

NEW-, NEO-PALEO- AND POST-KEYNESIANISM:
IS A NEW MACROECONOMIC PARADIGM POSSIBLE?

TEODORO DARIO TOGATI *

ABSTRACT

This paper emphasizes two major reasons why in the present context a paradigm shift in macroeconomics is unlikely to materialize, in contrast with what happened in the 1930s. First of all, the standard paradigm – despite its predictive and explanatory failures – appears to be an internally consistent research programme, built around a unifying framework like the Arrow-Debreu model. Secondly, various types of ‘Keynesian’ critics of the standard paradigm, while raising relevant issues, such as the role of animal spirits in the analysis, seem to miss the target of building a new paradigm precisely because they fail to rely upon a truly alternative unifying framework.

Keywords: Animal spirits, General equilibrium, Macroeconomic research programs, Keynes.
JEL codes: B22, B41, E12, E13.

INTRODUCTION

There is a *stalemate* in macroeconomics today. After enjoying its heyday, the ‘New Consensus’ standard paradigm is in crisis on account of its dramatic failure to predict the recent financial crisis and the Great Recession. Many leading economists – well beyond the confines of post-Keynesian approaches stressing that the GR somehow implies the ‘return of the Master’ (see e.g. Skidelski 2009) – and, rather surprisingly, even quite orthodox central bankers such as Greenspan and Trichet, quite simply recognize that ‘macroeconomics has taken the wrong path’ (Farmer 2014).

For this reason, a number of authors propose new paradigms, several of which with a Keynesian orientation (see e.g. Akerlof and Shiller 2009,

* University of Turin (Italy). Address for correspondence: dario.togati@unito.it.

Farmer 2014, Mankiw 2013, Stiglitz 2010). However, despite a great deal of ‘label-mania’ within Keynesian economics – a good example is the recent neo-paleo-Keynesian (NPK) research programme proposed by Farmer – a paradigm shift is not yet visible and it is doubtful that it will ever materialize, in contrast with what happened in the 1930s. The aim of the paper is to clarify the reasons why this shift is actually very difficult to carry out in the present context. Its thesis is that the shift is not taking place mainly because of critics’ inability to break effectively with the standard neo-classical paradigm; more specifically, ‘label-mania’ within Keynesian theory may be a healthy sign of a lively debate but it is also a sign of downright confusion.

To demonstrate this point, I focus on one of the most significant critiques of current DSGE models which have appeared in the literature, namely that they omit the crucial Keynesian explanatory variable of animal spirits (see e.g. Akerlof and Shiller 2009, Farmer 2014, Frydman and Golberg 2011, Greenspan 2008). Greenspan, for example, recognizes that the GR has once again shown us ‘the *innate human* responses that result in swings between euphoria and fear that repeat themselves generation after generation with little evidence of a learning curve’ (Greenspan 2008: 9; *my italics*). In his view, such swings represent ‘the large missing “explanatory variable” in both risk-management and macroeconometric models’ (*ibid.*).

Some proposals for alternative paradigms start merely by seeking to remedy this omission. In particular, this paper focuses on the following: a) the ‘neo-paleo-Keynesian’ research programme proposed by Farmer 2014 that seeks to introduce animal spirits to the general equilibrium model (section 1); b) Akerlof and Shiller’s behavioural approach that has recently drawn the attention of economists to this variable (section 2); c) Sheila Dow’s analysis stressing the role of animal spirits within the post-Keynesian approach (section 3).

1. ANIMAL SPIRITS AND GENERAL EQUILIBRIUM THEORY

Several economists stress the limitations of the dominant new-Keynesian stance that places the emphasis on money wage rigidity in DSGE models and reaches the conclusion, among others, that monetary policy is not neutral in the short-run. In particular, Farmer raises a crucial critique concerning the identity of the new-Keynesian approach: ‘Despite its name, the new-Keynesian research program is neither new nor Keynesian. The idea, that real economic activity may be different from its long-run steady state as a consequence of sticky prices, is firmly rooted in monetarist tradition’ (Farmer 2014).

To remedy this omission, Farmer proposes a new research programme, which he labels ‘neo-paleo-Keynesian’ (NPK). However, it can be argued that this label is a sign of confusion. For example, he claims that his research program:

Is unashamedly neo-classical. It seeks to reconcile Keynesian ideas with the microeconomics of general equilibrium theory; and it does so in a new way. As with new-classical and new-Keynesian economics, neo-paleo-Keynesianism constructs models of rational actors who interact in markets. In contrast to new classical and new-Keynesian programs, neo-paleo-Keynesianism contains two propositions that are absent from the hard core of these agendas: 1) there is a continuum of possible equilibrium unemployment rates and 2) the unemployment rate that prevails is determined by the “animal spirits” of investors’ (*ibid.*).

How can a ‘neo-classical’ research programme be a more Keynesian alternative than the new-Keynesian one? My impression is that the programme Farmer proposes is not really an alternative to the standard approach and that it may at best represent a particular way of developing it.

To make this point clear, I begin by focusing on Lakatos’s ‘research programme’ notion, to which Farmer makes implicit reference in the above quotation. As Hands notes, this notion is quite useful especially ‘for understanding the *structure* of economics (or a particular economic theory), even if it is not a good tool for assessment. Economic theories do seem to have hardcores, protective belts, positive and negative heuristics’ (Hands 2001: 296).¹

More specifically, according to Lakatos, it is possible to distinguish the following parts of a general research programme: a) the hardcore, which is made up of the metaphysical or unquestioned principles or postulates of its vision (in this case, of the economy); the protective belt (auxiliary or simplifying assumptions which are needed to build up specific models or theories), and positive heuristics (i.e. beliefs on how to develop the programme) and negative heuristics (the moves that the programme forbids).

It can be argued that the strength of the standard macro paradigm lies in its internal consistency. In particular, I suggest that the current orthodoxy is consistent not just because it is cast in an axiomatic form but also because it provides a correct articulation of its research programme along Lakatosian lines. For example, within the neo-Walrasian framework underlying standard macro, the postulates/simplifying assumptions distinction is clearly made. This is because such a framework is based on the Arrow-

¹ For a significant instance of Lakatosian analysis of economic paradigms, see e.g. LEJONHUFVUD 1976. For the distinction between prescriptive and descriptive use of Lakatos’s framework, see also Dow 2012: 111.

Debreu model, which fixes the ‘grammar’ for correct economic theorizing and formalizes the vision of the economy on the grounds of basic postulates, such as the rational atomistic agent, the equilibrium method and the view that phenomena should be explained in individualist terms (see e.g. Hahn 1984). Such postulates single out the ‘drivers’, the so-called ‘deep parameters’: i.e. individual preferences and resources, such as technology and the amount of labour and capital, which are assumed to be stable.

In the current orthodoxy, the general Arrow Debreu framework is one thing and a specific construct, such as the Real Business Cycle model, is another. While the former is a meta-model, the latter is just one instance of general equilibrium theory that is subject to great simplifications – such as perfectly competitive markets, full price flexibility, representative agents and rational expectations – in order to carry out macroeconomic analysis. In particular, it should be noted that these simplifying devices:

- a) are needed to build up macro as technical discipline providing a ‘positive’ simple, unifying representation of the economy as a whole;
- b) are strictly interconnected and follow from the vision of capitalism as being internally stable.

On these grounds, the following critical remarks on Farmer’s stance seem to be justified. First, contrary to what he believes, there can be no room for animal spirits (seen as purely irrational forces such as those mentioned by Greenspan in the above quotation) at the level of hardcore, i.e. the basic postulates of the general equilibrium approach. Introducing animal spirits at this level would contradict the first principle of rationality and the key role of ‘deep parameters’, which are assumed to be stable. In particular, it can be argued that, from the standpoint of pure theory, animal spirits and deep parameters are not in *pari materia*: the former (together with other forms of behaviour such as rules of thumb) represent ‘phenomenological’ data, while the latter represent, as the term ‘deep’ suggests, an ‘essential’ level of reality, beneath the surface of phenomenological appearances.²

Secondly, animal spirits cannot find room at the level of simplifying assumptions either. The point is that these are needed to highlight the normal working (in the positive, descriptive sense) of the economy (including business cycles)³ on the grounds of the ‘deep parameters’, the only structural data we need to understand this working along neo-classical lines. Intro-

² For an interpretation of standard macro (in particular, Lucas’s approach) as a form of ‘essentialism’, see e.g. TOGATI 1998: 218-225.

³ Thanks to stochastic formulation of equilibrium, the notion of ‘normal’ working of the economy is not confined to ‘long-run equilibrium’, it has been extended to include fluctuations in the shape of comovements. This means that according to the standard postulates the economy can be regarded as being always in equilibrium.

ducing animal spirits at this level would impair the main aim of such simplifications, which is to provide simple, 'coherent' representations of the economy as a whole. Indeed, the evolution of standard macro from the early days of the neoclassical synthesis to DSGE models has consisted of purging models gradually from the factors that are not a direct expression of 'deep parameters', such as aggregate demand. In their neoclassical variants, DSGE models do not even allow it to enter the picture as a disturbing shock; indeed, the only shocks that are, in principle, allowed in these models are those relating to deep parameters such as technology and preferences.

Thirdly, the consideration of animal spirits is possible instead at the level of positive heuristics of the general equilibrium research programme. This means that it represents a development of the programme rather than a full-blown alternative to it. To see this point, it is important to realize that the explanatory power of the Arrow-Debreu model is not confined to the positive side of the analysis, namely the description of an ideal economy where there are complete markets. It also has a normative side, helping, for example, to structure the analysis of real-world economies when some features of the Arrow-Debreu model, such as the complete set of future markets, are missing. This kind of 'negative' method has been adopted by Hahn, for example, in several contributions (see e.g. Hahn 1984).

In principle, there could be many possible deviations in the real world economy from the norm set by the perfect and complete Arrow-Debreu market world; one might think, for example, of phenomena such as unemployment, crises, bubbles etc., which would be impossible in such an ideal setting. These deviations can be interpreted as departures from the above postulates or auxiliary assumptions. Such departures can be as many as there are potential market (or government) imperfections and each could generate a positive heuristic development.

For example, as Farmer himself stresses, persistent unemployment in the neo-Walrasian macro models must be traced to price rigidities, one of the main 'empirical obstacles' to the realization of full equilibrium in various markets.⁴ But these in turn can be accounted for in seemingly alternative ways by making reference to various types of market imperfections. One of these is a form of irrationality, namely workers' money illusion, long emphasized in the literature (e.g. Leontief 1947). In his programme, Farmer does not specify what he means by 'animal spirits'. However, if these are defined to include money illusion as well,⁵ it can be argued that

⁴ This is so because price rigidities do not undermine the possibility of providing simple representations of the economy on the grounds of 'deep' parameters.

⁵ This is what AKERLOF and SHILLER (2009) do, see below.

not only is his proposal not alternative to the standard one, but not particularly new either. On the other hand, if by using the term he refers to the spontaneous mood of investors à la Keynes, then his aim to link animal spirits to multiple equilibria does not appear consistent with the logic of general equilibrium for at least two reasons. First, following this logic, investments are primarily determined by technology influencing the marginal productivity of capital; thus animal spirits remain an ad hoc factor. Secondly, even if there were unexplained shifts in investment, the capital market by itself is irrelevant in accounting for multiple equilibria since determines not the level of income but only the real rate of interest. In other words, the problem Farmer should address is that in general equilibrium analysis there is no room not only for animal spirits as such but, more in general, for the principle of effective demand.

2. ANIMAL SPIRITS AND THE BEHAVIOURAL APPROACH

Following the behavioural approach, Akerlof and Shiller (2009) make a very significant contribution to the analysis of animal spirits, which they regard as the basis for an alternative macroeconomic paradigm. They too stress the limitations of the DSGE models, especially as far as the interpretation of the recent GR is concerned:

Most economists [...] assume [...] that variations in individual feelings, impressions and passions do not matter in the aggregate and that economic events are driven by inscrutable technical factors or erratic government action (Akerlof and Shiller 2009: 1).

Unlike most economists (including Greenspan and Farmer), Akerlof and Shiller extend the notion of animal spirits, well beyond familiar usage (for an assessment see Dow and Dow 2011). While traditionally this notion has been regarded as vague (e.g. Fuster *et al.* 2010: 67) or a kind of black box, they try to look inside it. As the following citation shows, they regard it as encompassing several forms of irrational behaviour:

The idea that economic crises, like the current financial and housing crisis, are mainly caused by changing thought patterns goes against standard economic thinking. But the current crisis bears witness to the role of such changes in thinking. It was caused precisely by our changing *confidence, temptations, envy, resentment and illusions –and especially by changing stories* about the nature of the economy (*ibid.*: 4, my italics).

On the basis of this broad interpretation, they justify their critique of the dominant new-Keynesian stance that relies on DSGE models and ex-

plains persistent unemployment on grounds of money wage rigidity. Strictly speaking, in their view these economists do not neglect animal spirits *tout court*, but consider only one specific form that leads them to make only a minimal departure from full employment and standard models:

Macroeconomics textbooks [used to] explain deviation from full employment by a single type of animal spirit: that workers dislike money wage cuts, and that employers are therefore reluctant to make them [...]. A more sophisticated explanation for why wages are slow to change [...] explains fluctuations in employment arising from shifts in demand as due to [...] ‘staggered contracts’. The macro textbooks are full of many other departures from the simple thought experiment of Adam Smith [...] and that leads us to the philosophical difference between this book and standard economics texts. This book is derived from a different view of how economics should be described. The economics of the textbooks seeks to minimize as much as possible departures from pure economic motivation and from rationality [...]. Explanations in terms of small deviations from Adam Smith’s ideal system are clear [...] (and) well understood. But does *not* mean that these small deviations [...] describe how the economy really works (*ibid.*: 4-59).

Akerlof and Shiller thus emphasize that their broad interpretation of animal spirits allows them to capture how the ‘economy really works’ and why it takes rollercoaster rides, making a much broader deviation from the Arrow-Debreu ideal system (seen as formalization of the invisible hand view) than most economists are willing to do:

In our view economic theory should be derived not from the minimal deviations from the system of Adam Smith but rather from the deviations that actually do occur and that can be observed [...] a description of how the economy really works must consider those animal spirits (*ibid.*: 5).

It is important to clarify the methodological implications of Akerlof and Shiller’s broader analysis of animal spirits. As the above citation shows, in their view these are not just a matter of pure psychological or irrational moves, such as mental energy or life force, but also include social features, such as confidence, fairness, corruption, money illusion and stories, that play a key role in the economy. For example, they regard the New Economy as a ‘story’, i.e. a false collective belief or rationalisation of a ‘new era’ leading to bubbles or unjustified asset prices.⁶

The major methodological implication of this approach is that it involves a shift of emphasis from pure deductivist forms of analysis to ob-

⁶ In particular, in his analysis of the recent GR Shiller regards an epidemic of irrational public enthusiasm for housing investment or ‘social contagion of boom thinking as the most important single element to be reckoned with in this speculative boom’ (SHILLER 2008: 41).

ervation of agents' actual behaviour. Indeed, unlike Farmer, Akerlof and Shiller do not aim to construct better general equilibrium models by inserting animal spirits into them, nor do they seek to build simple aggregate models that could represent an alternative to DSGE models. They seem to believe that with the provision of a more complete account of how agents' actual behaviour deviates from the norm – which is the aim of behavioural economics – the norm itself becomes less and less relevant.

The important question to ask, however, is whether this step is sufficient to justify a new paradigm, alternative to standard macro. In the light of the previous account of the structure of paradigms along Lakatosian lines, the answer has to be negative. The point is that Akerlof and Shiller do not provide an alternative neither at the level of postulates nor at that of auxiliary/simplifying assumptions. They simply regard agents' actual behaviour as deviation from the perfect rationality benchmark, the first postulate of the standard paradigm. This inevitably compels them to draw the conclusion that such behaviour is 'irrational'. As already noted, emphasis on irrationality per se cannot aim to replace either the basic postulates of standard theory or its account of the 'normal' working of the economy. Indeed, it can be argued that their work does not make a vast difference to conventional macroeconomic modelling. From this standpoint, it can be interpreted as a contribution along the lines of early Keynesian models – incorporated in old textbooks, such as Dornbusch and Fisher (1990, ch. 12) and now outmoded since the advent of rational expectations and DSGE on account of their 'ad hoc' treatment of expectations – that used to consider the role of effective demand in terms of shocks hitting the stable structure of the economy (defined in the traditional sense as reflecting deep parameters).

In other words, through Akerlof and Shiller's lens Keynes appears substantially like Pigou, namely suggesting an approach to business cycles based on psychological factors, such as waves of optimism and pessimism. They thus subscribe to a long-standing conclusion of much of Keynesian literature from Hicks's 'Mr Keynes and the Classics' onwards: namely that at the end of the day, Keynes's theory is relevant essentially for dealing with pathological phenomena such as bubbles and fluctuations rather than the normal or structural working of the economy. DSGE models thus still have a role to play in representing the latter.

This is not all, however. It is even possible to suggest that Akerlof and Shiller's work actually represents a heuristic development of the standard paradigm itself. This is so for at least two reasons. First, Akerlof and Shiller could be regarded as completing the neoclassical research programme concerning fluctuations, as indicated for example by Ohanian:

The literature on general equilibrium business cycle models has made considerable progress in understanding how different model economies respond to what

we call *abstract shocks*: shocks that do not have a precise definition or acknowledged source. This category includes productivity shocks, preference shocks, financial shocks, risk shocks and markup shocks, among others. However, because the focus of the literature has been on studying the effect of different types of shocks in different types of economies, there has been less progress on developing and testing theories about the nature and sources of these abstract shocks (Ohanian 2010: 48).

When seen in this perspective, the two authors do make a contribution to the definition of the nature of the shocks. While the standard paradigm relies on ‘abstract’ shifts in individual preferences, their work amounts to a clarification of the fact that such shocks are ultimately due to a number of natural or psychological features of human behaviour that economists usually neglect.

One may note, for example, that Akerlof and Shiller’s contribution is useful in rationalizing a number of ‘popular’ explanations’ of the GR, tending to ‘personalize’ some of its proximate causes – such as consumers’ gullibility, mortgage brokers’ greed, flaws in the US regulatory system, securitization processes, investment bankers (who dreamed up the new security products), rating agencies – mentioned in Alan Blinder’s 2007 article entitled ‘Six fingers of blame’.

Secondly, Akerlof and Shiller’s analysis of persistence of fluctuations or recessions is not that different from the one provided by standard models: that is, they continue to regard money wage rigidity as the cause of persistent unemployment following shocks that shift the aggregate demand curve. Their broader view of animal spirits leads them to place the emphasis on alternative explanations of this rigidity (for example, those cast in terms of fairness or efficiency wage) with respect to the standard money illusion account.

3. ANIMAL SPIRITS AND POST-KEYNESIAN ANALYSIS

The analysis of animal spirits carried out by many post-Keynesians (e.g. Shackle 1967, Davidson 2009) quite naturally represents the starting point for their critique of standard macro models. In line with their emphasis on true uncertainty, they regard animal spirits as referring to irrational, innate forces, which make investment appear as almost a totally autonomous, uncaused cause of economic events, such as fluctuations.

One problem with this stance is that it is not readily amenable to the construction of an alternative paradigm, along the Lakatosian lines clarified above. For this purpose, as noted above, placing the emphasis on irrationality does not appear a viable solution. In particular, in order to make

Keynesian theory capable of dealing with the normal or structural working of the economy rather than just with pathologies, it is also necessary to build a more positive analysis of agents' behaviour aimed at replacing the standard postulates. In this perspective, Sheila Dow's work represents an important contribution. In contrast with the view just summarized, she emphasizes three main points:

- A) the need to overcome dualistic distinctions in the analysis of agents' behaviour, such as that between cognition and sentiment, in the light of Keynes's broader notion of rationality (see e.g. Dow 2011);
- B) animal spirits are not entirely innate or spontaneous but also represent structural factors that can be 'endogenized' (see, e.g., Dow and Dow, 2011; Dow, 2013B);
- C) conventions play a key role in Keynes's analysis and they partially overlap with animal spirits.

These features represent significant innovations with respect to the standard paradigm that could potentially open the way to an alternative, full-blown Keynesian macro paradigm. Suffice it to note that they imply calling into question the standard postulate of rationality as well as methodological individualism. However, this potential has yet to be fully realized, mainly because Dow does not seem interested in pursuing the objective of articulating the Keynesian paradigm along the lines advocated here. This may be so for various reasons. One may be that in post-Keynesian literature there is too much equivocation around terms, such as 'postulates' or 'fundamental assumptions', which may sound like advocating an axiomatization or formalization of Keynes's theory, when in fact only a distinction between different parts of a paradigm is what is needed. Another reason is that Dow regards the existence of a plurality of stances within the post-Keynesian camp as a positive feature, following the 'horses for courses' perspective (e.g. Dow 2013a). In this view, the construction of a *unifying* Keynesian paradigm playing the same role as the Arrow-Debreu model in the standard approach simply fails to appear feasible and may even be misleading.

In my view, however, insofar as it represents a clear disadvantage with respect to standard macroeconomics and is therefore quite likely to account for its declining influence in both academic and policy terms, there is reason to believe that the lack of such a unifying paradigm is the most important problem facing post-Keynesianism today.

This view is forcefully stressed by a prominent Cambridge economist such as Pasinetti, who suggests that the problem arises with the *General Theory* itself due to Keynes's particular type of 'implicit theorizing'⁷ and

⁷ This expression can be used in various ways to express limitations of the GT. It was

is one that post-Keynesians have so far failed to remedy (for this reason he speaks of ‘unfinished Keynesian revolution’ in the title of his 2007 book):

The model of a pure exchange economy was in fact going through an analytical process that was making it into the most clearly formulated economic theory so far. The Arrow-Debreu general equilibrium model, which has become the quintessence of it, presents itself as an extremely attractive, elegant formulation. Nothing similar has emerged for a monetary theory of production. My feeling is that Keynes and his most direct pupils vastly underestimated the enormous amount of work that such a project would have required. To work out the foundations, and then to erect on them the edifice of a ‘monetary theory of production’ was a truly gigantic task that would have required the determined effort of many researchers acting within a unifying theoretical framework [...]. Both Keynes and his immediate pupils at Cambridge [...] proceeded more on the basis of intuition than on the basis of a clear vision of the logical steps to take. The clarification of these concepts, and especially the search for a comprehensive theoretical framework, has remained widely unaccomplished. Perhaps there was no time to do more (Pasinetti 1999: 11-12).

While sharing this assessment, I add two further points. The first concerns my view of Keynes’s ‘implicit theorizing’ and I wish to elaborate a little on what Pasinetti suggests here, namely that Keynes proceeded mainly ‘on the basis of intuition than on clear vision of the logical steps to take’. It can be argued that this means that Keynes failed to clarify a number of issues, such as those mentioned by Sheila Dow herself:

Keynes himself made only limited explicit reference to epistemological and methodological issues in his economic writing. Indeed it has been the teasing out of the epistemology and methodology implicit in Keynes’s economics that represented an exciting challenge for post-Keynesian methodologists. But Keynes could perhaps have prevented some of the confusion in interpreting the *General Theory* if he had been more explicit in specifying why he constructed it the way he did. And indeed it was the (mis)interpretations on the part of orthodox economists in the 1940s and 1950s that led to Keynes’s ideas being subsumed in the neoclassical synthesis (Dow 2013a: 80).

In the light of this remark, I suggest that one of the things that Keynes failed to do or left implicit – and which today accounts for the lack of unifying paradigm of a monetary theory of production – is that he did not elaborate his vision or meta-model of the economy (reflected in fundamental assumptions) as a separate entity with respect to his model (inevita-

originally coined by LEONTIEF (1936) to define the inconsistency between Keynes’s conclusions, such as the existence of involuntary unemployment, with the standard postulates.

bly based on a number of simplifying assumptions), in contrast with what happens in the current orthodoxy. My second point is that to remedy this flaw should be the main aim of post-Keynesians'.⁸

CONCLUSION

By focusing on the role of animal spirits in macro models, this paper leads to one major conclusion, namely that in the present context a paradigm shift in macroeconomics is unlikely to materialize, in contrast with what happened in the 1930s. This is so for two major reasons. First of all, the standard paradigm – despite its predictive and explanatory failures – appears to be a relatively solid construction, built as it is around a unifying framework like the Arrow-Debreu model. Secondly, a number of critics of the standard paradigm, while raising relevant issues, seem to miss the target of building a new paradigm precisely because they fail to rely upon a truly alternative unifying framework.

REFERENCES

- AKERLOF G.A and R.J. SHILLER 2009, *Animal Spirits*, Princeton: Princeton University Press.
- BLINDER A. 2007, "Six Fingers to Blame in the Mortgage Mess", *The New York Times*, 30th September.
- DORNBUSCH, R. and S. FISHER 1990, *Macroeconomics*, New York: McGraw Hill: 5th ed.
- DAVIDSON P. 2009, *The Keynes Solution. The Path to Global Economic Prosperity*, London: Palgrave Macmillan.
- DOW A. and S.C. DOW 2011, "Animal Spirits Revisited", *Capitalism and Society*, 6 (2): 1-25.
- DOW S.C. 2013a, 'Methodology and Post-Keynesian Economics' in G.C. Harcourt and P. Kriesler (Eds.), *The Oxford Handbook of Post-Keynesian Economics*, Oxford: Oxford University Press.
- 2013b, "Animal Spirits and Organisation: A Structural Approach", presented at the Annual Conference of the AHE, London, July.
- 2012, *Foundations for New Economic Thinking*, London: Palgrave Macmillan.
- 2011, "Cognition, Market Sentiment and Financial Instability", *Cambridge Journal of Economics*, 35 (2): 233-249.
- FARMER R. 2014, "Neo-Paleo-Keynesianism: A Suggested Definition", Roger Farmer's Economic Window blog, January 11.
- FRYDMAN R. and M.D. GOLDBERG 2011, *Beyond Mechanical Markets: Asset Price Swings, Risk and the Role of the State*, Princeton: Princeton University Press.

⁸ I develop this point in TOGATI (2017).

- GREENSPAN A. 2008, 'We Will Never Have a Perfect Model of Risk', *Financial Times*, 17 March: 9.
- HAHN F.H. 1984, *Equilibrium and Macroeconomics*, Oxford: Oxford University Press.
- HANDS W. 2001, *Reflection without Rules. Economic Methodology and Contemporary Science Theory*, Cambridge: Cambridge University Press.
- KRUGMAN P. 2013, "Microfoundations and the Parting of the Water", *The New York Times*, December.
- LEIJONHUFVUD A. 1976, "Schools, 'Revolutions' and Research Programmes in Economic Theory", in J. Latsis (Ed.), *Method and Appraisal in Economics*, Cambridge: Cambridge University Press.
- LEONTIEF W. 1947, "Postulates: Keynes' General Theory and the Classicists", in S.E. Harris (Ed.), *The New Economics. Keynes' Influence on Theory and Political Economy*, London: Dennis Dobson.
- 1936, "Implicit Theorizing: A Methodological Criticism of the Neo-Cambridge School", *Quarterly Journal of Economics*, 51.
- OHANIAN L.E. 2010, "The Economic Crisis from a Neoclassical Perspective", *Journal of Economic Perspectives*, 24 (4): 45-66.
- PASINETTI L.L. 2007, *Keynes And The Cambridge Keynesians. A 'Revolution In Economics' to Be Accomplished*, Cambridge: Cambridge University Press.
- 1999, "J.M. Keynes's 'Revolution' – The Major Event of Twentieth Century Economics?", in L. Pasinetti and B. Schefold (Eds.), *The Impact of Keynes on Economics in the 20th Century*, Cheltenham: Elgar.
- SHACKLE G.L.S. 1967, *The Years of High Theory*, Cambridge: Cambridge University Press.
- SHILLER R.J. 2008, *The Subprime Solution: How Today's Global Financial Crisis Happened, and What to Do About It*, Princeton: Princeton University Press.
- SKIDELSKY, R. 2009, *Keynes: The Return of the Master*, London: Allan Lane.
- STIGLITZ, J.E. 2010, "Needed: A New Economic Paradigm", *Financial Times*, August 19.
- TOGATI T.D. 2017, "What Future for 'Macroeconomics after Keynes'? A Road Map to Restore the Generality of the *General Theory*", mimeo, University of Turin.
- 2001, "Keynes as the Einstein of Economic Theory", *History of Political Economy*, 33 (1): 117-138.
- 1998, *Keynes and the Neoclassical Synthesis. Einsteinian versus Newtonian macroeconomics*, London: Routledge.