come.

[†]We would like to thank the anonymous referees for their valuable feedback. The summary of Chick's monetary economics has benefitted from comments from Charles Goodhart, Sheila Dow, Geoff Tily, Peter Howells, David Laidler, and Riccardo Bellofiore, whose generosity absolves them of responsibility for errors and omissions.

Chick was born in Berkeley, California, in 1936. She took her B.S. in Business Administration in 1958 and her M.A. in Economics in 1960 from the University of California, Berkeley. Her master's thesis was titled 'The Mechanics of Adjustment under a Flexible Exchange Rate: Canada, 1950-1958'; the thesis committee comprised of H.S. Ellis, J.M. Letiche, and R.J. Hensley. For her master's degree, she took graduate courses by H. Leibenstein (microeconomics), R. Caves (macroeconomics), C.M. Li (international economics and economic development), P.W. Bell (theory of customs unions), D. Landes (economic history), and most famously H.P. Minsky (monetary economics). She also audited H.S. Ellis' monetary economics and R. Radner's advanced statistics. She then came to London where she registered for a Ph.D. in International Economics at the London School of Economics (LSE), under the supervision of A.C.L. Day. There, she attended a host of graduate seminars that included: R.S. Sayers on advanced monetary economics, E. Devons on applied international economics, L. Robbins on economic theory, H. Phelps-Brown on wage determination, and R.G. Lipsey on measurement and testing in economics.

In 1963, she received her first academic appointment at University College London (UCL) as an assistant lecturer. She was promoted to Lecturer in 1964, Reader in 1984, and Professor in 1993 and, when she retired in 2001, she became Emeritus. Thus, UCL was her academic home for 60 years. During those years, she lectured in graduate and undergraduate courses in macroeconomics and monetary economics, and the topics she taught included comparative and international monetary institutions, finance, and the capital market. Her courses inspired countless students of various nationalities, and a number of students did their Ph.D. under her supervision.[1] Some of us (Italian students at the LSE) used to go to UCL in the mid-1970s, to listen to her lectures, as an antidote to the investment-saving (IS)–liquidity preference-money supply (LM) version of Keynesian thought that we were given in the LSE macroeconomics course. Also, Chick influenced students globally by visiting institutions and lecturing throughout her career. To give only a partial example of her activity, she held visiting positions in the Federal University of Rio de Jeneiro in Brazil, The University of New South Wales in Sydney, the Universite Catholique de Louvain in Belgium, the University of Aarchis in Denmark, and McGill University in Montreal, Canada.

Julie Phillips, Chick's cousin, when announcing her death, said she had received 'messages, cards, phone calls and visits from friends and former students all over the

[1] Ph.D. students include: Miria Pigato, on 'Monetary Policy in a Banking System practicing Liability Management' (completed 1985). Veena Jha on 'Private Capital Flows to Underdeveloped Countries: the case of India' (completed 1990). Carmem Feijo on 'Economic growth and inflation in Brazil in the 1970s: A post Keynesian interpretation' (completed 1991). Rogerio Studart on 'Investment finance, saving and funding and financial systems in economic development: theory and lessons from Brazil' (completed 1993). Maurizio Caserta on 'Capacity utilisation, effective demand and unsteady growth' (completed 1994). Moacir Tavares Rodrigues dos Anjos on 'Economic growth and inflation in Brazil in the 1970s: A post Keynesian interpretation' (completed 1994). Adriana Moreira Amado on 'Disparate regional development in Brazil: A monetary production approach' (completed 1995). Rogerio Pereira de Andrade on 'Dynamics of conventions: A post-classical analysis' (completed 1998). Marco Aurelio Crocco Afonso on 'Uncertainty, technical change and effective demand' (completed 1999). Geoff Tily on 'Keynes's general theory, the rate of interest and 'Keynesian economics'' (completed 2005).

world, saying how much she had encouraged them in their work and how inspiring her own career had been. They knew her as a colourful and iconic person, impatient with ideas she did not like and infinitely supportive of the many friends and colleagues she did like'.

Chick's publications are too numerous to outline here. The breadth of her contributions is reflected in the many papers presented in the conference in the honour of Chick held in London in 2016,[2] subsequently published as a two-volume set edited by Dow *et al.* (2018a, 2018b), and in the two volumes with papers in Chick's honour edited by Philip Arestis *et al.* (2002a, 2002b). This is further evidenced in the recent survey article by her last Ph.D. student Geoff Tily (Tily, 2023) building an engaging narrative of the thought, influence, and academic debates that Chick participated in. Tily's article and the two sets of volumes show the enormous impact Chick had on the economics community bringing together academics that would not normally meet and exchange ideas. This mirrors the environment in which she was taught economics at Berkeley in the 1950s. Arestis, Desai, and Dow in the introduction of the essays honouring her in 2002 note that 'the important ingredient of that environment was the disparity of views that were flowing in the corridors and seminar rooms of the Department' (Arestis *et al.*, 2002a, p. 1). Chick took from this experience the importance of developing an oral community, and throughout her life, she was central in creating community spaces for economists to meet, discuss, and debate. It was Chick, together with Philip Arestis, who, in 1988, established the post-Keynesian study group which became a forum of Keynes scholarship in the UK and internationally. This shows that her contributions are much wider than her substantial record of publications, and her legacy is equally broad in its reach.

In the next three sections, we show the breadth and complexity of Chick's thought and contributions by grouping them together in the following topics. Section II starts with an appreciation of Minsky's interpretation of Keynes, which was an important influence on Chick. We view her interpretation of the *General Theory* as a hermeneutic device for theory and policy thinking across the range of topics on which we mainly focus. Section III discusses Chick's monetary thought where she made some of her most original contributions to theory and policy. Section IV shows the link between theory, history of thought and pluralism, and why this is important to how we educate economists today.

While this scheme allows us to review her contributions, we would like to stress that Chick favoured an integrated approach when discussing theory and policy as well as when working on the monetary and real facets of economic activity. Thus, her contributions are grouped in this way for clarity of exposition, but the focus is on how this constitutes a complex modern vision of analysing the economy.

[2] Celebrated along with the 80-year anniversary of the publication of *The General Theory*.

## II. A STUDENT OF MINSKY AND AN ORIGINAL INTERPRETER OF KEYNES

Minsky's interpretation of Keynes has as its foundation the proposition (unlike standard's economic theory) that instead of a Village Fair perspective, Keynes, in the *General Theory*, adopted a City or Wall Street perspective. When Minsky published this in his *John Maynard Keynes*, it showed his extraordinary intuition, because, with the exception of Harrod (1951), the extent of Keynes's practical acquaintance with the London and New York Stock Exchanges was not widely known. This appreciation of Keynes' financial activities (see Cristiano & Marcuzzo (2018) for a recent account) certainly adds further evidence to Minsky's point. In fact, vol. XII of the *Collected Writings of John Maynard Keynes*, where a detailed examination of Keynes's activity as an investor can be found, came out only in 1983.

Minsky's book was published in 1975, but the main lines of the argument were presented in two unpublished conference papers, in 1966, at the Southern Economic Association, and in 1975, for the ASSA Conference (published in 1977 in *Challenge*; Minsky, 1977a; and in the *Nebraska Journal of Economics and Business*; Minsky, 1977b). In fact, as we learn from Papadimitriou and Wray (1997, p. 38), the book was completed in 1972.

In his 1966 paper—which was a comment to two papers on Keynes and Keynesian economics—Minsky anticipated much of what became his favourite themes: the role of uncertainty and probability in Keynes, and the difference between Keynes and the Keynesian vulgate. Therefore, his interpretation was ahead of Leijonhufvud's (1968) book and even the appearance of Joan Robinson's famous epithet 'bastard Keynesianism'. The 1975 [1977a] paper is where Minsky summarised the financial instability hypothesis concept, distinguishing between hedge, speculative, and Ponzi finances. As Perry Mehrling pointed out, Minsky was 'substantially alone in his emphasis on the financial side of economics and on the financial interpretation of Keynes, and he was not shy about criticizing other dissidents for their neglect of this dimension' (Mehrling, 1999, p. 135).

What is exactly 'the financial market perspective'? It means, Minsky explained, featuring a world in which the changing view about the future has the greatest impact. He expands on this notion in an illuminating passage:

'Whereas classical economics and the neoclassical synthesis are based upon a barter paradigm—the image is of a yeoman or a craftsman trading in a village market—Keynesian theory rests upon a speculative-financial paradigm—the image is of a banker making his deals on Wall Street' (Minsky, 1975, pp. 57–58).

The problem is, as Minsky pointed out, that 'the financial aspects were left essentially implicit .... they were subject to allusion rather than detailed argumentation in *The General Theory*' (Minsky, 1975, p. 129). Chick was later to say of Minsky's version of Keynes that the title may have been 'John Maynard Keynes', but the theory was that of Hyman Minsky. Minsky's emphasis was a *financial* interpretation of Keynes. Chick's emphasis was rather a *monetary* interpretation of Keynes from which she drew further implications and, above all, ideas in terms of method. She is on record saying that, at Berkeley, Minsky 'tried to teach me The General Theory but, again, it was too early in my career [ . . . ] It had been our text for a whole term, but I had only grasped the basic ideas, rather like reading a novel simply for its plot' (Arestis & Saywer, 2000, p. 102 and p. 104).

Nevertheless, as a student, she had been exposed to alternatives to the neoclassical synthesis and an unconventional approach to Keynes—and to economics for that matter—by Minsky, and this possibly remained a formative force in her later study of Keynes.

### *II.a Chick and the General Theory*

Her writings on how to interpret the *General Theory* are manifold and reveal how undogmatic was her adherence to Keynesian thought, which she believed must always be adapted to changing times. However, she was never ready to compromise over what she believed to be interpretative 'distortions', totally extraneous to Keynes' original message (Marcuzzo, 2018). In what follows, we present the main distortions of the *General Theory* that Chick believed are made by parts of the economics profession; these accusations are representative of her critical attitude towards received ideas.

Chick's first major book, *The Theory of Monetary Policy* (1973), presented a critical appraisal of the then dominant approaches to macroeconomics. It can be seen as a prologue to the one published in 1983, *Macroeconomics after Keynes*, which is widely regarded as one of the most influential works in the post-Keynesian paradigm. In the Preface to this book, Chick writes that its purpose was 'an exercise [...] in restoration, stripping away the layers of 'Keynesian' varnish so that the original object can be seen' (Chick, 1983a, p. vii).

The 'varnish' was mainly made up of layers whose 'stripping away' was conducted over years and in several papers as her work evolved. Although the emphasis on the particulars may have changed over time, the core arguments, and Chick's positions, displayed coherence and consistency. We identify these core positions in turn.

First, the translation of the *General Theory* into a closed system of simultaneous equations, stemming from the belief that the main expression of a theory is a model. This has been repeatedly denounced by Chick, who writes: 'A theory is broader than a model and may contain many models, depending on how the models (subsystems) are created by ceteris paribus assumptions and conditions' (Chick, 2004, p. 14). 'Models are closed systems' and the 'General Theory is an open system' (*ibid*.).

Chick's urge to readers has always been not to get hopelessly entangled in the translation of the *General Theory* into a closed model compatible with the mechanics of equilibrium analysis and its automatic forces. Instead, the readers need to see it as a starting point for analysis on a number of relevant current theory and policy topics.

Second, the *General Theory* is presented by some mainstream economists as the manifesto of 'deficit spending', serving a specific political agenda aimed at fuelling anti-Keynesian sentiment in favour of neo-liberal policies. However, the message, explicitly expressed in the *General Theory*, is of sustaining the level of investment 'by stabilising business confidence' rather than through debt-financed public works. Keynes' reliance on 'socialising investment' rather than fiscal policy shows his concern for the size of the deficit and the importance given to market incentives to sustain full employment (Marcuzzo, 2010, p. 190). In the recent euphoria of the so-called 'return to Keynes', we have seen this distorted message being broadcasted, dragging the discussion mainly to the effectiveness of fiscal policy. This narrow focus has taken us back to the 1970s and to the clash between Keynesians and Monetarists over the shape of the IS and LM curves, which Chick had so lucidly discussed in her *Theory of Monetary Policy* (1973). A brief digression on what happened to the multiplier estimates may be instructive.

In the 1950s and 1960s, when Keynesianism was at its peak, the multiplier was generally assumed to be around 2. Then, in the 1990s and 2000s, these estimates gradually decreased, leaving the consensus in a range of around 0.5–0.7. We had to wait until 2009 to see the International Monetary Fund raise the figure of the multiplier to 0.9–1.7; although their model has little resemblance with the structure, aims, and motivations of the *General Theory* (see Marcuzzo, 2014). In this later framing, the multiplier principle—the mechanism of induced expenditure—is not directly related to the empirical estimates above, because the specifications of the models used to test it are often derived from the microeconomic approach to consumption theory rather than from Keynes' aggregate consumption function.

Chick devoted an entire chapter to the multiplier in her *Macroeconomics after Keynes*, arguing that there are three possible interpretations of the multiplier in the *General Theory*. First, there is a dynamic interpretation of the Keynesian multiplier: 'what will happen if autonomous expenditure changes'. Second, there is a static interpretation: 'a statement of the necessary condition for the expansion of income to some new predetermined level or for the maintenance of income at a particular level'. The third, in her conception, is that of the logical multiplier, which—in Keynes' words—'is valid continuously, without lag, at every moment of time' (Chick, 1983a, p. 253). According to Chick, this last representation of the functioning of the multiplier is only an *ex post* relation between Y and I, not a theory.

Chick linked this with a common misunderstanding of the argument of digging holes as a remedy for unemployment. She pointed out that Keynes' emphasis was that it does not matter how public money is spent, as long as it is spent, since it will generate income and, through the multiplier, the savings needed to finance the initial expenditure. Thus, even something as seemingly pointless as digging holes and filling them up could, unexpectedly, have positive economic effects. Such an example is meant to illustrate a principle, not to provide a pattern of schemes to describe a type of 'desired' public works. Expenditure on goods or works that have no useful purpose from the point of view of consumption nevertheless produce the desired effects on income and employment, because they produce fruits that 'could not serve the needs of man by being consumed' and therefore do not 'stultify with abundance' (Keynes, 1936, p. 131).

In a 2013 article with Sheila Dow, they wrote that the much misunderstood passage of 'digging holes in the ground' is a piece of satire that aims to ridicule the government's view that 'everything should make a full profit or not be done at all', noting the analytical point that the objectives of the government are not the same as those of private businesses and individuals (see Chick & Dow, 2013, p. 15).

Third, Chick's position on the impotent and hopeless attempts to give the *General Theory* micro-foundations can be found in several of her articles. On this theme are Chick's (2002) article on Keynes' investment theory and a more recent article in the *Review of Political Economy*, Chick (2016). In the former of the two, Chick boldly argued that 'consistency between a theory of decision-making (microeconomics) and the overall outcome of decisions (macroeconomics) cannot, in general, be achieved. Some internal consistency problems are bound to arise [...] because individual actions have unexpected consequences' (Chick, 2002, p. 55). In the second article, the author reinforced the point by invoking the search for a middle ground between micro- and macro-levels: 'Economics must face the fact that logical consistency between the two levels is not possible except at two extremes: that of constructing the theory from the representative agent or of assuming that individual economic agents have perfect knowledge of macro outcomes' (Chick, 2016, p. 112).

Fourth, according to Chick, the interpretation that Keynes' uncertainty is not the same thing as a calculable risk has led some to infer that lacking the possibility of assigning probability values to future outcomes, choice, and decision-making is devoid of any rationality. However, Keynes' uncertainty still allows reference to rational behaviour even if the term 'reasonable' is better suited to represent it. In her article in the *Australian Economic Papers* (Chick, 1978), Chick refers approvingly to Clower's contrast between Walrasian rationality (being perfectly informed about the future and the past) and Marshallian reasonableness (doing the sensible thing given one's limited knowledge). Reasonable action is guided by judgement, taking into account contingent and changing circumstances to the extent that our knowledge allows us to understand the facts. Keynes used this when arguing how a victor (or the creditor) do and should reason as is the case in the *Economic Consequences of Peace* or in the discussions on the debt negotiations with the USA in the 1940s.

Fifth, Chick has been at the forefront of the battle against austerity and the devastating measures promoted by the Troika in Europe. Starting from the framework of the *General Theory*, Chick showed the output-worsening effects of the Maastricht Treaty's fiscal austerity programmes. In her joint work with Pettifor and Tily (Chick *et al.*, 2011) and with Dow (Chick & Dow, 2012), she pointed out how public spending cuts were associated with more, not less, public debt.

It is now well established that the fiscal stimulus to curb the onset of the 2008–2009 recession was wholly inadequate. Concerns about the sustainability of public debt, triggered by the Greek default crisis, made 'austerity' appear to be the only possible solution, but this was the wrong way to understand the unfolding crisis. The calls of heterodox economists from various schools to undertake expansionary policies to support aggregate demand have only recently, and only partially, been recognised as appropriate.

Keynes made many scathing comments on the then prevailing attitude against deficit spending that could be applied to today's defenders of austerity programmes. An example is 'the man who regards all this [public works financed by borrowing, especially public expenditure on housing] as a senseless extravagance which will impoverish the nation, compared with doing nothing and leaving millions unemployed, should be recognised as a fool' (Keynes, 1934, 1978:, p. 338).

What the above section shows is that Chick's reading of *The General Theory* reinvigorated an interest in the theory and policy positions of Keynes that had been submerged in the re-articulations of the neoclassical synthesis. From Minsky, Chick did not only take insights on Keynes' meaning and motivation but also the iconoclastic freedom to revisit the key text and develop her understanding of it. This did not only lead her to the positions we briefly outlined above but also to proposing a genuinely monetary view of modern capitalism to which we now turn.

## III. THE MONETARY ECONOMICS OF VICTORIA CHICK

Chick's interest in Keynes' *General Theory* went hand in hand with her broader interest of understanding the monetary nature of the modern economy. As noted in the introduction, upon arriving at the LSE in 1960, Chick attended the lectures on Money and Banking by Richard Sayers, LSE's distinguished Sir Ernest Cassel Professor of Economics. Sayers was then at the height of his influence on monetary theory and policy, fresh from having served as the leading specialist on monetary economics, on the Radcliffe Committee on the Working of the Monetary System (Committee, 1959). As a student, Sayers had been taught by Keynes, with whom he had later worked at the British Treasury during the Second World War. Sayers' approach to monetary economics was institutional and historical (he was the author of a monumental official history of the Bank of England from 1891 to 1944, Sayers (1976)). This approach to monetary economics was to emerge also in Chick's monetary analysis. Subsequently, and after she had been appointed to her position at UCL, Chick attended the seminars in monetary economics organised at the LSE by Harry Johnson.

### *III.a The Radcliffe Report*

The Radcliffe Report is widely regarded as marking the high point of Keynesian influence on monetary policy. Chick was impressed by Sayers' work on the Committee, but she became more critical of the Report's emphasis on monetary control:

> '. . . Radcliffe is to say the least an informal (some would say unscientific) but extremely interesting attempt to provide a theory to deal with the complicated interrelationships of an actual financial system, in which there are many assets to hold and many sources of credit. The value of Radcliffe as a theory is due to the fact that it deals not only with equilibrium portfolio choice but with disequilibrium

situations . . . Radcliffe uses an explicit credit rationing (disequilibrium) argument. But even if it did not it still differs radically from the ISLM or portfolio framework in its concern with credit flows between sectors rather than the 'aggregate' demand to hold assets' (Chick, 1973, p. 5)

She criticised in particular the emphasis on controlling interest rates and the neglect of money as an influence on expenditure:

' . . . Radcliffe reached the wrong conclusion by concentrating on the substitutability of assets in the portfolios of wealth-holders and on the substitutability from the point of view of the borrowers among the sources of borrowing. Their view of a world full of near-money assets led them to argue that money as such was totally unimportant in influencing spending, and the policy recommendation which emerged was: Control the structure of interest rates in order to control liquidity and let the money supply be what it will' (Chick, 1973, pp. 5–6)

There is a certain historic irony in Chick's remark on this neglect of money. The remedying of this neglect came to be the theoretical calling card with which monetarists, who she was later to criticise so vigorously, announced themselves. After their arrival, Chick maintained that monetarists exaggerated the influence of changes in the money supply on expenditure because most of those changes enter into the financial markets, rather than into the pockets of householders, or are held in company reserves (see Chick, 1983a, pp. 331–333).

However, she was in sympathy with some of the Keynesian monetary theory behind the Radcliffe Report:

'The Sayers/Radcliffe attack on both quantity theory and policy took a theoretical as well as an empirical form and led to one of the best known features of the Report: its unwillingness to define money. Plainly, if money cannot be defined it cannot be a key variable in spending decisions and it is meaningless to discuss controlling it. The argument that it is not definable rests on the absence of a clear criterion for the inclusion of specific assets in the monetary aggregate' (Chick, 1973, pp. 59–60)

She concluded:

'The Radcliffe model is rich, but confusingly stated. The policy recommendations however were straightforward. Control of the money supply they viewed as an anachronism in the highly developed postwar UK financial system. The logical conclusion of their model is to control credit creation, from whatever source. This was rejected on the grounds of administrative inconvenience . . . it was advances, not deposits, which were to be the subject of control, and that only in emergency situations (such as severe inflation) . . .

. . . Effective macroeconomic policy may imply interest rate stabilization under some circumstances, but no general case can be made. Radcliffe did not make it.

> The practical result of Radcliffe, however, was a more or less complete abandonment of control over the money supply. This was not viewed as important . . . I hope I have made it clear that this judgement did not follow from their theory, any more than it follows from the work of Keynes' (Chick, 1973, pp. 73–74)

What was, then, this monetary theory of Keynes from which Sayers and Radcliffe departed? Central to this question is the part played by monetary factors in Keynes's macroeconomics. Chick's answer to this centred on the labour market and the nature of wages. As she wrote in her 'Reconsideration of the *General Theory*' (Chick, 1983a), Arthur Pigou, who succeeded in Alfred Marshall's Chair in Cambridge, had argued that the level of employment was determined by the real wages. Keynes, according to Chick, had 'proposed a radical change in perspective to one enquiring into the *causes* of changes in wages and prices . . . From this new perspective comes 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' (Chick, 1983a, p. 10).

### *III.b Objections to the neoclassical synthesis*

Chick then took aim at the neoclassical synthesis of J.R. Hicks, Paul Samuelson, James Tobin, and Oskar Lange. In the *General Theory*, Keynes had put forward his argument in terms of a 'wage-unit' (Keynes, 1936, p. 41). His neoclassical interpreters had taken this to mean that Keynes's analysis of economic aggregates was conducted in 'real' terms equivalent to the operations of an efficient barter economy. Chick argued that this was an incorrect interpretation of the wage unit (Chick, 1983a, pp. 68–70). It was 'real' in the sense of adjusting for changes in money wages. But, the entirety of Keynes's macroeconomics was about flows of money. Adding a monetary sector to a 'real' macroeconomic system, as in Hicks' IS/LM analysis, was a denial of the monetary nature and content of Keynesian macroeconomics.

Chick also criticised the neo-classical synthesis for its general equilibrium character. She pointed out that the speed of market adjustments in the 'real' economy, through changes in investment, is very different from the near instantaneous adjustments of the monetary and financial systems. In her view, Keynes's analysis was a dynamic disequilibrium one, whose successive disequilibria affected the distribution of money throughout the economy (Chick, 1983a, pp. 322–324).

Her insistence on the monetary nature of all transactions in the modern market economy led her to take a severely critical view of two strands of monetary theory that emerged after she had published her *Macroeconomics After Keynes*. The failure of monetarist economic policy in the 1980s had revived interest in theories of the 'endogeneity' of the money supply, or the notion that the supply of means of payment (principally bank credit) was highly elastic in supply and therefore resistant to efforts at controlling it. In Keynes's *General Theory*, he had put forward the money supply as being determined by the monetary authorities (Keynes, 1936, chapter 17). This provided convenient Keynesian authority for monetarist ideas, for example, the theories of Milton Friedman. However, among Post-Keynesians, monetary endogeneity took the form of a conclusion that, given an unstable demand for credit, a central bank has to adjust its provision of reserves to commercial banks if it wishes to make its policy rate of interest effective in the (interbank) money markets (see Moore, 1988). Not only did this approach overlook Keynes's emphasis on the long-term rate of interest as the key variable in determining business investment, but it also reduced post-Keynesian monetary analysis to arguing for low (short-term) interest rates against efforts to control bank reserves (Chick & Dow, 2002).

### *III.c Money supply, bank reserves, and post-Keynesian monetary theory*

Chick objected to this narrowing down of the money supply to the market for bank reserves. Such a reduced view of the money supply failed to recognise the variety of credit available in an economy through monetary innovation, and the monetary character of macroeconomic variables, which dispersed the possession of monetary resources throughout the economy and certainly far beyond the market for bank reserves. In the *General Theory*, Keynes had too hastily asserted that the money supply was fixed by the monetary authorities, whereas it was 'given' by monetary innovation and the state of (monetary) flows represented by macroeconomic aggregates (Chick, 1983a, pp. 307–309). She concluded:

> '... the elasticity of the postwar monetary system is probably the single most important area of departure from Keynes's assumptions and, with its corollaries for price expectations and the locus of the liquidity premium, represents the area of the theory most in need of thorough revamping' (Chick, 1983a, p. 358)

Chick's other controversy with Post-Keynesian monetary thinking was over the circuit theory of money. She strenuously objected to the circuitists' argument over the 'initial' finance required for production and investment. 'Initial' finance, as represented in the work of Augusto Graziani, held that capitalists needed to borrow money in order to undertake production and that this is the origin of bank credit. In her view this was a *reductio ad absurdum* of village fair exchange in which new credit has to be obtained and repaid with every cycle of production. In a capitalist economy, with continuous production and sale, the only need for new credit came from *additions* to the last period's production rather than from the need to pay for the whole of this period's production.

In both of these controversies, Chick was confronting the issue of liquidity that preoccupied Sayers' (and the Radcliffe Committee) as well as the Withers's/Robertson's view that loans create deposits rather than deposits being the consequences of saving. The influence of Withers and Robertson is very apparent in Keynes's *Treatise on Money*. The liquidity issue was at the centre of the monetary analysis in the *General Theory*. Chick combined them into a 'structural' view of endogeneity that became her most original contribution to monetary economics.

### *III.d Chick's analysis of the evolution of banking*

Underpinning this 'structural' view of money endogeneity was perhaps her most seminal analysis on the evolution of banking. In its historical aspect, it recalls Sayers' approach to monetary economics. However, in its theorising and linking up banking process with macroeconomic outcomes, it had more in common with Minsky than Sayers.

In her chapter on saving, investment, and the rate of interest, in *Macroeconomics after Keynes*, Chick had sought to show that, as she later put it, 'the theory of saving and the rate of interest can . . . never be independent of the state of development of financial institutions' (Chick, 1983a, chapter 9). In that chapter, she had argued that:

> 'the reversal of causality in the saving-investment nexus proposed by Keynes (1936) should not be seen as correct theory in triumph over error but as a change in what constituted correct theory due to the development of the banking system' (Chick, 1986, pp. 193–194)

She went on that the purpose of revisiting the question in 1986:

> '. . . is to carry this perspective forward to the present day . . . bank behaviour has evolved to a stage sufficiently different from the stage to which Keynes' theory pertained to require alterations to the received theory of investment, saving and interest' (Chick, 1986, p. 194)

She did this by identifying stages of banking development which she argued affected the macroeconomic relationship between saving, investment, and the rate of interest.

Thus, in Stage 1 of banking,

> 'Banks are numerous and small, and geographically semi-isolated. Bank liabilities [deposits] are not widely used as means of payment . . . . . . in such circumstances saving determines the volume of investment' (Chick, 1986, pp. 194–195)

In Stage 2, 'The number of banks is fewer and the average size . . . is larger . . . clearing arrangements further encourage(s) the shift to deposits as means of payment' (Chick, 1986, p. 195). In this stage, the bank deposit multiplier (in a fractional reserve system) applies. Investment precedes saving, but '*ex post* saving equals *ex post* investment' (Chick, 1986, p. 196). In this situation, changes in reserves, by affecting banks' willingness to lend, drive changes in deposits. In Stage 3, interbank lending mechanisms emerge, allowing banks more scope to lend and adjust reserves by borrowing from other banks. The 'bank deposit multiplier' (showing the ratio of new credit to an initial bank deposit) accelerates. In Stage 4, a central bank emerges as lender of last resort. This allows banks to create deposits by lending money, since banks can rely on the central bank and the interbank market to provide reserves up to appropriate reserve requirements. In Stage 5, 'liability management' by banks allows banks to adapt liabilities to loans they wish to make. Competition between banks using deposit interest rates intensifies. Finally, in this 1986 paper, Chick suggested a possible stage 6. This was based on competitive lending secured on asset inflation, contributing to general inflation.

Chick wrote that the scheme 'traces the evolution of the English banking system in stylised form' (Chick, 1986, p. 194) and added in a footnote 'a hunch that the history of banking follows broadly universal patterns, with albeit important variations' (Chick, 1986, p. 204).

With the stages idea fully worked out, Chick was taken aback by the implications of her analysis for saving and investment. She noted that:

> 'in largely non-financial economies or in financial economies dominated by *de facto* direct borrowing and lending (including Stage 1 of banking development) saving has to occur prior to investment; investment would be thwarted by a lack of saving. With the arrival of Stage 2 banking, investment could precede saving . . . subsequent banking developments have not changed that process; they have intensified it' (Chick, 1986, p. 199)

In this way, Chick provided a 'microeconomic' foundation for the banking process that she believed lay behind Keynes's macroeconomics. When she returned to Keynes's monetary theory it was to reiterate the importance of liquidity, as opposed to monetary aggregates, which had been placed before her by Sayers and the Radcliffe Report (Chick & Dow, 2002).

As analysed in this section, Chick's thought on the workings of modern capitalism combined theoretical and historical analysis in which the influence of Sayers and Minsky played a role in her understanding of Keynes' *General Theory* and in the development of her own position. It is worth noting that the Radcliffe committee's unwillingness to define money in an absolute and theoretically ahistorical way opened opportunities on seeing analytically the historical evolution of money and banking, and this led Chick to her celebrated theory on the evolution of banking. This kind of analytical historical approach, in which conditions and terms are defined with theoretical vigour but are not ahistorical entities, went hand in hand with her view on the nature and methodology of economics as a discipline to which we now turn.

## IV. THEORY, HISTORY, AND METHODOLOGY

It is important to note that Chick's theory and policy positions emanated from a deeper methodological and epistemological programme that developed over her lifetime. Especially from the 1970s and 1980s, Chick became increasingly involved not only in understanding the links between economics and the other social sciences but also in exploring what are the limits of theorising in economics. These groundwork investigations gave novel insights on the link between history and theory, on the limits of theoretical modelling, and on how to teach economics.

*IV.a The link between history and current theory*

As noted above, Chick had developed an intricate and evolutionary theory of banking and finance. This showed that theory should evolve over time as institutions evolve, or to put it in her terms:

> 'There is a basic ... belief that economic theories are seldom true or false in any absolute sense except that of logical consistency. A theory one describes as 'true' captures important features of reality as one perceives it. A theory which is 'true' in that sense can become 'false' through the mere passage of time. Because the world has changed' (Chick, 1983b, p. 381)

But, even that evolutionary link between theory and social reality is itself contingent on the path that history takes. To take an example, Chick's stages of banking theory is not a blueprint of how all banking systems have or ought to have developed since the beginning of time, but it is a reconstruction of the particular English experience. As Sheila Dow has stressed, the Scottish experience is different to the English one. Dow therefore sees Chick's stages of banking theory not as a universal theory of how banking developed, but as a framework for analysing different contexts, and Chick herself acknowledged that the scheme applied to different national contexts displayed 'important variations' (Chick, 1986, p. 204).

This means that theory has a complex link both with reality and with past theorising (Chick, 1995). Chick's approach has similarities to what Kenneth Boulding called 'the principle of the extended present' (Boulding, 1971). As Boulding wrote, important writers of the past need to be studied 'from the point of view of what they have to say to us today' (Boulding, 1971, p. 234). For Boulding, this is important because past theories are encased in the environment that gave rise to them, and as such, form, by necessity, a different starting point for imagination to make abstract categories and think from. These writers have to be included as voices in today's theory and policy discussions because 'past writers have things to say which no present writer is saying' (Boulding, 1971, p. 233). This he called the 'principle of the extended present' (Boulding, 1971, p. 227).

Similarly for Chick, history of thought is an integral part of current theorising. She had written in the strongest possible terms against Samuelson's conception of Whig history, i.e. the proposition that past ideas are an imperfect form of today's better articulated ideas so that any interest in history is simply an exercise in antiquarianism. But, there is an even worse corollary to that premise—the idea that, if theory is in error today, past theory is simply an imperfect version of that error (see Freeman *et al.*, 2014). This position removes any interest for the theorist to revisit the past, as corrections of theories can only come from new and not old ideas.

Chick's viewpoint added to Boulding's argument an important modification: ideas do not simply coexist in an extended present, but they go out of fashion and may indeed return to fashion when the time is right. For example, Chick traced the history of endogenous money in the 20th century (Chick, 2005) and charted how key concepts waxed and waned through the period. But, she noted that each cycle brought something new and ideas may be resurrected but also need to fit the new realities. She wrote revealingly 'the rediscovery of the wheel may produce something very like the original: function demands it. But rediscovery in economics is like history: ideas do not quite repeat themselves' (Chick, 2005, p. 63).

### *IV.b Open, closed systems, and pluralism*

Thus, the past is neither dead and lacking insight nor a book of blueprints that can apply exactly to the present. It is a library of experience and serious thought to train the mind of the economist. This open use of past theory, borrowing, but also adopting past insights, is an important part of Chick's thoughts about theory in general. One of the key analytical distinctions that she emphasised in her writings is the difference between Open and Closed Systems in theorising. In an array of articles by herself and with Sheila Dow, they explained that one of the key problems in modern economics is closed-system theorising. Chick and Dow (2005, p. 367) define a closed system as one that exhibits the following characteristics:

(1) All relevant variables can be identified.

(2) The boundaries of the system are definite and immutable; i.e. endogenous and exogenous variables are clearly defined and fixed.

(3) Only the specified exogenous variables affect the system, and they do this in a known way.

(4) Relations between variables are either knowable or random.

(5) Economic agents are treated atomistically.

(6) The nature of the agent is constant.

(7) The structure of the relationships between the components is knowable or random.

(8) The structural framework in which agents act is a given.

It is important to note that, for Chick and Dow, all these elements must be present for a system to be closed. By this list of characteristics, they want to stress that a closed system is one that defines its environment exactly and allows a very specific kind of mechanised behaviour to be analysed and exhibited. Chick and Dow want to caution against the false certainty of appearing to have completely mapped the problem and its possible solutions.

Their objective is not to offer a prescribed way in order to do the opposite, open analysis, but instead, to ask the theorist or investigator to consider if all these closures are necessary for the specific problem that they are trying to tackle. As Chick noted, 'there is, therefore, a wide variety of types of open systems' (Chick, 2004, p. 9) and what kind of opening you wish to apply depends on the question you are trying to answer. Thus, open and closed systems are not a symmetric system, and they should not be seen as one-to-one counterparts. Chick and Dow stress that there are many ways to introduce openings to a closed system, and this allows for a plurality of approaches and a widening of the dialogue. This is, as Chick recognised, both a difficult and hazardous journey for the theorist, and she wrote: 'Thinking in terms of open systems entails a recognition of complexity and its unintended consequences, uncertainty, and incompleteness—in other words one's own fallibility' (Chick, 2004, p. 13).

### *IV.c How to teach economics*

It comes then as no surprise that Chick was frustrated by the current state of the discipline. Instead of being open, pluralistic, and engaging with its own history and the other social sciences, she found that it was closed as a method, internally referential, focused on technical consistency as the absolute criterion of truth, and detached from reality. Her view of pedagogy was that teaching was not there to furnish economists with ready-made answers but instead to provide them with tools that would hone their intuition and make them ask deep and engaging questions. She realised not only the difficulty of this alternative vision of economics but also how essential was the message of an alternative way of practicing and teaching the discipline. In 2012, she gave an open lecture in Gresham College, utilising Gresham's law to argue that 'Bad theory has driven out good theory' (Chick, 2012) completely reversing the Samuelsonian vision of Whig history, i.e. that the best theory is the one that always survives, noting that in economics, the opposite happened! She argued that there are reasons why this is the case, and these are explained in the following way.

First, once dominance is achieved, it is very difficult to dislodge the dominant theory, especially if it controls all the levers of power, such as: appointments of staff, publications in important journals, access to policy making, and teaching in prestige institutions. Second, mainstream 'bad theory' has an appeal to the starting young economist, which gives it a natural advantage. Maths makes it appear value-free and scientific. It also allows younger economists to rely less on judgement, something that requires experience, which, being young, is not normally present. Third, mainstream theory is a more natural way of thinking for people with a dualistic kind of mind. By dualism, Chick meant to think in two opposing categories, in either/or terms, in which these categories are essentially symmetric and exactly defined. This categorisation of problems reduces ambiguity and the development of more complex narratives. Chick noted that 'A dualistic mode of thought is most congenial to the young. Non-dualistic thinking requires a tolerance of ambiguity and ability to handle "grey areas" the excluded middle. These skills are normally learned, like judgement, as one matures, but some are always uncomfortable with them' (Chick, 2012). Finally, a fourth consideration is that ideology and the broader free market are mostly on the side of mainstream theory:

> 'But there is no doubt that mainstream economics, particularly the New Classical variant, supports the proposition that free markets lead to an optimal solution, and that free markets are regarded by some as desirable for their own sake. Someone once said that if mainstream economics did not exist, capitalism would insist that it be invented' (Chick, 2012)

All these reasons combine together to provide a powerful support to the status quo in economics and their effect is that it makes it almost impossible to change the discipline. But, if it were possible, what should be the alternative? Less dogmatism, abandoning the belief that one holds all the answers, or that these can be found through the application of one method and one system of thought. An effort to engage with history and theory and use mathematics and formal methods but always question and investigate the link between theory and reality by engaging in different types of analysis. Chick's method was never to hide controversies behind a veneer of agreement. She believed that discussion and disagreement are necessary in order to arrive at more profound answers, . The desideratum of education in economics is the development of judgement and intuition on social matters. In one of the last of her writings, she noted:

> 'Closed and open systems both have their uses, but creating a closure as an abstraction from reality is to be done with care: the chosen abstraction may be either apt or inappropriate, and if the latter, will yield misleading results. There are no rules to apply this question: the choice is a matter of the theorist's judgement, and the evaluation of the suitability of the choice is similarly, a matter of judgement. No objective criterion, such as internal consistency, is sufficient in making this judgement' (Chick, 2023, p. 152)

Judgement is one of the most difficult things to learn and teach. But, it is also the most necessary skill an economist needs to develop in order to be able to make the right decisions.

## V. CONCLUSIONS

Vicky Chick's work shows a breadth and depth that is rare in the profession today. As the different sections of this intellectual biography indicate, her contributions ranged from issues of ontology and methodology to monetary theory and policy recommendations for current social and economic problems. Together, they constitute a whole system of thinking about the economy and economics. The range is vast, and this article only gave a flavour of her work. Chick was able to stride across specialised literatures, find commonalities, build bridges, get at the core of the problem, or discussion and offer novel insights. She exercised what she preached and was open to new ideas and interacting with a wide network of economists coming from a variety of backgrounds and with occasionally different convictions. She adopted as her own the motto of Cowell College, University of California: 'The pursuit of truth in the company of friends'; this was the core around which the London Post-Keynesian community developed from the 1980s.

Her contributions and general outlook of economics as a discipline have become key elements of the UK post-Keynesian school of thought, especially the part that considers uncertainty to be a central aspect of Keynesian economics. Chick's work showed that the distortions of the *General Theory's* message have taken different forms, and this has led to disregarding its lesson and making bad use of it. We can summarise these distortions as follows: translating the *General Theory* into models with neoclassical assumptions, neglecting uncertainty, focusing on neoclassical micro-foundations, acting as if real and monetary theory and analysis is separable instead of integrated and seeing the *General Theory* as having a narrow policy recommendation of fiscal spending. Instead, for Chick, the *General Theory* teaches us that markets and economic behaviour must be guided by an understanding of the logic of conventions, coordination, and rules. This is the opposite to allowing the unconstrained pursuit of individual interests, prohibiting public sector interventions, and dismantling regulations and institutions that frame market activity.

Economists did not occupy the first place in Keynes' scale of values and appreciation. The sense of frustration Keynes felt can be seen in many instances during the writing of the *General Theory*. In a famous letter to his wife Lydia, dated October 1933, he writes: 'Are all economists mad, except Alexander [R.F. Kahn] and myself? It seems to me so, and yet it cannot be true' (quoted in Moggridge, 1992, p. 566). There were times that Chick appeared to share this sentiment, especially when considering the development of the economics profession, which took a technical and narrower focus, at times prioritising technical showmanship to substance and the link between economics with reality. Both Keynes and Chick may have been frustrated to get their message across, but both found many friends who were excited to listen to their novel insights. The 'meeting of minds' that Keynes referred to when he recognised an empathetic understanding of the points he was making may not apply to the majority of past and present interpreters of Keynes, but it applies to Chick's interpretation. Her imagination and creativity, her scientific dedication, and her free spirit made it possible to inspire a new generation of economists not only to understand the complexity and open-ended character of Keynes' message but also to develop that rarest of talents in economics, judgement. Understanding that, in many cases, judgement depends on intuition requires that one becomes comfortable with the uncertainties of life. Chick took what life had to offer and was open to see challenges as opportunities and always enjoyed a laugh. And, Vicky had a very recognisable and engaging laugh. Once, in a restaurant in Berkeley, where she often went as long as she still had a home there (until the early 1980s), the waiter checking her reservation said to her, 'is the table in the 'laughing section' OK?', which she found very amusing. This is how we remember her.

## REFERENCES

Arestis, P & Sawyer, M (eds) (2000) *A Biographical Dictionary of Dissenting Economists*. Cheltenham (UK) and Northampton (MA, USA): Edward Elgar.

Arestis, P, Desai, M & Dow, S (eds) (2002a) *Money, Macroeconomics and Keynes, Essays in Honour of Victoria Chick*, Volume One. London and New York: Routledge.

Arestis, P, Desai, M & Dow, S (eds) (2002b) *Methodology, Microeconomics and Keynes, Essays in Honour of Victoria Chick*, Volume Two. London and New York: Routledge.

Boulding, K.E. (1971) After Samuelson, who needs Adam Smith? *Hist. Polit. Econ.*, **3**, 225–237. https://doi.org/10.1215/00182702-3-2-225.

Chick, V. (1973) *The Theory of Monetary Policy*. London: Gray-Mills.

Chick, V. (1978) The nature of the Keynesian revolution: a reassessment. *Aust. Econ. Pap.*, **17**, 1–20 reprinted in Chick V., 1992, *On Money, Method and Keynes. Selected Essays* (pp. 55-79), edited by P. Arestis and S. Dow, London: Macmillan.

Chick, V. (1983a) *Macroeconomics after Keynes: A Reconsideration of the General Theory*. Cambridge (MA): MIT Press.

Chick, V. (1983b) A question of relevance: the general theory in Keynes's time and ours. *S. Afr. J. Econ.*, **51**, 261–279. https://doi.org/10.1111/j.1813-6982.1983.tb00800.x.

Chick, V. (1986) The evolution of the banking system and the theory of saving, investment and interest. *On Money, Method and Keynes Selected Essays* (P Arestis & SC Dow, eds). Basingstoke: Macmillan.

Chick, V. (1995) Order out of chaos' in economics? *Keynes, Knowledge and Uncertainty* (S Dow & J Hillard, eds). Cheltenham: Edward Elgar, pp. 25–42.

Chick, V. (2002) Keynes's theory of investment and necessary compromise. *Beyond Keynes, Vol. 2: Keynes, Uncertainty and the Global Economy* (S Dow & J Hillard, eds). Cheltenham (UK) and Northampton (MA, USA): Edward Elgar Publishing, pp. 55–77.

Chick, V. (2004) On open systems. *Braz. J. Polit. Econ.*, **24**, 3–17. https://doi.org/10.1590/0101-31572004-1638.

Chick, V. (2005) Lost and found: some history of endogenous money in the twentieth century. *The Monetary Theory of Production: Tradition and Perspectives* (G Fontana & R Realfonzo, eds). London: Palgrave Macmillan.

Chick, V. (2012) 'Gresham's Law in Economics: Background to the Crisis', lecture delivered in Gresham's college. https://www.gresham.ac.uk/watch-now/greshams-law-economics-background-crisis

Chick, V. (2016) On microfoundations and Keynes' economics. *Rev. Polit. Econ.*, **28**, 99–112. https://doi.org/10.1080/09538259.2016.1108130.

Chick, V. (2023) Open and closed systems. *Routledge Handbook of Macroeconomic Methodology* (J Jespersen, V Chick & B Tieben, eds). London: Routledge, pp. 144–154.

Chick, V. & Dow, S. (2002) Monetary Policy with Endogenous Money and Liquidity Preference: A Non-Dualistic Treatment. *J. Post-Keynes. Econ.*, **24**, 587–607.

Chick, V. & Dow, S. (2005) The meaning of open systems. *J. Econ. Methodol.*, **12**, 363–381.

Chick, V. & Dow, S. (2012) On causes and outcomes of the European crisis: ideas, institutions, and reality. *Contrib. Polit. Econ.*, **31**, 51–66. https://doi.org/10.1093/cpe/bzs006.

Chick, V. & Dow, S. (2013) Keynes, the long run, and the present crisis. *Int. J. Polit. Econ.*, **42**, 13–25. https://doi.org/10.2753/IJP0891-1916420102.

Chick, V., Pettifor, A. & Tily, G. (2011) *The Economic Consequences of Mr Osborne*. London: Policy Research, in Macroeconomics.

Committee on the Working of the Monetary System (1959) *Report (The Radcliffe Report)*. London: Her Majesty's Stationery Office Cmnd, p. 827.

Cristiano, C. & Marcuzzo, M.C. (2018) John Maynard Keynes: the economist as investor. *Rev. Keynes. Econ.*, **6**, 266–281. https://doi.org/10.4337/roke.2018.02.09.

Dow, S, Jespersen, J & Tily, G (eds) (2018a) *Money, Methods and Contemporary Post-Keynesian Economics*. Cheltenham: Edward Elgar.

Dow, S, Jespersen, J & Tily, G (eds) (2018b) *The General Theory and Keynes for the 21st Century*. Cheltenham: Edward Elgar.

Freeman, A., Chick, V. & Kayatekin, S. (2014) Samuelson's ghosts: Whig history and the reinterpretation of economic theory. *Camb. J. Econ.*, **38**, 519–529. https://doi.org/10.1093/cje/beu017.

Harrod, R. (1951) *The Life of John Maynard Keynes*. London: Macmillan.

Keynes, J.M. (1934] 1978) Can America spend its way into recovery? Johnson E., Moggridge D. (eds) *The Collected Writings of John Maynard Keynes, vol. XXI, Activities 1931–39: World Crisis and Policies in Britain and America*. London: Macmillan and Cambridge: Cambridge University Press, pp. 334–338.

Keynes, J.M. (1936) *The General Theory of Employment, Interest and Money*. London: Macmillan.

Leijonhufvud, A. (1968) *On Keynesian Economics and the Economics of Keynes*. New York: Oxford University Press.

Marcuzzo, M.C. (2010) Whose welfare state? Beveridge vs Keynes. *No Wealth but Life: Welfare Economics and the Welfare State in Britain 1880–1945* (R Backhouse & T Nishizawa, eds). Cambridge: Cambridge University Press, pp. 189–206.

Marcuzzo, M.C. (2014) Whatever happened to the Keynesian multiplier? *Economics and Other Branches: In the Shade of the Oak Tree. Essays in Honour of Pascal Bridel* (R Baranzini & F Allisson, eds). London: Pickering & Chatto, pp. 157–168.

Marcuzzo, M.C. (2018) Against twisting the General Theory. *The General Theory and Keynes for the 21st Century* (S Dow, J Jespersen & G Tily, eds). Cheltenham (UK) and Northampton (MA, USA): Edward Elgar, pp. 16–28.

Mehrling, P. (1999) The Vision of Hyman P. Minsky. *J. Econ. Behav. Org.*, **39**, 129–158. https://doi.org/10.1016/S0167-2681(99)00029-3.

Minsky, H.P. (1975) *John Maynard Keynes*. London: Macmillan.

Minsky, H.P. (1977a) The financial instability hypothesis: an interpretation of Keynes and an alternative to "Standard" theory. *Challenge*, **20**, 20–27.

Minsky, H.P. (1977b) The financial instability hypothesis: an interpretation of Keynes and an alternative to "Standard" theory. *Nebr. J. Econ. Bus.*, **16**, 20–27. https://doi.org/10.1080/05775132.1977.11470296.

Moggridge, D. (1992) *Maynard Keynes. An Economist's Biography*. London: Routledge.

Moore, B.J. (1988) *Horizontalists and Verticalists: The Macroeconomics of Credit Money*. Cambridge, UK: Cambridge University Press.

Papadimitriou, D.B. & Wray, L.R. (1997) *The Economic Contributions of Hyman Minsky: Varieties of Capitalism and Institutional Reform*. Working Paper No. 217. New York: Levy Economics Institute.

Sayers, R.S. (1976) *The Bank of England 1891–1944*. Cambridge: Cambridge University Press.

Tily, G. (2023) Victoria Chick's Keynes in Time. *Develop. Change*, **54**, 1296–1330. https://doi.org/10.1111/dech.12795.

doi: https://doi.org/10.1093/cpe/bzae002
*Advance Access Publication 27 April 2024*