

Review of Keynesian Economics

Volume 1
No. 4 2013

ELGAR JOURNALS

Review of Keynesian Economics
www.elgaronline.com/roke

Print ISSN 2049-5323

Online ISSN 2049-5331

Annual subscription rates for 2014 (four issues)

Institutions:	£294/\$473 (print and online)	£257/\$415 (online only)
Individuals:	£104/\$168 (print and online)	£68/\$110 (online only)
Students:	£52.50/\$84 (online only)	
Single print issue:	£65/\$100/€72	

TO PLACE A SUBSCRIPTION (worldwide):

The Subscriptions Dept
Marston Book Services Ltd
160 Eastern Avenue
Milton Park
Abingdon
Oxfordshire
OX14 4SB
UK
Tel: +44 1235 465574
Fax: +44 1235 465556
Email: subscriptions@marston.co.uk

Subscriptions in the EU may be subject to European VAT. If registered, please supply details to avoid unnecessary charges. Personal rate subscriptions are only available if payment is made by personal cheque or credit card, delivery is to a private address, and the journal is for personal use only.

The online version is hosted on the ElgarOnline platform: www.elgaronline.com/roke

For further information see www.e-elgar.com/roke or email sales@e-elgar.co.uk

© Edward Elgar Publishing. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical or photocopying, recording or otherwise without the prior permission of the publisher.

Permissions

For permission to reproduce articles/information from the journal, please contact permissions@e-elgar.co.uk

Printed and bound in Great Britain by
T.J. International Ltd, Padstow

Elgar Journals

Edward Elgar Publishing Ltd
The Lypiatts
15 Lansdown Road
Cheltenham
Glos GL50 2JA
UK

Edward Elgar Publishing, Inc
William Pratt House
9 Dewey Court
Northampton
Massachusetts 01060
USA

Review of Keynesian Economics

Volume 1, No. 4, Winter 2013

Contents

Mini symposium: 25th anniversary of Basil Moore's *Horizontalism and Verticalism*

Basil J. Moore's *Horizontalists and Verticalists*: an appraisal 25 years later 383
Ulrich Bindseil and Philipp J. König

Horizontalists and verticalists after 25 years 391
James Culham and John E. King

Horizontalists, verticalists, and structuralists: the theory of endogenous
money reassessed 406
Thomas I. Palley

Articles

A heterodox structural Keynesian: honouring Augusto Graziani 425
Riccardo Bellofiore

Keynes and the endogeneity of money 431
Fernando J. Cardim de Carvalho

Degree of monopoly and class struggle: political aspects of Kalecki's
pricing and distribution theory 447
Fernando M. Rugitsky

Book Reviews

J. Kvist, J. Fritzell, B. Hvinden, and O. Kangas, *Changing Social Equality:
The Nordic Welfare Model in the 21st Century* (The Policy Press, Bristol,
UK 2012) 224 pp.
J. Hoekstra, *Divergence in European Welfare and Housing Systems*
(IOS Press, Amsterdam, The Netherlands 2010) 232 pp. 465
Reviewed by Nick Falvo

William K. Tabb, *The Restructuring of Capitalism in Our Time* (Columbia University Press, New York, USA 2011) 352 pp. 469
Reviewed by Brandon McCoy

Piero Ferri, *Macroeconomics of Growth Cycles and Financial Instability* (Edward Elgar, Cheltenham, UK and Northampton, USA 2011) 224 pp. 472
Reviewed by William McColloch

Philip Mirowski, *Never let a Serious Crisis go to Waste: How Neoliberalism Survived the Financial Meltdown* (Verso, London, UK and New York, USA 2013) 480 pp. 476
Reviewed by John E. King

Basil J. Moore's *Horizontalists and Verticalists*: an appraisal 25 years later

Ulrich Bindseil*

Directorate General Market Operations, European Central Bank, Frankfurt, Germany

Philipp J. König*

Department of Macroeconomics, Economic Policy and Forecasting, German Institute for Economic Research, Berlin, Germany

*In 1988 Basil Moore published his book *Horizontalists and Verticalists: The Macroeconomics of Credit Money*, which this year celebrates its 25th birthday. We discuss this book from today's perspective, and in particular whether Moore's main assertions have been validated or rejected by the development of central bank practice and academic monetary economics. We find that the book has impressively stood the test of time and, despite part of textbook economics still insisting on the money multiplier as an explanation for the money supply, it is not much of an exaggeration to say that we have all become 'Horizontalists' in the last 25 years.*

Keywords: *monetary policy, interest rates*

JEL codes: *E40, E50*

1 INTRODUCTION

A student of neoclassical Austrian Fritz Machlup, Basil Moore became interested in money and banking very early in his career. His thesis dealt with the effects of monetary policy on bank earnings. He spent his first sabbatical with John Gurley and Edward Shaw in Stanford who, in 1960, had written their influential monograph, *Money in a Theory of Finance*. In 1968, Moore himself published his first book, *An Introduction to the Theory of Finance*. As we point out below, we believe that it is, among other things, his deep interest in and firm knowledge of finance and banking issues that enabled Moore to develop what he later called the 'horizontalist view of credit money' (see Hein and Nichoij 2010). Under the influence of Paul Davidson, Moore began to develop his views on monetary macroeconomics, primarily as a response to the dominant paradigm of Friedman's monetarism. This culminated in 1988 in his book, *Horizontalists and Verticalists: The Macroeconomics of Credit Money*, which this year celebrates its 25th birthday. We discuss this book from today's perspective, and in particular whether Moore's main assertions have been validated or rejected by the development of central

* The views in this article are those of the authors and do not necessarily reflect those of their respective affiliations.

bank practices and academic monetary economics. We find that the book has impressively stood the test of time and, despite part of textbook economics still insisting on the money multiplier as an explanation for the money supply, it is not much of an exaggeration to say that we have all become 'Horizontalists' in the last 25 years.

2 'VERTICAL' VS 'HORIZONTAL' VIEWPOINTS

The 'verticalist' view states that the money supply function is exogenous, is independent from money demand, and can, at least to a reasonable extent, be controlled by the central bank. The verticalist paradigm may apply in a world of commodity or pure fiat money. But, as Moore argued in 1988, it does not provide a correct description of a credit economy. Rather, in such a world, a 'horizontalist' view must be adopted. The supply of credit money is endogenous, is demand-determined, and only its price can be controlled by the central bank, not its quantity.

This was Moore's message in 1988 and it was a brave one. It postulated nothing less than the failure of a key assumption taken for granted by almost every monetary macro-economist in the twentieth century: that the central bank can control the monetary base and thereby exert control over the stock of money supplied to the economy.

Moore was aware of the consequences of removing this central assumption and instead adopting the horizontal view. He did not shy away from explicitly spelling this out:

The 'Horizontalist' notion ... implies, for example, that the entire literature on monetary control and on monetary policy, IS-LM analysis, the Keynesian and the money multiplier, liquidity preference, interest rate determination, the influence of public sector deficits on the level of domestic interest rates, growth theory, and even the theory of inflation must be comprehensively reconsidered and rewritten. (Moore 1988, p. xiv)

And he added self-confidently:

virtually everything written in the monetary, macro- and growth literature – [is] either misspecified or incomplete. Such fundamental theoretical misspecification renders all accompanying empirical parameter estimates highly suspect. (ibid., p. xiv)

By providing the analytical and empirical foundation of the horizontalist view, Moore aimed at fundamentally reshaping monetary economics.

3 HOW SUCCESSFUL HAS MOORE BEEN?

Moore's ideas may have shaped the course of post-Keynesian economics. Although we have to admit that neither of us is much acquainted with the post-Keynesian literature, we believe that the *Festschrift* edited by Setterfield (2006) is evidence enough of Moore's influence in this field of economics.

However, mainstream monetary economics has largely ignored 'Horizontalists and Verticalists,' even though Niggle (1989) stressed that the book should have been 'as influential within monetary economy and political economy as Keynes's *Tract on Monetary Reform*, *Treatise on Money*, and *General Theory*' (p. 1181). We too do believe that Moore's book rightly deserves its place in the history of economic thought. But we believe that this will take until mainstream (and in particular textbook) economics has freed itself completely from the assumption of an exogenous and controllable money stock that Moore identified to be so mistaken.

The year 1988, in which Moore wrote, was, however, not ripe for his view. It was a time when mainstream monetary economics had already experienced fundamental changes that continue until today. Robert Lucas had issued his critique on econometric policy evaluation 12 years earlier and thereby triggered the avalanche of micro-based macroeconomics that still prevails today. The foundations for modern New Keynesian monetary models had been laid by Calvo (1983) or Blanchard and Kyotaki (1987). The movement of rational expectations economics was already in full swing. All these developments took place without taking note of the 'horizontalist' view. With respect to monetary issues, they firmly rested on the possibility that central banks can exert direct control over the monetary base. For example, the indeterminacy debate, triggered by Sargent and Wallace's (1981) unpleasant monetarist arithmetic – whose repercussions run through virtually all current monetary models – essentially focused on the question of whether or not the price level could be determined by means of the interest rate or whether it could only be determined by setting the money stock. In a similar vein, the instrument-choice problem stressed in the influential model by Poole (1970) discussed the pros and cons of using the interest rate or the money supply to stabilize macroeconomic fluctuations. Moore rightly criticizes this highly popular approach as 'superficially reasonable eclecticism' (Moore 1988, p. 80) and as 'simply incorrect' (*ibid.*, p. 92).

Among Moore's few allies during the 1980s was Charles Goodhart, who 'endorse[d] with wholehearted enthusiasm the greater part of [Moore's] theme' (1989a, p. 29), and whom Moore referred to as his 'favorite real-world central banker' (Moore 1988, p. xix).

In particular, Moore and Goodhart shared the view that 'the use of the money multiplier ... obscures the underlying process of monetary determination' (Goodhart 1984, quoted from Moore 1988, p. 70), that '[t]here is no a priori reason to believe that the authorities' intention is generally to control this variable; it may be endogenously determined' (Goodhart 1989b, p. 137); and 'that the crucial error of the multiplier approach is that it mistakenly assumes ... that the central bank has the ability to increase or reduce the quantity of the base at its discretion (Moore 1988, p. 82).

In our opinion, these criticisms were at the core of Moore's reasoning. For if the monetary base is endogenous and not under the control of the central bank, then the whole process of credit creation must be endogenous as well. Hence, the whole idea of monetary control must collapse once the base becomes endogenous, and this paves the way for the alternative 'horizontal' view.

The mere fact that almost any best-selling intermediate textbook – for example Ball (2010), Mankiw (2003), or Mishkin (2009) – still explains the money supply by means of the multiplier process and proceeds under the assumption that the central bank 'controls the supply of money by increasing or decreasing the number of dollars in circulation through open-market operations' (Mankiw 2003, p. 482) reveals that Moore's self-imposed goal – unmistakably set out at the beginning of his book in a quote from Keynes – to escape from the old ideas which ramified into every corner of economists' minds, has unfortunately not yet been reached.

But Moore's goal gradually comes closer. Because, if anything, the last 25 years have vindicated the substance of his thinking in a surprising way that could hardly have been anticipated in 1988. Central bankers have by now largely buried 'verticalism', at least when it comes to monetary policy implementation – that is, the choice and technique to achieve the operational target of monetary policy. And even though the textbook and academic mainstream view on the money supply still largely maintains that the central bank can control it, the real-world developments in monetary policy practice have

paved the way for an understanding of monetary policy as interest rate policies that must necessarily sooner or later result in the horizontalist view of Moore.

Scrutinizing the Fed's operating procedures of previous decades, Moore (1988, p. 100) had already reached the rather crushing conclusion that money supply targeting was an 'exercise in illusions.' He devotes particular attention to the Fed's practices after the Volcker money control experiment of 1979–1982, and while noting that actually the Fed had already returned in the mid 1980s to something close to 'dirty' interest rate control, he explains that the

[c]entral banks are reluctant to acknowledge their interest rate procedures and policy targets publicly, mainly for political reasons ... Higher interest rates, since they increase borrowing costs and reduce private wealth values, are always politically very unpopular. ... The great virtue of 'intermediate monetary targeting', with its high rhetoric of 'reserve restraint', is that it enables the Fed to shed all visible responsibility for interest rates, which it effectively continues to control directly within a narrow range. No one appears responsible. 'Deniability' is valued by all political actors. (ibid., p. 137)

Even if not admitted at the time of Moore's book, the 1983–1990 period of borrowed reserves appears from today's perspective clearly as an attempt of the Fed to retreat from the reserve position doctrine. It is remarkable that the Fed never tried to openly justify borrowed reserves targeting as a coherent method. In 1994, just 6 years after Moore's book was published, the gradual move to federal funds rate targeting was completed and the Fed today announces, after each Federal Open Market Committee (FOMC) meeting, its decision with regard to the fed funds target rate (as we have known it ever since). In 1998, for the first time, the 'Domestic Policy Directive,' which is part of the minutes of the FOMC, contains a reference to the fed funds target rate, instead of a reference to the rather vague concept of 'reserve pressure.' For instance, the domestic policy directive in effect on 1 January 1997 still contained the formula: 'in the implementation of policy for the immediate future, the Committee seeks to maintain the existing degree of pressure on reserve position,' while the one in effect on 1 January 1998 reads, for the first time in the Fed's history, 'in the implementation of policy for the immediate future, the Committee seeks conditions in reserve markets consisting with maintaining the federal funds rate at an average of around 5.5 %.' Moreover, still in 1998, contemporaneous reserve accounting was substituted again by lagged reserves accounting, which facilitates the operating procedures of both the Fed and its counterparties. This is further proof of the fact that the influence of the monetarist viewpoint is constantly diminishing among practitioners (contemporaneous reserve accounting had been advocated by Milton Friedman as a key element of quantity oriented monetary policy implementation since 1960). Under lagged reserve accounting, both the Fed and the banks now know the level of required reserves before the start of the reserve maintenance period. Finally, in 2003, the Fed implemented a reform to its discount window, setting the discount rate systematically 100 basis points above the federal funds target rate and thus, after more than 80 years, it put an end to setting the discount rate below market rates.

And, surprisingly, it's all contained in Basil Moore's book. More than 2 decades before Friedman and Kuttner (2010) explained to the inclined reader of the *Handbook of Monetary Economics* how central banks do it – that is, steering the rates – Moore nailed it down in chapter 5 of his book. It is remarkable that a book that must have appeared rather provocative when it was published has been corroborated so unambiguously by actual developments in policymaking within such a short period of time.

What may explain why Moore could formulate his critique of the US Federal Reserve and academic monetary doctrine so early was his strong interest in banking and finance matters. Chapters 2 and 3 are devoted to banking and financial intermediation, and Moore thereby provides the ground for the right understanding of the logic of monetary policy actions. It is even more remarkable that he warns already in 1988 against the increasing liquidity and financial stability risk relating to the issuance of short-term debt instruments by banks. These worries were largely confirmed by the developments that led to the financial crisis of 2007–2009 and the need for central banks to massively intervene to substitute for the drying-out of short-term capital market funding sources.

4 THE DECLINING INFLUENCE OF 'VERTICALISM'

Although no explicit reference is usually made to 'horizontalism' and even though most academics would still not freely admit that the money supply is endogenous, the decreasing influence of 'verticalism' in monetary economics can also be measured by the increasing number of mainstream authors who acknowledge real-world practice and therefore embrace the idea of central banks controlling interest rates and not quantities, and who consider it (again) natural to either model monetary policy implementation as a steering of interest rates (for example Hamilton 1996, followed by many others), or to incorporate in macroeconomic models the assumption that the transmission mechanism starts with the central bank's steering of short-term interest rates (for example Taylor 1993; Clarida et al. 1999; Woodford 2003).

The last major monograph on monetary theory, Woodford (2003) is already fully aligned with Moore's observations from 15 years earlier.¹ As Woodford notes:

Monetary policy decision making almost everywhere means a decision about the operating target for an overnight interest rate, and the increased transparency about policy in recent years has almost meant greater explicitness about the central bank's interest-rate target and about the way in which its interest-rate decisions are made. ... Nonetheless, theoretical analyses of monetary policy have until recently almost invariably characterised policy in terms of a path for the money supply, and discussions of policy rules in the theoretical literature have mainly considered money-growth rules of one type or another. This curious disjunction between theory and practice predates the enthusiasm of the 1970s for monetary targets. (Woodford 2003, ch. 1, p. 30)

It is, however, hard to understand why an oeuvre that has been corroborated so well by reality has not yet received its well-deserved recognition. For us, the only plausible explanation may be that Moore's message is formulated so vigorously that it still appears overly provoking to many. Since Cassel (1928), no one (except for Charles Goodhart maybe) has dared to question the 'verticalist' orthodoxy in such an open way.

Yet, in light of the strong vindication of Moore's book and the recent progress of mainstream economics to formulate monetary policy in terms of interest rates, we

1. One of us (UB) has to acknowledge that he himself largely overlooked Moore, in Bindseil 2004a and 2004b. In Bindseil 2004a (p. 33), a reference is made to Moore (1988), but the author has to admit that he had not read Moore's book at that time and certainly overlooked the extent to which it had already made many points articulated independently in Bindseil 2004a and 2004b more than 15 years later (which had less merit as the changes described above had already taken place).

believe that the textbook view of controllable money supply will also be buried some day and thus the mainstream academic profession must, hopefully, eventually recognize the merits and power of the horizontalist.

5 MOORE IS RIGHT, BUT...

While we fully accord with Moore's main themes, there are three of his arguments that we would not fully subscribe to:

1. The Wicksellian theory of the natural rate of interest has regained popularity and we believe that this theory is fundamentally correct, even if there is a danger of misinterpreting it. In our view, Moore interpreted Wicksell too narrowly, by inferring from Wicksell's natural rate hypothesis that: (i) money rates are not controlled by the central bank; (ii) money rates will over time converge again to the real rate, and are, in this sense, endogenous; and (iii) the relevance of disequilibrium is played down by Wicksell. In contrast, we believe that the idea of a natural rate of interest does not put into question the possibility that the central bank controls the actual money rate. Given the central bank's control over the money rate, there is no natural convergence process of the actual money rate to the real rate. As revealed for instance by the German hyperinflation, a central bank can maintain the money rate at too low a level for many years. Obviously this policy parameter does not have a natural tendency to correct itself.
2. Moore's book is somewhat US-centric, and in our view it does not pay enough attention to the fact that 'horizontalism' was the leading doctrine in Europe (and all over the world) before 1914 – that is, before the Fed was created and invented verticalism around 1920. In fact, Bagehot (1873) was an downright 'horizontalist,' and the discount facility-based monetary policy implementation that was common practice by all central banks in Europe before 1914 can be seen as a clear-cut reflection of a 'horizontalist' approach to monetary policy.

One of the reasons why Moore may have devoted relatively little attention to the nineteenth century is his correct remark that commodity money is not the same as credit money, and that David Hume's quantity theory was indeed appropriate as a theory for a commodity standard. However, this should, in our view, not preclude one from learning from nineteenth-century monetary policy implementation techniques. Even though the economies operated largely under commodity standards, they also relied on a significant credit expansion by commercial banks, and the backing by metal was seldom complete. As is illustrated by the writings of Thornton (1802 [1962]), Bagehot (1873) or King (1936), 'verticalism' would not have been a feasible option in the predominant nineteenth-century currency standard.

3. As a last side remark, Moore associates the representation of the central bank and the banking system in T-accounts with monetary base targeting and the money multiplier doctrine, and therefore rejects its usefulness. We came to the conclusion that T-account modeling of monetary and financial transactions is indeed an excellent way to represent monetary policy implementation under any setting, and certainly also in a horizontalist one. The recent writings of, for example, Godley and Lavoie (2007) confirm this point of view. Since the control of interest rates takes place through financial transactions which have a balance sheet representation, it provides discipline to explicitly write down these transactions and how they feed

through the financial system in a closed system of T-accounts. We develop this approach for example in Bindseil and König (2011; 2012), and Bindseil and Winkler (2012).

6 CONCLUSION

Twenty-five years ago, Basil Moore did a remarkable job in refuting the leading doctrines of 'verticalism' and monetary targeting. The developments since then have corroborated his theory and his views in a remarkable way.

The heritage left by his book, the intellectual deepness of his thoughts, and the clarity with which his ideas were put forward have, in our view, made *Horizontalists and Verticalists* a key contribution to monetary economics. This book has stood the test of time and is still a must-read for anyone interested in understanding the functioning of the monetary system and the relationship between the banking and financial sector and the central bank.

REFERENCES

- Bagehot, W. (1873), *Lombard Street – A Description of the Money Market*, Homewood, IL: Richard D. Irwin.
- Ball, L. (2010), *Money, Banking and Financial Markets*, New York: Worth Publishers.
- Bindseil, U. (2004a), *Monetary Policy Implementation*, Oxford: Oxford University Press.
- Bindseil, U. (2004b), 'The Operational Target of Monetary Policy and the Rise and Fall of Reserve Position Doctrine,' ECB working paper No. 372.
- Bindseil, U. and P. König (2011), 'The Economics of Target2 balances,' SFB 649 Discussion Paper 2011-035, Humboldt-Universität zu Berlin.
- Bindseil, U. and P. König (2012), 'Target2 and the European Sovereign Debt Crisis,' *Kredit und Kapital*, 45(2), 135–174.
- Bindseil, U. and A. Winkler (2012), 'Dual Liquidity Crises under Alternative Monetary Frameworks – a Financial Accounts Perspective,' ECB Working Paper Series, No. 1478.
- Blanchard, O. and N. Kyotaki (1987), 'Monopolistic Competition and the Effects of Aggregate Demand,' *American Economic Review*, 77(4), 647–666.
- Calvo, G. (1983), 'Staggered Prices in a Utility-Maximizing Framework,' *Journal of Monetary Economics*, 12, 383–398.
- Cassel, G. (1928), 'The Rate of Interest, the Bank Rate, and the Stabilisation of Prices,' *Quarterly Journal of Economics*, 42, 511–529.
- Clarida, R., J. Galí, and M. Gertler (1999), 'The Science of Monetary Policy: a New Keynesian Perspective,' *Journal of Economic Literature*, 37, 1661–1707.
- Friedman, B. and K. Kuttner (2010), 'Implementation of Monetary Policy: How Do Central Banks Set Interest Rates?', in B. Friedman and M. Woodford (eds), *Handbook of Monetary Economics*, Vol. 3, Amsterdam: North-Holland, pp. 1345–1438.
- Godley, W. and M. Lavoie (2007), *Monetary Economics: an Integrated Approach to Credit, Money, Income, Production and Wealth*, New York: Palgrave Macmillan.
- Goodhart, C.A.E. (1984), *Monetary Theory and Practice*, London: Macmillan.
- Goodhart, C.A.E. (1989a), 'Has Moore Become Too Horizontal?', *Journal of Post Keynesian Economics*, 12(1), 29–34.
- Goodhart, C.A.E. (1989b), *Money Information and Uncertainty*, Cambridge, MA: MIT Press.
- Hamilton, J.D. (1996), 'The Daily Market for Federal Funds,' *Journal of Political Economy*, 104, 26–56.
- Hein, E. and T. Nichoij (2010), 'Interview with Basil Moore,' *Intervention: European Journal of Economics and Economic Policies*, 7(1), 7–11.

- King, W.T.C. (1936), *History of the London Discount Market*, London: Frank Cass.
- Mankiw, G. (2003), *Macroeconomics*, New York: Worth Publishers.
- Mishkin, F. (2009), *Economics of Money, Banking and Financial Markets*, New Jersey: Prentice Hall.
- Moore, Basil (1988), *Horizontalists and Verticalists: The Macroeconomics of Credit Money*, Cambridge, UK: Cambridge University Press.
- Niggle, C. (1989), 'Horizontalists and Verticalists – Review,' *Journal of Economic Issues*, 23(4), 1181–1185.
- Poole, W. (1970), 'Optimal Choice of Monetary Policy Instruments in a Simple Stochastic Macro Model,' *Quarterly Journal of Economics*, 84, 197–216.
- Sargent, T. and N. Wallace (1981), 'Some Unpleasant Monetarist Arithmetic,' *Quarterly Review*, Federal Reserve Bank of Minneapolis, Fall.
- Setterfield, M. (2006), *Complexity, Endogenous Money, and Macroeconomic Theory: Festschrift in Honor of Basil J. Moore*, Cheltenham, UK and Northampton, MA: Edward Elgar.
- Taylor, John B. (1993), 'Discretion versus policy rules in practice,' *Carnegie-Rochester Conference Series on Public Policy*, 39, 195–214.
- Thornton, H. (1802 [1962]), *An Inquiry into the Nature and Effects of Paper Credit of Great Britain*, New York: Kelley.
- Woodford, M. (2003), *Interest and Prices: Foundations of a Theory of Monetary Policy*, Princeton, NJ: Princeton University Press.

Horizontalists and verticalists after 25 years

James Culham
Melbourne, Australia

John E. King
LaTrobe University, Melbourne, Australia

We outline the core claims of Basil Moore's book Horizontalists and Verticalists: The Macroeconomics of Credit Money and place them in their historical, contemporary and present contexts. Several theoretical problems raised by the book and recent developments in the operation of financial markets and monetary policy are discussed. We find that Moore is a key figure in the theory of endogenous money, but his version of the theory was viewed as radical and was by no means widely accepted. Recent developments have validated many of his ideas, which are now commonplace, but others remain unresolved and controversial.

Keywords: *endogenous money, exogenous interest rates, money supply, credit, money non-neutrality*

JEL codes: *E43, E51*

1 INTRODUCTION

We begin by outlining the prehistory of *Horizontalists and Verticalists* (hereafter: *H&V*) in the pre-1988 writings of US and British post-Keynesians, including the earlier work of Basil Moore himself. In Section 3 we summarise the core claims that Moore makes in *H&V*. Then, in Section 4, we consider some immediate responses to the book, assessing both the reviews and the critical journal articles that it provoked. In Section 5 we discuss several important theoretical problems that were raised both by the book itself and by developments in the real world since 1988.

2 THE PREHISTORY OF *H&V*

As Gillian Hewitson (1993) notes, the idea of endogenous money can be traced back at least to the Banking School controversies of the mid-nineteenth century. It appeared, implicitly or explicitly, in the work of many subsequent monetary theorists, including (so many would argue) *The General Theory*, and also in pioneering post-Keynesian texts such as Joan Robinson's *Accumulation of Capital* (1956, pp. 226–227, 403–404), and in Paul Davidson's work on the 'finance motive' for holding money (Davidson 1967). But endogenous money was not given any great emphasis

by post-Keynesian theorists until the onset of the age of stagflation in the late 1960s and the associated resurgence of monetarist thinking.

The single most important event in the rediscovery of endogenous money was Milton Friedman's Presidential Address to the American Economic Association (Friedman 1968), which very soon provoked a substantial critical literature on both theoretical and policy matters. In terms of macroeconomic theory, the immediate questions concerned the grounds (or lack of grounds) for believing that causation ran from left to right in the Equation of Exchange ($MV = PY$) and that the velocity of circulation (V) was constant. Behind this were even more fundamental questions concerning the supposedly vertical nature of the long-run Phillips Curve, the associated rejection of demand-deficient unemployment and thus of the core of Keynesian macroeconomics – not to mention the monetarist repudiation of cost-push (and especially wage-push) inflation. There were very clear implications for macroeconomic policy: Friedman was a consistent opponent of big government, counter-cyclical fiscal policy and any attempt to use prices and incomes policy to control inflation. However, these policy issues became urgent only towards the end of the 1970s, when the monetarist influence on the Carter administration in the US, and the Callaghan government in the UK, foreshadowed its triumphant domination of the economic policies of Ronald Reagan and Margaret Thatcher.

The first explicit post-Keynesian assertions of the principle of endogenous money were made by Cambridge economists much earlier than this, in 1970. Most influential was the short article that Nicholas Kaldor published in the widely-read *Lloyd's Bank Review*, in which he maintained that the money supply was not under the direct control of the monetary authorities but was instead 'largely a reflection of the rate of change in money incomes', so that it was 'dependent on, and varies with, all the forces, or factors, which determine this magnitude: the change in the pressure of demand, domestic investment, exports and fiscal policy, on the one hand, and the rate of wage-inflation (which may also be partly influenced by the pressure of demand), on the other hand' (Kaldor 1970a, p. 20). This provoked a response from Friedman (1970), claiming that monetarists had always recognised the existence of reverse causation, which Kaldor (1970b) dismissed as entirely unconvincing.

Although Kaldor soon attacked the implementation of monetarist policies in Latin America (Kaldor 1974), he did not return to the theoretical issues until his later, stinging attacks on the Thatcher government (Kaldor 1980; 1981), the latter containing his celebrated diagram with a horizontal money supply curve. But there is nothing on endogenous money in either Kaldor's *Quarterly Journal of Economics* paper on 'what is wrong with economic theory' (1975) or his *Economic Journal* article on 'inflation and recession in the world economy' (1976), which deal instead with cumulative causation in international trade and with commodity prices and wage inflation. Perhaps he thought that the theoretical arguments on endogenous money were so clear-cut that they did not need to be repeated. Very similar objections to monetarism had in fact been voiced by Kaldor's Cambridge colleague and former personal friend Joan Robinson in the same year as his own first article on the subject. They came in a sadly-forgotten paper in the *Journal of Money, Credit and Banking* in which she attacked not just Friedman but also her favourite bugbear, 'Bastard Keynesianism', with its (exogenous money) LM curve (Robinson 1970).

Paul Davidson had spent the academic year 1970–1971 on sabbatical in Cambridge working on his first major book, *Money and the Real World*. Although in the preface Davidson thanks Basil Moore 'for the many splendid discussions and comments on various aspects of money and portfolio theory' (Davidson 1972, p. xv), it cannot be

said that endogenous money plays a very significant role in his own rational reconstruction of Keynes's theory of money. At the beginning of the book he identifies himself as a member of the 'Keynes school', which he describes as '[a]n exceedingly small group', which included Roy Harrod, Abba Lerner and Sidney Weintraub. Davidson distinguishes this select grouping from the 'Neo-keynesian school', by which he means the Cambridge post-Keynesians, especially Kaldor, Pasinetti and Robinson (*ibid.*, p. 3). For the Keynes school, 'Money and real forces [are] intimately related', while the Neo-keynesians take a rather different line: 'Real forces [are] emphasised, [and] money is assumed to accommodate' (*ibid.*, Table 1.1, p. 4). By implication, for the 'Keynes school' money does *not* accommodate, and Davidson's principal critique of monetarism centres on the instability of the money demand function. His two money market diagrams have vertical supply curves (*ibid.*, Figs. 9.1 and 9.2, pp. 215, 217).

Davidson's first sustained critique of monetarism came in the following year, in a paper co-authored with Weintraub. Although it is often cited as an early contribution to the endogenous money literature, the bulk of this article is devoted to an analysis of exogenous (or 'autonomous') changes in the money supply, with only a brief allusion to the possibility of reverse causation. The paper is notable for the authors' inversion of the classical dichotomy, with money affecting output and employment but not the price level, which is instead determined by the (exogenous) money wage rate (Davidson and Weintraub 1973); 2 years later John Hicks (1975) showed himself to be surprisingly receptive to these arguments. The only references to endogenous money in the 628 pages of the first volume of Davidson's collected writings, devoted to *Money and Employment*, come in an article published in 1988, the same year as *H&V* (Davidson 1990, pp. 374, 377–382).

And what of Moore himself? There is no hint of endogenous money in his book on *The Theory of Finance*, where he cites as influences Lloyd Metzler and Don Patinkin, with James Tobin as a 'final intellectual godfather' (Moore 1968, p. vii), or in his *Economic Journal* paper on optimal monetary policy (Moore 1972). There is also little or nothing on endogenous money in his first-year textbook, which includes three chapters on money and finance and several diagrams with vertical or upward-sloping money supply curves, but only a single brief reference to endogeneity (Moore 1973, p. 412). Moore's first clear statement of the ideas that were to find expression in *H&V* came at the end of the decade, in a contribution to the popular journal *Challenge* that Alfred Eichner soon reprinted in his influential collection, *A Guide to Post Keynesian Economics* (Moore 1978; Eichner 1979). A series of papers followed, several of them in the *Journal of Post Keynesian Economics*, reiterating the central themes (Moore 1981a; 1981b; 1983). They culminated in the first 'nuts and bolts' account of Federal Reserve behaviour from an endogenous money perspective (Moore 1984). This article was a direct precursor of *H&V*.

By this time Moore was widely recognised as a significant contributor to post-Keynesian monetary theory, although his name is unaccountably missing from the index (though not the bibliography) of Stephen Rousseas's *Post Keynesian Monetary Economics* (Rousseas 1986). Marc Lavoie, for example, made several favourable references to Moore in his paper on endogenous money in the *Journal of Economic Issues* (Lavoie 1984). Similarly, Sheila Dow commented favourably on Moore's work in several of the essays, first published in the mid-1980s, that were reprinted in her *Money and the Economic Process* (Dow 1992), while Philip Arestis included a chapter by Moore in his collection of articles on *Post-Keynesian Monetary Economics* (Arestis 1988). Three of the papers presented at the inaugural Malvern political economy conference in 1987 made favourable references to Moore. These were by Geoff Harcourt and Oscar Hamouda, Sheila Dow and Alastair Dow,

and Peter Earl, all of whom referred to Moore, together with Kaldor, as a key figure in the theory of endogenous money (Pheby 1989, pp. 3, 163, 167).

3 THE CORE CLAIMS OF *H&V*

Moore sets out his stall in the preface to *H&V* and then follows a reasonably clear trail of logic throughout the book to support his most ambitious claim, that money is not neutral even in the long run. Some links in the chain are more developed than others, but it roughly extends as follows.

First, credit money is the predominant medium of exchange in advanced capitalist economies. Rather than use fiat money directly, modern 'societies find it more convenient to complete most payment transactions with *promises to pay* fiat money' – that is, credit or broad money (Moore 1988a, p. 18; original stress). Moore declares that, throughout *H&V*, '*the term "money" will refer to broad money only*' (ibid., p. 19; original stress).

Second, the supply of credit money is demand-determined. Although this is more of a slogan than a precise economic statement, the concept is important and summarises an often-overlooked property of bank lending: loans are contracts that provide the borrower with a pre-arranged source of flexible funding made possible by *usage* and *prepayment* options. Together these options give the borrower the right to draw and repay their credit lines at their discretion, respectively creating and destroying credit money *on demand*. Across all borrowers, and within the limits and at the interest rates set by the contract, the supply of credit money is horizontal. 'So long as economic units possess unutilized lines of credit', Moore concludes, 'the nominal supply of credit money is *never* quantity-constrained by the central bank' (ibid., p. xi; original stress).

For many commentators, however, the existence of credit rationing is enough to disprove the assertion that the supply curve for credit money is horizontal. But this is to misunderstand when the credit rationing must occur: it must happen before the line of credit is extended to the borrower and not after:

[Banks] set their lending rates for any individual borrower and offer credit accommodation up to some prearranged ceiling. Credit standards must be imposed since ... loan risk is positively related to the size of the loan. Price alone is never a sufficient exclusion mechanism in credit markets, since borrowers could otherwise always borrow more to repay their loans, and so on *ad infinitum*. (ibid., p. 56; original stress)

Some customers may not get credit at any price, but those who do are on a horizontal supply curve. 'To the extent that borrowers have negotiated prearranged off balance sheet lines of credit with their bankers, additional borrowing is largely immune from credit rationing' (ibid., p. 88).

It is widely accepted that loans create deposits (Bridges and Thomas 2012), but less so that credit money is created 'at the *initiative of the borrower*, not the lender' (Moore 1988a, p. 24; original stress). Banks stand ready to satisfy the supply of funds, and therefore have much less control over their balance sheets than is often realised. This feature is what makes credit money unique, and it is fundamental to the chain of logic running through *H&V*.

Third, the central bank's policy instrument is nominal short-term interest rates. Since credit money is created at the initiative of the borrower, the availability of excess reserves cannot be a prerequisite for bank lending. Banks have the ability to satisfy the borrower's credit usage demands because reserves are easily available in normal times. To ensure the proper functioning of the banking system, including government

taxation and spending (which respectively withdraw and add reserves to the system), the central bank's primary responsibility is to ensure that there is enough liquidity in the banking system to facilitate bank transfers. Because imbalances between banks can cause settlement difficulties, the central bank must occupy the position of lender of last resort to protect system stability. Overdraft facilities and open-market operations ensure that the amount of reserves or liquidity in the system is sufficient.

In Moore's words, 'Central banks do not have it in their power to nonaccommodate [*sic*], that is, to constrain the supply of credit money quantitatively. All central banks can do is set the price and terms at which they supply fiat money on demand to the financial system' (ibid., p. xii). The central bank cannot directly restrict the quantity of reserves available without risking the stability of the banking system; but, as the monopoly supplier of fiat money, it can set the price at which it makes them available. As a direct result, banks lend surplus reserves or borrow to meet shortages in the inter-bank market at the rate set by the central bank.

Fourth, the (nominal) stock of credit money depends on a complex schedule that is anchored to the central bank's interest rate and inflation expectations. The central bank sets the short-term bank rate exogenously within a broad range to meet its policy objectives, broadly in line with a general Taylor Rule: 'This [range] may be specified as a reaction function relating bank rate to variables that influence the monetary authorities' behaviour, such as changes in the monetary aggregates, real output, the inflation rate, exchange rates and reserves, foreign interest rates, and the unemployment rate' (ibid., p. 264, n. 7). Arbitrage then dictates that the market's expectations of future short-term rates determine the complex of long-term nominal rates, so that 'interest rates are entirely a monetary phenomenon' (ibid., p. 264). The demand for credit money is influenced by each economic unit's *ex ante* real rate of interest. At any one time, the utilisation of credit lines by borrowers determines the size of the banking system's balance sheet and hence the nominal volume of credit money.

Changes in the central bank's rate affect the desirability of bank deposits in investors' portfolios and hence the rates banks must pay to maintain the balance between deposits and lending. Loan prices are set as a mark-up over the bank's cost of funds. Moore's use of 'exogenous' in this context means that interest rates are not compelled by market forces to match the marginal productivity of capital. Instead the 'marginal efficiency of capital adjusts to the nominal rate of interest established in financial markets, and not the other way around' (ibid., p. 382). Banks can maintain interest rates indefinitely about the level that the central bank makes reserves available.

Fifth, the flow of credit money affects aggregate demand. For aggregate demand to increase, there must be 'deficit spending', which 'means that an economic unit spends more money on the purchase of goods and services over the period than it receives as current income from the sale of goods and services. There are only two possible sources of this money': spending either previously-saved balances or newly-created balances (ibid., p. 295). In a modern economy, the former would require an increase in money velocity, while the latter means either government deficit spending or new credit-money spending. Because loans create deposits, an economic agent can deficit-spend without any other agent having to constrain its spending. As a result, '[c]redit money destroys the universality of Walras' law and Say's law, since it enables economic agents to buy commodities without using the sales of receipts of producible commodities to finance their purchases' (ibid., p. 316). In Moore's view, neither Wicksellian nor neo-Walrasian theories are appropriate for the analysis of credit money: general equilibrium theory and real analysis, where money is inessential, must be discarded. Instead, monetary analysis and a non-equilibrium paradigm are needed.

Sixth, as Moore put it in a later book, 'saving is the accounting record of investment' (Moore 2006, p. 159). As he wrote in *H&V*:

In a commodity or fiat money economy, private income units must *first* save in order to accumulate money balances, which they may then either lend out or deficit-spend directly. As in a barter economy, Say's law prevails ... The existence of credit money permits economic units who wish to deficit-spend to obtain immediate claims on real resources, without requiring that either themselves or other economic units first save and then surrender accumulated claims. As a result, with credit money, planned investment spending by some economic units does not require planned saving by other economic units. (Moore 1988a, p. 298; original stress)

The availability of credit money to finance investment spending means that neither income nor interest rates need to adjust to create the necessary level of savings. In the short term, investment funded by new credit money creates its own saving through the simultaneous creation of new bank deposits. This phenomenon is described by Moore as 'non-volitional saving' or 'convenience lending':

It is inaccurate to regard the rise in convenience lending as 'involuntary', or 'forced', or 'undesired' saving. Increased convenience lending to the banking system by depositors does not require an increase in volitional saving out of current income. It is caused by increased borrowing from the banking system by deficit-spending units, which, so long as bank deposits retain their moneyness, generates voluntary increased lending to the banking system. (ibid., p. 313, n. 26)

Two points should be noted here. First, this analysis is nominal and short-term only. Second, although investment creates its own saving, it does not necessarily create the desired level of saving. Although a non-volitional component of saving is always satisfied, the volitional component, being an *ex ante* propensity to save, is, at an aggregate level, self-defeating. Volitional saving, an act of not consuming, reduces aggregate demand and does not, in itself, increase investment. 'To the extent that investment is financed by increased bank borrowing', Moore maintains, 'convenience saving rises *pari passu* whenever deposit balances increase. Investment through the finance process thus creates its own saving' (ibid., p. 312; original stress). This non-equilibrium attitude to reconciling *ex ante* investment and saving means that planned saving is never satisfied except by accident. Moore concludes – contentiously, as we shall see – that the 'Keynesian multiplier analysis is thus fundamentally flawed' (ibid., p. 312).

Seventh, in the long run, saving constrains investment. In the short run, '[n]ominal lending by the banking system *determines* the nominal lending to the banking system' (ibid., p. 341, original stress). In the long run, however, the proportion of wealth that economic agents are prepared to hold in deposits depends on their *ex ante* relative real return. In the case that this is too low, real credit creation will be constrained to the level of real deposits. Conversely, in the case where *ex ante* real lending rates are too high, lending will be constrained by borrowing. A higher level of volitional savings, which have a negative impact on aggregate demand, allows the central bank to lower interest rates to encourage investment in order to restore aggregate demand. Hence it can be shown that, in the long run, savings can be a constraint on the level of investment.

Eighth, credit money is not neutral in either the short run or the long run. Interest rates are a monetary phenomenon: the central bank sets the short-term rate according to its policy objectives or reaction function. Long-term rates, by arbitrage, are the market's collective expectation of future short-term rates plus a risk premium. Since inflation is governed by the interplay of aggregate demand, real wages, productivity and profit mark-ups, and not directly by the size of the monetary base, central banks have a wide

discretionary band within which to set their policy rates. Real interest rates, both *ex ante* and *ex post*, are no more than the residual difference between the administered nominal rate and *ex ante* and *ex post* inflation respectively. There is no single *ex ante* real ‘natural’ or ‘neutral’ rate of interest, but a distribution of rates derived from each economic agent’s subjective expectations. Interest rates are not set directly in the real economy by market forces in the sense of Wicksell and Fisher, they are exogenous and hence money is non-neutral.

The long-run neutrality of money – the absence of real effects due to an unexpected, permanent increase in the money – poses two problems. First, the central bank has limited control over the money stock itself; since ‘in all credit money economies it is the level of nominal interest rates that is determined exogenously by the central bank, rather than the nominal money stock, monetary non-neutrality follows simply and directly’ (ibid., p. 254). Second, since credit money is demand-determined, it cannot be in excess supply: inflation can result from excess aggregate demand that is ‘caused by *too rapid an increase* in the supply of credit money’, but not by ‘an *excess supply* of credit money’ (ibid., p. 350; original stress).

Ninth, and finally, nominal interest rates ‘affect the amount and type of real investment undertaken, and so the particular capital-labor and capital-output technology chosen by economic agents for new investment projects. The non-neutrality of money stems from this recognition’ (ibid., p. 278).

4 THE CRITICAL RECEPTION TO *H&V*

There were already some critics. Writing in 1986, Victoria Chick had described the horizontalist position taken by Moore in his *Challenge* paper as ‘extreme’ (Chick 1992, p. 197). In the same year, Allin Cottrell (1986) criticised the strong version of endogenous money espoused by Kaldor and Moore and argued that in some circumstances causation might well run from money to income. Moore responded by describing Cottrell’s analysis as ‘cumbersome and ultimately non-persuasive’ (Moore 1988b, p. 291), to which Cottrell replied by insisting that the crucial point was that the endogeneity of money should not be taken to imply that money is ‘essentially “passive”, with no capability to produce independent effects on expenditure decisions’ (Cottrell 1988, p. 296; original stress removed). This was not, of course, Moore’s position, but the suspicion that endogeneity might entail the ‘passivity’ or neutrality of money seems to have been a common misconception at the time.

We have been able to locate only five reviews of *H&V*. Three were in mainstream journals, and two of these were largely uncritical summaries of the book (Adams 1990; Bailey 1990). The third, by the prominent monetarist Philip Cagan, is more interesting. Cagan acknowledges that ‘Moore is right in dissecting the deficiencies of IS-LM’, not least ‘the well known awkward mixing of stocks (LM) and flows (IS)’ (Cagan 1990, p. 696). ‘Given the gyrations in monetary velocity in the 1980s’, he concedes, ‘there are few proponents of strict monetary growth rules any more’ (ibid., p. 697). Yet Moore was wrong to treat the nominal wage rate as purely exogenous. ‘Most economists see wages as *at least* as endogenous as monetary policy, and likely more so. Moore would be on stronger ground’, he suggests, ‘arguing that the entire economy is a closed endogenous system, which would also serve to topple his detested IS-LM’ (ibid., p. 696; original stress). Cagan concludes by maintaining that, on policy issues, ‘Moore is almost fully back in the mainstream, except for emphasis. Which makes one wonder whether the “new paradigm” he puts forward is as radical as he suggests’ (ibid., p. 697).

The other two reviews, by Christopher Niggle and Randall Wray, both appeared in the *Journal of Economic Issues*. Niggle was remarkably complimentary, comparing *H&V* to Keynes's *Tract* and *Treatise*, and even to *The General Theory*. *H&V* was almost as ambitious in scope as Keynes's works, he maintained, and provided more than Keynes ever did by way of empirical evidence (Niggle 1989, pp. 1181–1182). Niggle's two 'quibbles', however, both involved criticism of the horizontal money supply curve. Central banks might react to excessive credit growth by raising interest rates, and credit rationing might result from the fact that 'not all potential borrowers have loan commitments to draw down, and ... banks can choose not to make new commitments'. Was it not 'overstating the case', Niggle asked, 'to say that bank lending is entirely demand-determined and non-discretionary?' (*ibid.*, p. 1185).

In his review, Wray drew a comparison between *H&V* and the works of Davidson, Kregel and Minsky, but also objected to the horizontal money supply curve, this time on the grounds that banks might increase their mark-ups to induce them to increase leverage of reserves and liquid assets. Wray noted that Minsky (1957) had 'developed an endogenous approach to money in which the money supply curve is an upward-sloping step function'. Perhaps an integration of the work of Moore and Minsky was now called for (Wray 1989, p. 1188). Wray repeated these criticisms in his book, *Money and Credit in Capitalist Economies: the Endogenous Money Approach*, where he also took issue with Moore's treatment of the determination of interest rates and his attitude towards credit rationing (Wray 1990, pp. 90–93, 147–150, 184–186). We shall return to these issues in the following section.

The *Journal of Post Keynesian Economics* has never published book reviews, but it did host a symposium soon after the publication of *H&V*, as well as two subsequent exchanges between Moore and his critics. As editor, Davidson (1988) opened the symposium by invoking the authority of Keynes as a pioneer of endogenous money. Then Moore summarised the principal arguments of *H&V*, emphasising that in an open economy 'central banks must determine the exchange rate as well as the domestic short-term interest rate', and attempting to remove the 'misconception' that endogeneity entailed that 'central banks are passive and cannot affect the behaviour of money growth'. On the contrary: 'An endogenous money supply simply denotes that the money supply is determined by market forces. Central banks are able to administer the level of short-term interest rates exogenously within a substantial range. This will obviously affect the quantity of credit and money demanded, and so the behaviour of money growth' (Moore 1988c, pp. 383, 384).

In his brief comment on *H&V*, David I. Fand dismissed the entire issue as 'a semantic problem' (Fand 1988, p. 387), while the central banker Anne-Marie Meulendyke objected that Moore's horizontalism was valid only 'when looked at over a very short time horizon. However, banks do set the parameters, in the form of rates and conditions under which they will extend lines of credit, and they can adjust these if they find that they are making a different volume of loans from what they prefer' (Meulendyke 1988, p. 396). In his concluding comments, Moore repeated his claim that endogeneity did not mean that central banks were 'impotent, or passive, or must necessarily accommodate, but rather simply that their control instrument is a price and not a quantity' (Moore 1988d, p. 399). But he went much further than he had done in *H&V* to argue that the theory of supply and demand 'break[s] down in the case of credit money. Credit money is unique because the supply and demand for credit money *cannot be viewed as independent*' (*ibid.*, p. 398; original stress). This, he suggested, was 'why the French prefer to use the term "circuit" for monetary analysis, abolishing supply and demand altogether' (*ibid.*, p. 399).

If this is true, he might have continued (but did not), horizontalism and verticalism are both misconceived. At one point he did come close to conceding this, at least so far as the long run was concerned:

If a central bank's policy goal were to target the rate of growth of some particular monetary aggregate, interest rates would rise whenever income and the money stock increased. One could then envisage some longer-term 'money supply function' upward-sloping with respect to interest rates. But this would merely reflect the fact that the central bank would exogenously raise or lower the administered level of nominal interest rates in an attempt to control the rate of growth of the money stock, given its particular policy target. A different targeted money growth rate would imply a different upward-sloping long-run relationship between interest and money. Even with such a policy regime in force the short-run supply function would always be horizontal. The long-run money supply function is in general strictly undefined, since it is not independent of credit and money demand forces. (Moore 1988a, p. 265, n. 9)

In the following year, Moore and Davidson both responded to critical comments by Stephen Rousseas in what was, in effect, another mini-symposium on *H&V*. Although a strong supporter of endogeneity, Rousseas was also a critic of Moore's horizontalism: 'Overdraft facilities are *not* without limit', he argued, 'and the supply of money is *not* infinitely elastic. Overdraft facilities ... are difficult to determine in the aggregate and it is doubtful that banks themselves know the magnitudes involved ... It is quite possible that a great part of unused overdrafts remain just that – *unused*. But it is not possible to hang the endogeneity argument on this weak peg' (Rousseas 1989, p. 476; original stress).

Moore, in his reply, claimed that Rousseas's critique revealed 'a remarkably thorough-going misunderstanding of the meaning of monetary endogeneity' (Moore 1989, p. 479), which did not imply 'reverse causality' – causation going 'from income to the demand for to the supply of money' – but rather the interdependence of credit money demand and supply (*ibid.*, p. 483). As for unused overdraft facilities, Moore conceded that they were 'not without limit'. But they were very large: 'Like credit card users, most borrowers do not operate flat against their credit limits. Insofar as credit ceilings are not binding', he maintained, 'the quantity of bank credit is entirely demand determined, and the money supply is infinitely elastic' (*ibid.*, p. 485). Concluding the mini-symposium, Davidson took an agnostic position. His introduction to the earlier symposium had 'neither accepted nor denied the "extreme form" of endogenous money', by which he meant "'full accommodation" at a given interest rate, [a position] which Rousseas attributes to Moore and Kaldor' (Davidson 1989, p. 490, referring to Davidson 1988).

Later in 1989, further criticism of *H&V* came from Charles Goodhart, whom Moore had described as 'my favourite real-world central banker' and had thanked for 'his encouragement of my fumbling early attempts to develop the notion of monetary endogeneity while Visiting Scholar at the Bank of England in 1978–79' (Moore 1988a, p. xix). Echoing several earlier critics, Goodhart now claimed that 'Moore somewhat overstates the extent to which banks, having set loan rates, react passively to borrowers' demands for loans'. While this was indeed true of their short-term 'tactical' decisions, Goodhart agreed, 'banks' medium and longer term "strategic" decisions to enter and contest this or that credit market (e.g. mortgage lending to persons, syndicated loans to LDCs, etc.) are of major importance in determining the form and shape of the banking system and its influence on the economy'. Thus Moore had become 'too horizontal' (Goodhart 1989, p. 30). In his response, Moore conceded nothing to Goodhart, again insisting on the interdependence of the supply and demand for money, which 'renders money supply

and demand less useful as analytical concepts', as the French circuit theorists had long recognised (Moore 1991, p. 133).

5 SOME PROBLEMS WITH *H&V*

As we have seen, many of the contentious issues posed by *H&V* were identified early on, sometimes being noted even before the publication of the book, in the context of Moore's journal articles. We shall return to some of these issues later in the present section. First, however, we need to consider the extent to which the core propositions of *H&V* have been confirmed, or made redundant, by subsequent developments in the operation of financial markets and by changes in monetary policy.

The first important development concerns the Taylor Rule. Although originally a description of central bank interest rate setting behaviour, the Taylor Rule is now fully incorporated into New Keynesian DSGE models, with the related recognition that it is, in fact, the interest rate that is the central bank policy instrument, tuned to ensure that the real interest rate is set at the level that maintains price stability. This is 'the Wicksellian *natural rate of interest*, which may be defined as the equilibrium real rate of return in the case of fully flexible prices' (Woodford 2003, p. 248; original stress). A similar concept is outlined in *H&V* for the hypothetical case of flexible prices and perfect competition: 'If there is inflation, it must be due to excess demand. Interest rates should be raised until inflation is eliminated. If there is deflation, aggregate demand must be insufficient. Interest rates should be reduced until price stability is achieved' (Moore 1988a, p. 343), with the implication that there is a rate that is just right. However, this agreement is restricted to this hypothetical case only. 'Cost pressures originating in labour markets may operate quite independently of the current state of domestic aggregate demand–supply relationships in product markets', and restrictive demand management policy is therefore 'an extremely cost-ineffective way to combat cost-push inflation' and should be replaced by incomes policies to reduce cost increases directly (*ibid.*, pp. 268–270).

In his review of *H&V*, Ralph Bailey pointed to 'a striking resemblance' between Moore's rate of interest that would give a stable price level and Wicksell's natural rate (Bailey 1990, p. 640), and a similar point seems to be implicit in Cagan's review. Allin Cottrell also describes Moore as 'toying with a classically Wicksellian position' in chapter 13 of *H&V* (Cottrell 1994b, p. 601). But Moore had in fact already rejected the Wicksellian notion of loanable funds (Moore 1988a, pp. 234–236), noting that the natural rate had itself 'been thoroughly undermined by the capital debate' (*ibid.*, p. 250).

The second important development relates to the payment of interest on reserve balances (IOR) and implementation of monetary policy via a 'channel system'. This has also validated Moore's fundamental claim that nominal interest rates, as the explicit marginal cost of lending, are the central bank's policy instrument, while at the same time undermining the importance of the quantity of base money.

The third important post-1988 development is the emergence of what Hyman Minsky described as 'money manager capitalism' (Wray 2009). *H&V* was written before the explosion of securitisation that had such a large part to play in the Global Financial Crisis of 2007–2008, but there is an allusion to it in the book:

In the United States there have recently developed interbank markets on which 'bundles' of heterogeneous instruments can be sold or re-discounted. The process is known as

'securitization.' But insofar as they are interbank markets, they do not enable banks as a system to reduce total loans at their discretion. (Moore 1988a, p. 16, n. 25)

Subsequently, banks developed the ability to move previously non-marketable credit exposures from their own balance sheets, thereby increasing the range of assets available to complete the 'final finance' step in the endogenous money circuit, but also making it more difficult for authorities to monitor or control the growth in monetary aggregates.

Fourth, and closely related to this, is the question of asset price bubbles created by credit expansion. Again there are some rather brief references to this question in *H&V*. It seems that, with inflation expectations anchored, central banks following a Taylor Rule believed that they could safely ignore monetary aggregates. According to Moore this is a mistake:

Central banks should not ignore the growth rates of their monetary aggregates. But the attempt to target solely the growth of monetary aggregates represents a serious policy error. The growth paths of monetary aggregates should be used as one of many indicators conditioning central bank attitudes toward the appropriate level of interest and exchange rates. (ibid., p. 386, n. 37)

An unchecked expansion of credit may lead to asset price inflation, even when there is no consumer price inflation: 'If the [new] credit is used to purchase previously existing tangible and financial assets, there may be no increase in aggregate demand, but merely a redistribution or revaluation of the prices of existing assets' (ibid., p. 385, n. 36). Thus central banks focusing only on price stability may miss the signs that interest rates are too low. Credit extended to expand the economy's growth potential need not increase as a percentage of GDP, whereas credit for purchasing existing real or financial assets is non-productive and increases the stock of debt as a percentage of GDP, possibly leading to instability.

Fifth, the recent policy measure known as Quantitative Easing (QE) seems to involve the return of exogenous money, dropped from the skies in very large quantities by a fleet of Friedmanite helicopters, and therefore to be inconsistent with the central claims of *H&V*. For the Bank of England, QE is to 'undertake a programme of asset purchases, financed by central bank money ... The ultimate aim of QE was to stimulate demand via a lower cost of external finance and stronger asset prices, and thus to bring about higher output growth and offset deflationary pressures' (Bridges and Thomas 2012, p. 3).

There is, inevitably, no explicit mention of QE in *H&V*, but there are passages which together throw some light on how Moore might have interpreted it. For instance, the difficulty for policymakers when short-term nominal interest rates reach the effective zero lower bound is that '[s]o long as fiat money (currency) exists, bank depositors need never accept negative nominal deposit rates, no matter how high the *ex ante* deflation rate ... This may render expansionary monetary policy ineffective' (Moore 1988a, p. 264; original stress).

Instead, under QE central banks have, just like any creditworthy borrower, borrowed from private banks (that is, created new reserves) and purchased existing financial assets from the public, thereby creating new credit money. As we have seen above, this adjusts relative asset prices but has no direct effect on aggregate demand, and only very indirect effects on inflation or expectations regarding nominal GDP. So Moore correctly asserts that the credit money supply expands on demand to finance spending, but under QE the demand for credit comes from the central bank itself. This has been made possible by the recent IOR policies and the abandonment of monetary policy via control of quantity of

base money. But since the public can, and have been, repaying loans and contracting the credit money supply at the same time as the central bank has been working to expand it (Bridges and Thomas 2012), the endogeneity of money is still valid.

Although none of these post-1988 developments poses insuperable difficulties for *H&V*, three issues do remain to be addressed: credit rationing, the importance of interest rates in determining aggregate expenditure, and – above all – Moore’s repudiation of ‘the Keynesian multiplier’. The first two problems are closely related. As Wray noted:

An endogenous money approach merely indicates that an increase in money demand *can* be met by an increase in money supply, and, conversely, that money is supplied *because* someone wishes to go into debt. Acceptance of the endogenous money approach certainly does not mean that one is arguing that money demand is always and everywhere met (although Basil Moore often appears close to accepting this extreme position). (Wray 1990, pp. 22–23, n. 19)

Recognition that there normally exists what Keynes termed a ‘fringe of unsatisfied borrowers’ might cast doubt on the horizontal nature of the money supply curve, as suggested by Sheila Dow (1996). Alternatively, one might salvage horizontalism by distinguishing the notional demand for credit money from what Martin Wolfson describes as the ‘creditworthy demand curve’, which ‘represents the bank’s judgement about the proportion of borrowers desiring loans who are creditworthy’ (Wolfson 2012, p. 118). In either case, cyclical variations in the extent of credit rationing represent another channel through which money affects the real world, in addition to fluctuations in interest rates. It has a particular resonance for many post-Keynesians, whose reservations about the IS-LM model were reinforced by their doubts concerning both the interest-elasticity and the stability of the IS function.

Even more contentious was Moore’s rejection of ‘the Keynesian multiplier’, which he claimed to be ‘fundamentally flawed’ when applied to a world of endogenous money (Moore 1988a, p. 312): ‘Convenience saving always rises *pari passu* with any increase in borrowing for investment expenditures from the banking system’ (*ibid.*, p. 312; original stress). If correct, this requires the abandonment not just of the investment multiplier but also of the foreign trade and government expenditure multipliers – it is surely no coincidence that Moore is a strong opponent of counter-cyclical fiscal policy – and the entire income–expenditure model that underpins most post-Keynesian macroeconomic modelling, in both the Fundamentalist Keynesian and the Kaleckian traditions (see, respectively, Davidson 2011 and Hein and Stockhammer 2011).

When, soon after the publication of *H&V*, Allin Cottrell (1994a) attempted to rescue the multiplier from Moore’s critique, he drew a quite unexpected response. Moore now invoked the influential article by the New Classical theorists Charles Nelson and Charles Plosser (1982) on ‘trends and random walks in macroeconomic time series’ to argue that both the velocity of circulation and the level of national income approximate a random walk, with the implication that ‘macroeconomic equilibrium as a methodological concept must be discarded ... The Keynesian multiplier fails because it is intrinsically tied to the paradigm of macroeconomic equilibrium analysis. If, in a nonergodic world, macroeconomic equilibrium must be discarded, so too must the Keynesian multiplier’ (Moore 1994, pp. 132–133). This is a very different argument from that of *H&V*. It is not clear that endogenous money is either a necessary or a sufficient condition for this radical conclusion, but Moore has continued to advocate it in all his later work (see especially Moore 2006). Very few post-Keynesians have been prepared to follow him, though it could be argued that the path-dependency critique of equilibrium models

that had been made much earlier by Nicholas Kaldor (1972) and Joan Robinson (1972) requires precisely that.

Thus the really big issue raised by Basil Moore is whether we can still use equilibrium models in a world of path-dependence and complexity (and, if not, how we might analyse pressing policy matters like the consequences of fiscal austerity). By comparison, some of the questions raised in *H&V* now seem rather less controversial, and perhaps also rather less important, than they did in 1988. But this in turn testifies to the intellectual victory of the opponents of monetarism, in which Moore's fine book played a significant part.

REFERENCES

- Adams, J.E. 1990. Review of Moore (1988a), *Southern Economic Journal*, 56 (4), 1131–1133.
- Arestis, P. (ed.). 1988. *Post-Keynesian Monetary Economics: New Approaches to Financial Modelling*. Aldershot, UK and Brookfield, VT: Edward Elgar.
- Bailey, R. 1990. Review of Moore (1988a), *Economic Journal*, 100 (401), 639–641.
- Bridges, J. and Thomas, R. 2012. 'The impact of QE on the UK economy – some supportive monetarist arithmetic', London: Bank of England Working Paper No. 442, January, Bank of England.
- Cagan, P. 1990. Review of Moore (1988a), *Journal of Economic Literature*, 28 (2), 696–697.
- Chick, V. 1992. *On Money, Method and Keynes: Selected Essays by Victoria Chick*. Basingstoke: Macmillan.
- Cottrell, A. 1986. 'The endogeneity of money and money-income causality', *Scottish Journal of Political Economy*, 33 (1), 2–27.
- Cottrell, A. 1988. 'Reply' [to Moore], *Scottish Journal of Political Economy*, 35 (3), 295–297.
- Cottrell, A. 1994a. 'Endogenous money and the multiplier', *Journal of Post Keynesian Economics*, 17 (1), 111–120.
- Cottrell, A. 1994b. 'Post-Keynesian monetary economics', *Cambridge Journal of Economics*, 18 (6), 587–605.
- Davidson, P. 1967. 'The importance of the demand for finance', *Oxford Economic Papers*, 19 (2), 245–253.
- Davidson, P. 1972. *Money and the Real World*. London: Macmillan.
- Davidson, P. 1988. 'Introduction: three views on the endogenous money supply', *Journal of Post Keynesian Economics*, 10 (3), 370–371.
- Davidson, P. 1989. 'On the endogeneity of money once more', *Journal of Post Keynesian Economics*, 11 (3), 488–490.
- Davidson, P. 1990. *Money and Employment: The Collected Writings of Paul Davidson, Volume 1*. New York: New York University Press.
- Davidson, P. 2011. *Post Keynesian Macroeconomic Theory, Second Edition: A Foundation for Successful Economic Policies for the Twenty-First Century*. Cheltenham, UK and Northampton, MA: Edward Elgar.
- Davidson, P. and Weintraub, S. 1973. 'Money as cause and effect', *Economic Journal*, 83 (332), 1117–1132.
- Dow, S.C. 1992. *Money and the Economic Process*. Aldershot, UK and Brookfield, VT: Edward Elgar.
- Dow, S.C. 1996. 'Horizontalism: a critique', *Cambridge Journal of Economics*, 20 (4), 497–508.
- Eichner, A.S. (ed.). 1979. *A Guide to Post Keynesian Economics*. London: Macmillan.
- Fand, D.I. 1988. 'On the endogenous money supply', *Journal of Post Keynesian Economics*, 10 (3), 386–389.
- Friedman, M. 1968. 'The role of monetary policy', *American Economic Review*, 58 (1), 1–17.
- Friedman, M. 1970. 'Comment' [on N. Kaldor], *Lloyd's Bank Review*, 98, 54–55, reprinted in N. Kaldor, *Further Essays on Applied Economics*, London: Duckworth, 1978, pp. 23–25.

- Goodhart, C.A.E. 1989. 'Has Moore become too horizontal?', *Journal of Post Keynesian Economics*, 12 (1), 29–34.
- Hein, E. and Stockhammer, E. (eds). 2011. *A Modern Guide to Keynesian Macroeconomics and Economic Policies*. Cheltenham, UK and Northampton, MA: Edward Elgar.
- Hewitson, G. 1993. 'An intellectual history of money endogeneity theory', *History of Economics Review*, 20, 140–160.
- Hicks, J.R. 1975. 'What is wrong with monetarism?', *Lloyd's Bank Review*, 118, 1–13.
- Kaldor, N. 1970a. 'The new monetarism', *Lloyd's Bank Review*, 97, 1–18, reprinted in N. Kaldor, *Further Essays on Applied Economics*, London: Duckworth, 1978, pp. 3–23.
- Kaldor, N. 1970b. 'Reply' [to M. Friedman], *Lloyd's Bank Review*, 98, 54–55, reprinted as 'A rejoinder' in N. Kaldor, *Further Essays on Applied Economics*, London: Duckworth, 1978, pp. 25–27.
- Kaldor, N. 1972. 'The irrelevance of equilibrium economics', *Economic Journal*, 82 (328), 1237–1255.
- Kaldor, N. 1974. 'The role of industrialization', in D.T. Geithman (ed.), *Fiscal Policy for Industrialization and Development in Latin America*. Gainesville: University of Florida Press, pp. 14–28; reprinted in N. Kaldor, *Further Essays on Applied Economics*, London: Duckworth, 1978, pp. 119–37.
- Kaldor, N. 1975. 'What is wrong with economic theory', *Quarterly Journal of Economics*, 89 (3), 347–357.
- Kaldor, N. 1976. 'Inflation and recession in the world economy', *Economic Journal*, 86 (344), 703–714.
- Kaldor, N. 1980. 'Monetarism and United Kingdom monetary policy', *Cambridge Journal of Economics*, 4 (4), 293–318.
- Kaldor, N. 1981. *Origins of the New Monetarism*. Cardiff: University College, Cardiff Press.
- Lavoie, M. 1984. 'The endogenous flow of credit and the Post Keynesian theory of money', *Journal of Economic Issues*, 18 (3), 771–797.
- Meulendyke, A.-M. 1988. 'Can the Federal Reserve influence whether the money supply is endogenous? A comment on Moore', *Journal of Post Keynesian Economics*, 10 (3), 390–397.
- Minsky, H.P. 1957. 'Central banking and money market changes', *Quarterly Journal of Economics*, 71 (2), 171–187.
- Moore, B.J. 1968. *An Introduction to the Theory of Finance: Assetholder Behavior under Uncertainty*. New York: Free Press.
- Moore, B.J. 1972. 'Optimal monetary policy', *Economic Journal*, 82 (325), 116–139.
- Moore, B.J. 1973. *An Introduction to Modern Economic Theory*. New York: Free Press.
- Moore, B.J. 1978. 'A Post Keynesian approach to monetary theory', *Challenge*, 21 (4), 44–52; reprinted as 'Monetary factors', in A.S. Eichner (ed.), *A Guide to Post Keynesian Economics*. London: Macmillan, pp. 120–138.
- Moore, B.J. 1981a. 'The difficulty of controlling the money stock', *Journal of Portfolio Management*, 7 (4), 7–14.
- Moore, B.J. 1981b. 'Is the stock of money really a control variable?', *Challenge*, 24 (3), 43–46.
- Moore, B.J. 1983. 'Unpacking the Post Keynesian black box: bank lending and the money supply', *Journal of Post Keynesian Economics*, 5 (4), 537–556.
- Moore, B.J. 1984. 'Contemporaneous reserve accounting: can reserves be quantity-constrained?', *Journal of Post Keynesian Economics*, 7 (1), 103–113.
- Moore, B.J. 1988a. *Horizontalists and Verticalists: the Macroeconomics of Credit Money*. Cambridge, UK: Cambridge University Press.
- Moore, B.J. 1988b. 'Comment' [on A. Cottrell], *Scottish Journal of Political Economy*, 35 (3), 291–294.
- Moore, B.J. 1988c. 'On the endogenous money supply', *Journal of Post Keynesian Economics*, 10 (3), 372–385.
- Moore, B.J. 1988d. 'Concluding comments', *Journal of Post Keynesian Economics*, 10 (3), 398–400.
- Moore, B.J. 1989. 'On the endogeneity of money once more', *Journal of Post Keynesian Economics*, 11 (3), 479–487.

- Moore, B.J. 1991. 'Has the demand for money been misled? A reply to "has Moore become too horizontal"?' , *Journal of Post Keynesian Economics*, 14 (1), 125–133.
- Moore, B.J. 1994. 'The demise of the Keynesian multiplier: a reply to Cottrell', *Journal of Post Keynesian Economics*, 17 (1), 121–133.
- Moore, B.J. 2006. *Shaking the Invisible Hand: Complexity, Endogenous Money and Exogenous Interest Rates*. Basingstoke: Palgrave Macmillan.
- Nelson, C.R. and Plosser, C.R. 1982. 'Trends and random walks in macroeconomic time series', *Journal of Monetary Economics*, 10 (2), 139–162.
- Niggle, C.J. 1989. Review of Moore (1988a), *Journal of Economic Issues*, 23 (4), 1181–1185.
- Pheby, J. (ed.). 1989. *New Directions in Post Keynesian Economics*. Aldershot, UK and Brookfield, VT: Edward Elgar.
- Robinson, J. 1956. *The Accumulation of Capital*. London: Macmillan.
- Robinson, J. 1970. 'Quantity theories old and new', *Journal of Money, Credit and Banking*, 2 (4), 504–512.
- Robinson, J. 1972. 'The second crisis of economic theory', *American Economic Review*, 62 (2), Papers and Proceedings, 1–10.
- Rousseas, S. 1986. *Post Keynesian Monetary Economics*. Basingstoke: Macmillan.
- Rousseas, S. 1989. 'On the endogeneity of money once more', *Journal of Post Keynesian Economics*, 11 (3), 474–478.
- Wolfson, M.H. 2012. 'Credit rationing', in J.E. King (ed.), *The Elgar Companion to Post Keynesian Economics*. Cheltenham, UK and Northampton, MA: Edward Elgar, 2nd edn, pp. 115–121.
- Woodford, M. 2003. *Interest and Prices: Foundations of a Theory of Monetary Policy*. Princeton, NJ: Princeton University Press.
- Wray, L.R. 1989. Review of Moore (1988a), *Journal of Economic Issues*, 23 (4), 1185–1189.
- Wray, L.R. 1990. *Money and Credit in Capitalist Economies: the Endogenous Money Approach*. Aldershot, UK and Brookfield, VT: Edward Elgar.
- Wray, L.R. 2009. 'The rise and fall of money manager capitalism: a Minskian approach', *Cambridge Journal of Economics*, 33 (4), 807–828.

Horizontalists, verticalists, and structuralists: the theory of endogenous money reassessed

Thomas I. Palley
Independent analyst, Washington, DC, USA

This paper uses the occasion of the 25th anniversary of Basil Moore's book, Horizontalists and Verticalists, to reassess the theory of endogenous money. The paper distinguishes between horizontalists, verticalists, and structuralists. It argues Moore's horizontalist representation of endogenous money was an over-simplification that discarded important enduring insights from monetary theory. The structuralist approach to endogenous money retains the basic insight that the money supply is credit-driven but remedies horizontalism's omissions and over-simplifications. Twenty-five years later, horizontalism has largely morphed into structuralism. The theoretical challenge going forward is to develop the role of money and finance in a Keynesian theory of output determination. As regards monetary policy, the challenge is how to conduct policy in a world of endogenous money. These concerns emanate naturally from a structuralist perspective on endogenous money.

Keywords: *endogenous money, horizontalists, verticalists, structuralists, monetarism, bank lending*

JEL codes: *E4, E41, E43, E5*

1 INTRODUCTION

2013 marks the 25th anniversary of Basil Moore's (1988) book *Horizontalists and Verticalists: the Macroeconomics of Credit Money*. The book has made an important contribution to post-Keynesian monetary theory by consolidating and elaborating the line of thought pioneered by Nicholas Kaldor (1970; 1982) in his critique of monetarism. However, this paper argues Moore's elaboration of the theory of endogenous money was overly simplistic in its distinction between horizontalists and verticalists and it also discarded important enduring insights from monetary theory.

Moore's characterization of endogenous money created unnecessary intellectual discord among post-Keynesians that has found expression in the long-running exchange between horizontalists and structuralists. Both adhere to the core proposition that bank lending drives the money supply, rendering the latter endogenous. However, structuralism also takes account of the role of portfolio preferences, balance sheet positions, microeconomic finance constraints, and expectations in influencing money supply and interest rate outcomes.

The structuralist approach links post-Keynesian monetary theory to the Yale school of monetary macroeconomics associated with James Tobin. The Yale school approach emphasizes the significance of competition among assets for space in agents' portfolios.

It also emphasizes the significance of banks' portfolio decisions in the financial process. The structuralist approach to endogenous money shows how asset demands impact asset prices and money supply determination. Bank balance sheet conditions also impact the level of bank lending and loan interest rates. In emphasizing bank behavior, the structuralist approach strengthens the micro-foundations of the theory of endogenous money.

The structure of the paper is as follows. Section 2 discusses the macroeconomic origins of the debate over endogenous money. Section 3 presents the monetarist model of the money supply which is identified with the verticalist approach. Section 4 presents the IS-LM money multiplier model which has an endogenous money supply, albeit for reasons that are entirely different from post-Keynesian theory. Section 5 presents the horizontalist model of money supply determination. Section 6 presents the structuralist model of money supply determination and elaborates the structuralist critique of horizontalism. Section 7 concludes the paper.

2 AGAINST MONETARISM: THE MODERN ORIGINS OF ENDOGENOUS MONEY THEORY

The initial impulse for the development of post-Keynesian endogenous money theory was as a response to monetarism. Kaldor (1970; 1982) was the seminal contributor, with his framing of endogenous money building on his long-standing interest in credit and the credit transmission channel. That interest dated back to his submission to the Radcliffe report of 1959.

Monetarism emerged as an important macroeconomic doctrine in the 1960s and was largely associated with Milton Friedman. The main claims of monetarism (Palley, 1993a) were: (1) the money supply is controlled by central banks; (2) the Great Depression in the US was significantly due to mistaken money supply tightening by the Federal Reserve; (3) money is all that matters and fiscal policy is ineffective; and (4) central banks should adopt a simple money supply growth rule to promote economic stability. Post-Keynesian endogenous money theory rejected all of these claims. Its roots therefore lie in opposition to monetarism, both as a macroeconomic theory and as a policy prescription.

Monetarism was also vigorously opposed by neo-Keynesians. Tobin (1970) provided a critique of Friedman and Schwartz's (1963a; 1963b) empirical analysis and showed that the monetary patterns they observed were actually consistent with an extreme Keynesian model in which budget deficits were counter-cyclical and money-financed. Tobin (1974) also provided an accompanying theoretical critique, using the lens of the IS-LM model, in which monetarism was identified with a vertical LM schedule. Lastly, Poole (1970) provided a response to monetarism's policy claims. Within a stochastic IS-LM model, interest rate targeting is superior to money supply targeting if financial sector disturbances dominate.

The neo-Keynesian critique of monetarism was conducted using the conventional money multiplier theory of money supply determination. Post-Keynesians sought a deeper critique of monetarism based on its theory of the money supply. The cornerstone of monetarism is that central banks control the money supply, thereby rendering the money supply exogenous. Post-Keynesians sought to demolish that cornerstone.

In *Horizontalists and Verticalists*, Moore (1988) provided a comprehensive statement that consolidated the post-Keynesian position. It is a great pity that the book

appeared in 1988 rather than 1968. Had it appeared earlier it might have had an enormous impact on the mainstream economics profession, possibly even changing the course of debate. However, by 1988 monetarism had been intellectually rejected. The monetarist experiments of the late 1970s and early 1980s had turned out to be a catastrophic failure with regard to the claim that they would produce interest rate stability. Unfortunately, rather than being interpreted as a vindication of Keynesian analysis and ushering in a second Keynesian era, monetarism was replaced by new classical macroeconomics (which Tobin (1981) termed Mark II Monetarism). The ‘new’ aspect referred to the incorporation of rational expectations within stochastic macroeconomic models. The ‘classical’ aspect referred to the revival of pre-Keynesian macroeconomics in which the economy is assumed to operate continuously at full employment via interest rate, price, and nominal wage flexibility.¹

The important point is that the monetarist debate was superseded by a debate over the nature of the macroeconomic process and the determination of the equilibrium level of output and employment. Endogenous money is not about macroeconomic closure.² In the monetarist debate, the theory of money supply determination was a first order issue. In the new classical debate that superseded monetarism, the money supply process is a second order issue. Though post-Keynesians remained justified in their criticism of both neo-Keynesian and new classical models because they both used an incorrect representation of the money supply process, the shift of the terrain of debate rendered the endogenous money critique less salient.

On the upside, the focus of post-Keynesian monetary theory on the bank lending–money supply nexus positioned post-Keynesians better to understand the 30-year credit bubble and its bust in 2008. That is because post-Keynesian monetary theory puts credit at its core, whereas credit is invisible in both standard Keynesian and new classical models. This focus on credit meant post-Keynesians understood the role of credit in driving asset bubbles and filling the demand shortfall resulting from increased income inequality (see, for instance, Palley 2002) and they were also alert to the deflationary consequences of debt in the event of a bust (Caskey and Fazzari 1987; Palley 1999).³

3 VERTICALISM AND MONETARISM

Figure 1 provides a description of competing representations of the money supply process. It distinguishes between mainstream and post-Keynesian approaches. Reflecting the earlier monetarist debate, the mainstream is divided between monetarists and the neo-Keynesian IS-LM school.

1. In Keynesian models, output adjusts to equal aggregate demand ($y = AD$), whereas classical models have aggregate demand adjust to equal full employment output ($y^* = AD$). Within the classical model there can be unemployment due to enduring market frictions. Friedman (1968) famously labeled such unemployment as ‘natural.’

2. Though endogenous money is not directly about macroeconomic closure, it can affect equilibrium output via credit rationing impacts on aggregate supply (Blinder 1987) and via impacts on aggregate demand (Palley 1997).

3. In this regard, Tobin (1980) also deserves credit. His identification of the macroeconomic significance of the Fisher debt effect distinguishes his thinking from that of other neo-Keynesians.

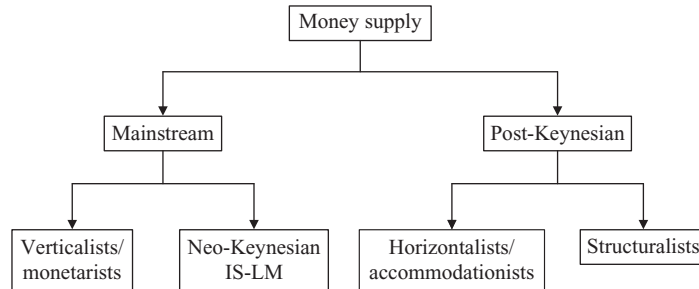


Figure 1 Competing approaches to the money supply process

Monetarism reflects the true verticalist position, whereas the neo-Keynesian school emphasized the money multiplier. The latter incorporates its own form of money supply endogeneity, but it is not post-Keynesian endogeneity which emphasizes bank lending.

The post-Keynesian position is divided between horizontalists and structuralists, with the former also often referred to as accommodationists. This terminological distinction between structural and accommodative endogeneity was introduced by Pollin (1991). As shown in Sections 5 and 6, there are important analytical differences between the positions but they both share the fundamental insight that bank lending drives the money supply.

Monetarism corresponds to the purest form of verticalism and it is described by the following two-equation model:

$$M = mH \quad (3.1)$$

$$Y = MV \quad (3.2)$$

where M = money supply, m = money multiplier, H = supply of high-powered money (monetary base), V = velocity of money, and Y = nominal income. Equation (3.1) determines the money supply which is equal to the money multiplier times the supply of monetary base. Equation (3.2) is the Fisher equation and it determines nominal income which is equal to the money supply times the velocity of money. Substituting Equation (3.1) into Equation (3.2) yields:

$$Y = mHV \quad (3.3)$$

The monetarist model of the money market is illustrated in Figure 2. The money supply is exogenously determined by the money multiplier and the monetary base. The money supply schedule is therefore vertical in $[M, Y]$ space, fitting the verticalist description. Nominal income adjusts to equalize money demand with the exogenously determined money supply. The central bank controls the supply of reserves (H), and can thereby determine the money supply (M) and nominal income (Y), conditional on given values of the money multiplier (m) and the velocity of money (V). Goods market equilibrium (which is not shown in Figure 2) is accomplished by adjustment of the interest rate in the loanable funds market, thereby bringing aggregate demand into alignment with real output.

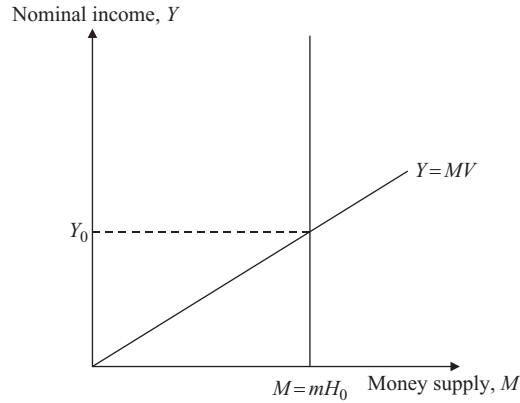


Figure 2 The money market in the monetarist model

4 THE NEO-KEYNESIAN MONEY MULTIPLIER MODEL

The neo-Keynesian model of the money supply process represents the other branch of mainstream thinking. The model is described by the following three equations:

$$M^s = m(i_B)H/P \quad m_{i_B} > 0 \quad (4.1)$$

$$M^d = L(i_B, y) \quad L_{i_B} < 0, L_y > 0 \quad (4.2)$$

$$M^s = M^d \quad (4.3)$$

where M^s = real money supply, M^d = real money demand, i_B = bond interest rate, P = price level, and y = real income. The function $L(\cdot)$ is the real money demand function and corresponds to Keynes's liquidity preference function.

The model is illustrated in Figure 3, which shows the neo-Keynesian construction of the money market. The interest rate on bonds adjusts to equalize the supply and demand for real money balances. There are several features to note. First, the bond interest rate is endogenous and is the mechanism that ensures instantaneous money market equilibrium. Second, the money supply is endogenous because the money multiplier is endogenous. The reasoning is that the money multiplier increases in response to higher interest rates because the interest rate is the opportunity cost of holding high-powered money balances. A higher opportunity cost gets agents (households, firms, and financial institutions) to economize on high-powered money balances, enabling the existing stock to support a larger money supply. This role of money demand and portfolio adjustment in response to higher interest rates is very important and constitutes the essence of Tobin's Yale School approach to monetary theory. It is a feature that is discussed later and remains valid.

Third, as in the monetarist model, bank lending remains completely invisible and is attributed no role in the money supply process. Fourth, though the money supply is endogenous, the monetary base remains exogenous which is what gives the model its verticalist character. However, as shown in Figure 4, this feature is reversed if

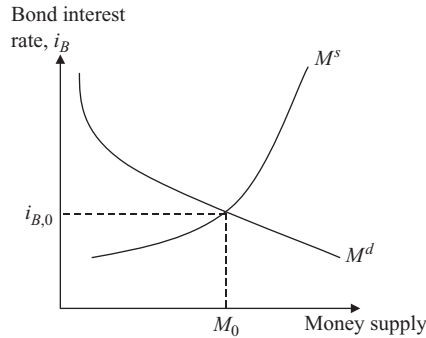


Figure 3 The neo-Keynesian model of the money supply process

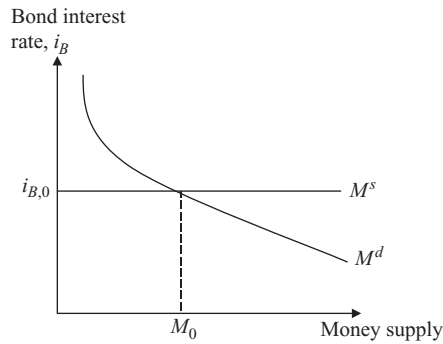


Figure 4 The neo-Keynesian model of the money supply process with interest rate targeting by the central bank

the monetary authority targets the interest rate. In this case, the money supply schedule is horizontal and the monetary authority makes available as much base as is needed to meet money demand at the targeted rate.

Unfortunately, this horizontal aspect of the neo-Keynesian model has clouded understanding of the money supply process by obscuring differences between the post-Keynesian and neo-Keynesian approaches. Over the past 30 years, as central banks have abandoned money supply targeting regimes and shifted to interest rate targeting regimes, this has led to mainstream claims that the money supply is endogenous. That has created the appearance of equivalence with post-Keynesian theory that has crowded out space for the post-Keynesian model even though its analysis (as shown below) is significantly different.

On the one hand, the mainstream's recognition that the money supply is endogenous is an improvement. On the other hand, by obscuring differences, it has made it more difficult to establish a correct understanding of the money supply process. First, the mainstream views the money supply as endogenous because of interest rate targeting rather than because of the fundamental nature of the process. Second, credit remains invisible and apparently irrelevant for the money supply process in the neo-Keynesian representation of interest rate targeting regimes.

5 HORIZONTALISM (OR ACCOMMODATIONISM)

The post-Keynesian approach to the money supply embodies a fundamentally different process. The approach can be subdivided into horizontalism (or accommodationism) and structuralism. Moore (1988) coined the terminology of horizontalism and is the foremost proponent. Lavoie (1984; 1996; 2006) is another leading proponent, though his views have also gradually incorporated many of the structuralist criticisms of Moore's (1988) original formulation.

The horizontalist position is captured by the following simplified model based on Palley (1994):

$$i_L = [1 + m]i_F \quad (5.1)$$

$$L^d = L(i_L, \dots) \quad L_{i_L} < 0 \quad (5.2)$$

$$L^s = L^d \quad (5.3)$$

$$L^s + R = M \quad (5.4)$$

$$R = kM \quad 0 < k < 1 \quad (5.5)$$

$$H = R \quad (5.6)$$

where i_L = loan rate, m = bank mark-up, i_F = money market rate set by policy, L^d = loan demand, L^s = loan supply, R = required reserves, and k = required reserve ratio. Equation (5.1) determines banks' loan rate as a mark-up over the money market rate that is set by policymakers. The policy rate represents the cost of finance to banks. Equation (5.2) is the loan demand function, and Equation (5.3) has loan supply equal to loan demand. Equation (5.4) is the banking sector's balance sheet. Assets consist of loans and reserves, while liabilities consist of deposits. Equation (5.5) determines banks' holdings of reserves which are equal to required reserves. Lastly, Equation (5.6) determines the supply of monetary base which is equal to bank reserves. As shown in Palley (1994), the basic model is easily expanded to incorporate bank excess reserves, time deposits, and currency held by the non-bank public. Adding these features leaves the logic of the model unchanged. These features are not included in order to keep the analysis as simple and clear as possible so as to facilitate comparison of approaches.

The solutions for the model are given by:

$$L = L([1 + m]i_F, \dots) \quad (5.7)$$

$$M = L/[1 - k] \quad (5.8)$$

$$H = kL/[1 - k]. \quad (5.9)$$

The model is illustrated in Figure 5. The supply of monetary base (northwest quadrant) is horizontal at the policy-determined money market interest rate. The loan supply

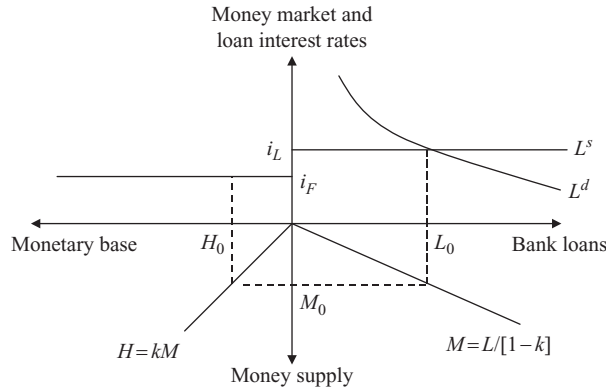


Figure 5 The horizontalist model of the money supply process

schedule (northeast quadrant) is horizontal at the loan rate which is a mark-up over the policy rate. Banks satisfy all loan demand forthcoming at that rate. Bank lending determines deposit creation and thereby determines the money supply. The central bank then adjusts the supply of reserves to back deposits created. It does so by buying bonds from or selling bonds to the non-bank public, thereby injecting reserves into or draining reserves from the banking system.

The model has several notable features. First and foremost, loans create deposits. This is a very different description of the money supply process from that described by the monetarist and neo-Keynesian stories. It is also very different from the neo-Keynesian interest rate targeting story in which the supply of reserves is also horizontal. Second, there is a money multiplier as shown in the southwest quadrant of Figure 5. However, it is an after-the-fact phenomenon rather than being a driver of money supply creation.

Moore (1988) describes banks' loan supply as perfectly elastic. However, the horizontalist model can be adjusted to incorporate a positively sloped loan supply schedule, which shows that there is more to the difference between horizontalists and structuralists than just the slope of the loan supply schedule (Palley 1994). To see this, let the loan rate be determined as follows:

$$i_L = [1 + m(L)]i_F \quad m_L > 0 \tag{5.10}$$

Equation (5.10) has banks raise the mark-up as lending increases. This latter effect may be due to increased default risk resulting from borrower quality deterioration as the volume of lending increases. Lavoie (1996) argues for such an effect by appeal to Kalecki's (1937) principle of increasing risk.

Figure 6 shows the model with a positively sloped loan supply schedule. The loan interest rate rises because banks increase their mark-up as lending increases. There is no money supply schedule *per se* because money is created by bank lending. However, if the loan supply is positively sloped, the money supply will show positive correlation with loan rate as if there were a positively sloped money supply schedule.

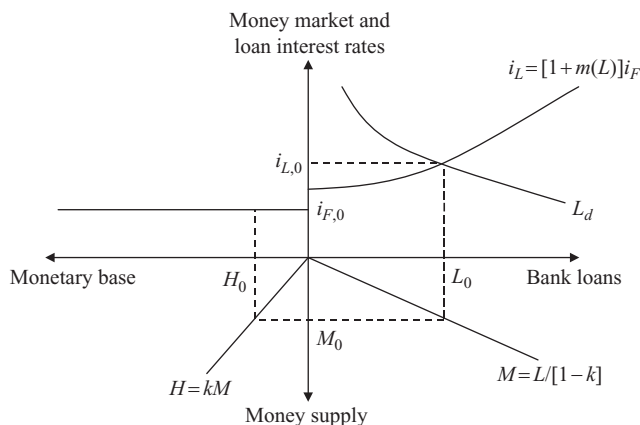


Figure 6 The horizontalist model with a variable bank mark-up

6 STRUCTURALISM

Structuralism represents the second branch of the post-Keynesian approach to the money supply. Like horizontalism, it also embodies the core logic of loans creating deposits. In many regards it fills in omissions and oversights within the horizontalist argument.

6.1 A simple structuralist model

Rather than presenting a full comprehensive structuralist model, this subsection presents the simplest structuralist framework and then builds it out. Two critical differences from the horizontalist model concern money demand and the endogeneity of interest rates. Moore's (1988) horizontalist model has interest rates as exogenously set. The monetary authority sets the short-term interest rate, and long-term interest rates are then determined via the expectations theory of interest rates. The long-term rate therefore depends on the current short-term rate and expectations of the future short-term rate, and long-term yields are priced so as to yield the same as a strategy of holding short-term bonds and rolling them over as they mature.

Since nominal short-term rates are administered exogenously by the central bank, and nominal long-term rates reflect financial markets' expected future short-term rates, interest rates are a monetary phenomenon. It is perfectly correct to regard them as 'hanging by their own bootstraps.' Over some substantial range they are largely independent of underlying real forces. (Moore 1988, p. 264)

With regard to this horizontalist characterization of interest rates and interest rate formation, Pollin (1991; 2008) provided an early and continuing empirical critique. According to Pollin, interest rates are best described as a complex rather than a single interest rate, and that complex exhibits multi-directional causality with long rates exhibiting significant endogeneity.

A second feature of Moore's (1988) characterization of interest rate determination is the absence of any role for liquidity preference. Moreover, as can be seen from the

horizontalist model in Section 5, money demand is entirely absent. Indeed, Moore (1991) effectively dismisses the legitimacy of the concept of money demand:

In conclusion, the demand for money has not been mislaid. There is always some quantity of money effectively demanded. But it is always identically equal to the quantity of money that is supplied. (Moore 1991, p. 132)

This absence of money demand and liquidity preference effects on interest rates has been criticized by Goodhart (1989; 1991), Palley (1991), and Howells (1995). The underlying analytical error in Moore's reasoning stems from a confusion of 'want' for money, which is unlimited, and 'demand' for money which is limited by an agent's willingness to direct scarce income and wealth into money stores:

Moore's analysis neglects money demand consideration. In a monetary economy, agents are always willing to accept money as payment for the provision of goods and services. However, when one considers the ultimate impact of an expansion of bank lending, it is necessary to address the question 'on what terms are agents willing to hold money balances?' That is, having received a deposit, what will agents do with it? Spend it, repay existing loans, buy bonds, or simply hold it? All of these actions have ramifications for the final equilibrium, and may have feedback effects on the level of bank lending and the money supply. (Palley 1991, p. 397)

The structuralist model (Palley 1987/1988) addresses both of these concerns by introducing money demand and additional interest rates that are endogenously determined. The equations of the model are given by:

$$M = M(i_M, i_B, y, E, X) \quad M_{i_M} > 0, M_{i_B} < 0, M_y > 0, M_X > 0, M_E > 0 \quad (6.1)$$

$$L = L(i_L, y, A) \quad L_{i_L} < 0, L_y > 0, L_A > 0 \quad (6.2)$$

$$L + kM = M + B \quad (6.3)$$

$$i_L = [1 + m(L)]i_F + c \quad m_L > 0, c > 0 \quad (6.4)$$

$$i_M = [1 - k]i_F - z \quad (6.5)$$

$$H = N + B = kM \quad (6.6)$$

where M = demand for real money balances (bank deposits), i_M = deposit interest rate, i_B = bond interest rate, y = real income, E = vector of expected future interest rates, X = liquidity preference shift factor, H = supply of real high powered money, L = real loan demand, k = reserve requirement on deposits, N = non-borrowed reserves, B = borrowed reserves, i_L = loan interest rate, c = banks' cost per dollar of making loans, and z = cost per dollar of supplying deposits.

Equation (6.1) is the demand for bank deposits which depends positively on the deposit rate and income, and negatively on the bond rate. Equation (6.2) defines real loan demand which is a negative function of the loan rate and a positive function of income. Equation (6.3) is the banking sector's balance sheet identity. Assets consist of loans (L) and required reserves (kM); liabilities consist of deposits (M) and

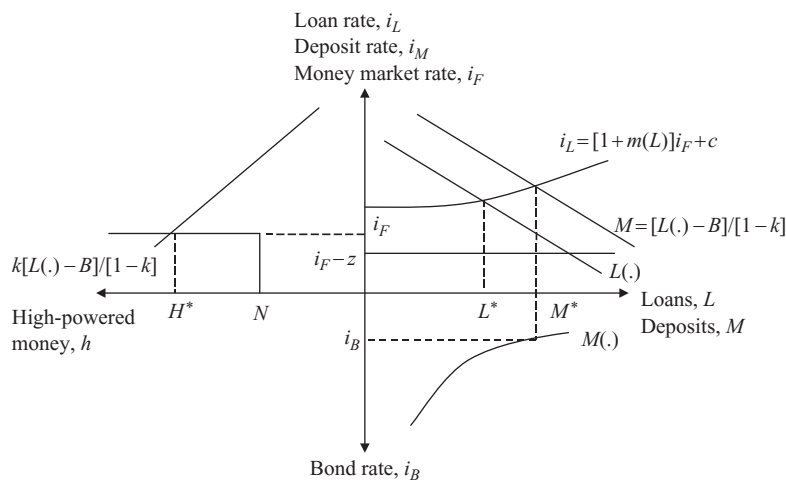


Figure 7 Determination of the supply of high-powered money, the money supply, bank lending, and interest rates

borrowed reserves (B) which banks borrow at the money market rate. When the banking system is short of reserves, banks borrow from the central bank.⁴ Equations (6.4) and (6.5) determine the loan and deposit rates. The loan rate is a variable mark-up over the money market cost of funds, while the deposit rate is a mark-down over the money market cost of funds that takes account of the costs of administering deposits (z) and holding reserve requirements (k). Equation (6.6) is the money market equilibrium condition in which the supply of high-powered money equals demand. The demand for high-powered money consists of required reserves.

Rearranging Equation (6.3) and using Equations (6.1), (6.2), (6.4), and (6.5) yields:

$$M([1 - k]i_F - z, i_B, y, X) = [L([1 + m(L)]i_F + c, y, A) - B]/[1 - k]. \quad (6.7)$$

Substituting Equation (6.7) into Equation (6.6) yields:

$$H = kL([1 + m(L)]i_F + c, y, A)/[1 - k]. \quad (6.8)$$

Equation (6.7) shows that the deposit money supply is determined by bank lending. Given the deposit money supply, the bond rate must adjust so that agents willingly hold the amount of deposits banks have created. Equation (6.8) has the supply of high-powered money being used as required reserves.

The model is illustrated in Figure 7. The northeast panel shows the loan demand and deposit supply schedules. The deposit supply schedule is derived from loan demand via the banking sector's balance sheet constraint, thereby reflecting the endogenous money process whereby loans create deposits. The level of bank lending is determined by the loan rate, which is a mark-up over the money market rate.

4. This is the simplest way of modeling how banks get hold of needed reserves. A more complicated way involves modeling the bond supply and having the central bank conduct open market operations to supply reserves and thereby maintain the policy rate at its target level.

The northwest panel determines the supply of high-powered money which consists of borrowed and non-borrowed reserves. The borrowed component is $H^* - N$. The monetary authority targets its policy interest rate and then supplies reserves via borrowed reserves on an as-needed basis. The southeast panel determines the bond rate needed for deposits created by lending to be willingly held.

There are now two interest rates: a short-term rate and a long-term rate. The long-term rate is set by money demand which is influenced by the state of liquidity preference and expectations of future interest rates. An increase in liquidity preference shifts the money demand function down in the southeast panel, causing the bond rate to rise. An increase in expected future interest rates also increases money demand as wealth owners shift out of bonds to avoid capital losses. That causes bond prices to fall, raising the current bond interest rate.

The model can be further refined by making loan demand and the mark-up positive functions of the bond rate as follows:

$$L = L(i_L, i_B, y, A) \quad L_{iL} < 0, L_{iB} > 0, L_y > 0, L_A > 0 \quad (6.9)$$

$$i_L = [1 + m(L, i_B)]i_F + c \quad m_L > 0, m_{iB} > 0, c > 0 \quad (6.10)$$

As regards loan demand, the logic is bank loans and bonds represent alternative ways of financing business so that bond finance is a substitute for loan finance. A higher bond rate therefore increases loan demand, while a lower bond rate lowers loan demand. As regards the mark-up, loans and bonds compete for space in bank portfolios and the bond rate also affects the spread between the policy rate and rates charged on products like mortgage loans.⁵

The above specification of loan demand and mark-up changes the money supply process, introducing bi-directional causality between loan demand and money demand. As before, an increase in loan demand increases bank lending and the money supply. However, now, an increase in money demand increases the bond rate. That raises the mark-up which tends to contract bank lending. However, it also induces an increase in loan demand that increases bank lending. The net effect on the money supply is ambiguous. The important point is that although the money supply is endogenous, it is not driven exclusively by loan demand. It is also affected by money demand, and money demand also affects loan rates.

More generally, the structuralist model's inclusion of money demand links post-Keynesian monetary theory with Tobin's Yale School approach to monetary macroeconomics. Liquidity preference, the character of asset demands, and the degree of asset substitutability are all critical factors in determining financial market outcomes.

6.2 Aggregation and the fallacy of division

Both the above horizontalist and structuralist models are aggregate models that represent the banking sector as a single entity. That representation risks promoting a fallacy

5. If banks hold bonds, the formal model given by Equations (6.1)–(6.6) needs to be augmented to include banks' demand for bonds, and the banking sector's balance sheet needs to be correspondingly adjusted (see Palley 1987/1988).

of division whereby it is mistakenly believed that what holds for the system as a whole also holds for the individual components of the system.⁶

At the macroeconomic level, the supply of finance appears horizontal and perfectly elastic. The aggregate model therefore makes it look as if all banks have unlimited access to finance at the money market policy rate. However, structuralists maintain that no individual bank behaves as such. Instead, even as the monetary authority targets a money market rate, individual banks are subject to finance supply constraints that constrain individual bank behavior.

There are several arguments in favor of this structuralist position. First, banking is highly regulated and banks are subject to quantitative restrictions such as capital requirements. Since equity capital is scarce, that limits banks' activities, as they must allocate their scarce supply of equity across different banking activities.

Second, the quality of banks' balance sheets varies with regard to the quantity of equity capital, the quality of assets, and the mix (long-term vs short-term) of financing. All of these factors impact the cost and availability of finance to individual banks even though the monetary authority sets a single common policy rate that benchmarks the system. The important point is that financial markets assess individual banks for credit risk and this assessment affects the terms of access to finance for individual banks. As an individual bank's balance sheet changes, its supply cost of finance will change, even though the benchmark policy rate is unchanged. That changed supply cost will then feed into the loan interest rate the bank charges. The loan rate a bank charges will therefore tend to drift upward as its balance sheet becomes more fragile, reflecting changes in the bank's supply cost of finance.

Third, even though individual banks have access to discount window borrowing, the reality is they face penalty costs associated with using the discount window and borrowing from the central bank (Palley 1987/1988). A bank that is repeatedly short of reserves and forced to use the discount window to cover reserve shortfalls will be sanctioned for credit risk by financial markets, and for regulatory risk by financial regulators. Consequently, banks will be deterred from using the discount window even though they appear to have open access at the policy rate.

The implication of these microeconomic arguments is that individual banks face finance supply constraints and do not have a perfectly elastic supply of finance. There is considerable empirical evidence for this. First, this effect is visible in the fact that banks carry different credit ratings from ratings agencies such as Moody's and Standard & Poor's.

Second, the 2008 financial crisis provided evidence of such effects. Banks did not collapse all at once. Instead, banks with the weakest balance sheets were frozen out of markets first.

Third, in the wake of the crisis there is also much talk of the competitive distortion created by 'too big to fail (TBTF).' The argument is that large banks that are deemed TBTF because of their systemic importance implicitly receive a subsidy from the monetary authority. That is because depositors and lenders know they will be protected from losses, as the monetary authority will step in to prevent bank failure in a crisis. Such reasoning has no place in the horizontalist model, as all banks supposedly have access to unlimited financing at the policy rate. However, it makes perfect sense from a structuralist perspective.

6. The fallacy of division is the opposite of the fallacy of composition. The fallacy of composition involves the mistake of inferring that the whole behaves the same as the individual part. The fallacy of division involves the mistake of inferring that the individual part behaves the same as the whole.

Fourth, borrowed reserves used to be a measure of liquidity pressure, and Palley (1987/1988) reports a small but statistically discernible impact of borrowed reserves on the federal funds rate. This impact then feeds through to affect commercial banks' prime lending rate.

A fifth empirical finding consistent with the structuralist perspective on interest rate formation concerns the term structure of interest rates. It is empirically well established that the term structure of interest rates is not simply established by expectations of future short-term interest rates (Shiller 1990). Instead, it incorporates additional term premia that are also volatile and this is inconsistent with the pure expectations theory of the term structure. Since banks price their lending off the term structure, that means they do not set prices as simply a fixed mark-up over expectations of the monetary authority's future target rate. Instead, their lending rates are impacted by liquidity preference and portfolio concerns that impact the term structure.

A sixth and final piece of evidence in favor of the structuralist view of bank behavior concerns lending standards. In the horizontalist model, banks meet whatever loan demand there is at a mark-up over the policy interest rate. Credit rationing is not part of the narrative and there is no role for credit rationing beyond normal credit quality controls. In contrast, credit rationing is fully consistent with the structuralist perspective. As banks become loaned up and balance sheets become stressed, banks may vary lending standards to ration lending. In this case loan demand becomes:

$$L = \theta(L/E, B/L, \dots)L(i_L, i_B, y, A) \quad 0 < \theta < 1, \theta_{L/E} < 0, \theta_{B/L} < 0 \quad (6.11)$$

where θ = loan rationing coefficient, L/E = loan-to-bank equity ratio, and B/L = borrowed reserves-to-loan ratio. Increases in the loan-to-bank equity ratio or borrowed reserves-to-loan ratio are indicative of bank balance sheet stress and induce a tightening of lending standards. Other factors may also affect θ .

In terms of Figure 7, an increase in the loan rationing coefficient shifts the effective loan demand and money supply functions in the northeast panel to the left. That reduces lending and deposit creation at the going interest rate. It also shifts the demand for reserves function in the northwest panel to the right. Events before and after the financial crisis of 2008 provide evidence that banks vary lending standards so as to impact lending. In the run-up to the crisis, easy access to finance for banks encouraged lowering of lending standards; in the aftermath of the crisis, weakened bank balance sheets prompted higher lending standards.

6.3 Monetary policy and the interest rate targeting function

Subsection 6.2 focused on microeconomic finance constraints on individual banks. This subsection focuses on macroeconomic constraints related to the monetary authority's interest rate targeting policy reaction function.

A central claim of the horizontalist position is that monetary authorities have no choice but to supply reserves needed by the financial system, and that in turn renders the reserve supply function horizontal. Thus, Moore writes:

The monetary authorities are thus typically caught in a dilemma. They must accommodate all increasing credit demands if they are to fulfill their commitment to orderly financial markets, even if the result may be the accommodation of inflationary pressures. Their only real choice is the price at which they choose to make liquidity available to the financial system. (Moore 1988, p. 83)

The claim that the monetary authority has no choice but to supply reserves on demand, on a normal everyday basis, rests on the assertion that not doing so risks financial turmoil. This is a central analytical tenet of horizontalism, but it is open to challenge on two counts. One concerns the ability of markets to endogenously buffer reserve demand. The second concerns the fact that the monetary authority must actually convince the market it will not fully accommodate to preserve macroeconomic stability and attain its macroeconomic policy targets.⁷

As regards markets endogenously buffering reserve demand, the everyday fragility of the financial system depends critically on the understandings and expectations of market participants. If market participants expect the monetary authority to supply reserves, they will act on that basis and structure their financial arrangements accordingly. If the monetary authority then fails to behave accordingly, the system will indeed be fragile and vulnerable to turmoil induced by shortage of reserves. However, that need not be the case. If the monetary authority announces it plans to target monetary aggregates, market participants will then adapt their behaviors in ways that accommodate the monetary authority. Knowing the new rule, participants will increase their buffer holdings of liquidity, and new markets will develop for recycling liquidity from those with excess holdings to those with shortages. Money market funds do just this, and it is no surprise that they grew rapidly in the late 1970s when the Federal Reserve targeted monetary aggregates.

As regards the policy rule, the essence of horizontalism is the claim that banks have access to a perfectly elastic short-run supply of finance as a consequence of the monetary authority's interest rate targeting. However, that claim embodies a myopic and simplistic understanding of policy. Looking beyond the market period, the monetary authority has a systematic policy reaction function so that finance is not available from the central bank on unlimited terms at a constant rate. To the extent that market participants are aware of this, it will be factored into their current financial decision-making. Consequently, current market actions and outcomes will be affected by understandings of the policy reaction function and anticipations of future policy. The amazing thing about expectations is they imply the future is always present in the present.

These issues are raised in Palley (1996) who terms them 'super-structuralism.' Not only are there microeconomic financial constraints on individual banking firms, there are also macroeconomic constraints resulting from the policy reaction function. One possibility is that the monetary authority sets the money market interest rate according to the following rule:

$$i_F = \gamma_0 + \gamma_1 M \quad \gamma_0 > 0, \gamma_1 > 0. \quad (6.12)$$

Equation (6.12) has the monetary authority pursue a rule whereby it raises its policy rate target as the money supply increases. Using Equations (6.4), (6.7), (6.8), and (6.12), the policy rate and loan rate can then be expressed as:

$$i_F = \gamma_0 + \gamma_1 kH - \gamma_1 B/[1-k] \quad (6.13)$$

$$i_L = [1 + m(L)]\{\gamma_0 + \gamma_1 [L-B]/[1-k]\} + c. \quad (6.14)$$

7. There is full agreement between horizontalists and structuralists on the need to accommodate fully in financial panics. The disagreement is about how to characterize the possibilities and practices behind normal everyday operating procedures.

The policy rate is now a positive function of the supply of reserves and the loan rate is a positive function of lending. The logic is the monetary authority raises its policy rate as the demand for reserves increases. Since reserve demand is ultimately driven by lending, increased lending drives up the policy rate which in turn drives up the loan rate. As the parameter γ_1 increases in magnitude, both the reserve and loan supply schedules steepen.

In terms of Figure 7, the monetary base supply schedule now becomes positively sloped instead of horizontal. That means the loan interest rate can rise for two reasons. First, it rises because banks increase their mark-up as lending increases because of increased default risk. Second, it rises because the monetary authority raises the cost of finance as bank lending increases the money supply.

Another possibility is that the policy reaction function is conditioned on macroeconomic variables as follows:

$$i_F = \alpha_0 + \alpha_1 P + \alpha_2 y \quad \alpha_0, \alpha_1, \alpha_2 > 0 \quad (6.15)$$

where P = price level, and y = real output. In this case, policy responds to the real economy rather than financial market conditions. Finance affects the real economy, which in turn impacts the financial sector via the reaction function. However, the essential point is the reserve supply schedule is not horizontal after taking account of the feedback loop between financial markets, the real economy, and policy.

Horizontalists counter that, at each 'instant' in time, the supply of reserves is still formally horizontal. Structuralists respond that, over a sequence of instants, the monetary authority follows its reaction function (Fontana 2003). Movement along the reaction function is jagged and corresponds to a disequilibrium process. Market developments push conditions to a new point and the central bank responds by changing the policy rate to attain its desired position on the reaction function. Viewed through the structuralist lens of a sequence of moments, the economy travels up and down the reaction function. To understand the market's evolution, one needs to recognize that market participants will take this process into account as they make their current decisions.

Anticipations of future monetary policy settings will impact current individual bank decisions if there are any costs to unwinding or adjusting decisions. Anticipations of monetary policy will also impact current bank activity if the mark-up is a function of the current period bond rate as follows:

$$m = m(L, i_B, \dots) \quad m_L > 0, m_{i_B} > 0. \quad (6.16)$$

Such pricing applies to products like bank-issued mortgage loans which are a positive function of the current bond rate. Since the bond rate is determined by the state of liquidity preference, expectations about future interest rates feed through and affect banks' current lending and pricing actions.

This bond rate effect on the mark-up can also interact with previously discussed microeconomic finance constraints. Thus, if banks hold many different types of assets and make many different types of loans they will seek to equalize marginal returns across allocations of funds with the marginal cost of funds. As bond rates rise, they will raise the loan rate on those types of loans sensitive to the bond rate (for example, mortgage loans). They will also redeploy scarce capital to types of lending where the return is positively affected by the bond rate.

Through these various channels, the reaction function is present in each market instant because participants anticipate future policy adjustments. That is why agents

spend so much time anticipating Federal Reserve policy and why the Federal Reserve devotes so much attention to ‘communication.’

Horizontalists’ blindness to this important dynamic reflects a combination of myopic analysis and resistance to rational expectations analysis (that is, analysis in which agents use model understandings of the world to anticipate the future). The fact that market behavior may change in response to changed policy regimes exemplifies and confirms the Lucas critique of economic policy assessment (Lucas 1976). The fact that expectations of future monetary policy within a given policy regime, as reflected in the policy reaction function, impact current financial market behaviors and outcomes confirms the logic of rational expectations. Reflecting a tendency among post-Keynesians in general, horizontalists were initially hostile to the concept of rational expectations, and that hostility blinded them to these effects of expectations of future policy on current behavior.⁸ This hostility was because rational expectations was introduced by Chicago school economists using the combination of the classical macro model and probabilistic representations of uncertainty. Unfortunately, that inclined many post-Keynesians to reject rational expectations entirely rather than rejecting the Chicago school’s misuse (Palley 1993b).

7 CONCLUSION: HORIZONTALISM VS STRUCTURALISM

Basil Moore’s (1988) book, *Horizontalists and Verticalists*, is an important but flawed book. Its importance lies in its consolidation and elaboration of the theory of endogenous money as the cornerstone of post-Keynesian monetary theory. Its flaws are the misunderstanding and absence of money demand; the presentation of interest rates as exogenously determined by the central bank; the misunderstanding of micro-level financial constraints on financial firms (including banks); and the mischaracterization of the market impact of monetary policy via the over-simplification of a horizontal reserve supply schedule.

Moore’s analysis defined the horizontalist perspective, and that perspective initially dominated among post-Keynesians in the late 1980s and 1990s. However, over time, the horizontalist position has substantially morphed into the structuralist position regarding the significance of money demand, the endogeneity of interest rates, and the significance of the monetary authority’s policy reaction function for instantaneous market outcomes. At this stage, the only remaining substantive difference between structuralists and horizontalists is the latter’s claim that banks are financially unconstrained and have access to a perfectly elastic supply of finance available at the policy rate.

Horizontalism’s over-simplifications are useful for purposes of teaching the theory of endogenous money in introductory macroeconomics, but they are misleading for state-of-the-art theory and policy analysis. The structuralist critique remedies those over-simplifications.

As noted earlier in the paper, the post-Keynesian theory of endogenous money was developed as a counter to monetarism. Monetarism is now a dead doctrine and a curiosity of the history of thought, while the theory of endogenous money is now widely accepted. The unresolved controversy in macroeconomics is the theory of output

8. This is evident from the index and citations in Moore’s (1988) book. The index contains no mention of rational expectations, there is no discussion of the Lucas critique, and there is only one mention of Lucas, in footnote 35 on p. 319. This is in a book published almost 20 years after the emergence of macroeconomics with rational expectations.

determination and whether the system exhibits gravitational tendencies to full employment. Within that controversy there is the question of the role of flows of finance, the stock of money, and the stock of nominal debt.

From a policy perspective, the theory of endogenous money raises questions about the nature of the monetary collar on the economy. Under a gold standard, the (relatively) exogenous supply of gold serves as a significant collar on the system. In a modern endogenous money system the collar is far weaker and restricted to self-imposed restraints on lending derived from banks' assessment of credit-worthiness plus financing constraints on financial firms. This internal collar is likely to be unreliable and may even be unstable. For instance, the collar may loosen pro-cyclically for reasons associated with Minsky's (1992 [1993]) financial instability hypothesis, with bankers and borrowers getting caught up in the hedge–speculative–Ponzi financing dynamic. Likewise, it may tighten excessively in downturns. The extreme case of this is when financial markets freeze owing to panic. For policymakers, the challenge is to manage the monetary collar, ensuring it is neither too tight nor too loose. The collar must be elastic so that it accommodates growth and does not hinder recovery from recession, but it must also restrain speculative boom–bust tendencies. Theorizing and modeling these concerns should constitute the next generation of Keynesian research. They emanate naturally from a structuralist perspective on endogenous money.

REFERENCES

- Blinder, A. (1987), 'Credit rationing and effective supply failure,' *Economic Journal*, 97, 327–352.
- Caskey, J. and S. Fazzari (1987), 'Aggregate demand contractions with nominal debt commitments: is wage flexibility stabilizing?', *Economic Inquiry*, 25, 583–597.
- Fontana, G. (2003), 'Post Keynesian approaches to endogenous money: a time framework explanation,' *Review of Political Economy*, 15, 291–314.
- Friedman, M. (1968), 'The role of monetary policy,' *American Economic Review*, LVIII, 1–17.
- Friedman, M. and A. Schwartz (1963a), 'Money and business cycles,' *Review of Economics and Statistics*, suppl., February, 32–64.
- Friedman, M. and A. Schwartz (1963b), *A Monetary History of the United States, 1867–1960*, Princeton, NJ: Princeton University Press.
- Goodhart, C. (1989), 'Has Moore become too horizontal?', *Journal of Post Keynesian Economics*, 12, 29–34.
- Goodhart, C. (1991), 'Is the concept of an equilibrium money demand meaningful? A reply to "Has the demand for money been mislaid?"', *Journal of Post Keynesian Economics*, 14, 134–136.
- Howells, P. (1995), 'The demand for endogenous money,' *Journal of Post Keynesian Economics*, 18, 89–106.
- Kaldor, N. (1970), 'The new monetarism,' *Lloyds Bank Review*, 97, 1–17.
- Kaldor, N. (1982), *The Scourge of Monetarism*, Oxford: Oxford University Press.
- Kalecki, M. (1937), 'The principle of increasing risk,' *Economica*, 4, 440–447.
- Lavoie, M. (1984), 'The endogenous flow of credit and the Post Keynesian theory of money,' *Journal of Economic Issues*, 18, 771–797.
- Lavoie, M. (1996), 'Horizontalism, structuralism, liquidity preference and the principle of increasing risk,' *Scottish Journal of Political Economy*, 43, 275–300.
- Lavoie, M. (2006), 'Endogenous money: accommodationist,' in P. Arestis and M. Sawyer (eds), *A Handbook of Alternative Monetary Economics*, Cheltenham, UK: Edward Elgar, pp. 17–34.
- Lucas, R.E., Jr (1976), 'Econometric policy evaluation: a critique,' in K. Brunner and A.H. Meltzer (eds), *The Phillips Curve and Labor Markets*, Amsterdam: North-Holland, pp. 19–46.

- Minsky, H.P. (1992 [1993]), 'The financial instability hypothesis,' Working paper No. 74, The Jerome Levy Economics Institute of Bard College, New York, and published in P. Arestis and M. Sawyer (eds), *Handbook of Radical Political Economy*, Aldershot, UK: Edward Elgar, pp. 153–158.
- Moore, B.J. (1988), *Horizontalists and Verticalists: the Macroeconomics of Credit Money*, Cambridge, UK: Cambridge University Press.
- Moore, B.J. (1991), 'Has the demand for money been mislaid? A reply to "Has Moore become too horizontal?"', *Journal of Post Keynesian Economics*, 14, 125–133.
- Palley, T.I. (1987/1988), 'Bank lending, discount window borrowing, and the endogenous money supply: a theoretical framework,' *Journal of Post Keynesian Economics*, X (2), 282–303.
- Palley, T.I. (1991), 'The endogenous money supply: consensus and disagreement,' *Journal of Post Keynesian Economics*, 13, 397–403.
- Palley, T.I. (1993a), 'Milton Friedman and the monetarist counter-revolution: a reappraisal,' *Eastern Economic Journal*, Winter, 71–82.
- Palley, T.I. (1993b), 'Uncertainty, expectations, and the future: if we don't know the answers, what are the questions?', *Journal of Post Keynesian Economics*, Fall, 1–20.
- Palley, T.I. (1994), 'Competing views of the money supply process: theory and evidence,' *Metroeconomica*, 45 (1), 67–88.
- Palley, T.I. (1996), 'Accommodationism versus structuralism: time for an accommodation,' *Journal of Post Keynesian Economics*, 18, 585–594.
- Palley, T.I. (1997), 'Endogenous money and the business cycle,' *Journal of Economics*, 65, 133–149.
- Palley, T.I. (1999), 'General disequilibrium analysis with inside debt,' *Journal of Macroeconomics*, 21, 785–804.
- Palley, T.I. (2002), 'Economic contradictions coming home to roost? Does the U.S. face a long term aggregate demand generation problem?', *Journal of Post Keynesian Economics*, 25, 9–32.
- Pollin, R. (1991), 'Two theories of money supply endogeneity: some empirical evidence,' *Journal of Post Keynesian Economics*, 13, 366–396.
- Pollin, R. (2008), 'Considerations on interest rate exogeneity: to what extent does the market determine rates?', Working Paper 177, Political Economy Research Institute, University of Massachusetts, Amherst, MA, August.
- Poole, W. (1970), 'Optimal monetary policy instruments in a simple stochastic macro model,' *Quarterly Journal of Economics*, 84, 197–216.
- Shiller, R.J. (1990), 'The term structure of interest rates,' in B.M. Friedman and F.H. Hahn (eds), *Handbook of Monetary Economics, Volume 1*, Amsterdam: North-Holland, pp. 627–722.
- Tobin, J. (1970), 'Money and income: post hoc ergo propter hoc?', *Quarterly Journal of Economics*, 84, 301–317.
- Tobin, J. (1974), 'Friedman's theoretical framework,' in R.J. Gordon (ed.), *Milton Friedman's Monetary Framework*, Chicago: University of Chicago Press, pp. 77–89.
- Tobin, J. (1980), *Asset Accumulation and Economic Activity*, Chicago: Chicago University Press.
- Tobin, J. (1981), 'The monetarist counter-revolution today – an appraisal,' *Economic Journal*, March, 29–42.

A heterodox structural Keynesian: honouring Augusto Graziani

Riccardo Bellofiore
University of Bergamo, Italy

Translated from the Italian by Antoine Godin

The article gives an appraisal of Augusto Graziani's thought as a heterodox structural Keynesian. Graziani has always challenged the basic assumptions of orthodox theory by rejecting the initial definition of the economic and social world as being populated by identical individuals, where consumers are sovereign, technology is exogenous and money is neutral. Since the 1970s, Graziani's efforts have aimed at rebuilding on solid foundations the line of inquiry that sees capitalism as a 'monetary economy of production'. Authors such as Schumpeter and Keynes, and before them Wicksell and Marx, were all key influences on Graziani's work. This theoretical attitude shaped Graziani's studies on the Italian economy within the European and the global landscapes. We are confronted here with an idea of state intervention where demand policies are not separated from supply-side policies, and are indeed embodied in a structural design to redefine the composition of production with great attention to the quality of labour. He reminds us that economic theory has to put at the heart of its discourse not the 'imperfections' of the market, but rather the 'normality' of power and conflict, not only between labour and capital, but also between fractions of capital, and between capitalisms.

Keywords: *Augusto Graziani, circuit theory of money, structural Keynesianism, Marx, Italian economy*

JEL codes: *B59, E58*

Among all the many economists involved in the development of an alternative approach to neoclassical economics, both in terms of theory and policy, the name of Augusto Graziani stands out among all others. Born in Naples in 1933 and now aged 80, Graziani has had a long and distinctive career.

Although perhaps not in a fully conscious way in the beginning, Graziani's writings on theory and policy show a departure from the canons of orthodoxy.

Trained in Naples, he graduated in 1955 with Giuseppe Di Nardi. Graziani then travelled abroad to continue his schooling. Soon after, he did postdoctoral studies at the London School of Economics where he met Lionel Robbins, and then went to the United States, to Harvard University, where he was exposed to the influence of Wassili Leontief and Paul Rosenstein-Rodan. His long collaboration with Manlio Rossi-Doria at the *Centro di Specializzazione di Portici* must also be mentioned.

Graziani's works can be described as both theoretical and applied. From the very beginning, his work showed a distinctive style and approach. To wit, consider his 1965 book, *Equilibrio Generale ed Equilibrio Macroeconomico (General Equilibrium and Macroeconomic Equilibrium)*. Readers may recall that these were the years when

neoclassical theory was being assailed on theoretical grounds for its internal inconsistencies with respect to the theory of capital and distribution. As such, the fallacy according to which the distributive shares of the various factors of production were paid according to their marginal contribution to production was exposed. This was a crucial blow, because without respect for these conditions, the system's natural equilibrium collapses.

Graziani, however, always preferred to take a somewhat different path. In fact, in his 1965 book, Graziani defends the Walrasian (instantaneous) general equilibrium system because it was considered a better representation of how the market works, and a superior explanation to the (then in vogue) 'proportional' macro-models of growth. Rather, Graziani challenges the basic assumptions of orthodox theory by rejecting the initial definition of the economic and social world as being populated by identical individuals, where consumers are sovereign, technology is exogenous and money is neutral. Large social or 'macro' groups matter, and corporate power is essential in a world of permanent imbalances and conflicts.

These fundamental ideas are at the core of his approach, even in works related to the study of Italian economic development. For instance, in 1969, Graziani published *Lo Sviluppo di una Economia Aperta (The Development of an Open Economy)*, in which he argues that the competitiveness of an economy depends neither on factor endowments nor on comparative advantages. It is, rather, the choice of entering the world market that imposes the adoption of the necessary technologies, which in turn determines the dynamics of productivity and the labour force to employ, where workers can enjoy relatively high wages. The remaining workforce will have to find employment in sectors that produce goods and services that are not traded externally, in a circle of low productivity and low wages. The development and imbalances of the Italian economy are seen, in short, as inseparable aspects of a unique mechanism. This 'dualism' is exacerbated by an export-led growth strategy, which is a bearer of consequences both positive and negative.

The 1970s witnessed a radicalization of Graziani's views. The author did not hesitate to confront the divide between orthodoxy and heterodoxy, and shifted the focus away from the usual ground of the theory of value – 'subjectivism', of the Walrasian or Marshallian kind, versus 'objectivism', following Ricardo – to a less explored topic: the essentiality of the role of money in a capitalist economy. This went well beyond the particular case of the 'crisis' defended by Keynesians with their emphasis on money as a store of value. From this radicalization, in the mid-to-late 1970s Graziani published a totally renewed version of his influential two-volume textbook, *Teoria Economica (Economic Theory)*, originally published in 1967. Volume I dealt with prices and distribution, while volume II covered macroeconomics (by 2000, the books were in their 5th edition; the radical revisions of the books appeared in 1976 for the macro book, and in 1979 for the price and distribution book), both of which traced the uneasy coexistence of the 'compatibilist' and 'conflictualist' visions, with a special focus on the latter for the monetary heterodox strand of thought.

Graziani's efforts have since aimed at rebuilding on solid foundations the line of inquiry that sees capitalism as a 'monetary economy of production'. Keynes's famous depiction of such an economy now assumes a meaningful place for the first time. Along these lines, Graziani's most celebrated achievement is his wonderful 2003 book, *The Monetary Theory of Production*, an earlier version of which was published in Italian in 1994. While very Keynesian, there is a definite Marxian influence; in fact, in 1983 Graziani dedicated a couple of papers to Marx where he attempted to restore the macro-monetary nature of his labour theory of value, reducing to a secondary

issue the notorious problem of the transformation of values into prices of production (the two articles have been translated in the *International Journal of Political Economy* in a special issue I edited in 1997: see Graziani 1997a; 1997b). However, authors such as Schumpeter and Keynes, and before them Wicksell, were all influences on Graziani's work. This theoretical lineage, according to Graziani, stands in opposition to neoclassical theory in two important ways. First, it focuses on large macro-social groups (the banking system, the firm sector, wage earners); second, and amounting to largely the same argument, it places the emphasis on power and conflict.

The key element here lies in the availability of monetary means of payment, and the notion that different classes have different degrees of accessibility to it. In the basic model, a closed economy without the state, money enters the economy as purchasing power, because banks finance the entrepreneurial class, which allows companies to set in motion the production of commodities and promote innovations. From this analysis, Graziani reaches a number of original conclusions. First, the privileged access to (credit) money becomes critical to the allocation of workers between sectors and the distribution of income between classes: the choices made by bankers and entrepreneurs determine in fact the amount of goods made available to workers, as in Keynes's *Treatise on Money*. Mere increases in monetary income can therefore be utterly unable to alter the division of real wealth, if the real choices of banks and businesses do not change.

Second, workers' conflict is an important factor in this process. But not so much the workers' conflict that takes place immediately on the determination of nominal wage; rather, the conflict that arises within the production processes, as well as, broadly speaking, in the political arena. Furthermore, the ownership by families of firms through equity, or the indebtedness of private firms towards households, does not lead to actual control over real decisions. The decisive command on resources depends on two crucial elements: first, on the availability of bank credit, which may limit production and investment; and second, on the interest rate on bank loans, which truly constitutes a subtraction from gross profit, as it is not true of interest on securities issued by the firm sector and sold on the financial markets.

Moreover, for Graziani, the recent phenomenon of the financing of household indebted consumption, which characterized the US economy in the years of the *new economy* (but which has spread to the European economies), is interpreted as an indirect financing of business, and not at all as a denial of his theoretical framework. As he writes in his Federico Caffè Lectures (2003), depicting in a few lines the features of the last phase of Neoliberalism:

More often than not, contemporary literature insists on the fact that credit granted to households equals or even exceeds credit granted to firms. It is, however, highly debatable whether credit granted to households is really given to consumers or is in fact indirectly granted to firms, by allowing consumers to buy finished products (Graziani 2003, p. 21).

This theoretical approach shapes Graziani's point of view when studying the Italian economy. For instance, it is at the heart of the introductions he wrote for his reader *L'Economia Italiana* (for the publisher il Mulino from Bologna), in three editions (1972; 1979; 1989), which became bigger and bigger over time and culminated in a book, *Lo Sviluppo dell'Economia Italiana: Dalla Ricostruzione alla Moneta Europea* (*The Development of the Italian Economy: From Reconstruction to the Euro*) (Graziani 1998 [2000]).

The originality of Graziani's thinking continued to develop. In the 1970s, for instance, Graziani clarified how behind the apparent 'stalemate' between classes, there is a significant restructuring process, inside and outside the big factories, which erodes the

strengths of the workers' conflict. As a result, a redistribution of surplus value in favour of the banks follows. All these processes are supported by economic policies that at first combine inflation with differential devaluation (1973–1979), and then use the 1975 agreement on the '*scala mobile*' (the Italian system of wage indexation, generalized and empowered at the end of 1975) to generate a massive fiscal drag. This results not only in an aggressive defence of profits, but also in the expansion of (balanced budget) public spending favouring the restructuring of capitalist firms.

In the 1980s, Italy's entry into the EMS (European Monetary System), combined with the exhaustion of the experience of public enterprises, and the attack on the '*scala mobile*' are seen by Graziani as stages of a plan by the ruling class that produces a subordinate modernization of Italy at the cost of waiving technological autonomy. In this context, the explosion of public deficits during that decade (that Marcello De Cecco labelled 'criminal Keynesianism') is once again interpreted by Graziani in a very radical way: it promotes the financial reorganization of enterprises by providing them with money 'for free', so to speak, making firms as a whole increasingly independent from the banking sector. Moreover, in the years 1987–1991 the high interest rates that pushed up the rising public debt were maintained by the Central Bank to induce capital movements compensatory to the growing trade balance deficit, to keep a high exchange rate, and to force firm restructuring in a context of wage repression and a compression of public social spending.

The failure of public enterprises, in this view, was not due to technical or categorical limitations. Things were very different: the real objectives of economic policy were divergent from those proclaimed, political support was lacking, and the social base that could support it was more and more fragmented and weakened.

Graziani has been a consistent and profound critic of the way the path to monetary unification has been pursued in Europe. He has highlighted better than most writers the neo-mercantilist drive imposed on the European economy by the constant will of Germany to bind together a system of fixed nominal exchange rates in Europe with a competitive deflation and a real devaluation of its commodities. These features of the EMS, after the parenthesis of the 1990s, reappeared emboldened in the experience of the euro, and nowadays risk giving way to its dissolution in the medium-to-long term. But Graziani also knows very well the limits of the strategy of competitive devaluations followed by countries like Italy. The return to a policy of devaluations would affect unequally a country like Italy, which has profound geographical divergences, where the exporting industries are heavily concentrated in certain areas and absent in others, and where the big industries (private and public) have been dismantled. Exiting the euro may deepen austerity, rather than reverse it (the rhetoric about money sovereignty notwithstanding). The pressure on countries like Italy comes from the fact that it is squeezed between the competition of the economies characterized by intense technical change and innovation, on one side, and the competition of the developing economies which may exploit the lowering of wages and the worsening of labour conditions, on the other. The only true way out remains, once more, structural policies enhancing technological autonomy driven by the State.

It may be interesting to ask what legacy Graziani leaves us: in particular, what do his most coherent thoughts suggest today? Now that the once-fashionable subject of the end of the interventionist period (1980s and 1990s) has been disproved in practice over recent years, we see many asking for a too-easy return to a too-generic 'Keynesianism', both from the right and the left, perhaps sometimes even invoking a 'post-Keynesian' and 'circuitist' descendance.

Graziani's confidence in the effectiveness of monetary policy has always been rather limited, to my understanding. Deficit spending, monetarily financed, is instead

certainly considered by him as a means to sustain profits. All this, mind you, can have a positive effect on employment, but without any mechanism, everything depends on the real autonomous choices by firms and banks. Nor can we assume an inevitable positive effect of 'expansionary' policies on workers' share of the distribution of income. To Graziani, the real choices of businesses are mostly independent of the dynamics of monetary incomes distributed to households through wages, or through forms of basic income, or through taxation and transfer policies.

If one wants to shift the distribution of income in favour of labour, and at the same time affect not only the level of employment but also its allocation and the quality of output, we need to do something else, more structural. It is no coincidence that Graziani has always been in favour of an active industrial policy by the State. And it is clear that his prescription for economic policy is not limited to invoking a pure and simple increase in public spending. For Graziani, Keynes's paradoxical advice in the middle of the Great Depression is justified: better to dig holes to fill them again, rather than leaving workers unemployed. Nevertheless, since the shortcomings of the private system of production are profound and since collective needs are seriously unsatisfied, it would be foolish, he writes, not to carefully evaluate every expense; and it would be a waste not to generate a socially useful and productive composition of output. If it wants to ensure to its citizens the real availability of specific goods and services, the government cannot operate solely through subsidies and remission of taxes, or just settle for a generic rise in effective demand. Rather, it must directly provide those goods and services in real terms – that is, it has to do it directly 'in kind', and expand firms' outlets in a targeted way.

Direct State intervention is essential for Graziani also on the matter of structural investments. When you need to radically change the conditions of production, or to introduce new and unknown technologies, or to open new horizons for long-term investors, competition and private initiative are not enough. Public decision-making is necessary. The efficiency of the production system and of the private market cannot but depend on public action. We are confronted here with an idea of State intervention where demand policies are not separated from supply-side policies, and are indeed embodied in a structural design to redefine the composition of production that is extremely attentive to the quality of labour – we have here a parallel with, although with some differences, Minsky's views on the socialization of the economy, with the proposals of the State as an employer of last resort. A similar argument can be found in the work of Alain Parguez.

In that sense, Graziani definitely is a structural Keynesian, heterodox even within the post-Keynesian environment. He has nothing to do, in any case, with New Keynesian Macroeconomics, which belongs to the new 'imperfecionist' component of mainstream economic theory, and which is today the conceptual basis of economic policies that may well be called 'social-liberal'.

The best representative of this other vision is undoubtedly Joseph Stiglitz, although the import to Italy of his ideas is often associated with economic policy conclusions much more moderate than those put forward recently by the Nobel Prize-winner himself. In this way of seeing things, hoping to overcome at once market failures and State failures, public intervention risks being reduced to a pale re-regulation of markets for goods, services and credit, which are nonetheless willingly liberalized, as well as to an industrial policy limited to changes in the structure of incentives and disincentives. To this it may be added the hope by some New Keynesians of a great fundamental orientation of the economy towards lesser inequality, something that risks becoming just a new instance of wishful thinking. Meanwhile, in Europe, the social-liberals accept the Maastricht criteria and the (non)Growth and (in)Stability Pact, or the absolute independence of the

Central Bank: probably more for political reasons than for faith in the miraculous virtues of ‘sound’ finance. Of course, this is far from Neo-liberalism, which cares little for monopolistic positions or for burgeoning public deficits and public debts, only to wave them against the Welfare State and labour conditions. Indeed, the social-liberal alternative to Neo-liberalism seems to be socially benevolent, and marking its difference: it is compassionately against insecurity, that needs to be ‘overcome’, preferring flexibility to causalization, supporting workers with universal measures of income support and professional training.

Confronting these new theoretical approaches, it appears to me that Graziani’s teaching is even more valuable than it was in past decades and leads to a degree of scepticism about most of this ‘imperfectionism’. He reminds us that economic theory has to put at the heart of its discourse not the ‘imperfections’ of the market, but rather the ‘normality’ of power and conflict, not only between labour and capital, but also between fractions of capital, and between capitalisms. It must abandon the reference to an imaginary world of a barter economy ‘disturbed’ by money, or the delusion that money may be integrated into an economic model, which is non-monetary in its roots. Money must be at the foundations of the theoretical building as bank financing – that is, money as capital that activates the capitalist process. A vision in which, as has already been said, it is the access to money that determines the real structure of the production. Something that inevitably leads to a less watered down perception of the role of the State in the economy.

It is only by moving from here, perhaps going beyond Graziani, that it is possible to understand the new characteristics of contemporary capitalism. A capitalism supported by economic processes that have been proved unsustainable in the long run, and have been shaken by waves of structural change and of financial instability. And then we can try to take the challenge of building the ‘economic theory of the future’, which according to Schumpeter – for whom Graziani has great respect – consists of seeing economic evolution as a process generated within the economic system itself. The capitalist process is a constant internal transformation in historical time, which is shaped by the choices of entrepreneurs and financiers and, equally fundamentally, by social struggles and political intervention, not by consumer preferences.

REFERENCES

- Graziani, A. (1965), *Equilibrio Generale ed Equilibrio Macroeconomico*, Naples: ESI.
- Graziani, A. (1967 [2000]), *Teoria Economica*, Volume I: *Prezzi e Distribuzione*, Volume II: *Macroeconomia*, Naples: ESI, 5th edn 2000.
- Graziani, A. (1969), *Lo Sviluppo di una Economia Aperta*, Naples: ESI.
- Graziani, A. (1997a), ‘The Marxist theory of money’, *International Journal of Political Economy*, 27 (2), 26–50.
- Graziani, A. (1997b), ‘Let’s rehabilitate the Theory of Value’, *International Journal of Political Economy*, 27 (2), 21–25.
- Graziani, A. (1998 [2000]), *Lo Sviluppo dell’Economia Italiana: Dalla Ricostruzione alla Moneta Europea (The Development of the Italian Economy: From Reconstruction to the Euro)*, Torino: Bollati Boringhieri, updated edn 2000.
- Graziani, A. (2003), *The Monetary Theory of Production*, Federico Caffè Lectures, Cambridge: Cambridge University Press.

Keynes and the endogeneity of money

Fernando J. Cardim de Carvalho

Institute of Economics, Federal University of Rio de Janeiro, Brazil

A common feature of practically all strands of post-Keynesian theory is the notion that the money supply should not be considered as fixed independently of money demand in macro-economic models. There are, however, at least two ways to postulate money endogeneity. The first, and perhaps best known today, is Kaldor's version, where the money supply curve is assumed to be horizontal at a given interest rate level. Kaldor's approach focuses on the means-of-payment function of money, stating that money is created when firms and individuals plan to acquire goods and services and borrow from banks the necessary amount of money to do it. Kaldor's emphasis is laid on central banks' behavior, assumed to be entirely accommodating of commercial banks' demands for the reserves required to satisfy the demand for bank loans. Keynes's version, based on his Treatise on Money and other essays, focuses on money in its liquid-store-of-wealth function. To propose that money is the most liquid asset in an entrepreneurial economy rules out the possibility of accepting a horizontal money supply curve, as it is shown in the paper. In fact, the first and most important contrasting concept in Keynes's approach in comparison to Kaldor's is the notion of liquidity. Keynes proposes a hierarchical view of liquidity, while Kaldor views liquidity as a 'flat' concept, where different assets exhibit different degrees of liquidity but their relationship is not hierarchical. A second contrast is that Keynes's view of endogeneity is based on a theory of how banks work instead of a theory of central banking. The paper develops Keynes's approach to money endogeneity along the lines just described and evaluates Kaldor's criticisms of Keynes's views.

Keywords: Keynes, post-Keynesian economics, endogeneity of money, bank money, central banks

JEL codes: E12, E44, E51, E58

1 INTRODUCTION

Many strands of Keynesian macroeconomics agree that money supply is endogenous in some sense. More particularly, practically all post-Keynesian varieties of macro-economic theory explicitly reject the so-called 'verticalist' assumption that central banks can fully determine the money supply.

Agreement, however, often stops at that. The best-known variety of endogenous money assumption in post-Keynesian economics is the one identified as the 'horizontalist' view, according to which the money supply curve is horizontal in the money quantity/interest rate space because suppliers of money always fully accommodate the demand for money at a given interest rate. It is, of course, intended to be a stylization of how money creation really works, but many post-Keynesians take it as an actual description, close enough to the reality of modern economies, which 'horizontalists' identify as *credit-money economies*.

It was Kaldor, not Keynes, who provided the inspiration for the emergence of the horizontalist hypothesis. In fact, Kaldor presented the hypothesis *against* Keynes's views on the matter, arguing that Keynes was never able to escape his 'classical' training in this field. Kaldor argued that the whole liquidity preference theory was, at best, a 'red herring,' giving an undue relevance to the concept of money supply.

It is well known that Keynes, in *The General Theory of Employment, Interest and Money* (*GT*), explicitly assumed that the money supply was fully controlled by the central bank. It can therefore be reasonably argued that Keynes's view in the *GT* can be best characterized as verticalist, not far from Milton Friedman's. Keynesians, however, often seek solace in Keynes's previous book, *A Treatise on Money*, to defend the thesis that the *GT* approach did not convey Keynes's actual views on this point. In the *Treatise*, one can find much richer and more concrete conceptions of how money is created through the interaction of banks and central banks in different monetary regimes.

The *Treatise's* approach, however, is as distant from a horizontalist view as the *GT's*. In fact, the *Treatise* does embrace an endogeneity-of-money perspective, relying however on very different reasons and with very diverse implications than those proposed in the horizontalist literature. It is reasonable to assume that Keynes didn't abandon the *Treatise's* arguments on this matter when writing the *GT*. In fact he stressed, in the preface to the *GT*, the continuity between the two books. In his words:

The relation between this book and my *Treatise on Money*, which I published five years ago, is probably clearer to myself than it will be for others; ... my lack of emancipation from pre-conceived ideas showed itself in what now seems to me to be the outstanding fault of the theoretical parts of that work (namely, Books III and IV), that I failed to deal thoroughly with the effects of *changes* in the level of output. ... This book, on the other hand, has evolved into what is primarily a study of the forces which determine changes in the scale of output and employment as a whole; and, whilst it is found that money enters into the economic scheme in an essential and peculiar manner, *technical monetary detail falls into the background*. (Keynes 1936 [2007], pp. xv and xvii, my emphases)

The whole analysis of monetary regimes and the role of banks and central banks in the creation of money were apparently among the 'technical monetary detail' that didn't find room in the *GT*.

In this paper we explore the question of whether the consideration of banks and central banks offered in the *Treatise* would change the 'exogenist' approach to money characteristic of the *GT*. We are also interested in the 'debate' between Keynes and Kaldor on the means and limits of monetary policy as an instrument of aggregate demand management. We are *not*, however, directly interested on the more recent debates between horizontalists and verticalists, or between accommodationists and structuralists. We believe, of course, that the contrast between Keynes's and Kaldor's views is essential to understand the latter debates, but to develop the links between them would certainly demand a much longer treatment than would probably be acceptable in a journal article. The choice of Kaldor's positions to confront Keynes's is only natural, given his importance as an inspiration for practically all horizontalist authors, at least in the English literature. So we confine our examination to Keynes and Kaldor in the hope that this can help to illuminate the workings of monetary policy. We begin by reconstructing the way in which the money supply appears in the *GT* and going backwards in time to see how the importation of the *Treatise's* ideas about banks and central banks would fit into the *GT* approach, in Section 2. Section 3 is dedicated to the severe criticisms raised by Kaldor against Keynes, from which the horizontalist

approach was born. A key issue opposing Keynes to Kaldor is the concept and role of liquidity, so Section 4 confronts both authors on this theme. Section 5 concludes.

2 FROM THE GENERAL THEORY TO A TREATISE ON MONEY

The continuity Keynes alleged to link the *Treatise* to the *GT* may not be obvious to readers, at least with respect to the determination of the money supply. Banks are absent from the core model of the *GT*, where Keynes argues entirely in terms of central banks' choices. Given the enormous importance the behavior of banks had always assumed in his writings prior to the *GT*, one cannot avoid the surprise, when reading the book for the first time, in realizing that every time the quantity of money is referred to, only the central bank is actually identified as its creator. In fact, not even the central bank's behavior is actually analysed. The central bank's choice of a given quantity of money to supply seems to be entirely left to its own discretion. One can easily understand why so many among Keynes's readers look to the *Treatise* hoping to find a more flexible treatment of the issue there.

As we will see below, the way Keynes describes the behavior of central banks in the *GT* may very well be a simplification but it is not essentially different from the way he described it in the *Treatise*. Before moving on, to understand Keynes's stand on this matter, it is necessary to establish two preliminary points. First, the protection afforded by holding money against the uncertainty that surrounds the future. Second, the role of commercial banks in the creation and allocation of money throughout the economy.

Probably not much need to be said at this point about the relation between money and uncertainty, a subject that has been exhaustively explored in the post-Keynesian literature.¹ In a nutshell, Keynes argued that holding money constituted a powerful hedge against future events that are impossible to predict properly. When one cannot even imagine what kind of adversity may hit in the future, it becomes impossible to devise specific hedge strategies. In this case, money becomes 'a barometer of our distrust of our own calculations and conventions concerning the future ... The possession of actual money lulls our disquietude; and the premium which we require to make us part with money is the measure of the degree of our disquietude' (Keynes 2012, vol. XIV, p. 116)

Money is an efficient hedge instrument because it is the most liquid of assets. As the unit of account for contracts, the value of money as a debt settlement vehicle is fixed.² As legal tender, it is convertible to any other good or service, on demand.³

But an asset being liquid means that the holder of that particular class of assets *expects* to be able to dispose them quickly, without significant loss, if it is so desired. This means that holding this type of asset should allow the holder to redo her investment strategy without too much loss of time and capital value at any time. When this

1. Just to pick up one well-known example of the literature, see Davidson (1978).

2. '... the fact that contracts are fixed, and wages are usually somewhat stable, in terms of money unquestionably plays a large part in attracting to money so high a liquidity-premium. The convenience of holding assets in the same standard as that in which future liabilities may fall due and in a standard in terms of which the future cost of living is expected to be relatively stable is obvious' (Keynes 1936 [2007], pp. 236–237).

3. Under the extreme conditions of high and hyperinflation, money can actually lose this convertibility attribute. About high inflation regimes and hyperinflations, see Cardim de Carvalho (1992), ch. 11.

power of disposal is reckoned, the asset is supposed to pay ‘gross returns’ that include a *non-monetary* yield, in the form of insurance against unexpected adverse future events, along with monetary returns (such as interest, dividends, capital gains, etc.).⁴

Liquidity in the sense just described depends of course not only on the access to secondary markets for the relevant types of assets but also on an additional requirement: that the asset in question be relatively *scarce* – that is, that future demand for the item can be reasonably *expected* to be equal or higher than future supply – so that if and when the asset-holder decides to sell she may expect that it will not cause a significant loss of value of the asset; that is, that the offer to sell will create a downward pressure on its market price. To guarantee that in an entrepreneurial economy money should not lose its liquidity attributes, Keynes famously postulated three ‘peculiarities which commonly characterize money as we know it’ (Keynes 1936 [2007], pp. 229–230). The peculiarities are that money elasticities of production and substitution should be very small and that, although the *real* supply of money could still be varied, within a given interval, by changes in money prices of goods and services, money would still maintain its liquidity attribute in the eyes of the public, given its null or negligible carrying costs.

The term ‘peculiarities’ to classify these properties might suggest that they constitute only a minor qualification to Keynes’s argument. However, a few pages later, Keynes clarified the importance of the specification of low values for those two elasticities:

The attribute of ‘liquidity’ is by no means independent of the presence of these two characteristics [the negligible elasticities of production and substitution]. For it is unlikely that an asset, of which the supply can be easily increased or the desire for which can be easily diverted by a change in relative price, will possess the attribute of ‘liquidity’ in the minds of owners of wealth. Money itself rapidly loses the attribute of ‘liquidity’ if its future supply is expected to undergo sharp changes. (ibid., p. 241, fn 1)⁵

Keynes proposed the existence of a non-linear relation between the quantity of money and its liquidity attribute. Up to a certain level, an increase in the quantity of money should not threaten money’s liquidity due to a complex pattern of feedback effects. As long as the public believes in the future stability of money’s purchasing power, forward contracts, including wage contracts, will continue to be denominated in money. For this reason, the expectation of price stability that sustains the liquidity of money will not be disappointed. Since the carrying costs of money are negligible,

[t]he readiness of the public to increase their stock of money in response to a comparatively small stimulus is due to the advantages of liquidity (real or supposed) having no offset to contend with in the shape of carrying costs mounting steeply with the lapse of time. (ibid., p. 233)

In other words, as long as the public believes in the future stability of prices, the contract system will help to strengthen this belief and the liquidity premium of holding money will remain much higher than its carrying cost, so that the public will hold additional

4. ‘... the power of disposal over an asset during a period may offer a potential convenience or security, which is not equal for assets of different kinds, though the assets themselves are of equal initial value. ... The amount ... which [people] are willing to pay for the potential convenience or security given by this power of disposal (exclusive of yield or carrying cost attaching to the asset), we shall call its liquidity premium l ’ (Keynes 1936 [2007], p. 226).

5. Dow (1997, p. 65) shares a similar view.

amounts of money in their portfolios. If trust in the future stability of prices is lost, however, the system of contracts will break down, and money will lose its liquidity attribute, as happens under hyperinflations. Money's null or negligible elasticities of production and substitution are meant to prevent this scenario from emerging.⁶

These statements are very clear in establishing that while the money supply curve may have been proposed to be 'vertical' in the *GT* just as a simplification of 'technical monetary details,' in no way could it be assumed to be 'horizontal' without violating a property of money that turns out to be 'essential,' in so far as the liquidity attribute of money, and its implications for Keynes's theory of effective demand, depends on its observance. In other words, if one can find in Keynes's writings an alternative to the assumption that the central bank fully controls the supply of money, it will certainly *not* be the idea that money supply is fully determined by money demand. That money has to be kept rare is an essential theoretical point, not merely a simplifying assumption, in Keynes's argument.

For the second preliminary, one has to move beyond the *GT*, both backwards and forwards in time. The operation of modern monetary systems was a lifelong interest of Keynes's. Two subjects in particular attracted his attention: monetary regimes and banking. Keynes's most sophisticated reflections on both subjects are presented in some chapters of volume 1 of the *Treatise* (chapters 1 to 3) and in most of volume 2 of the same work (books 5 and 7).⁷

In the *Treatise*, the process of money creation is examined within the rules that are set by the *monetary regime* a country elects to adopt. In essence, a monetary regime defines what is money,⁸ and how, by whom, and under what circumstances and conditions it may be created.

The class of monetary regimes Keynes considered most closely was that of *managed money* regimes. In these regimes, money is managed in order to maintain its value in terms of some defined standard, which could be a commodity (as in gold exchange standards), a labor unit, or a basket of commodities. Money creation in those regimes is the result of the interaction between the central bank, which creates the monetary base, and the banking system, which creates the demand deposits that constitute the largest component of the stock of means of payment of a modern economy.

On the role and power of the central bank, Keynes in the *Treatise* is no different from Keynes in the *GT*. In the *GT*, Keynes seemed to have taken the power of the central bank to control the quantity of money as somewhat self-evident. For instance, in chapter 18 of the *GT*, when summarizing the 'model' he presented in the preceding chapters, he included among the givens 'the quantity of money as determined by the action of the central bank' (Keynes 1936 [2007], p. 247).

In the *Treatise*, Keynes stated that:

The first necessity of a central bank, charged with responsibility for the management of the monetary system as a whole, is to make sure that it has an unchallengeable control over the total volume of bank money created by its member banks. (Keynes 2012, vol. VI, p. 201)

6. 'I conclude, therefore, that the commodity in terms of which wages are expected to be most sticky, cannot be one whose elasticity of production is not least, and for which the excess of carrying costs over liquidity premium is not least' (Keynes 1936 [2007], p. 238).

7. The basic principles of Keynes's theory of banking would be a central element of his ICU/Bancor plan to create an international monetary system after World War II.

8. Or, more precisely, what constitutes *state* money. Money may be a commodity, such as gold or silver, or be *representative* money, such as *fiat* money or *managed* money, as in contemporary monetary systems.

Some critics could perhaps rush to the conclusion that since Keynes was writing the *Treatise* when Great Britain was still under the gold standard, he was pointing to conditions pertaining to commodity money regimes. This conclusion would be wrong, however. Keynes considered the gold-exchange standard⁹ a managed money regime, where preserving the value of gold in terms of the domestic currency still gave some latitude to the central bank to manage the quantity of money. In particular, Keynes rejected the idea that the relevant opposition was defined between commodity money and credit money, as it became almost standard usage after Kaldor proposed it. Banks and the creation of deposits as a by-product of credit creation were fully incorporated in the *Treatise* model.¹⁰

A related argument that became very important in the horizontalist literature was minimized by Keynes. As will be seen in the next section, Kaldor gave much importance to the fact that central banks do not set the quantity of money or of bank reserves directly as a target. Rather, they operate by setting interest rate targets. The point is considered essential to sustain the thesis that since central banks usually set the level of a particular rate of interest, *therefore* they have no alternative but to freely supply all reserves banks may demand at that rate.

When Keynes affirmed, however, that central banks can control the quantity of money (or, more precisely, the quantity of reserves supplied to banks), he explained that *central banks control it precisely through the choice of a value for the bank rate; that is, the cost of reserves*. In other words, Keynes knew that central banks set an interest rate instead of directly imposing quantity limits, but he considered this to be a minor point, merely a question of *operational procedures*. What was clearly more important to him was that the use of interest rate targets didn't imply a reduction of central banks' power to control reserves (and, ultimately, bank money). On the one hand, the central bank could set higher or lower bank rates according to whether it desired to decrease or increase the volume of reserves supplied to banks.¹¹ Moreover, and even more importantly, even if the central bank was forced

9. In the gold exchange standard, by contrast with the gold standard, a representative of gold – paper money issued by the Bank of England – circulates in its place. Of course, the need to maintain convertibility imposed limits on the ability of the Bank to issue paper money, but those limits could be made more or less elastic if necessary.

10. In the post-*General Theory* debate with Ohlin, Keynes was at pains to clarify his view that while money (in the form of bank deposits) was created mostly as a result of credit operations, it was the demand and supply of money that interested him, not the operation of the credit market *per se*. In fact, he insisted that confusing credit and money was at the root of the inability of his opponents to understand the theory of liquidity preference he was proposing. Keynes's side of the debate with Bertil Ohlin is reproduced in Keynes 2012, vol. XIV.

11. In fact, that had always been Keynes's view. In the *Tract on Monetary Reform*, when Keynes was still 'as orthodox on the subject of the Quantity Theory as any earlier economist, and more orthodox than many' (Kahn 1984, p. 53), he held, as he did on every occasion, that setting the interest rate was the instrument used by monetary authorities to control the amount of liquidity in the economy: 'It is desirable ... that the whole of the [bank] reserves should be under the control of the authority responsible for this, which, under the above proposals, is the Bank of England. The volume of the paper money, on the other hand, would be consequential, *as it is at present*, on the state of trade and employment, bank-rate policy and the Treasury bill policy. The governors of the system would be bank-rate and Treasury bill policy, the objects of government would be stability of trade, prices, and employment, and the volume of paper money would be a consequence of the first (*just – as I repeat – as it is in the present*) and an instrument of the second, the precise arithmetical level of which could not as need not be predicted' (Keynes 2012, vol. IV, pp. 153–154, my emphases).

for some reason to stick to a given bank rate, it could still compensate its actions through its overall asset purchase policy. As Keynes explained:

Thus, broadly speaking, the central bank will be able to control the volume of cash and of bank money in circulation, if it can control the volume of its total assets. ... Thus, the power of a central bank, to manage a representative money in such a way as to conform to an objective standard, primarily depends on its ability to determine by means of a deliberate policy the aggregate amount of its own assets ... (Keynes 2012, vol. VI, p. 201)¹²

In contrast to what Kaldor would argue later, a central bank is not bound to only buy assets that banks present it to sell, even if there are in effect some groups of assets that, by costume or legal obligation, the central bank cannot refuse:

What are those assets? A triple classification of a central bank's variable assets (i.e. assets other than bank premises, etc.) will be convenient, namely: (1) gold, (2) investments and (3) advances. By 'gold' I mean anything which the central bank cannot create itself, but from or (and) into which it is bound by law to convert its legal-tender money. By 'investments' I mean any asset, other than gold, which the central bank purchases on its own initiative; that it may include bills purchased in the open market. By 'advances' I mean any asset, other than gold, which the central bank has purchased in virtue of an obligation, of law or custom, to purchase which the central bank is bound or is accustomed to make such advances. (Keynes 2012, vol. VI, p. 202)

In other words, what Keynes is proposing is that, even if the central bank is bound to make one type or another of accommodating asset purchase, it can still compensate its impact through 'investment' operations, with the opposite sign and effect. There is no evidence that Keynes ever abandoned his belief that central banks were not impotent prisoners of banks' demands.

But the *Treatise* does not just develop in more detail similar views to those Keynes would repeat in the *GT*. In the *Treatise* we find something else, that was left entirely out of the *GT*, which is a detailed analysis of how banks operate and make their balance sheet decisions and *how they create money in the process*.

Banks, in fact, had long been among Keynes's major interests. Most of the approaches to the process of money creation, then as now, considered banks to be a sort of rather passive transmission line between the central bank and the general public who demand deposits and loans. Keynes, in contrast, considered the behavior of banks the key to understand not only how money was created but how monetary variables actually had an impact on the 'real' side of the economy.

In the *Treatise*, banks are explicitly characterized as decisionmaking entities that, like other private firms, try to maximize returns to their activities while exposing themselves to a minimum of risks. As such, they don't react mechanically either to changes in their reserves initiated by the central bank or to changes in the demand for loans coming from firms or private consumers. Their actions depend on how they balance their simultaneous desire for profitability and liquidity.

Under *normal* conditions, banks would use up all of their free reserves buying assets. Keeping idle reserves would not appeal to banks since there were available some classes of highly liquid assets that would still offer some interest revenue, in

12. This point was also emphasized by Smithin (2013, p. 245, his emphases) when he stated that: 'The question, now, is whether control of the money supply must *necessarily* be exercised indirectly ... Or, can the nominal 'quantity of money', on the contrary, be *directly* controlled by the central bank?'

contrast with cash reserves that yield nothing. According to Keynes, banks had to deal with the return/liquidity dilemma the same way as other private agents – that is, by combining assets with different attributes in terms of cash returns and liquidity premia. Why would banks be concerned with the liquidity of their assets if they can create money? *Because payments to other banks, to the central bank and, under some conditions, to clients seeking to cash their deposits cannot be made with the banks' IOUs.*

In a similar way to his treatment of central banks, Keynes proposed that

what bankers are ordinarily deciding is, not *how much* they will lend in the aggregate – this is mainly settled for them by the state of their reserves – but in *what forms* they will lend – in what proportions they will divide their resources between the different kinds of investment which are open to them. Broadly, there are three categories to choose from – (i) bills of exchange and call loans to the money market, (ii) investments, (iii) advances to customers. As a rule, advances to customers are more profitable than investments, and investments are more profitable than bills and call loans; but this order is not invariable. On the other hand, bills and call loans are more 'liquid' than investments, i.e. more certainly realizable at short notice without loss, and investments are more 'liquid' than advances. Accordingly bankers are faced with a never-ceasing problem of weighing one thing against another ... (Keynes 2012, vol. VI, p. 59, Keynes's emphases)

Banks, in fact, according to Keynes, do not just discriminate between the types of assets they buy by charging different rates of interest, they actually ration credit:

So far, however, as bank loans are concerned, lending does not – in Great Britain at least – take place according to the principles of a perfect market. There is apt to be an unsatisfied fringe of borrowers, the size of which can be expanded or contracted, so that banks can influence the volume of investment by expanding or contracting the volume of their loans, without there being necessarily any change in the level of bank rate, in the demand schedule of borrowers, or in the volume of lending otherwise than through the banks. This phenomenon is capable, when it exists, of having great practical importance. (Keynes 2012, vol. V, p. 190)

When banks buy assets (including non-financial firms' debts) they create deposits and therefore increase the supply of money.¹³ However, in the *Treatise*, Keynes argued that even more important than the amount of money that is thus created is *where it is directed to*. Keynes considered the traditional approach to money circulation being treated as a unified process to be a mistake. In his view, one should distinguish between *two* money circuits in the economy, which he called industrial circulation and financial circulation. Industrial circulation referred to money (deposits) used to move goods and services, while financial circulation moved financial assets.¹⁴ The quantity

13. As Keynes's Cambridge students during the Michaelmas Term of 1932 noted in their notebooks, Keynes emphasized that 'Money is created when banks buy debts. Money is destroyed when banks get rid of debt, by selling it or having it discharged' (Rymes 1989, p. 67). A very interesting exchange on this particular point involved Keynes, Reginald McKenna and Lord MacMillan in the February 21, 1930 session of the MacMillan Committee, where McKenna made the point very forcefully that banks created deposits when they made loans, instead of depending on depositors to finance them, receiving Keynes's full support (Keynes 2012, vol. XX, pp. 87 and 90).

14. 'By *industry* we mean the business of maintaining the normal process of current output, distribution and exchange and paying the factors of production their incomes for the various duties which they perform from the first beginning of production to the final satisfaction of the consumer. By *finance*, on the other hand, we mean the business of holding and exchanging existing titles to wealth (other than exchanges resulting from the specialization of industry),

theory of money recognized only the first circuit, ignoring financial circulation.¹⁵ As a result, quantity theorists failed to understand the connection between money and financial markets and the fact, central to Keynes's approach, that in financial circulation money is not only a means of moving assets but it is also an end in itself, an asset to be held in individual portfolios. According to Keynes, to a large extent quantity theorists' expectation that the velocity of circulation of money was stable was often falsified precisely because aggregate velocities are nothing but the average between two velocities, defining each of the two circulations.¹⁶

Even though Keynes conceded that money is fungible and may migrate from one circulation to the other, he considered that the two circuits were somewhat self-contained in the sense that the fraction of the total money stock that was dedicated to making payments in assets markets tended to remain in those markets, the same happening to the remaining fraction of the money stock in industrial circulation. If some migration did happen, inflationary or deflationary pressures would result, depending on whether money was leaving financial for industrial circulation or the opposite.¹⁷ *It was not the quantity of money per se that mattered but what kinds of transactions it was supporting.*

In this picture, banks would generate inflationary pressures when they increased advances to customers, for instance, and deflationary pressures when they bought bills and call loans or investments. How banks would determine the share of each class of assets in their balance sheet depended on their profit expectations and their liquidity preferences.

Under more exceptional conditions, when uncertainty rose to extraordinary heights, banks could even prefer to accumulate reserves, if they considered that even call loans and other very short-term private assets could represent more risk than they were willing to accept. Such a situation actually happened, according to Keynes, when World War I began, and perhaps again, in the United States, in the 1930s.¹⁸

In sum, if one takes into consideration Keynes's other works besides the *GT*, one can actually find a theory of money endogeneity. However, this theory of money endogeneity exhibited three peculiar characteristics: (1) it has very little to do with central banks, being focused on banks' liquidity preferences; (2) it does not imply that interest rates are either more or less controllable than the quantity of money; and (3) the impact of bank money creation on the economy has seldom to do with total quantities but, rather, with to which monetary circulation newly-created deposits are directed.

including stock exchange and money market transactions, speculation and the process of conveying current savings and profits into the hands of entrepreneurs' (Keynes 2012, vol. V, p. 217).

15. This oversight actually persisted until recent times, when a number of orthodox monetary economists began to insist that changes in the quantity of money promoted by central banks could be having expansionary effects on asset markets, increasing their prices.

16. Keynes does develop the argument about velocities of circulation. See Keynes 2012, vol. VI, ch. 24.

17. The terms 'inflationary' and 'deflationary' had somewhat different meanings at the time than they have today. Basically, they referred to movements either of money supply or of money income. Inflating money supply meant increasing the amount of money in circulation which should lead or at least be correlated to expanding nominal income. It was only after World War II that the use of the terms inflation and deflation specialized to the description of price behavior.

18. See, for instance, Morrison (1967).

The argument developed so far suggests that a positive-sloping, neither vertical nor horizontal, money supply curve should best describe the behavior of money supply conceived by Keynes. Higher interest rates would induce banks to buy less liquid assets, which meant switching finance from financial circulation to industrial circulation. In this approach, total money supply might or might not change, but its different allocation between the two circulations should have a large impact on output and employment.¹⁹

3 KALDOR'S CRITIQUE OF KEYNES AND THE CREATION OF HORIZONTALISM

Keynes's monetary theory was subjected to heavy 'friendly fire' coming from Kaldor. The criticism was not directed at specific points of the theory so much as at Keynes's monetary theory itself. Kaldor argued that *money* was not in fact a relevant concept since it was virtually impossible to set boundaries separating objects endowed with 'moneyness' from those without that attribute, much less identifying any stable relationship between the quantity of money, however defined, and spending categories (Kaldor 1973a, p. 209).²⁰ Keynes's attachment to the concept of money was a legacy of his 'classical' training, which he has failed to let go. According to Kaldor, this was the case not only with the *GT* but also with the *Treatise*:

Keynes himself never really questioned the assumption that the *supply of money*, however defined, is exogenously determined by the monetary authorities. At least his equations (whether those in *Treatise on Money* published in 1930, or in the *General Theory of 1936* are not consistent with any other interpretation. (Kaldor 1986, p. 73)

The functions of money could be performed by different assets in various degrees: many things are 'liquid,' just more or less so.

Liquidity preference, as a result, was considered by Kaldor a 'red herring' because, like the quantity theory of money that was its ancestor, it relied on the assumption that one could set apart unambiguously what constituted money.²¹ Even more

19. Keynes's approach to banks and monetary circulation was a development of some of his oldest intuitions. It inspired an approach known as 'liquidity preference of banks,' explicitly proposed by, among others, Hyman Minsky, Paul Davidson, Jan Kregel, Sheila Dow, Jorg Bibow, and the present author. See, for instance, Cardim de Carvalho (1999).

20. Kaldor (1986, p. 8) praised the Radcliffe Report, in which he recognizes close kinship with his own ideas, for stating that 'Though we do not regard the supply of money as an unimportant quantity, we view it as only part of a wider structure of liquidity in the economy ... *It is the whole liquidity position* that is relevant to spending decisions and our interest in the supply of money is due to its significance in the whole liquidity picture. ... The decision to spend thus depends upon liquidity in the broad sense, not upon immediate access to the money. ... The spending is not limited by the amount of money in existence but it is related to the amount of money people think they can get hold of, whether by receipts of income (for instance from sales) by disposal of capital assets or by borrowing.'

21. "Liquidity preference" turns out to have been a bit of a red herring – not the 'crucial factor' which, in the view of the great economists of Keynes's generation, such as Dennis Robertson or Jacob Viner, and, of a later generation, Harry Johnson or James Tobin, alone enabled Keynes to argue that an economy can be in equilibrium at less than full employment. It has nothing to do with that at all' (Kaldor 1986, p. 26). Kaldor interprets liquidity preference theory as consisting merely of a qualification on the quantity theory of money assumption that money velocity is stable.

problematic were its policy implications, since it suggested that monetary policy could be much more likely to affect macroeconomic variables than Kaldor believed to be true.

Kaldor described the money creation process as consisting of two relatively simple steps. It begins with non-financial entities, mostly firms, demanding credit from the banking system. It is assumed that credit is demanded so that those entities can purchase goods or services, such as labor services and material inputs. Kaldor assumes that these demands are accommodated by banks, allowing for the consideration of the risks involved in each individual credit request. How this process of risk evaluation and selection takes place, and its eventual impact on the supply of credit, is not explored by Kaldor, who seems to believe that it does not essentially change the nature of the credit creation process. It can be inferred, however, that Kaldor is considering risks pertaining to the project to be financed, or to the borrower's profile, not to the risks of bank balance sheets, as Keynes emphasized. Be that as it may, Kaldor assumes that when the bank agrees to lend money, it creates the corresponding deposits. If the bank was loaned up, the creation of new deposits will force the bank to make up for its insufficiency of reserves. Again, following Kaldor's reasoning, the bank does not consider calling back previous loans; instead, it turns to the central bank and demands additional reserves.

Banks were clearly *not* Kaldor's main concern, anyway. He dedicated much more attention to the choices open to central banks in this process. In fact, he postulated that they have none but to accommodate the demand for reserves placed by banks. The central bank is supposed, initially, to set the price of these reserves, setting the interest rate to be charged from banks, but it cannot deny supplying the reserves demanded by banks at those rates. Since the demand for loans from non-financial entities is supposed to be fully accommodated by banks (except for the already mentioned risk considerations) and the demand for reserves by banks is supposed to be fully accommodated by the central bank (at a given 'bank rate'), the supply curve of money (that is, of newly-created deposits resulting from the whole operation) could be conveniently expressed as a horizontal curve in the interest rate/money quantity space (whatever 'money quantity' might mean!).

Kaldor did dedicate much more effort to exploring the reasons why the central bank could not limit the supply of bank reserves, as Keynes suggested it should. Kaldor argued that central banks have no choice when faced with legitimate demands for reserves (that is, those demands backed by acceptable collateral or within the rules set by law or custom) but to accommodate them. Central banks can set the interest rate charged for these operations but cannot refuse to satisfy the (legitimate?) demands for reserves from banks.

Kaldor, however, did not appeal to the *legal* obligation of central banks to supply reserves under specified conditions. He actually made a larger point, arguing that a refusal by the central bank to validate, through reserve creation, the demands of banks would threaten the solvency of the banking system. It is not obvious why *any* tightening of the market for reserves could have such a wide and deep effect. Kaldor, however, exemplified what he meant, by citing the demand for cash in the days before Christmas (and before the widespread use of credit cards and other

For this reason, 'once we realize that the supply of money is endogenous (it varies automatically with the demand, at a given rate of interest), "liquidity preference" and the behavior of the velocity of circulation ceases to be important' (Kaldor 1986, p. xvii).

alternative forms of payment). Kaldor asks what would happen if the central bank did not accommodate the higher demand for notes and coins before Christmas?

Of course, most people would say that it would be quite impossible to prevent the rise in the note circulation without disastrous consequences: widespread bank failures, or a general closure of the banks as a precautionary measure. (Kaldor 1973b, p. 266)

Still, it would not 'stop Christmas buying,' because new forms of payment would be created (*ibid.*, p. 267). It is difficult not to conclude that the example, proposed in all seriousness it seems, during a direct debate with Milton Friedman, suggests that the point was blown out of proportion and should perhaps be reevaluated.

On the other hand, Kaldor does not address Keynes's objection that even if accommodation cannot be refused by the central bank, the latter still has the possibility of effecting compensatory transactions with other assets in its balance sheet. In a similar treatment to that of banks, Kaldor seems to consider a central bank whose range of operation is limited to 'rediscounting' private assets presented by banks.

Finally, Kaldor also seemed to ignore the possibility of setting the bank rate according to a central bank's target for bank reserves, as again Keynes suggested.²² In fact, the status of the bank rate in Kaldor's approach is unclear. At first, it is argued that a central bank can set a 'price' target (the bank rate), but not a 'quantitative' target (the amount of bank reserves). Kaldor argued that once the central bank decides the rate to be charged, it does not have any choice but to freely supply reserves at that price. It is not clear for how long the central bank is considered to be bound by a given announced bank rate, or why it could not 'modulate' the rate in order to limit or expand access to bank reserves, not by denying legitimate operations but by discouraging them.²³

Kaldor's point, however, is not exactly what it seems at first sight, and what many of his followers took it to be – that is, that monetary policy does not work by setting quantity targets, but that it should aim at price targets, like interest rates. Kaldor in fact goes beyond that, to state that the central bank is not at liberty to set the bank rate either:

Reliance on monetary policy as an effective stabilizing device would involve large and rapid changes in the level of interest rates and, in consequence, a high degree of instability in bond prices in the capital market. But the relative stability of bond prices is a highly important feature of an effectively functioning capital market, and of the whole credit mechanism in a capitalist economy. If bond prices were liable to vast and rapid fluctuations, the speculative risks involved in long-term loans of any kind would be very much greater than they are now, and the average price which investors would demand for parting with liquidity would be considerably higher. (Kaldor 1973a, p. 217)

22. In fact, Kaldor *did* acknowledge the point: 'But the Central Bank cannot close the "discount window" without endangering the solvency of the banking system; they must maintain their function as a "lender of last resort". ... *all they can do is to raise or lower the discount rates when the growth of money stock runs ahead of, or behind, the target*' (Kaldor 1986, p. 25). However, he didn't extract any conclusion from this statement regarding the validity of his theses.

23. As we saw before, Keynes didn't ignore the fact that setting the bank rate was the operational procedure favored by the central bank, but he didn't make much of it, since the central bank could, in principle, move the rate up and down according to its objectives with respect to the amount of reserves in the banking system.

Moving up or down the bank rate (and even more so when one takes into consideration its repercussions on yield curves) may directly affect the prices of assets and the solvency of financial institutions, even more powerfully than changes in bank reserves could. In fact, Kaldor's main point is that a central bank cannot decide on the quantity of bank reserves (and, therefore, on the quantity of money), any more than it can decide on the level of the bank rate. What Kaldor is saying is that monetary policy should not be seen as an instrument of demand management policy at all.

Moreover, Kaldor seemed to want to eat the cake and keep it at the same time. He actually gave, on distinct occasions, at least three reasons to explain why central banks were powerless to control the money supply. The first, and most influential, was already presented above, and proposed that central banks do not have a choice but to accommodate banks' demands for reserves at a given interest rate. But Kaldor also contemplated the possibility of central banks actually doing just the opposite when he argued, in his testimony to the Radcliffe Committee, that in 'countries where the [monetary] authorities pursue a restrictive policy,' money velocity increases so to counteract the policy and support aggregate demand (Kaldor 1973a, p. 210). But he also presented a third theory of money endogeneity, according to which scarcity of money proper would lead private (and perhaps some public) agents to create money substitutes:

What, at any time, is regarded as 'money' are those forms of financial claims which are commonly used as means of clearing debts. But any shortage of commonly used types is bound to lead to the emergence of new types; indeed, this is how, historically, first bank notes and then chequing accounts emerged. (Kaldor 1973b, p. 267)

Both alternatives are hard to reconcile with the notion that central banks always fully accommodate the demand for reserves and banks always fully accommodate the demand for loans which underlie the horizontalist view.

4 KEYNES AND KALDOR ON THE MEANING AND ROLE OF LIQUIDITY

It should be obvious by now that the distance between Keynes's and Kaldor's views on the endogeneity of money is very large. More importantly, it relies less on matters of empirical observation than on fundamental points of theory.

The most fundamental opposition between the two authors seems to reside in their different views of what 'liquidity' means and how it fits into the operation of a modern economy. Keynes approaches the concept of liquidity in the context of a theory of asset choice. *Liquidity is the attribute that explains why money is held in portfolios.* In this framework, liquidity relates, as we saw in Section 2, to convertibility or, to use Keynes's expression, the power of disposal over an asset. Money is an object of demand because (although not exclusively) it is the most liquid of all assets in this sense. To preserve the liquidity attribute of money led Keynes to suggest that constraints on its availability are a necessary condition for the regular operation of an entrepreneurial economy. Money is actually demanded not only as an asset, but also as a means of transaction (for transaction, speculative and finance motives). One has to know all the sources of demand for money to understand how supply and demand for money determines the interest rate, as set by liquidity preference theory.

In contrast, for Kaldor, liquidity relates to the ability of paying for market purchases. It is the ability to serve as a means of payment that defines the liquidity of a given object. *Liquidity is the attribute that explains why money is spent.* Of course, to become a

means of payment, all that is necessary is that an object be accepted by both parties to a transaction, so that if it is liquidity that defines ‘money,’ everything can be money, as long as there exists somebody or some group willing to accept that object as a means of payment.²⁴ In this sense, there is no pre-established limit of the amount of liquidity that can (or should) be created other than the one set by the underlying transactions with goods and services that originated the demand for a means of payment. A horizontal supply curve of money does not violate any of the necessary conditions for an asset to be ‘liquid’ in the sense of Kaldor.

A second theoretical contrast between Keynes and Kaldor relates to the *nature* of liquidity. Keynes proposes a *hierarchical* concept of liquidity, where assets are not only differentiated according to the ‘size’ of their liquidity attributes but also by their nature. Money and, particularly in modern economies, state money, are not only the most liquid of assets, but in Keynes’s view, their liquidity could be seen as ‘intrinsic’ (as long as the elasticity constraints described in Section 2 remain in force). For Minsky, this class of assets (including also some other obligations issued by the state) constitute what he calls *ultimate* liquidity.²⁵ Other assets *derive* their liquidity attributes from their degree of convertibility into money. They are liquid because (and only as long as) the public *believes* they can exchange them for ultimately liquid assets quickly and without significant loss.

Kaldor’s concept of liquidity, by contrast, is flat: there is no difference of *nature* between liquid assets, only of degree. Some objects may be accepted as means of payment more widely than others, so that they will be more liquid than the latter. But anybody can create liquid assets; the state does not have a ‘privilege’ in this area.

A third contrast deals with the implications of these opposing views to monetary policy matters. Keynes believed monetary policy to be a powerful influence on aggregate demand behavior. This belief was not changed by the publication of the *GT*. Keynes in fact maintained it until his death. Kaldor, on the other hand, as seen in Section 3, attacked monetarism, particularly the variety practiced during the Thatcher years, because monetary policy could *not* achieve constructive ends. Trying to influence the economy through monetary means would disrupt its operation, as Kaldor believed prime minister Margaret Thatcher to have done. Fiscal, not monetary, policy should be recognized as the efficient instrument to manage aggregate demand.

A fourth contrast between Keynes and Kaldor refers to the role of banks. Kaldor didn’t put much effort in discussing the behavior of banks and its impact on the economy, although some of his examination of the role of speculators in the determination of asset prices can illuminate some aspects of the problem (Kaldor 1980, ch. 1). Keynes, by contrast, dedicated a lifelong attention to the operation of banking systems – arguably much more time than he dedicated to the operation of central banks. While Kaldor explained his brand of money endogeneity with reference to choices of monetary authorities, Keynes attacked the problem through the examination of choices open to banks.

24. ‘The decision to spend thus depends upon liquidity in the broad sense, not upon immediate access to the money. ... The spending is not limited by the amount of money in existence but it is related to the [325] amount of money people think they can get hold of, whether by receipts of income (for instance from sales) by disposal of capital assets or by borrowing’ (Kaldor 1986, p. 8).

25. ‘The ultimately liquid assets of an economy consist of those assets whose nominal value is independent of the functioning of the economy. For an enterprise economy, the ultimately liquid assets consist of the domestically owned government debt outside government funds, Treasury currency, and specie’ (Minsky 1982, p. 9).

Finally, money endogeneity in Keynes seems better addressed as a *technical* specification of the model, between variables that are and those that are not explained as a result of the model itself, rather than being taken as a given. Kaldor, on the other hand, is motivated by his critique of monetarist attempts to rein in aggregate demand through the setting of money stock targets. It is *controllability* that matters to Kaldor.

It should not be surprising that Keynes and Kaldor have left different legacies in this matter. As already mentioned, Minsky developed Keynes's legacy with his proposal to differentiate between ultimately liquid assets and those assets the liquidity of which is derived from the existing facilities to market them. Davidson was also developing what is here proposed as Keynes's approach when distinguishing between two channels of operation of monetary policy, the *income generating* channel, where the monetary authority gives support to banks financing private spending, and the *portfolio change* channel, where the central bank takes the initiative to influence asset prices and investment decisions (Davidson 1978, pp. 226–227). Kaldor's legacy, on the other hand, is recognizable most notably in the writings of Basil Moore and some of his younger followers.²⁶

5 CONCLUSION

The use of interest rates as the main instrument of monetary policy has been presented by the Kaldorians as a central piece of evidence in favor of the horizontalist hypothesis. Keynes, however, while accepting that monetary authorities do implement monetary policy through setting one or more interest rates, did not attribute any importance to it beyond its identification as a modern operational procedure at the disposal of central banks. For Keynes, the question was not whether to control interest rates *or* reserves, but that you control reserves *through* interest rates.

The main points of contention between Keynes and Kaldor thus should be sought elsewhere. It is the hypothesis raised in this paper that the contrasts between the two views of money endogeneity spring essentially from their radically different views as to what *liquidity* means: its nature and role in modern entrepreneurial economies. Keynes advanced a concept of liquidity as the power of disposal over an asset, making liquid assets, and money in particular, being the most liquid of all assets, instruments of flexible strategies of wealth accumulation, a plus in the face of the irreducible uncertainty that surrounds the future. Some assets are considered intrinsically liquid, others are liquid because ways were created to facilitate their marketability – that is, their convertibility into intrinsically liquid assets. Money availability is endogenously determined because it results from private decisions of wealth accumulation, oriented by the choice between expected cash returns and liquidity premia. Equally important, since money is created as a by-product of the purchase of earning assets by the banking system, for Keynes the identification of the assets banks purchase was fundamental to determining the destination of newly-created deposits, whether to industrial circulation or to financial circulation.

Keynes, when writing the *Treatise* and defining the concepts of the monetary regime that he never reneged, did not believe that the essential distinction in monetary

26. An 'independent' view in this debate was proposed by Weintraub (1978a; 1978b), which is somewhat similar to Kaldor's, but with a nuance: central bankers are not *compelled* to react the way Kaldor suggested. As Weintraub (1978b, p. 193) put it: 'Thus M_s -endogeneity may not be complete; it has been erratic and only intermittently predictable.'

dynamics was that between commodity money and credit money, as suggested by Kaldor, but that between representative money regimes, particularly between fiat money and managed money. Bank deposits are the main type of means of payment in both types of regimes.

Finally, it should be clear that clarifying Keynes's arguments as to how one could think about endogenous money in his macroeconomic theory is *not* the same thing as stating which theory is correct. At the end of the day, of course, the proof of the pudding is not in finding the best way to describe the recipe, it is in the eating. Whether it is Keynes or Kaldor (or neither) who is correct is an empirical question. The aim of this paper is confined to stressing theoretical contrasts. Having said that, the author may perhaps be forgiven for advancing the view that Keynesians believe that Keynes's views as to the importance of liquidity and liquidity preference, as summarized in this paper, have been vindicated by the behavior of monetary and financial systems since the beginning of the current crisis, in 2007 in the United States.

REFERENCES

- Cardim de Carvalho, F. (1992), *Mr Keynes and the Post Keynesians: Principles of Macroeconomics for a Monetary Production Economy*, Aldershot: Edward Elgar.
- Cardim de Carvalho, F. (1999), 'On banks' liquidity preference,' in P. Davidson and J. Kregel (eds), *Full Employment and Price Stability in a Global Economy*, Cheltenham: Edward Elgar, pp. 123–138.
- Davidson, P. (1978), *Money and the Real World*, 2nd edn, London: Macmillan.
- Dow, S. (1997), 'Endogenous money,' in G. Harcourt and P. Riach (eds), *A Second Edition of The General Theory*, London: Routledge, pp. 61–78.
- Kahn, R. (1984), *The Making of Keynes's General Theory*, Cambridge: Cambridge University Press.
- Kaldor, N. (1973a), 'Monetary policy, economic stability and growth, 1958: memoranda of evidence to the Radcliffe Commission,' in A.A. Walters (ed.), *Money and Banking: Selected Readings*, Harmondsworth: Penguin, pp. 209–234.
- Kaldor, N. (1973b), 'The new monetarism,' in A.A. Walters (ed.), *op. cit.*, *Money and Banking: Selected Readings*, Harmondsworth: Penguin, pp. 261–278.
- Kaldor, N. (1980), *Essays on Economic Stability and Growth*, New York: Holmes and Meier Publishers, Inc.
- Kaldor, N. (1986), *The Scourge of Monetarism (Radcliffe Lectures)*, 2nd edn, Oxford: Oxford University Press, Kindle Edition.
- Keynes, J.M. (2012), *The Collected Writings of John Maynard Keynes*, D. Moggridge and E. Johnson (eds), Cambridge, UK, Cambridge University Press, most recent reprint.
- Keynes, J.M. (1936 [2007]), *The General Theory of Employment, Interest and Money*, London: Palgrave Macmillan for the Royal Economic Society.
- Minsky, H.P. (1982), *Can 'It' Happen Again?*, Armonk: M.E. Sharpe.
- Morrison, George (1967), *Liquidity Preference of Commercial Banks*, Chicago: University of Chicago Press.
- Rymes, T. (1989), *Keynes's Lectures, 1932–35*, London: Macmillan in association with the Royal Economic Society.
- Smithin, J. (2013), 'Keynes's theories of money and banking in the Treatise and The General Theory,' *Review of Keynesian Economics*, 1 (2), 242–256.
- Weintraub, S. (1978a), *Keynes, Keynesians and Monetarists*, Philadelphia: University of Pennsylvania Press.
- Weintraub, S. (1978b), *Capitalism's Inflation and Unemployment Crisis*, Reading: Addison-Wesley.

Degree of monopoly and class struggle: political aspects of Kalecki's pricing and distribution theory

Fernando M. Rugitsky*

New School for Social Research, New York, USA, and Brazilian Center for Analysis and Planning (Cebrap), São Paulo, Brazil

The aim of this paper is to analyse the concept of class struggle in Michal Kalecki's writings. First, his inclusion of trade unions' strength as one of the determining elements of the degree of monopoly is examined, taking into consideration Abba Lerner's formulation of the latter and its development by Kalecki. Then, the limits of this understanding of class struggle are pointed out from the standpoint of Karl Marx's conceptual distinction between labor and labor-power. Finally, a reinterpretation of Kalecki's 'Political aspects of full employment' is provided, indicating the broader conception of class struggle implicit in this work and its usefulness to a better understanding of capital-labor conflicts in contemporary capitalism.

Keywords: class struggle, degree of monopoly, mark-up pricing, income distribution, Kalecki, Marx

JEL codes: B50, B51, D40, E25, J50

1 INTRODUCTION

As is often the case, economists have recently been pushed back to the issue of income and wealth inequalities by developments that took place outside academia. The current crisis and the wave of protests that followed its outbreak forced back to the center stage long-overdue debates on the fairness of the prevailing patterns of distribution. The rhetoric of a polarization between the richest 1 percent and the remaining 99 percent challenges the increasing concentration of income that has been taking place within most countries since at least the 1980s (Palma 2011; Duménil and Lévy 2004; Piketty and Saez 2003).¹

Within heterodox economics, one particular branch of research seems particularly relevant to this issue. It focuses on the relation between distribution and macroeconomic performance, building on (and debating with) Michal Kalecki's pricing and

* This paper owes a great deal to Anwar Shaikh. I'm also especially indebted to Duncan Foley, for several discussions and ongoing support. I'd like to thank, in addition, Deepankar Basu, Johann Jaeckel, Gilberto Tadeu Lima, Fred Lee, Michalis Nikiforos, Marcos Nobre, Hyun Woong Park, K. Vela Velupillai, and two anonymous referees. Without Lucia Del Picchia's revision, this paper would be a lot less readable. Responsibility for the remaining errors is, of course, my own.

1. See also Giesen and Nobre (2010), where the authors put the issue of inequality (and of the multiple meanings of the concept) in a broader historical and political context.

distribution theory. The appeal of Kalecki within heterodoxy is partly due to the fact that he can be considered John Maynard Keynes's radical incarnation. Having had contact with the work of Karl Marx and Rosa Luxemburg, the Polish economist formulated in the 1930s a theory of the determination of output that gave centrality to the role of demand, in line with what Keynes had contemporaneously been developing. However, despite the numerous similarities between their works, Kalecki always examined explicitly the theoretical implications of the division of the product between wages and profits, a point that was mostly disregarded in Keynes's writings. This not only represented an understandable emphasis in light of his intellectual roots and socialist convictions, but also, more importantly, opened the way to using his theory to address radical questions about income distribution in capitalist societies.²

In short, Kalecki's theory of pricing and distribution consisted of positing a link between what he called the 'degree of monopoly' of firms and the functional distribution of income. The former was the determinant of the pricing decisions of firms, which set their prices by marking-up their average prime costs (comprising wages and materials). The higher the degree of monopoly was, the larger the mark-up would be. After some effort to aggregate this theory to the industry level and to the whole economy, Kalecki (1965 [2009], p. 30) was able to maintain that the 'average' degree of monopoly (of the private sector) was one of the determinants of 'the relative share of wages in the gross income of the private sector,' along with some other factors like the ratio of the materials bill to the wage bill and the industrial composition. Thus, while the level of income was determined by demand, its division depended on what he called 'distribution factors,' especially the degree of monopoly (*ibid.*, p. 47).

It has been suggested that this theory, if taken to explain the determination of aggregate profits, is misleading. It can be shown formally that, in the aggregate, firms cannot increase profits by raising their prices.³ That is, an increase in the 'average' degree of monopoly, which would lead to higher mark-ups, would simply lead to an increase in the price level, raising nominal aggregate profits, but keeping their real level constant. Larger profits would only be obtained if all prices were raised, but nominal wages were kept constant. This, however, is an indirect way of reducing real wages and it shows that the connection between the 'degree of monopoly' and the distribution of income depends, in fact, on the real wages paid by the firms, and not on the prices charged by them. In this sense, one could suggest, following Marx, that the mark-up is actually determined within the sphere of production, by the rate of surplus value, and not by price manipulations undertaken in the sphere of circulation.⁴ As an implication, the focus of the theory of distribution would have to shift from firms that buy cheap to sell dear to the conflict between capitalists and workers.

Two qualifications seem to be important. First, it could be argued that Kalecki resorted to the degree of monopoly in order to explain the distribution of income, but when the issue was aggregate profits, he claimed that they would be determined by capitalists' expenditure decisions (on consumption and investment goods): 'capitalists earn

2. On the influence of Marx's work on Kalecki, see Feiwel (1975, pp. 53–62) and Sawyer (1985, ch. 8, pp. 144–174). On the differences between Keynes and Kalecki, see Davidson (2000).

3. See chapter 6 of Shaikh's forthcoming book (2014). See also Steedman (1992, pp. 133–136 and 143–144) and Gontijo (1991).

4. Foley (1986, p. 45), for instance, defines the 'mark-up on costs' as the product of the rate of surplus value and the composition of capital (the wage share of total costs).

what they spend, and workers spend what they earn,' according to him.⁵ And this was derived from an unquestionable accounting identity, given his usual assumption that workers do not save. Kalecki's argument, however, is different. He always stated that the determination of aggregate demand (and, consequently, of aggregate profits) depends on the interaction between the expenditure decisions and the 'distribution factors,' including the degree of monopoly (1965 [2009], p. 47).⁶ Focusing only on the expenditure decisions would be insufficient. But even if this was Kalecki's argument, the real issue is that an accounting identity, even when it is correct, does not specify determination. So, aggregate profits are indeed equal to the sum of capitalists' expenditures, given his assumptions, but this does not mean that the latter determine the former. What lies beneath the identity is the belief that a larger aggregate demand (generated by larger consumption or investment) will necessarily be met by a larger supply. To meet this larger supply, however, it is implicitly assumed that the capitalists will be able to produce a larger amount of surplus value. And it is this additional surplus value that appears as larger aggregate profits.⁷

The second qualification is that this objection to the Kaleckian connection between degree of monopoly and distribution of income should not imply that firms could not individually decide the prices they would charge with the aim of increasing their profits. It implies only that this will not raise profits in the aggregate. It is certainly true, however, that active competition between firms, including price competition, will affect the distribution of total profits among them.⁸ One should only note, perhaps, that capitalist competition seems to be more about cutting than raising prices, contrary to what imperfect competition theories suggest.⁹

The crucial point seems to be that Kalecki's pricing theory, relying on the concept of a degree of monopoly, provides the basis for a theory of distribution that shifts the focus away from the struggle between capitalists and workers and towards imperfections in

5. To the best of my knowledge, Kaldor (1955–1956, p. 96) coined this famous definition of Kalecki's theory of distribution.

6. 'In this way capitalists' consumption and investment conjointly with the "distribution factors" determine workers' consumption and consequently the national output and employment. The national output will be pushed up to the point where profits carved out of it in accordance with the "distribution factors" are equal to the sum of capitalists' consumption and investment' (Kalecki 1965 [2009], p. 47).

7. Kalecki (1965 [2009], p. 46) himself might have stimulated this confusion between accounting identities and determination with the following passage: 'it is clear that capitalists may decide to consume and to invest more in a given period than in the preceding one, but they cannot decide to earn more. It is, therefore, their investment and consumption decisions which determine profits, and not vice versa.' Interestingly, Kalecki's analysis of the relation between profits and investment is inspired by Marx's schemes of reproduction, but Marx's aim with them was simply to examine the quantitative relations necessary to the reproduction of capitalism, not to determine how profits are created. See, for example, Marx (1894 [1981], p. 971–991), where he goes back to the schemes of reproduction developed in Volume 2 in order to analyse the issue of reproduction given the division of surplus-value between profit and rent (categories which were not yet developed in Volume 2).

8. Marx (1894 [1981], p. 1001) himself argued that '[a] monopoly price for certain commodities simply transfers a portion of the profit made by the other commodity producers to the commodities with the monopoly price.' He clarified, nevertheless, that this can lead to 'a local disturbance in the distribution of surplus-value among the various spheres of production, but ... leaves unaffected the limits of the surplus-value itself' (*ibid.*, p. 1001). See also Kotz (1982, p. 5). I wish to thank Deepankar Basu for bringing this paper to my attention.

9. See Shaikh (1978, esp. pp. 240–246; 1980).

firms' competitive process. Anyone acquainted with Kalecki's writings could wonder, however, how all his emphases on the bargaining power of workers would fit in this depiction of his theory. He often claimed that the 'significance of the power of trade unions' would influence the degree of monopoly (see, for instance, Kalecki 1965 [2009], p. 17). This leads to the main issue of this paper: the tensions of his concept of degree of monopoly and the way he relates it to a certain understanding of class struggle. If his theory's focus on class is responsible for much of its appeal within heterodox economics, it is important to analyse the manner in which class struggle is actually conceived in his work and to debate the political implications of this conception. The relation between class struggle and degree of monopoly in his writings will be approached in the next section (Section 2). Then, the limits of this conception of class struggle will be dealt with, resorting to Marx's distinction between labor and labor-power (Section 3). Finally, it will be argued that a different understanding of class struggle from the one implied by his pricing and distribution theory can be found in his paper 'Political aspects of full employment' (Kalecki 1943), an understanding that could help the development of a fruitful analysis of capital-labor relations in contemporary capitalism (Section 4).

2 DEGREE OF MONOPOLY: LERNER AND KALECKI

Kalecki borrowed the phrase 'degree of monopoly' from Abba Lerner, who used it in his paper 'The concept of monopoly and the measurement of monopoly power' (1934). Lerner's article should be read in the context of the formulation of the theories of imperfect and monopolistic competition, by Joan Robinson and Edward Chamberlin, respectively, in the early 1930s. While critiques of the assumption of perfect competition were not entirely new, the great depression that had started in 1929 proved to be a big incentive to the development of theoretical alternatives to it. It was commonly believed at the time that the growing concentration of production in ever-larger corporations made the economy inflexible to market adjustment mechanisms and, thus, tended to transform ordinary fluctuations into deeper crises.¹⁰ The responsibility of economists was, according to this argument, providing new and sounder foundations to the understanding of capitalism, basing their theories on the widespread evidence of imperfections in the competitive process. Robinson and Chamberlin attempted to do precisely that. Lerner's (1934, pp. 165–175) intention, in its turn, was to go further and develop a measure of monopoly power that could be used in applied research. He called this measure 'degree of monopoly.'

After rejecting some alternative approaches to determine the degree of monopoly, based on the number of sellers of a particular commodity or on the 'proportion of the total supply [that] is controlled by one or a few individuals and organizations' (ibid., p. 166), for instance, Lerner suggested that the measure of monopoly power should be $\frac{P-C}{C}$, where P is the price of the commodity and C is its marginal cost. He noted that this ratio

looks like the inverse of the formula for the elasticity of demand. It differs from it only in that the item marginal cost replaces the item marginal receipts. In equilibrium as normally conceived marginal costs coincide with marginal receipts so that our formula becomes identical with the inverse of the elasticity of demand. (ibid., p. 169)

10. See, for instance, Pollock (1941, pp. 202–203) and the references mentioned therein.

In his first article focused specifically on the determination of the distribution of income, Kalecki (1938b, p. 100) referred to Lerner and adopted his concept of degree of monopoly. He then used it to formulate the initial version of his theory of distribution, claiming that the average degree of monopoly is 'with great approximation' equal to '[t]he relative share of gross capitalist income and salaries in the aggregate turnover [aggregate product]' (ibid., p. 102). In his subsequent writings, however, his definition of the degree of monopoly would be different.¹¹ He began stating that the relation of a firm's prices to its costs could be formalized in the following way:

$$p = mu + n\bar{p},$$

where p is the firm's price, u is its unit prime cost, \bar{p} is the weighted average price of all firms (weighted by the respective output and inclusive of the firm in question), and m and n are positive coefficients.¹² Then he would argue that those two coefficients reflected 'what may be called the degree of monopoly of the firm's position' (Kalecki 1965 [2009], p. 13). In order to attain the average degree of monopoly of the whole industry, Kalecki would aggregate the individual firm's pricing equations and obtain the following:

$$\bar{p} = \left(\frac{\bar{m}}{1 - \bar{n}} \right) \bar{u}, \quad (2.1)$$

where \bar{u} is the average unit prime cost, \bar{m} is the weighted average of the coefficients m (weighted by the prime costs of each firm), and \bar{n} is the weighted average of the coefficients n (weighted by respective outputs). The average degree of monopoly at the industry level would be defined, thus, as $\left(\frac{\bar{m}}{1 - \bar{n}} \right)$.

While it has been argued that there is continuity in Kalecki's writings on pricing, most of the literature considers his efforts of the late 1930s and early 1940s (including his paper of 1938, mentioned above) to be an unsuccessful digression, in which he attempted to formulate his theory using the framework of neoclassical economic theory.¹³ For the purposes of the present paper, it is noteworthy that the two different versions presented above of the degree of monopoly can have different theoretical implications. The first one, borrowed from Lerner, implies that the degree of monopoly can only change if the price elasticity of demand for the good changes. This price elasticity could be related to the imperfection of competition – that is, to the monopoly power of the firm in question. Kalecki (1938b, p. 109) himself argued along these lines, stating that '[t]he degree of monopoly has undoubtedly a tendency to increase in the long run because of the progress of concentration. Many branches of industries become "oligopolistic"; and oligopolies are often transformed into cartels.' This progress of concentration

11. This later version first appeared in his *Theory of Economic Dynamics* (Kalecki 1965 [2009]), the first edition of which was published in 1954.

12. On the conditions imposed on the coefficients m and n , see Asimakopulos (1975, pp. 317–318) and Basile and Salvadori (1984–1985, pp. 254–255). The rationale of this equation was the following: 'The firm must make sure that the price does not become too high in relation to prices of other firms, for this would drastically reduce sales, and that the price does not become too low in relation to its average prime cost, for this would drastically reduce the profit margin' (Kalecki 1965 [2009], p. 12).

13. The argument against continuity is mainly due to Kriesler (1988). For the alternative position, see Basile and Salvadori (1984–1985; 1990–1991) and Carson (1990; 1996).

would arguably decrease the price elasticity of demand and, thus, increase the firm's degree of monopoly.

It is of course true that this reasoning is not incompatible with the later formulation of the degree of monopoly, which does not rely on price elasticity of demand, but rather on the coefficients m and n . One could argue precisely that what lies beneath these coefficients is the price elasticity of demand: the lower the latter, the greater the coefficients would be. However, when Kalecki (1965 [2009], pp. 17–18) examines what might lead to changes in the degree of monopoly, in his later works, he mentions four major factors. The first two – the process of concentration in industry and the development of sales promotion through advertising and selling agents – could be made compatible with his earlier definition of the degree of monopoly, by claiming that they would affect the price elasticity of demand. But the latter two – changes in the level of overheads in relation to prime costs and in the significance of the power of trade unions – are of a different nature. Their influence on the degree of monopoly cannot be through any impact they might have on the price elasticity of demand, but operates through their impact on the firm's costs.¹⁴ An increase in the level of overheads in relation to prime costs, for example, will put pressure on the profits of the firms, if they do not increase their prices. Their reaction to defend their profits – by raising prices – amounts to an increase in the degree of monopoly. In relation to the power of trade unions, his argument is even subtler:

The existence of powerful trade unions may tend to reduce the profit margins for the following reasons. A high ratio of profits to wages strengthens the bargaining position of trade unions in their demands for wage increases since higher wages are then compatible with 'reasonable profits' at existing price levels. If after such increases are granted prices should be raised, this would call forth new demands for wage increases. It follows that a high ratio of profits to wages cannot be maintained without creating a tendency towards rising costs. This adverse effect upon the competitive position of a firm or an industry encourages the adoption of a policy of lower profit margins. Thus, the degree of monopoly will be kept down to some extent by the activity of trade unions, and this the more the stronger the trade unions are. (ibid., p. 18)

The specifics of the bargaining between capitalists and workers will be analysed in the next section. Here, what should be noted is the significant broadening of the concept of degree of monopoly from Lerner's original formulation (and Kalecki's early use of it) to this later development. The lasting impression is that, through further investigation of the factors that could affect the relation between the prices and costs of a firm and the overall distribution of income, Kalecki was pushed to include more and more elements under the 'degree of monopoly' rubric. But the concept became misleading, due to its etymological meaning. Note, for instance, that two firms operating in identical markets in terms of their competitive pressures would have different degrees of monopoly if trade unions had different strengths in each of the markets. Probably due to these ambiguities, several economists preferred to do without the concept of degree

14. Another important issue about the relation between the two versions of his model is that, in the early one, he was assuming short-run profit maximization by the firms (which is implicit in the concept of a price elasticity of demand), while in the later version he dropped this assumption, stating that '[i]n view of the uncertainties faced in the process of price fixing it will not be assumed that the firm attempts to maximize its profits in any precise sort of manner' (Kalecki 1965 [2009], p. 12). On that, see Reynolds (1983, pp. 494–497). Carson (1990, pp. 151–152) interprets the quoted passage in a different way.

of monopoly and to replace it with the concept of mark-up.¹⁵ The emphasis on the relation between average prime costs and prices is maintained, in this way, but it is no longer tied to the narrow limits of imperfect competition. Perhaps this explains why Kalecki (1970 [1971], p. 160) himself, in one of the last papers he wrote, did not use the concept of degree of monopoly, referring instead to a mark-up over direct (that is, prime) costs, which was dependent on 'competition.'

In any case, the point to be retained is that, while his work always reserved a distinct role for social classes (his applied work, for example, showed remarkably detailed and nuanced politico-economic interpretations in terms of classes¹⁶), his theory of distribution restricted class struggle to a secondary influence on the degree of monopoly. And this was already more than what was conceded in his earlier work, in which the distribution of income was entirely determined by 'conditions of imperfect competition and oligopoly' (Kalecki 1942, p. 121).¹⁷ Even in his paper titled 'Class struggle and the distribution of national income, (1970 [1971], p. 161), class struggle appears simply as a factor that can, through its pressure on firms' costs, restrain the mark-ups (that is, decrease the degree of monopoly, in his earlier terms). Concluding this paper, he argued that 'class struggle as reflected in trade-union bargaining may affect the distribution of national income,' but this is 'connected with widespread imperfect competition and oligopoly in capitalist system' and the shifts in distribution 'are contained in fairly narrow limits' (1970 [1971], p. 163). The question that remains is whether this is a fruitful representation of the relation between class struggle and the distribution of income.

3 CLASS STRUGGLE: KALECKI AND MARX

In order to assess Kalecki's argument, one shall examine more concretely the possible relations between class struggle and degree of monopoly, and their impact on the distribution of income. In the *Theory of Economic Dynamics*, Kalecki (1965 [2009], p. 28) arrives at the conclusion that the share of wages in value added, w , can be determined by the following equation:

$$w = \frac{1}{1 + (k-1)(j+1)}$$

where k is the average degree of monopoly, defined above as $(\frac{\bar{m}}{1-\bar{m}})$, and j is the ratio of the aggregate cost of materials to the wage bill.¹⁸ It is clear, then, that there is an inverse relationship between the degree of monopoly and the wage share.

15. See, for instance, Steedman (1992, p. 129). The main criticism of the concept of degree of monopoly has actually been that it is tautological. While this does not seem to be the case, Kalecki's ambiguous treatment of the concept might have led to such suspicions. On this debate, see Riach (1971, esp. pp. 50–53), Feiwel (1975, pp. 95–97), and Kriesler (1988, pp. 111–115).

16. See, for example, Kalecki (1938a; 1966 [1972]; 1967 [1972]).

17. According to Carson (1990, p. 146), 'the introduction of an influence of trade unions on pricing behavior in his 1954 and 1971 models' was the 'most notable' change in his analysis.

18. This would apply, according to him, to any industry and could be extended to the manufacturing sector as a whole by simply taking into account the impact of the industry composition on the average degree of monopoly and on the average ratio of the cost of materials to wages. Moreover, after briefly reviewing the issues involved in aggregating further to the whole economy, he concludes that the expression above would still provide a reasonable approximation: 'broadly speaking,

Notice, first, that k is equal to $\frac{\bar{p}}{\bar{w}}$, from Equation (2.1) above. So an increase in k , which would decrease the wage share (and, of course, increase the profit share), could be thought of as a result of an increase in the prices charged by firms while keeping their average prime costs constant. In a highly integrated economic system like any contemporary capitalist economy, however, firms cannot raise their selling prices in the aggregate while keeping their prime costs constant, because by raising their prices they are also raising the prices of the inputs they have to buy to go on producing. The output of one firm is the input of another (Steedman 1992, pp. 133–136 and 143–144). In this sense, assuming constant labor productivity (as Kalecki usually does), the only way for \bar{p} to increase more than \bar{w} , so that k and *real* aggregate profits can increase, reducing the wage share, is by keeping nominal wages fixed (or, at least, rising more slowly than prices), since nominal wages are also a part of the prime costs of the firms. As mentioned above, increasing aggregate profits in this way would depend on reducing real wages. But what could be the relation between the degree of monopoly of firms and their ability to reduce the workers' real wage?

Kalecki's writings suggest two possible answers. First, ignoring for the moment the effect of trade unions' strength, it can be seen that any change in the nominal wage will be followed by a proportional change in prices, if the degree of monopoly is constant. That is, if the workers demand, and manage to attain, a higher nominal wage, the firms will simply react by raising prices and keeping their real wages constant. Moreover, if the average degree of monopoly increases – due to increasing concentration, for instance – firms will be able to charge even higher prices and the workers will have to accept, as a consequence, lower real wages. This is an outcome, of course, of the fact that trade unions' strength is ignored and that the workers are, thus, powerless to react to any rise in the price level.¹⁹

Kalecki's effort to incorporate class struggle into his theory of distribution had the objective of avoiding the implausibility of the scenario above. He was certainly aware that with powerless workers there could be no struggle. So, taking into consideration the strength of trade unions, as he did from 1954 onwards, he could argue that firms would keep a lower ratio of price to average prime costs in order to avoid demands of wage increases generating a spiral of rising costs and prices (Kalecki 1965 [2009], p. 18; 1970 [1971], p. 161). The consequence of this reasoning is that the power of trade unions effectively imposes a limit on the degree of monopoly. Beyond this limit, increasing concentration will have no impact on the pricing of firms. Hence, the real wage would be dependent on class struggle, being determined by the degree of monopoly within the limits given by the trade unions' strength.

Evidently, there are still several elements that have a concrete bearing on class struggle that could be included in the analysis. The level of employment, the mediation of wage bargaining by the government and the pressure it exerts on workers and capitalists, the relative ease of capital and labor mobility are examples of factors that can

the degree of monopoly, the ratio of prices of raw materials to unit wage costs and industrial composition are the determinants of the relative share of wages in the gross income of the private sector' (1965 [2009], p. 30).

19. According to Shaikh (2004, p. 139), the assumption that 'the organizational or institutional strength of labor has no influence whatsoever on the path of real wages and on the level of the wage share' is a common characteristic of several macroeconomic approaches. Examining how the issue is dealt with on standard neoclassical, Keynesian, Harrodian, and Goodwin models, he concludes that '[t]he degree of labor strength in the struggle over wages has no effect at all' (*ibid.*, p. 139). The Keynesian model he analyses resorts to Kalecki's pricing and distribution theory.

reasonably be expected to shift the balance of power in the class struggle and, consequently, influence the real wage. But Kalecki's framework seems to be broad enough to incorporate them, allowing them to change the strength of trade unions, for instance. And, of course, a model of income distribution is necessarily a simplification of reality aimed at emphasizing its crucial aspects. The problem is that, by restricting the purview of the theory to the struggles over the real wage, Kalecki is placing all emphasis on a part of the class struggle that cannot be properly understood in isolation. Without resorting to the distinction between labor and labor-power, which Marx put at the core of his theory of value, the real object of the class struggle remains overcast.

The importance of this distinction can be clarified through a hypothetical scenario: assume that a firm is able to hire the workers it needs to produce the amount of output it desires at a wage that guarantees a profit share of value added that it finds acceptable, if the output can be sold at the price the firm plans to charge for it. Assume, however, that because of the conflicts over the organization of the labor process, workers shirk, producing only half of the output originally planned by the firm. In this case, even if it sells all the output at the expected price, the firm will see its profit jeopardized. What this scenario indicates is that, after the struggle over the definition of the wage (the price paid for the labor-power bought), class struggle is not over, it rather moves on to the 'hidden abode of production' (Marx 1867 [1976], p. 279), manifesting itself as the struggle over the organization of the labor process and over the amount of labor that will actually be done. The surplus effectively produced, which will be appropriated by the capitalists as their profits, will only be determined as a result of this entire process, and focusing only on its first part is insufficient.

Marx's distinction between labor and labor-power addresses precisely this problem. By labor-power, he means 'the aggregate of those mental and physical capabilities existing in the physical form, the living personality, of a human being, capabilities which he sets in motion whenever he produces a use-value of any kind' (*ibid.*, p. 270). Labor, in its turn, refers to the actual 'use of labor-power' (*ibid.*, p. 283), the consumption of these capabilities or potential to work. In a capitalist mode of production, labor-power is transformed into a commodity that the workers sell to the capitalists, but the production of surplus value depends on the actual labor done in the production process.²⁰ In Harry Braverman's (1974, p. 54) words:

[W]hat the worker sells, and what the capitalist buys, is not an agreed amount of labor, but the power to labor over an agreed period of time [that is, labor-power]. This inability to purchase labor, which is an inalienable bodily and mental function, and the necessity to purchase the power to perform it, is so fraught with consequences for the entire capitalist mode of production that it must be investigated more closely.

The distinction mentioned above allows Marx to place class struggle at the center of his understanding of capitalism. And the object of the struggle between capitalists and workers is not restricted to the value by which the workers sell their labor-power, as suggested by Kalecki's theory, but crucially extends itself to the determination of how much labor will actually be done by the workers. More concretely, not only 'questions of hours and wages,' but also several issues 'such as the nature and intensity of the labor process, the application of machinery, labor conditions, social benefits, and

20. 'It is not labor which directly confronts the possessor of money on the commodity-market, but rather the worker. What the worker is selling is his labor-power' (Marx 1867 [1976], p. 677). Foley (1986, pp. 46–47) refers to this distinction between labor-power and labor as one of the 'basic points' of Marx's explanation of the origin of surplus value.

workers' rights' are subject to class conflicts, which 'directly affect the ratio of necessary to surplus labor time' (Postone 1993, p. 318) The amount of surplus value produced in a capitalist economy (and also the level of aggregate profits) can only be understood taking these conflicts into consideration.

Furthermore, in Marx's theory, these struggles cannot simply be understood as isolated disputes that get settled at each round and then start anew, because they give directionality to capitalist development. Or, to resort to the contemporary jargon, they imply path-dependence. In fact, the pattern of the capitalist development of production is shaped, over time, by these struggles, with the consequence that workers and capitalists face at each stage conditions of production inherited from past developments. Historically, this resulted, according to Marx, in the transition of the organization of production from cooperation to manufacture and then to machine production.²¹ What he attempts to demonstrate is that the historical transformation of production is not a neutral development, technically determined, which is meant to increase overall productivity. While an immense increase in productivity does result from this development, its actual driving force is individual capitalists' incessant attempt to increase the rate of surplus value by decreasing the part of the working day that is actually paid to the workers. Technological development, in this sense, is inextricably linked to class struggle, since it aims not only to increase productivity, but also to shift the control of the labor process from the workers to the capitalists in order to allow the latter to impose ever-increasing levels of intensity of work on the former, speeding-up production to increase surplus value.²²

This conception of capitalist development implies that the distribution of income between wages and profits cannot be explained by the historical trajectory of the real wage alone (or by the class struggle that determines this trajectory). It is the interaction between wages, technical progress, and the organization of production that structurally determines the division of the output between the capitalists and the workers. And class struggle lies behind each of these elements. It is in this sense that Postone (1993, p. 319) claims that '[c]lass conflict becomes a driving element of the historical development of capitalist society.'²³

It can be argued that this could easily be incorporated into Kalecki's theory of distribution, by allowing the degree of monopoly to be dependent on technical progress.²⁴ If the former is equal to the ratio of price to unit prime costs, it is obvious that a shift in labor productivity could increase the degree of monopoly by reducing unit prime costs. However, once more, this goes against the etymological meaning of degree of monopoly and could be better conceived independently of this concept. More importantly, the theoretical relation between class struggle and the capitalist development of production, described above, suggests a profound effect of the former in the pattern of distribution of income that goes much beyond what Kalecki (1970 [1971], p. 163) concedes when he maintains that the impact of trade union bargaining on the distribution

21. See Marx (1867 [1976], chs 13–15, pp. 439–639).

22. On that, see also Foley (1986, pp. 57–60) and Gintis (1976, pp. 44–52).

23. It needs to be clarified, however, that Postone (1993, p. 345, fn 107) argues that, according to Marx, the 'historical trajectory' of capitalism 'cannot be explained with reference to class struggles alone.' According to him, 'class conflict does play an important role in the extension and dynamic of capitalism,' but 'it neither creates the totality nor gives rise to its trajectory' (ibid., p. 319).

24. Kaleckian models that make technical change endogenous could be interpreted as a step in this direction. See, for instance, You (1994), Casseti (2003), and Lima (2004).

of income depends entirely on the 'widespread imperfect competition and oligopoly in capitalist system.'

Finally, it is important to emphasize that this expanded conception of class struggle is not merely of academic interest; on the contrary, it is evident in the everyday struggles between capitalists and workers. A historical illustration from the time Kalecki was writing might help elucidate this point. Examining the labor relations in the US automobile industry from 1946 to 1970, Lichtenstein (1985) shows that the focus of the United Auto Workers' leadership on stable long-term bargaining processes over wages did not succeed in avoiding conflict at the shop-floor level, but simply shifted the object of dispute to local issues that were generally related to attempts by the management to speed-up production. Similarly, Betheil (1978), focusing on the US steel industry at about the same period, argues that the labor conflict revolved around the attempt by management to recover control over the organization of the labor process, which was, at the beginning of the period, tightly regulated by agreements that had been achieved by the trade union. Interestingly, the gradual advances of the employers, in this dispute, helped by the pressures on the trade union exerted by the government, seemed to be reinforced, from the mid 1960s on, by the generalization of newly-developed labor-saving technologies (*ibid.*, pp. 16–17). An exclusive focus on the struggle over the wage would hinder a proper understanding of these two cases of class conflict.

4 'KALECKIAN REACTIONS'

The story, however, does not end here. A careful examination of Kalecki's understanding of class struggle would be incomplete if it overlooked his article published in 1943, titled 'Political aspects of full employment.' In this remarkable piece, he swims against the tide of the time, arguing that developing an economic theory about how government policy could achieve full employment was not enough to secure this latter outcome. He attempted to shatter the technocratic hopes of left-wing economists by analysing the reasons why capitalists would react against a full employment policy, or, as he put it, by analysing the 'political background in the opposition to the full employment policy' (Kalecki 1943, p. 324). This argument is, first of all, very important in the face of the fact that many current heterodox economists manifest disbelief in the insistence of governments to apply 'flawed' policies, based on the dominant economics, while the alternative theoretical framework they favor would suggest policies that are much more 'beneficial.' 'Beneficial' to whom is, of course, the relevant question, considering that policy decision is not merely a technical matter, but the outcome of concrete political struggles.

Kalecki (1943, pp. 324–326) claimed that the reasons why capitalists would oppose full employment policies could be divided into three categories. First, there is the obvious risk that government spending, increased as a means to obtain higher employment, would either compete with private investment (if it consisted of public investment) – putting pressure on profitability – or reduce the constraints on individual behavior that allow capitalist social relations to reproduce themselves (if it consisted of subsidizing mass consumption). Second, by making the level of employment independent of the level of private investment, full employment policies take from the capitalists what Kalecki considered a 'powerful controlling device' (*ibid.*, p. 325). The link between the level of employment and 'the state of confidence' guarantees to 'the capitalists a powerful indirect control over Government policy' (*ibid.*, p. 325), and weakening this link would consequently curtail this control. Third, the maintenance of full

employment would entail ‘social and political changes’ that could put at risk ‘discipline in the factories’ and ‘political stability’ (ibid., p. 326). That is due to the fact that continuous full employment would reduce the disciplinary character, for workers, of the threat of being fired, which would undermine, according to him, ‘the social position of the boss’ at the same time as it would increase ‘the self assurance and class consciousness of the working class’ (ibid., p. 326).

This analysis suggests a much broader understanding of class struggle than the one attributed to Kalecki so far. But, instead of questioning the previous analysis of the relationship between degree of monopoly and class struggle, what this paper suggests is the existence of a tension within his work. It comes across as combining a very narrow conception of the struggle over the distribution of income, which only works through the channel of ‘imperfect competition and oligopoly’ (Kalecki 1970 [1971], p. 163), with a broader understanding of the political dimensions of capitalist development. This tension becomes all the clearer if one notices that, throughout the 1943 paper, Kalecki insists that the shifts in the balance of class power, in favor of the workers, that would result from a full employment policy would not reduce the profit rate, but would actually tend to increase it. Assuming, as he always did, that the economy is working below full capacity, he argues that the higher demand (generated by the full employment policy) would increase the capacity utilization and, thus, the profit rate.²⁵ But this untenably relies on the exclusive determination of the profit share (and the profit rate) by the degree of monopoly, and its independence of the more general situation of class struggle (except, of course, through the indirect limiting effect that stronger trade unions impose on excessive mark-ups, according to him). So, even the lower ‘discipline in the factories’ that he anticipated as a consequence of continuous full employment would not likely risk profits, but would be opposed on strictly political grounds:

It is true that profits would be higher under a regime of full employment than they are on the average under *laissez-faire*; and even the rise in wage rates resulting from the stronger bargaining power of the workers is less likely to reduce profits than to increase prices, and thus affects adversely only the *rentier* interests. But ‘discipline in the factories’ and ‘political stability’ are more appreciated by the business leaders than profits. Their class instinct tells them that lasting full employment is unsound from their point of view and that unemployment is an integral part of the ‘normal’ capitalist system. (Kalecki 1943, p. 326)

A deeper understanding of the nature of class struggle in capitalist societies would allow him to question, however, whether this dilemma between ‘discipline in the factories’ and ‘political stability,’ on the one hand, and profits, on the other, is actually posed to ‘business leaders.’ It might be more accurate to consider that they try to guarantee shop-floor discipline and political stability *in order to* guarantee their profits.²⁶

25. This is related to the debate on so-called growth and demand regimes (that is, whether growth and demand are wage- or profit-led). The present argument implies that the antagonistic nature of capitalist economies, evident in the broader concept of class struggle, is independent of the demand regime that characterizes them. Wage-led demand and growth regimes, if they exist in actual capitalism, do not transform class societies into cooperative idylls. For a sample of this literature, both theoretical and empirical, see Marglin and Bhaduri (1990), Taylor (1990), Blecker (2002), Barbosa-Filho and Taylor (2006), Foley and Taylor (2006), Naastepad and Storm (2006–2007), Hein and Vogel (2008), Hein and Tarassow (2010), Stockhammer and Stehrer (2011), and Nikiforos and Foley (2012).

26. The point is that the broader conception of class struggle suggested in the last section implies that shop-floor discipline and political stability are determinants of the rate of surplus

Independently of this tension within his work, however, Kalecki's argument in the paper from 1943 suggests a fruitful extension of the analysis of class struggle sketched in the previous section. By emphasizing the connection between private investment and the level of employment, and by suggesting that this connection gave capitalists a 'powerful controlling device' over government policy, he points out another important instrument to which the capitalists resort in class struggle – an instrument that can be properly understood only within the framework of a theory in which aggregate demand plays a crucial role and in which the relation between the level of investment and the overall economic performance is emphasized. This political implication of Kalecki's analysis was recently picked up in a very important paper by Streeck (2011, p. 9), who reinterprets the mentioned controlling device as "Kaleckian reactions" of the owners of productive resources to democratic politics penetrating into their exclusive domain.' The nature of these reactions usually takes the form of 'an investment strike of capital owners' (ibid., p. 9, fn 5), which jeopardizes economic performance and, thus, pressures government to appease the capitalists, by complying with their demands and restoring, in this way, 'the "confidence" of investors' (ibid., p. 9, fn 5).

This means that capitalists do not restrict themselves, in the class struggle, to the usual means of firing workers and adopting labor-saving technologies. They may also face the workers through the mediation of the political realm, by pressing government to avoid shifting the balance of class power in favor of the working class, and even to shift it in their favor. One may argue that this is rather trivial, and that it is not even new from the perspective of a Marxian understanding of class struggle. After all, Marx and Engels (1848 [2010], p. 69) had already claimed, in the *Manifesto of the Communist Party*, that '[t]he executive of the modern [representative] state is but a committee for managing the common affairs of the whole bourgeoisie.' But, in my view, there is a crucial subtlety in Kalecki's argument that has implications beyond those usually debated on Marxian analyses of the state.²⁷ The occurrence of the so-called 'Kaleckian reactions' is not simply the ever-present attempt of the capitalists to control government policies to their advantage, but it is a particular manifestation of this attempt that only comes into being in the postwar period and is remarkably anticipated by Kalecki in 1943.

The consolidation of liberal democracy in the aftermath of the Second World War, however limited its porosity to popular pressure, combined with the traumatic social and political experiences of the Great Depression of the 1930s, made governments particularly inclined to fight high rates of unemployment.²⁸ The Employment Act of 1946, in the US, and similar labor market institutions established in Western Europe cannot be understood without bearing in mind the political developments of the interwar period, even if these legislations ended up significantly watered down by

value and, thus, affect the rate of profit. It could be true, however, as suggested by an anonymous referee, that discipline and stability could also be guaranteed by giving workers higher wages and consequently keeping a lower profit share. According to the referee, Kalecki could have been considering a distinction between short- and long-term goals: capitalists would give away part of their profits in the short term, in order to attain the discipline and stability that would reward them with larger profits in the long term. It is important to notice, however, that in the passage quoted above Kalecki is suggesting that capitalists might keep discipline and stability by weakening the workers with higher rates of unemployment, not by paying them higher wages.

27. For a summary of the different theories of the capitalist state formulated within the Marxian tradition, see Jessop (1977).

28. The political pressure on the governments of capitalist countries imposed by the existence of the Soviet Union, in the context of the Cold War, should also be mentioned.

capitalists' pressure.²⁹ Kalecki himself stated that 'it must be recognized that the stage in which the "business leaders" could afford to be opposed to *any* kind of Government interventions to alleviate a slump is rather a matter of the past.'³⁰ With hindsight, it is clear that the commitment to full employment was not bound to be permanent, with the neoliberal backlash managing to consolidate the view that not only capitalism has a 'natural rate of unemployment' – sometimes called NAIRU (non-accelerating inflation rate of unemployment) – but also that the only way to reduce this natural rate is to 'reform' labor market institutions, rolling back previous workers' victories. In spite of that, output growth rates and the level of employment still play an undoubtedly central role as criteria by which governments are assessed in everyday political disputes.³¹

The interesting implication of Kalecki's argument is that the determination of the level of employment and of the growth rate of the economy by capitalists' decisions to invest actually allows them to use to their advantage the constraint that democratic politics puts on the economic performance. Paradoxically, it is precisely because governments cannot afford, politically, levels of unemployment beyond certain limits (limits which are, of course, politically defined and liable to change) and deep and long recessions that they depend on capitalists' support of their policies and, ultimately, have to attend to their demands. The idea of 'Kaleckian reactions' means that the relative stabilization of the economy, which was originally a demand of the working classes, ended up empowering capitalists and might have even shifted the balance of class power in their direction.³² Tiring references in the public sphere to the oscillations of 'business confidence' or 'investor expectations' are actually indicators of the constant blackmailing of governments by capitalist groups, and remind bureaucrats of the permanent danger of a 'Kaleckian reaction' – that is, an investment strike of capital owners.

It has to be clear, however, that the emergence of this instrument of class struggle that is being called a 'Kaleckian reaction,' following Streeck (2011, p. 9), does not mean that the usual domain of the class struggle, inherent in the distinction between labor and labor-power, as analysed in the previous section, becomes secondary. However crucial the mediation of the social relations through the political realm is, it cannot

29. On that, see Armstrong et al. (1984 [1991], pp. 13–14) and Esping-Andersen (1990, ch. 7, pp. 162–190).

30. Just before his death, in 1970, Kalecki co-authored a paper with Tadeusz Kowalik (1971 [1991]), in which they argued that capitalism had gone through a 'crucial reform,' which was a consequence of the pressure of the masses but stopped short of abolishing existing relations of production. Such 'crucial reform,' which is presupposed in the present argument, may be understood as a politicization of the capitalist social relations, which enhanced the mediating role of the political realm in the reproduction of these social relations, as theorized for instance by Pollock (1941) and Habermas (1968 [1970]).

31. Current developments, especially in Europe, have been revealing a surprisingly large capacity of governments to impose an extraordinary degree of social violence, through austerity programs. But, at the same time, the deep political instability presently characterizing the Eurozone testifies to the limits that democracies (however restricted) impose on capitalism.

32. This might seem contradictory to Kalecki's claim that a full employment policy could weaken the link between 'business confidence' and the level of employment. In my opinion, he did overestimate the power of such a policy to maintain the stabilization of the economy through time independently of capitalists' support. If the latter reacted to a government policy by cutting back investment, the government would have to increase its expenditure further to compensate the effect of the lower investment on aggregate demand. The extension of the government's role could, then, lead to even lower investment, unleashing a degenerative cycle that could easily become unsustainable for an economy still organized on a capitalist basis.

displace the role of the production and appropriation of surplus value, within the sphere of production, in reproducing these capitalist social relations. However powerful a capitalist might be in the political realm, she will not be able to remain a capitalist if she does not continually appropriate a share of the surplus value that the workers produce. In this sense, Kalecki's aforementioned disregard for the sphere of production in his distribution theory is problematic because it misses the main structural determinant of the reproduction of a capitalist society. But, moving from the abstract theoretical level to the concreteness of the political struggle, the broader conception of class struggle suggested here, which combines the struggle between capital and labor in the sphere of production with its unfolding in the political realm, appears to be important strategically. In the words of Thompson (1960, p. 68):

We do not have one 'basic antagonism' at the place of work, and a series of remoter, more muffled antagonisms in the social or ideological 'superstructure', which are in some way less 'real'. We have a class-divided society, in which conflicts of interest, and conflicts between capitalist and socialist ideas, values, and institutions take place all along the line. They take place in the health service and in the common room, and even — on rare occasions — on the television screen or in Parliament, as well as on the shop floor.

After more than 30 years of workers' defeats, in which income distribution has become increasingly unequal, the working class cannot afford to focus on a specific sphere, but has to face the capitalists 'all along the line.' Incorporating the idea of 'Kaleckian reactions' to the understanding of class struggle suggests the need for a transformation of the economic system that could disempower capitalists from this controlling device. More than 20 years ago, Marglin and Bhaduri (1990, p. 184), in a research program that led the way to the radical revision of the social-democratic consensus among left-wing economists, stated that what was needed was 'a much more radical break with the past, a new institutional structure that would decouple accumulation from profitability altogether.'³³ This seems to be exactly what is required to give the decisive step to overcome the threat of 'Kaleckian reactions' and open the way to the democratic control of economic life.

REFERENCES

- Armstrong, Philip, Glyn, Andrew, Harrison, John (1984 [1991]). *Capitalism since 1945*. Oxford: Basil Blackwell.
- Asimakopulos, Athanasios (1975). 'A Kaleckian theory of income distribution.' *Canadian Journal of Economics*, 8 (3), 313–333.
- Barbosa-Filho, Nelson, Taylor, Lance (2006). 'Distributive and demand cycles in the US economy: a structuralist Goodwin model.' *Metroeconomica*, 57 (3), 389–411.
- Basile, Liliana, Salvadori, Neri (1984–1985). 'Kalecki's pricing theory.' *Journal of Post Keynesian Economics*, 7 (2), 249–262.
- Basile, Liliana, Salvadori, Neri (1990–1991). 'Kalecki's pricing theory revisited.' *Journal of Post Keynesian Economics*, 13 (2), 293–297.

33. See Glyn (1995) for a similar argument. It is important to clarify that Kalecki remained skeptical of the possibility of attaining full employment or a more equal income distribution without a radical transformation of capitalism, as both his paper from 1943 and the paper he co-authored with Kowalik (1971 [1991]) suggest. Marglin and Bhaduri (1990) were not, then, reacting to his views, but rather to more optimistic social-democratic positions, some of them inspired by him.

- Betheil, Richard (1978). 'The ENA in perspective: the transformation of collective bargaining in the basic steel industry.' *Review of Radical Political Economics*, 10 (2), 1–24.
- Blecker, Robert (2002). 'Distribution, demand and growth in neo-Kaleckian macro-models.' In: Setterfield, Mark (ed.). *The Economics of Demand-led Growth: Challenging the Supply-side Vision of the Long Run*. Northampton, MA: Edward Elgar, pp. 129–152.
- Braverman, Harry (1974). *Labor and Monopoly Capital: the Degradation of Work in the Twentieth Century*. New York: Monthly Review Press.
- Carson, John (1990). 'Kalecki's pricing theory revisited.' *Journal of Post Keynesian Economics*, 13 (1), 146–152.
- Carson, John (1996). 'Kalecki's pricing theory: marginalist to the end?' *History of Political Economy*, 28 (4), 663–690.
- Cassetti, Mario (2003). 'Bargaining power, effective demand and technical progress: a Kaleckian model of growth.' *Cambridge Journal of Economics*, 27 (3), 449–464.
- Davidson, Paul (2000). 'There are major differences between Kalecki's theory of employment and Keynes's general theory of employment, interest and money.' *Journal of Post Keynesian Economics*, 23 (1), 3–25.
- Duménil, Gérard, Lévy, Dominique (2004). 'Neoliberal income trends: wealth, class and ownership in the USA.' *New Left Review*, 30, 105–133.
- Esping-Andersen, Gosta (1990). *The Three Worlds of Welfare Capitalism*. Princeton: Princeton University Press.
- Feiwel, George (1975). *The Intellectual Capital of Michal Kalecki: a Study in Economic Theory and Policy*. Knoxville: University of Tennessee Press.
- Foley, Duncan (1986). *Understanding Capital: Marx's Economic Theory*. Cambridge, MA: Harvard University Press.
- Foley, Duncan, Taylor, Lance (2006). 'A heterodox growth and distribution model.' In: Salvadori, Neri (ed.). *Economic Growth and Distribution: on the Nature and Causes of the Wealth of Nations*. Northampton, MA: Edward Elgar, pp. 75–99.
- Giesen, Klaus-Gerd, Nobre, Marcos (2010). 'World-system inequalities before and after the crisis.' *Peace Review*, 22 (4), 339–348.
- Gintis, Herbert (1976). 'The nature of the labor exchange and the theory of capitalist production.' *Review of Radical Political Economics*, 8 (2), 36–54.
- Glyn, Andrew (1995). 'Social democracy and full employment.' *New Left Review*, 211, 33–55.
- Gontijo, Cláudio (1991). 'Grau de monopólio e determinação de preços em Kalecki: uma apreciação crítica.' *Revista de Economia Política*, 11 (2), 5–17.
- Habermas, Jürgen (1968 [1970]). 'Technology and science as "ideology".' In: Habermas, Jürgen. *Toward a Rational Society: Student Protest, Science, and Politics*. Trans. Jeremy Shapiro. Boston: Beacon Press, pp. 81–122.
- Hein, Eckhard, Tarassow, Artur (2010). 'Distribution, aggregate demand and productivity growth: theory and empirical results for six OECD countries based on a post-Kaleckian model.' *Cambridge Journal of Economics*, 34 (4), 727–754.
- Hein, Eckhard, Vogel, Lena (2008). 'Distribution and growth reconsidered: empirical results for six OECD countries.' *Cambridge Journal of Economics*, 32 (3), 479–511.
- Jessop, Bob (1977). 'Recent theories of the capitalist state.' *Cambridge Journal of Economics*, 1 (4), 353–373.
- Kaldor, Nicholas (1955–1956). 'Alternative theories of distribution.' *Review of Economic Studies*, 23 (2), 83–100.
- Kalecki, Michal (1938a). 'The lessons of the Blum experiment.' *Economic Journal*, 48 (189), 26–42.
- Kalecki, Michal (1938b). 'The determinants of distribution of the national income.' *Econometrica*, 6 (2), 97–112.
- Kalecki, Michal (1942). 'Mr. Whitman on the concept of "degree of monopoly" – a comment.' *Economic Journal*, 52 (205), 121–127.
- Kalecki, Michal (1943). 'Political aspects of full employment.' *Political Quarterly*, 14 (4), 322–331.
- Kalecki, Michal (1965 [2009]). *Theory of Economic Dynamics: an Essay on Cyclical and Long-run Changes in Capitalist Economy*. 2nd edn. New York: Augustus Kelley/Monthly Review Press.

- Kalecki, Michal (1966 [1972]). 'Intermediate regimes.' In: Kalecki, Michal. *The Last Phase in the Transformation of Capitalism*. New York: Monthly Review Press, pp. 115–124.
- Kalecki, Michal (1967 [1972]). 'Vietnam and U.S. Big Business.' In: Kalecki, Michal. *The Last Phase in the Transformation of Capitalism*. New York: Monthly Review Press, pp. 107–114.
- Kalecki, Michal (1970 [1971]). 'Class struggle and the distribution of national income.' In: Kalecki, Michal. *Selected Essays on the Dynamics of the Capitalist Economy, 1933–1970*. Cambridge, UK: Cambridge University Press, pp. 156–164.
- Kalecki, Michal, Kowalik, Tadeusz (1971/1991). 'Observations on the "crucial reform".' In: Osiatynski, Jerzy (ed.). *Collected Works of Michal Kalecki*. Vol. II (Capitalism: Economic Dynamics). Trans. Chester A. Kisiel. Oxford: Clarendon Press, pp. 467–476.
- Kotz, David (1982). 'Monopoly, inflation and economic crisis.' *Review of Radical Political Economics*, 14 (4), 1–17.
- Kriesler, Peter (1988). 'Kalecki's pricing theory revisited.' *Journal of Post Keynesian Economics*, 11 (1), 108–130.
- Lerner, Abba (1934). 'The concept of monopoly and the measurement of monopoly power.' *Review of Economic Studies*, 1 (3), 157–175.
- Lichtenstein, Nelson (1985). 'UAW bargaining strategy and shop-floor conflict: 1946–1970.' *Industrial Relations*, 24 (3), 360–381.
- Lima, Gilberto Tadeu (2004). 'Endogenous technological innovation, capital accumulation and distributional dynamics.' *Metroeconomica*, 55 (4), 386–408.
- Marglin, Stephen, Bhaduri, Amit (1990). 'Profit squeeze and Keynesian theory.' In: Marglin, Stephen, Schor, Juliet (eds). *The Golden Age of Capitalism: Reinterpreting the Postwar Experience*. Oxford: Oxford University Press, pp. 153–186.
- Marx, Karl (1867 [1976]). *Capital: a Critique of Political Economy*. Vol. 1. Trans. Ben Fowkes. London: Penguin Books.
- Marx, Karl (1894 [1981]). *Capital: a Critique of Political Economy*. Vol. 3. Trans. David Fernbach. London: Penguin Books.
- Marx, Karl, Engels, Frederick (1848 [2010]). 'Manifesto of the Communist Party.' In: Marx, Karl. *The Revolutions of 1948: Political Writings Volume 1*. New York: Verso, pp. 62–98.
- Naastepad, C.W.M., Storm, Servaas (2006–2007). 'OECD demand regimes (1960–2000).' *Journal of Post Keynesian Economics*, 29 (2), 211–246.
- Nikiforos, Michalis, Foley, Duncan (2012). 'Distribution and capacity utilization: conceptual issues and empirical evidence.' *Metroeconomica*, 63 (1), 200–229.
- Palma, José Gabriel (2011). 'Homogeneous middles vs. heterogeneous tails, and the end of the "inverted-U": it's all about the share of the rich.' *Development and Change*, 42 (1), 87–153.
- Piketty, Thomas, Saez, Emmanuel (2003). 'Income inequality in the United States, 1913–1998.' *Quarterly Journal of Economics*, 118 (1), 1–39.
- Pollock, Friedrich (1941). 'State capitalism: its possibilities and limitations.' *Studies in Philosophy and Social Science*, 9 (2), 200–225.
- Postone, Moishe (1993). *Time, Labor, and Social Domination: a Reinterpretation of Marx's Critical Theory*. New York: Cambridge University Press.
- Reynolds, Peter (1983). 'Kalecki's degree of monopoly.' *Journal of Post Keynesian Economics*, 5 (3), 493–503.
- Riach, Peter (1971). 'Kalecki's "degree of monopoly" reconsidered.' *Australian Economic Papers*, 10 (16), 50–60.
- Sawyer, Malcolm (1985). *The Economics of Michal Kalecki*. New York: M.E. Sharpe.
- Shaikh, Anwar (1978). 'Political economy and capitalism: notes on Dobb's theory of crisis.' *Cambridge Journal of Economics*, 2 (2), 233–251.
- Shaikh, Anwar (1980). 'Marxian competition versus perfect competition: further comments on the so-called choice of technique.' *Cambridge Journal of Economics*, 4 (1), 75–83.
- Shaikh, Anwar (2004). 'Labor market dynamics with rival macroeconomic frameworks.' In: Argyrous, George, Forstater, Matthew, Mongiovi, Gary (eds). *Growth, Distribution and Effective Demand: Alternatives to Economic Orthodoxy*. Armonk, NY: M.E. Sharpe, pp. 127–143.

- Shaikh, Anwar (2014). *Modern Political Economy: Real Competition and Turbulent Macrodynamics*. Forthcoming.
- Steedman, Ian (1992). 'Questions for Kaleckians.' *Review of Political Economy*, 4 (2), 125–151.
- Stockhammer, Engelbert, Stehrer, Robert (2011). 'Goodwin or Kalecki in demand? Functional income distribution and aggregate demand in the short run.' *Review of Radical Political Economics*, 43 (4), 506–522.
- Streeck, Wolfgang (2011). 'The crises of democratic capitalism.' *New Left Review*, 71, 5–29.
- Taylor, Lance (1990). 'Real and money wages, output and inflation in the semi-industrialized world.' *Economica*, 57 (227), 329–353.
- Thompson, E.P. (1960). 'The point of production.' *New Left Review*, 1, 68–70.
- You, Jong-Il (1994). 'Macroeconomic structure, endogenous technical change and growth.' *Cambridge Journal of Economics*, 18 (2), 213–233.

Book review

J. Kvist, J. Fritzell, B. Hvinden, and O. Kangas, *Changing Social Equality: The Nordic Welfare Model in the 21st Century* (The Policy Press, Bristol, UK 2012) 224 pp.

J. Hoekstra, *Divergence in European Welfare and Housing Systems* (IOS Press, Amsterdam, The Netherlands 2010) 232 pp.

Nick Falvo

PhD Candidate (Public Policy), Carleton University, Ottawa, Canada

The February 2, 2013 edition of *The Economist* features an article with the following provocative title: ‘The Nordic countries: the next supermodel.’ In reference to Sweden, Denmark, Norway, and Finland, it argues: ‘If you had to be reborn anywhere in the world as a person with average talents and income, you would want to be a Viking.’ This characterization of Scandinavian countries is a useful launching point for a consideration of two books that focus on the various types of social support (that is, the ‘welfare states’) of European countries.

The two books under review feature strong nuances, good attention to detail, and, importantly for social researchers and their graduate students, solid theoretical considerations. They are useful for anyone serious about doing comparative welfare-state research. That said, their lack of criticism of macroeconomic policy may frustrate readers of the present journal.

The Nordic countries are known for high taxation (OECD 2010), high social spending (Esping-Andersen 1990; 1999) and greater equality (Pontusson 2005). The Kvist et al. anthology, a collaboration by 16 researchers, is about the Nordic welfare states – specifically, their social programs. It assesses them in an age of austerity, asking what is left of them, and exploring the extent to which their key characteristics have been preserved.

This anthology has several arguments, among them:

- Scandinavian countries continue to have the highest employment rates in the OECD. But whereas these rates were once significantly higher in Nordic countries than in continental Europe, the gap narrowed in the 1997–2007 period (which is the period considered in the chapter by Hussain, Kangas, and Kvist). Essentially, countries of continental Europe ‘caught up’ with their Scandinavian counterparts during this period. And in that vein, ‘the Nordic model has lost some of its distinctiveness ...’
- Meagher and Szebehely report on upward trends in the percentage of children aged 1 to 5 who are receiving publicly-funded childcare. Over the course of

the past 2 decades, such coverage (that is, percentage of children covered) has increased in all four Nordic countries. Though this upward trend is barely apparent in Finland, coverage in Norway has more than doubled during this period.

- The chapter by Kuivalainen and Nelson reveals that, over the course of the past 2 decades, the Scandinavian countries have lost their lead over other wealthy countries when it comes to the generosity of last-resort social assistance (that is, 'welfare'). When one considers absolute and purchasing-power benefit levels, Finland and Sweden now have less generous social assistance benefits than both Germany and the United Kingdom.
- Fritzell, Bäckman, and Ritakallio provide evidence that within-country inequality (as measured by the Gini coefficient) has generally increased in the Scandinavian countries since the mid 1980s. But inequality has also increased for most other OECD countries during the same period, and the Nordic countries still feature less inequality than other western countries. Importantly, rates of poverty among immigrants are not significantly different in Scandinavia than in the rest of Europe. Moreover, the Nordic countries have remarkably high rates of poverty amongst young single adults – more than double the rate for the United Kingdom, for example.
- Bamba's chapter looking at social inequities finds, counter-intuitively, that results of large-scale comparative research suggest the Nordic countries do not have the lowest levels of health inequalities amongst the European countries. According to the author, this represents 'something of a public health puzzle.' But there is evidence that some vulnerable groups (such as the elderly and children) have higher health outcomes in Scandinavia than in the rest of Europe. Further, infant mortality rates remain noticeably lower in the Nordic countries than in the rest of the OECD. As a useful contrast, the reader is offered the examples of Sweden (3.42 deaths per 1000 live births) and the United States (6.75 deaths per 1000 live births).¹
- Public opinion data, according to the chapter by Jæger, suggests the highest levels of support for generous social programs can be found amongst individuals with higher education levels, higher income levels, and higher socioeconomic positions. Throughout wealthy countries, support for well-funded social programs is strongest in both the Nordic states and southern European countries; it is weakest in the Anglo-Saxon countries.
- Finseraas, in his chapter, argues that xenophobia in Europe is not a real obstacle to redistributive policies. That said, insofar as high unemployment persists amongst immigrants (going forward), support for left-of-centre parties will likely diminish.

Housing researchers will enjoy the second book under review. Much like the first book, it speaks to Esping-Andersen's typology of welfare states (Esping-Andersen 1990; 1999). Published in 2010, this second book is a collection of six articles authored or co-authored by Joris Hoekstra, a housing researcher based at the Delft University of Technology (Netherlands).

Important for graduate students, the author includes an introductory chapter in which he explains the extent to which Esping-Andersen's typology of welfare states constitutes theory, on the one hand, versus the extent to which it is a system of classifying welfare

1. Note: this is 2003 data.

states (that is, a typology). Hoekstra argues that Esping-Andersen's work incorporates elements of both.

Hoekstra demonstrates a strong breadth of knowledge of the housing policy terrain, supported by impressive nuance. Chapter 3, for example, provides examples of inter-country variation in European housing systems. For example, fewer than 5 percent of Irish households live in an apartment. The corresponding figure for Italy is more than 60 percent. Perhaps less surprisingly, Greek households report significantly more housing-related problems than the rest of Europe; and the Dutch – known for very high rates of 'social renting' – report very few housing-related problems.

More seasoned housing researchers will enjoy Hoekstra's exploration (with co-authors, spanning two chapters) of the so-called 'Spanish paradox.' With co-author Vakili-Zad, Hoekstra begins chapter 7 with a bang, stating: 'In a "normal" housing market, one would expect that rising house prices go together with low vacancy rates and vice versa. However, in Spain, this has not been the case. Until very recently, Spain was characterized by strongly rising house prices as well as by a high rate of vacant dwellings. This is the Spanish paradox.' Moreover, in chapter 6, co-authored with Heras Saizarbitoria and Etxezarreta Etxarri, he notes that in Spain 'more than one million newly built dwellings are currently empty.'

With Vakili-Zad, Hoekstra argues that much of the Spanish paradox is caused by individuals purchasing new homes strictly for investment purposes, with the intent to sell at some later date. Once the houses are built, the investors wait before selling; in the interim, the country's strong tenant-protection legislation discourages the investors from renting out the units. Thus, housing units sit empty as their owners wait for an appropriate time to put them on the market. This leads to the paradoxical existence of both high vacancy rates and high house prices.

Housing researchers and their graduate students should read Hoekstra's book sooner rather than later, but I should add a (tongue-in-cheek) word of caution: the author's nuanced command of both theoretical considerations and the European housing landscape may remind some researchers of the vast amount of ground there is to cover before one can truly claim to understand comparative housing policy. This will make some researchers feel small. Hopefully, it will be inspiring for others.

Pleasantries aside, each book suffers from the same shortcoming: at times, each appears passively and indirectly to accept neoclassical economic orthodoxy without calling into question (or even acknowledging) some of its underlying assumptions. For example, Gerdes and Wadensjö, in their contribution to the first book, make reference to the non-accelerating inflation rate of unemployment (NAIRU) as though it were a straightforward phenomenon that we must all accept. They do not even hint that this is a controversial construct – most notably in the eyes of readers of the present journal. In proceeding as they do, they implicitly accept that full employment is not sustainable.

And in his introductory chapter (on housing), Hoekstra argues that, with the advent of neoliberalism, countries 'had to choose between economic growth and social justice.' He, unlike me, does this without the use of quotation marks. Hoekstra's statement would make Margaret Thatcher proud; it is an assertion certainly not accepted by post-Keynesian economists.

When social welfare researchers make statements in support of mainstream economic orthodoxy, they inadvertently and unknowingly become its handmaidens. Social welfare researchers can avoid this all-too-common phenomenon by partnering with post-Keynesian economists on interdisciplinary research projects.

REFERENCES

- Economist, The* (2013). The Nordic countries: the next supermodel. *The Economist*, February 2. Retrieved from www.economist.com.
- Esping-Andersen, G. (1990). *The Three Worlds of Welfare Capitalism*. Princeton, NJ: Princeton University Press.
- Esping-Andersen, G. (1999). *Social Foundations of Postindustrial Economies*. Oxford: Oxford University Press.
- Karim, S.A., Eikemo, T.A., and Bambra, C. (2010). Welfare state regimes and population health: integrating the East Asian welfare states. *Health Policy*, 94, 45–53.
- OECD (2010). OECD Statistics Database. Paris: OECD.
- Pontusson, J. (2005). *Inequality and Prosperity: Social Europe vs Liberal America*. Ithaca: Cornell University Press.

Book review

William K. Tabb, *The Restructuring of Capitalism in Our Time* (Columbia University Press, New York, USA 2011) 352 pp.

Brandon McCoy
University of Missouri, Kansas City, USA

This ongoing ‘great’ recession has certainly spawned a vast body of literature. And this recent title by William Tabb serves to further our understanding of the nature of this deep crisis. In the writing of this book, Professor Tabb artfully draws upon and also adds to his many years of scholarship, including seven previous books and over 100 articles, essays, and book chapters. Although he has devoted attention to numerous topics, in this book Professor Tabb draws from his 2007 research entitled ‘The centrality of finance,’ appearing in the *Journal of World-Systems Research*, as well as in an essay entitled ‘Financialization in the contemporary social structure of accumulation,’ which appeared in the edited text, *Contemporary Capitalism and its Crises: Social Structure of Accumulation Theory for the 21st Century* (2010).

Tabb develops a multi-disciplinary analysis of the current economic and social crisis, facing the United States especially, but that could be generalized to include the world at large. He undertakes this by transcending conventional boundaries, skillfully crafting an inquiry that probes into the evolution of our economic and social systems. Integrating knowledge of economic history, money and banking, industrial organization, and his enduring discontents with mainstream explanations, Tabb’s analysis utilizes an approach that centers on world-systems thinking and a social structure of accumulation. However, the author does not restrict his thinking to limitations associated with these frameworks. Instead, he judiciously employs what I as the reviewer judge as a broad, heterodox approach. Indeed, Tabb takes data generated by the empirical economy into careful consideration. He concludes that this current and great crisis is anything but over. On top of this, Tabb clearly and cogently stresses implications associated with the emergence and dominance of finance on a global scale. He suggests that until the damaging role played by finance and the associated and persisting imbalances of global financial flows are addressed through a transformation of institutional structures, then the potential for future crises will indeed loom ominously over all horizons.

Skillfully, Professor Tabb presents his thoughts as a penetrating inquiry. He considers political conflicts associated with what he defines in the title of his chapter 1 as ‘The centrality of finance.’ In Tabb’s view, the increasing dominance of finance influences our political and economic structures. Consequently, Tabb asserts that *financialization* serves as a ‘tool of accumulation’ derived from policy choices that affect institutional evolution. Extending his inquiry in the next chapter, ‘Financialization and social structures of accumulation,’ Tabb introduces a historically grounded institutional analysis in the Marxian tradition. He offers an enlightened description of transformations in the postwar era that had given rise to neoliberalism on a global scale, emphasizing roles played by increased financialization and the marked amplification of speculation.

The flow of Tabb's inquiry leads him to consider contributions of Hyman Minsky, especially his 'Financial instability hypothesis' (1992). Minsky's thinking serves as the foundation for chapter 3, 'Realism in financial markets.' Following Minsky's thinking, periods of economic stability and expansion lead to instability and crises. Tabb then considers, as the subject matter of chapter 4, the emergence of unregulated financial doings that fall under his rubric of 'The shadow of the financial system.' As Minsky's 'good times lead to bad,' Tabb goes further to develop as chapter 5, 'The coming apart.' Integral to this period of instability, Professor Tabb highlights three key features. These are: deregulation, an increasing reliance on leverage (reminiscent of the Hedge–Speculative–Ponzi finance scheme of Minsky), and a growing interdependency of financial market products and participants. In a key sense, Professor Tabb's thinking parallels Thorstein Veblen's. Namely, pecuniary incentives propel a divergence between financial and community interest. Tabb insists that the myopic mainstream economics serves to justify these diverging tendencies. In advancing this critique, he questions reliance upon the use of reduction and abstraction, including formalism: what tends to be employed to justify a status quo, in reality proves fragile.

Likewise, Professor Tabb considers the influences of Duggerian power exerted on the political–economic structures. He then stresses, as chapter 6, the 'Rescue and limits of regulation.' Indeed, power relations associated with contemporary financial capitalism are manifested in a shared and perverse culture that has emerged on Wall Street and extends to the US nation's capital, Washington, DC. Established through longstanding and close relations, this latterday pecuniary culture perpetuates the hegemonic position of international financial capital. In this respect, Tabb understands that regulation of the US financial sector can offer little more than serving to promote the interests of those positioned to gain.

Although Tabb's inquiry primarily considers developments emerging in the United States, he broadens thinking by also considering, as his final chapter, the international financial system. Recognizing contradictions inherent to deregulation and globalization, the author stresses that financialization in our world economy has come to compromise and dominate political powers once held by nation states, noting that these powers are inextricably connected through interdependent financial systems. Professor Tabb closes his inquiry with what could be regarded as a formidable challenge. Either we can retake control of our economy and society, or we can allow the big players profiting in the financial markets to call the shots.

Indeed, this 'great' recession has spawned many perspectives regarding the current social structure of accumulation. By numerous measures, Professor Tabb's inquiry clearly serves to specify the emergence of the current political economy of accumulation. Likewise, he offers a concise analysis of key elements that foster the durability of this contemporary social structure of accumulation. Beneath an overarching understanding of political conflict, Tabb offers insights that elucidate the power dynamics of social struggle.

Skillfully crossing traditional academic demarcations, Tabb has authored an insightful inquiry, facilitating for the reader a greater understanding of the cumulative sequence that has served to shape our current circumstances. This book offers a creative account of how the social system of accumulation has evolved and how it contributes to the quandary we are in. Where Tabb falls short is that he does not offer us a way out. To quote the author, there are 'no answers at the back of the book' (p. 276).

As a reviewer, I find Professor Tabb has offered an exceptional contribution to the Social Sciences, one that should top anyone's reading list who is interested in the current political–economic situation and how we got ourselves into this mess.

REFERENCES

- Minsky, Hyman P. 1992. 'The financial instability hypothesis.' Levy Economics Institute, The Economics Working Paper Archive.
- Tabb, William K. 2007. 'The centrality of finance.' *Journal of World-Systems Research*, 13 (1), 1–11.
- Tabb, William K. 2010. 'Financialization in the contemporary social structure of accumulation.' In Terence McDonough, Michael Reich, and David M. Kotz (eds), *Contemporary Capitalism and its Crises: Social Structure of Accumulation Theory for the 21st Century*, Cambridge, UK: Cambridge University Press, pp. 145–167.

Book review

Piero Ferri, *Macroeconomics of Growth Cycles and Financial Instability* (Edward Elgar, Cheltenham, UK and Northampton, USA 2011) 224 pp.

William McColloch

Visiting Assistant Professor at Lewis and Clark College, Portland, OR, USA

In *Macroeconomics of Growth Cycles and Financial Instability*, Piero Ferri offers a systematic overview and exposition of his continuing efforts to extend the Minskian tradition through dynamic modeling, with the preferred tool of calibrated simulations. Readers will find little discussion of the complex of factors that conspired to produce the present crises, with Ferri instead proposing ‘a theoretical framework that allows for the presence of medium-run consequences of these kinds of turbulence’ (p. 13). While drawing upon Ferri’s past collaboration with Minsky, the book does not seem to locate itself explicitly within the post-Keynesian tradition, instead grafting Minskian insights onto more conventional models. For Ferri, the book is an attempt to ‘overcome the dichotomy between hydraulic Keynesianism, and the so-called DSGE models into which macroeconomics is divided’ (p. 169). He candidly admits that, alongside Minsky, John Hicks is the other long-run influence evident in this systematic account of his research. Given this theoretical synthesis, Ferri concedes that the work presented ‘belongs more to the financial Keynesian tradition than to the proper financial instability world’ (p. xiii). That is, the dynamic cycles generated by the model are not generally the product of shifts between financing regimes.¹ Rather, the Minskian aspect of the model is most clearly apparent in Ferri’s specification of the investment function, a formulation into which the expected rate of growth, the profit share, cash flows and outstanding debt all enter.

Ferri’s approach in the text begins in Part I with a brief discussion of the limitations of mainstream theory with respect to the recent crisis. For him, the outstanding failure of both New Keynesian and Real Business Cycle approaches lies not in their poor forecasts of recent events, but rather in their theoretical structure. Specifically, mainstream models lack mechanisms that might endogenously generate medium-run growth cycles. Further, Ferri rejects the premise that macroeconomic models require micro-foundations in the behavior of representative agents in order to ensure their scientific status. Macroeconomic events cannot be reduced to the behavior of individual agents, as there is no guarantee of isomorphism between the two. Set in relief against these mainstream approaches, Ferri contends that the ‘lasting merits’ of Minsky’s analysis are both the recognition that extreme Great Depression-like events remain possible, as well as a ‘vision’ of the economy that incorporates uncertainty, heterogeneous agents, endogenous instability, and the need for policy intervention into markets

1. A brief discussion of the ‘Minsky triad’ features in chapter 13.

that are not self-correcting. The challenge, for him, lies in extending Minsky's 'vision' to a structured theoretical model.

Part II takes up this challenge, and deepens the basic critique outlined in Part I, and considers more carefully mainstream theoretical conceptions of the labor market. While recognizing that New Keynesian models have considered the effects of imperfect competition on the labor market, Ferri makes clear that the appearance of Keynesian results is misleading, and disguises a significant theoretical rift. Unemployment in New Keynesian models is not the result of insufficient aggregate demand, but rather of nominal price rigidities. Offering an alternative static model, Ferri draws upon his earlier work with Fazzari and Greenberg (1998), and champions the use of a 'four-quadrant approach' to model the impact of changes in demand on the labor market. The model considers imperfect competition in that firms set prices via a mark-up rule, and operate at varying levels of output below full capacity. Further, aggregate demand is not sensitive to changes in the price level, precluding any self-correcting mechanism. These basic features carry over to the dynamic simulations that are the cornerstone of the book, and are presented in Parts III and IV.

In Part III, Ferri first presents a baseline Minskian model, which is subsequently modified to consider the adaptation of agent preferences under uncertainty, along with non-linearities through the device of regime-switching. The model assumes that the monetary authority sets interest rates through a modified Taylor Rule, while inflation is governed by an expectations-augmented Phillips Curve relation. The consumption component of aggregate demand is a positive function of past and expected future income, and inversely related to the real rate of interest. Cyclical dynamics are generated in the model via two mechanisms: an investment function that is highly responsive to the relative balance of cash flows and firms' debt-servicing burden, along with the profit share and the expected rate of growth, and the bounded rationality of agents expressed in the consumption function. Some skepticism might be raised with respect to the calibration of the model throughout. Ferri devotes relatively little discussion to the selection of the parameter values of the model, except to note that they 'are within the range established by econometric research' (p. 89), or that they 'have some econometric footing' (p. 130). Though many of these parameter values appear unobjectionable, the models' reliance on a relatively high interest rate elasticity of investment seems less firmly grounded in the literature. Indeed, while Ferri cites the work of Chirinko, Fazzari and Meyer (1999) as empirical support for the structural form of his investment function, he seems to discount their finding that investment is only 'modestly' responsive to user cost of capital.² Given the stated importance of this parameter value to the cyclical dynamics of the model, a more extensive discussion of the empirical literature would be of benefit.

Among the numerous extensions and sensitivity exercises performed by Ferri, the discussion of variations in the labor share presented in Part IV would likely be of most interest to many readers. Though not directly addressed to the contemporary neo-Kaleckian literature on growth regimes, Ferri's model describes an alternate theoretical mechanism compatible with wage- and profit-led growth. In this framework, Ferri introduces a consumption function that allows for household debt accumulation, with consumption varying inversely with the real rate of interest.³ The investment

2. The authors reported a value of roughly -0.25 for user cost elasticity of the capital stock, while Ferri, in the model of Part IV, adopts the significantly higher value of -0.8 .

3. Here again the model is calibrated such that investment is highly responsive to the cost of capital.

function is also simplified to depend on expected future growth and the cost of capital, alongside an autonomous component. In this medium-run context, exogenous changes in income distribution impact inflation and the real rate of interest, which then alters both investment via its sensitivity to the cost of capital, and unemployment via a Phillips Curve mechanism. The model again displays a pattern of bounded oscillations in the rate of growth over time. Broadly accepting the premise that the historical decline in the labor share in industrialized countries is a necessary result of globalization and technical change, Ferri concludes that alterations in monetary policy ‘cannot overcome [this] underlying pattern of the economy’ and can, at best, ‘check the variability of the phenomena’ (p. 141).

Considered as a whole, the book offers a number of novel theoretical devices that might enrich post-Keynesian models, particularly in its discussion of regime switching. The neo-Kaleckian literature, in seeking to understand the transformation of advanced capitalism in the neoliberal era, has largely focused on structural breaks that engender changes in the relative responsiveness of the investment function to distributional changes. For some authors in this tradition, profit-led growth regimes are taken as the ‘new normal’ for large open economies. Thus, Ferri’s suggestion that shifts between growth regimes are reversible, and serve to alter inflation dynamics and labor productivity growth rather than the investment function, is welcome.

Amidst the continued stagnation of the US and Eurozone nations, and the manifest failure of austerity to revive growth, one might expect to find in the book some advocacy for ‘traditional’ Keynesian stimulative measures. Readers may then be surprised to find that, in Ferri’s brief discussion of the policy implications of the model, he provides little support for interventionist policies in the present slump. While recalling Hicks’s admonition that the ‘business of theorizing is to ... ask questions and formulate questions, not to answer them’ (p. 160), the book does not wholly shy away from exploring the policy implications of the simulations. The book is, at best, circumspect in evaluating the prospects of renewed fiscal stimulus. Ferri makes clear his view that, given the role played by uncertainty, a return to ‘hydraulic Keynesianism’ cannot be suggested. Even far from full employment, Ferri considers that fiscal multipliers may be quite low. For instance, in considering the possibility of so-called Ricardian equivalence, Ferri notes that in the presence of uncertainty agents might very well form their expectations along ‘Ricardian’ lines. Consequently, in this case, ‘it is evident that more expenditure from the public sector would simply be offset by more saving from the private sector’ (p. 167). This skepticism with respect to fiscal policy begs the question of what, if any, policy measures Ferri would advocate. As renewed regulation of the financial sector is also not discussed, one is left with the, perhaps mistaken, impression that Ferri believes nothing can be done to attenuate instability in the wake of crises.

Despite these objections, Ferri’s theoretical framework provides a strident rejection of mainstream modeling wherein the process of growth is understood from the supply side alone. The book offers a rich, and relatively novel, body of theoretical mechanisms through which financial instability can be understood. The models presented are given careful and thorough exposition, and could readily provide a framework for numerous theoretical extensions, particularly appending more detailed modeling of the financial system. As a compendium of Ferri’s important contributions, the book would be a valuable addition to research libraries, and should be read by all those working within the Minskian tradition.

REFERENCES

- Chirinko, R.S., S.M. Fazzari, and A.P Meyer (1999), 'How responsive is business capital formation to its user cost? An exploration with micro data,' *Journal of Public Economics*, **74**, 53–80.
- Fazzari, S., P. Ferri, and E. Greenberg (1998), 'Aggregate demand and firm behavior: a new perspective on Keynesian microfoundations,' *Journal of Post Keynesian Economics*, **20**, 527–558.

Book review

Philip Mirowski, *Never let a Serious Crisis go to Waste: How Neoliberalism Survived the Financial Meltdown* (Verso, London, UK and New York, USA 2013) 480 pp.

John E. King
La Trobe University, Melbourne, Australia

Those familiar with the previous work of the prolific Philip Mirowski will know what to expect from his latest book. Adjectives like ‘entertaining’, ‘provocative’, well-informed’, ‘enlightening’, ‘profound’, ‘irritating’ and ‘infuriating’ will spring to mind – often while you are reading the same page. The subtitle accurately represents the contents of this substantial volume (358 pages of text, 52 pages of often lengthy footnotes, a 42-page bibliography), but you will need to go to the very end of the main text (pp. 356–358) to discover what Mirowski is (and is not) arguing, since no convenient summary is provided at the outset. His concern is to explain the great riddle of the 2010s: ‘how neoliberalism survived the financial meltdown’, emerging from the Global Financial Crisis of ‘2007–?’ (as Mirowski puts it) not just unscathed but actually strengthened. He begins by invoking the theory of cognitive dissonance, describing in some detail how individual neoliberals responded to the crisis just as social psychologists would have predicted: ‘Contrary evidence did not dent their worldview’ (p. 357). Instead they redoubled their efforts to capture the economics profession – not that they had to try very hard. They also ‘resorted to industrial-scale manufacture of ignorance about the crisis, based on the time-tested tobacco strategy’ (p. 358), which involved ‘the injection of surplus noise into public discourse concerning the crisis’ (p. 300), with prominent academic economists playing a major role. And the neoliberals found new ways of co-opting protest movements, using social media more effectively than their supposedly web-savvy opponents.

Much of this is extremely well done. Mirowski provides a lucid and detailed account of the epistemological and psychological attractions of neoliberal ideas, which seem to be reinforced rather than weakened by their evident lacunae. His discussion of the interlocking of big finance, mainstream academic macroeconomists and the Federal Reserve system is quite masterly and, to this non-American reader, truly shocking; ‘regulatory capture’ does not begin to describe it. His dissection of Hayek on the creation of spontaneous order by ‘the market’ is also comprehensive, convincing and in places very amusing. For both Austrian and Chicagoan neoliberals, the market has a superhuman, almost supra-natural quality that they, and only they, can ever begin to understand. This entangles them in logical contradictions from which there is no escape. ‘How does *he* know?’, as one political scientist once asked me, tongue in cheek, about Hayek. Mirowski is also very clear on the differences between what he terms the ‘Neoliberal Thought Collective’ (NTC) led by the Mont Pelerin Society and the classical liberalism of the nineteenth century. Unlike the NTC, the classical liberals were deeply suspicious both of corporations (because of their potential power, and the moral hazard

that they posed) and of intellectual property rights (which they rightly saw as a threat to competition). On questions of economic policy, David Ricardo and Milton Friedman were very close; in moral integrity and a willingness to speak truth to (monied) power, they were poles apart.

In sum, I read this book in one sitting, and learned a great deal from it. However, there are also some problems. Mirowski himself summarises what he has *not* been able to achieve in this rather lengthy work. He has not provided an account of the key causes of the crisis or a systematic assessment of the explanations provided by heterodox economists, and he has not been able to offer a coherent alternative framework for understanding the relationship between financialisation, political economy and ‘the global transformations of capitalism’ (p. 360). Here he is perhaps a little too self-critical. He does show considerable sympathy for Keynes and at least some post-Keynesians (especially Hyman Minsky), and he is hostile to the advocates of both Old and New Keynesian theory, including Akerlof and Shiller, Krugman and Stiglitz. I share both his appreciation of my compatriot John Quiggin’s *Zombie Economics* and his regret that he all too often pulls his punches in his attack on mainstream macroeconomics (Quiggin 2010).

I do, however, have some serious reservations about one aspect of Mirowski’s own substantive argument. He employs the crucial concept of ‘agnotology’: ‘the focused study of the intentional manufacture of doubt and uncertainty in the general populace for specific political motives’ (p. 226). Neoliberals, he maintains, and in particular academic economists and their corporate paymasters, have become very good agnotologists. This, I think, comes dangerously close to an unconvincing conspiracy theory. In other contexts there are indeed clear examples of agnotology as a deliberate practice. Quoting the now classic work of Naomi Oreskes and Erik Conway (2010), Mirowski cites the two best-known cases of denial through obfuscation: that by big tobacco, concerning the health dangers of their noxious product, and its replication by big coal and big oil, concerning the reality of anthropogenic global warming. But Mirowski neglects the fundamental difference between these two instances and the practices of neoliberal economists. The overwhelming majority of laboratory scientists were highly critical of the tobacco companies and their denials, forcing the corporations to rely on non-medical outsiders, most notoriously the eccentric British psychologist Hans Eysenck. Similarly, denial of anthropogenic global warming is by now confined to a tiny minority of climate scientists, so that the fossil fuel producers have to depend on mavericks from other disciplines, like the Australian geologist Ian Plimer.

As Mirowski demonstrates at some length, the situation is very different in economics. The whole point of his book is to demonstrate the *uncritically* neoliberal position taken by the great majority of mainstream academic economists on all questions of material concern to big finance. The one exception was the opposition by a vocal minority of these economists to the Bush–Obama bail-out, or Troubled Asset Rescue Plan (TARP). Mirowski interprets this as a prime example of ‘the intentional manufacture of doubt’, but to my mind this is quite implausible. I suspect that the Austrian critics of the TARP and their supporters were simply and sincerely applying their neoliberal principles – bail-outs increase moral hazard, and should therefore be avoided – and were not engaged in some concealed and dishonest agnotological exercise. Similar questions arise in connection with Mirowski’s critique of Hayek, whom he tends to see as a supremely successful and totally unscrupulous Machiavellian manipulator; I think Hayek was just badly confused.

Indeed, Mirowski does not make enough of the great irony of the TARP. If its critics had been successful, and neoliberal policy precepts had actually been applied

in the United States in late 2008, there would have been not a Great Recession but rather a repeat of the Great Depression – a genuine financial meltdown, together with a collapse in output and a rise in unemployment on a scale not seen since the early 1930s. Something very similar to this has been engineered in several of the European PIIGSS nations by the application of neoliberal austerity measures (and even before 2008 in the Baltic States), but it has been avoided elsewhere in the advanced capitalist world. If today there was 30 per cent unemployment in Germany and the United States I doubt whether even the most charismatic and intellectually agile members of the NTC would continue to exert much influence.

Finally, by concentrating on the second golden rule of conservative politics ('never waste a good crisis'), Mirowski has neglected the first golden rule: 'never kick a man until he is down'. Why *is* the resistance to neoliberal austerity measures so pathetically weak, above all in Europe, where the influence of reformist Keynesian social democracy and Eurocommunism used to be so much stronger than in the United States? Here I think the answers have to be sought in the broadly Marxian interpretation of neoliberalism that Mirowski alludes to very briefly and then dismisses. I have a personal axe to grind here, as my own views on these issues are misrepresented, and even my name is stated wrongly (on p. 42, referring to Howard and King 2008). I continue to believe that the strength of neoliberalism cannot be fully understood without reference to the fundamental principles of historical materialism. There have been profound changes in both the forces and the social relations of production that have favoured the neoliberal project and weakened the resistance to it in the wake of the Global Financial Crisis. These include (but are not confined to) market-promoting technical change, which has been more diverse and more penetrating than Mirowski is prepared to admit; globalisation, which has greatly increased the power of capital at the expense of labour; and the substantial and continuing decline in the size and class consciousness of the factory proletariat, which, in almost all advanced capitalist economies, is no longer the potentially hegemonic force that it once was. The ideological dimensions of the neoliberal triumph that Mirowski rightly identifies are certainly important – and I would add to them the discrediting of the Keynesian compromise during the long stagflationary crisis of the 1970s – but they are by no means the whole story. However, Mirowski does tell an important part of this story in a most engaging way.

REFERENCES

- Howard, M.C. and King, J.E. 2008. *The Rise of Neoliberalism in Advanced Capitalism: A Materialist Analysis*. Basingstoke: Palgrave Macmillan.
- Oreskes, N. and Conway, E. 2010. *Merchants of Doubt*. New York: Bloomsbury.
- Quiggin, J. 2010. *Zombie Economics: How Dead Ideas Still Walk Among Us*. Princeton, NJ: Princeton University Press.