2009

2009-2 Lucas, Keynes, and the Crisis

David Laidler

Lucas, Keynes, and the Crisis

by

David Laidler

Research Report # 2009-2 **July 2009**

Department of Economics
Research Report Series

Department of Economics
Social Science Centre
The University of Western Ontario
London, Ontario, N6A 5C2
Canada

This research report is available as a downloadable pdf file on our website
http://economics.uwo.ca/econref/WorkingPapers/departmentresearchreports.html.

Draft – June 14th, 2009

Lucas, Keynes, and the Crisis*

by

David Laidler

Abstract This paper examines Robert E. Lucas's views on the relationship of macro-economics to real world economic phenomena, and on Keynes's place in its history, suggesting that these stem from a particular and debatable understanding of how the sub-discipline has evolved. It considers some implications for today's awkward economic facts of aspects of Keynes' *General Theory*, not so much its speculations about the role of psychology and social conventions in the economic decisions of individual agents recently highlighted by Akerlof and Shiller (2009) however, as its insights into the influence of the monetary system on the coordination of these decisions, along lines later extended by Clower (1965) and Leijonhufvud (1968). It concludes that the questions about co-ordination that Keynes addressed, not to mention some of his answers, are well worth revisiting.

JEL Classifications, B22, B31, E12, E13, E32

Key Words – Crisis, Co-ordination, Clearing Markets, Auctioneer, Money, Financial Markets, Animal Spirits, Psychology, Keynes, Lucas.

* Revised version of a paper presented to the History of Economics Society in Denver Colorado on June 28th, 2009 and at a conference on *Perspectives on Keynesian Economics* held at Ben Gurion University, Israel on July 14th-15th 2009. I am grateful for comments received on that occasion from many participants, and also to Roger Backhouse, Bradley Bateman, Harald Hagemann, Peter Howitt and Michael Parkin for various suggestions about an earlier draft. Of course only the author is to be blamed for this one.

I *The Current Economic Crisis and Macro-economic Ideas*

The current economic crisis has a number of aspects, not least an intellectual one occurring at the interface between the currently dominant approach to macroeconomic theory and empirical evidence. It is not just that most economists failed to foresee what was coming and that their models now require a little readjustment in order to catch up with the evidence. Rather, it is that adherence to the fundamental principles upon which most of those models are grounded renders such adjustments impossible. That is why renewed interest in John Maynard Keynes' ideas is so welcome, even if, so far this seems to be having little effect on what Departments of Economics are actually teaching.[1]

What is nowadays called macro-economics is driven by a rather distinctive internal dynamic that differs significantly from the story of unidirectional technical progress which, in the eyes of so many of its current practitioners, makes the study of its history unnecessary. Though the sub-discipline ceased to be a series of essentially *ad hoc* responses to current events at some time in the mid-19th century, contemporary happenings have nevertheless continued to exert a systematic influence on its subsequent development. That is because they have provided not just policy challenges, but also ongoing empirical tests of its evolving theoretical content.

The development of macro-economics has thus involved a strong element of Popperian "conjecture and refutation", but it has also displayed a tendency to double back on itself from time to time to pick up still useful but temporarily mislaid ideas as starting points for subsequent development. Two factors seem to have played a role here. First, as Harry Johnson (1971) noted, the ability to cope with a currently important policy issue can be an important determinant of a macro-economic doctrine's success. As particular policy problems come and go, therefore, so do ideas that can address them, eventually

[1] Under the catchy headline, "Ivory Tower Unswayed by Crashing Economy", a recent *New York Times* article (Patricia Cohen 2009) reported that American economics departments that have long been paying attention to Keynes's ideas continue to do so, that those that have not, still do not, and that neither group is planning to change its ways. That Cohen – quoting department chair Phil Reny - reveals that Chicago graduate students work on topics " - like real models of business cycles - that are at the frontier of the field" is no surprise, but it is nevertheless disconcerting to learn that that they don't study Keynes (or Hyman Minsky, whose ideas also were discussed by Cohen) at all because they are "not on the frontier any more". Though I would not advocate putting this pair on anyone's theory reading list – pace, at least two of Cohen's interviewees James Galbraith, and Randall Wray – there used to be history of thought courses where students might encounter earlier ideas that might at some time turn out to have renewed relevance at the subject's shifting frontier. I am grateful to Sandra Peart for drawing my attention to this article

falling into neglect – sometimes temporarily - not always because they have been refuted by empirical happenings but because they have been rendered temporarily irrelevant by them. Thus, the problem of unemployment dominated inter-war discourse, but in the late 1960s the need to cope with inflation gave a strong impetus to what Johnson called "the monetarist counter-revolution", in the process generating renewed interest in the ideas of Henry Thornton (e.g.1802), Irving Fisher (e.g. 1911) and Knut Wicksell (e.g. 1898) among others, and giving a considerable head-start to those who had already read these authors. And second, sometimes lines of investigation are abandoned for want of the analytic means needed to carry them further, only to be resurrected later when advances in technique remove these barriers. A striking example of this tendency is in the changing treatment of expectations in macro-economics, first during the 1930s when, at the hands of Keynes (1936) exogenous expectations replaced technically unmanageable ideas about their endogeneity, and later from the 1950s onward, as the arts of modeling error learning and then the formation of rational expectations were mastered[2]

The interaction over time of macro-economic ideas with the facts that either refute or render them temporarily irrelevant is also a two way affair, as I noted in David Laidler (2003). Forward looking rational behaviour on the part of policy makers and private agents alike must always be based on models – formal or informal - of the economic environment in which they are operating and will therefore be conditioned by those models. Ideas inconsistent with the way the economy actually works nevertheless affect its performance, therefore, eventually in ways that produce unexpected results that reveal the inconsistency in question. It is therefore hard to understand economic events, and hence the very empirical basis of macro-economics itself, without also understanding how the ideas that helped generate them evolved.

The current economic crisis is a prime example of a series of events grossly inconsistent with the very macro-economic ideas that helped produce them, but these happenings seem to bear a strong resemblance to those that three quarters of a century ago provoked the "Keynesian Revolution". Prompted by these considerations, this paper examines some of the relationships between macro-economic ideas and macro-economic crises, both recent and n ot so recent. It first examines what Robert E. Lucas, who did as

[2]. See fn. 11, p. 17 below for a further discussion of this point

much as anyone to push the frontier of macro-economics to its current location, has had to say about that frontier's relationship to real world economic phenomena, and also about Keynes' place in the history of macro-economics Then it suggests that Lucas's understanding of how economics has evolved is flawed, and that this accounts for his equally flawed interpretation of Keynes' place in that history. It also considers some implications for our understanding today's awkward economic facts of taking another look at aspects of Keynes' *General Theory*, not so much its speculations about the role of psychology and social conventions in the economic decisions of individual agents that George Akerlof and Robert Shiller (2009) have recently highlighted, however, as its insights into the influence of the monetary and financial systems on the coordination of these decisions.

II *Lucas on Macro-economics and Keynes*

Talking about "My Keynesian Education" at the 2003 *HOPE* conference on *The IS-LM Model: Its Rise, Fall, and Strange Persistence* (Michel De Vroey and Kevin Hoover 2004) Lucas pointed, almost as an aside, to

> the problem that the new theories, the theories embedded in general equilibrium dynamics of the sort that we know how to use pretty well now – there's a residue of things they don't let us think about. They don't let us think about the U.S. experience in the 1930s or about financial crises and their real consequences in Asian and Latin America, they don't let us think very well about Japan in the 1990s (2004, p 23)

This remark dates from 2003, when the final "Greenspan boom" was in full swing, and the "residue" of problems to which Lucas referred did indeed seem rather remote from the immediate but apparently well-established economic environment in which it was made, and we should judge its offhand tone in this context. Viewed with hindsight, though, the remark was ominous, because those same models now, in 2009, do not help us to think about problems that are dominating the current evolution of the entire world economy - some residue![3]

[3] Lucas's talk was not the only item produced in 2003 that should have indicated that something was amiss. Michael's Woodford's magisterial book *Interest and Prices – Foundations of the Theory of Monetary Policy*

Lucas (2004) also argued that Keynesian economics was equally unhelpful with such issues, but here it is important to note that the "Keynesian economics" that formed the basis of his education in the early 1960s can be summarized as IS-LM - albeit the rather sophisticated version of it set out in Martin Bailey's (1962) textbook *National Income and the Price Level* - plus large-scale econometric models, of which the then emerging *Brookings Model* was something of a paradigm. This "Keynesian economics" had evolved from *The General Theory* – whether legitimately or not - as a means of coming to grips with, and designing policy to influence, the behaviour of real income and employment, but in the early 1960s it had been extended to deal with inflation by the addition of an analysis of exogenous "cost-push" factors, and/or a simple and apparently permanent inverse relationship between inflation and unemployment – a Phillips curve. When, at the decade's end, these modifications began to come to empirical grief in the face of failed policy experiments that they themselves had helped inspire, a further patch-up ensued. Endogenously determined, albeit adaptive, inflation expectations were introduced into the Phillips curve, with Lucas himself, in co-operation with the Leonard Rapping being a notable contributor to these early efforts – See Lucas and Rapping 1969). Although this simple modification, inspired by the work of Milton Friedman (1968) and Edmund Phelps (1967), was more empirically helpful than is now commonly believed,[4] its deployment nevertheless came too late to save the day for the macro-economics in which Lucas had been trained, because it did nothing to protect it from deeper theoretical probing along two inter-related lines.

First, the fact that endogenous expectations had been evoked to make macro-economic models work in an inflationary environment made it hard to avoid asking whether simple adaptive formulae were the best that either economic agents or those modeling their behaviour could do. Second, the Phillips curve had started out in A. W. Phillips (1958) as an empirical relationship for which its creator had offered scant

---

also appeared that year, and if its apparently thorough index is to be believed, it mentions Japan's experience in the 1990s twice in its 784 pages, financial markets once, and the "lender of last resort" not at all. I take a certain degree of satisfaction in having argued at the time (See Laidler 2006) that Woodford's analysis was well suited to the fair economic climate of a world dominated by successful inflation targeting, but that in rougher weather its narrowness was likely to be a source of trouble, but I had no idea then just how much trouble there was in store.

[4] Despite the claims of Lucas and Thomas Sargent (1978) to the contrary. On this, see John Helliwell, (2005-6)

theoretical justification, but one important strand of the late 1960s literature, of which Lucas and Rapping (1969) were also pioneers, grounded it in an analysis of the economy's supply side that could be combined with the IS-LM system to form a highly aggregated model of general economic equilibrium. Such a model clearly had to have links to micro-economic general equilibrium analysis, and the exploration of these links fitted naturally into a then already on-going search for the micro-foundations of macro-economics.

As everyone knows, what was soon labeled new-classical economics emerged largely from Lucas's own efforts to come to grips with these two issues. Initially, it was his replacement of adaptive by rational expectations that attracted most of the attention, but the closely related explicit application to traditionally macro questions of micro general equilibrium analysis marked a much more fundamental change in the then dominant approach to macro-economics, because it broke the area's last remaining intellectual links to Keynes' *General Theory.* Moreover, though Lucas's contribution launched a radically new vision of how a market economy functions, he himself thought of it more modestly as involving the exploitation of newly available analytic techniques to deal with age-old problems that the macro-economic theory of the 1960s and the macro-econometrics that went with it had proved unable to address. Viewing the *General Theory* through the prism created by this macro-economics, he saw it as having created an unhelpful detour in the discipline's otherwise orderly history, and interpreted its temporary success as a consequence of the historical situation that had prompted its writing.

In Lucas' view, Keynes had not advanced economics but had merely offered an *ad hoc* political response to the circumstances of the Great Depression, a response which, seen in relation to what Lucas believed to have been the already long-established internal dynamic of economics, was of no lasting scientific value. In 2004, he made this point as follows:

> "Keynes's real contribution is . . .not Einstein-level theory, new paradigm, all this . . ..that's just so much hot air. . . [I]n writing the *General Theory*, Keynes was viewing himself as a spokesman for a discredited profession. . . .in a situation where people are ready to throw in the towel on capitalism and liberal democracy

> and go with fascism or corporatism, protectionism, socialist planning. . . . What he hits on is that the government should take on new responsibilities . . . for stabilizing overall spending flows. . . . And . . . for everybody in the post-war period – I'm talking about Keynesians and monetarists both – that's the agreed upon view.. . .
>
> So I think this was a great political achievement. It gave us a lasting image of what we need economists for. I've been talking about the internal mainstream of economics, that's what we researchers live on, but as a group we have to earn our living by helping people diagnose situations that arise and helping them understand what is going on and what we can do about it. That was Keynes's whole life. He was a political activist from beginning to end. (2004, pp 23-24)

I shall return below to the view of macro-economics' internal dynamic implicit in this last this last paragraph. For the moment, though, note that Lucas is hardly the first commentator on the *General Theory* to draw attention to its author's talents as a polemicist, and to be led to dismiss that book's claims to scientific importance in the process. The opening sentences of Pigou's (1936) review of the same book are justly famous, at least among historians of economic thought

> "When, in 1919, he wrote *The Economic Consequences of the Peace*, Mr. Keynes did a good day's work for the world, in helping it back towards sanity. But he did a bad day's work for himself as an economist. For he discovered then, and his sub-conscious mind has not been able to forget since, that the best way to win attention for one's own ideas is to present them in a matrix of sarcastic comment upon other people" (p. 115)

And in 1936, as we all know, Pigou was no more appreciative of the *General Theory* as a substantive contribution to economic analysis than Lucas would later be.

But Elizabeth Johnson (1978a and b), who was every bit as sensitive as Lucas to Keynes's political agenda, without, however, at the same time dismissing his scientific contributions, argued that we should pay attention to Keynes' skills as a writer if we are fully to appreciate his economics, and nowhere did he make more careful use of these than when he chose the titles of his books. *Economic Consequences* was indeed written to

influence current policy. So were *A Tract on Monetary Reform* (1923), *The Means to Prosperity* (1933) and *How to Pay for the War* (1940), not to mention those occasional pieces collected together as *Essays in Persuasion* (1931). Their author's purposes are clearly expressed in the titles of these works. But *A Treatise on Money* (1930) and *The General Theory of Employment, Interest and Money* (1936) signal altogether more serious academic intentions. Pigou missed the point of the *General Theory* initially, perhaps because he was hurt, and justifiably so, by its unfair attacks upon his own work, but, with some acknowledged help from David Champernowne, he would later change his mind about its scientific importance (See Pigou 1938). Lucas's views on these matters, however, have not changed for three decades, most likely for two closely related reasons, namely the logical structure of his own macro-economics, and his understanding of the place of that macro-economics in the history of the subject.

III *Lucas on Progress in Macroeconomic*

The development of the expectations augmented Phillips curve in the late 1960s forced increased attention to be paid to the properties of the supply side of macroeconomic models, and one strand in the resulting literature treated the relationship itself as an aggregate supply curve, along which, as Lucas (2004) points out with specific reference to Lucas and Rapping's (1969) version of the analysis, "we have a cleared labor market at every point in time" (p. 26). But as a simple matter of logic, the labour market can only be cleared if the demanders of labour both expect to sell what labour produces and are able to do so. Furthermore, the aggregate demand side of the economy to which Lucas and Rapping thought their analysis was complementary was at that time invariably modeled in IS-LM terms and had a postulate about supply side behaviour embedded in it, namely, that what was demanded was also being produced, for how else could the economy be on an IS-curve along which desired investment equaled desired saving?[5]

The aggregate demand and supply curves of the typical macroeconomic model of around 1970s, that is to say, were not behaviour relationships, but equilibrium loci, and to

[5] Thus the relationships between aggregate demand and the interest rate that are nowadays widely deployed in monetary policy models should not be referred to as "optimizing IS curves". Rather they are structural behaviour relationships. The apparently simple IS-LM model presents many pitfalls for the unwary who were not brought up on it, as readers of the work of Ingo Barens (e.g.1999) on its history and logical properties will be particularly aware.

be on either, the economy had to be on both, that is in full equilibrium. However, the then popular large scale quantitative versions of such models that had figured prominently in Lucas' Keynesian education were made up of difference equations that not only tried to deal with out-of-equilibrium adjustment processes, but were also estimated one at a time and then brought together in systems which Lucas disparagingly but with some justification compared to a "church supper" - "a completely crazy way to put together a general equilibrium model of the whole economy. Nobody's thinking about the whole thing" (2004, p. 21)

Lucas seems to have understood from a very early stage, however, that to bring coherence to these models required more than merely an effort to think self consciously about the "whole thing" when constructing them. He was familiar with Don Patinkin's (1957) search for Walrasian foundations for Keynesian macroeconomics, and had noticed that in the resulting systems, movements between equilibria occurred in real time as prices that adjusted in accordance with what he refers to as the "mechanical auctioneer dynamics that Samuelson introduced". As he pointed out in (2004), because "the rate of change of price in any one market ought to depend on excess demand and supply in all markets in the system" (p. 15) anything could happen in this process.[6] Crucially also, Lucas recognized that this characteristic had a counterpart in those abovementioned difference-equation-based macro-econometric models into which "Keynesian theory . . . [had breathed] some economic life". To match the data they relied on inter-equilibria adjustment processes characterized by parameters whose values were left to be determined freely by those data, and as a result they could explain (almost – sometimes there were sign or magnitude restriction) anything and therefore (almost) nothing As he put it in his Nobel Lecture (Lucas, 1996, p.252), "The dynamics had a kind of patched in quality, fitting the facts, but only in a manner that suggests they could equally well fit any facts" And to complete this unsatisfactory picture, the expectations that implicitly or explicitly entered into determining the behaviour described by the individual equations of these models were routinely unrelated to the outcomes generated by the models themselves.

[6] As, according to Lucas, Milton Friedman had already pointed out to Patinkin,

In (2004), Lucas described the development of macro-economics once these problems were recognized as involving the replacement of this Keynesian economics, in which he had initially been educated,

> by the Arrow-Debreu model, which shows how you can take what seems to be a static general equilibrium model and talk about markets for contingent claims, talk about any kind of dynamics you'd like, coming right out of the economics. No auctioneer, or the auctioneer worked very quickly . . . we didn't know this theory existed back in 1960 although it did. But now its potential is getting realized. It has completely succeeded in taking over growth theory, most of public finance, financial economics. Now it's coming in use in macroeconomics with real business cycle theory; certain kinds of monetary variations have been introduced with success . . . (p. 23)

This of course is the approach that doesn't let us think about that "residue of things" which includes financial crises and the depression; but it is even more limiting than that. It is also makes it hard for its exponents to double back to the insights of an earlier era in economics for help with this problem because the most important of those insights were into the workings of economies in whose description that phrase deployed by Lucas - *"no auctioneer"* - is to be taken literally, so that the agents operating within them must themselves set the prices at which they then trade. An economy with "No auctioneer" is thus not the same as one presided over by a "very quick" auctioneer, because when the latter sets the prices of future goods and/or state contingent claims on them alongside those of current goods, he reduces the logic of "any kind of dynamics you like" to that of a static general equilibrium model and precludes the possibility of trade and production happening at non-market-clearing prices, something that is all too likely to happen in his absence..

As some extremely distinguished exponents of the Arrow-Debreu model – for example Frank Hahn (e.g. 1982) - have argued, this quick auctioneer's activities render such an economy crucially different from any that we might encounter in the real world, not least because they eliminate any essential role for money in its processes of price

formation or exchange.[7] The market mechanisms embedded in the Arrow Debreu model are thus at best a metaphor for the monetary and financial systems through which exchange among agents both at a moment in time and over time is mediated in the real world. It is because financial crises involve failures of the latter systems that models which analyze only situations in which they are working cannot be of any help in understanding these events.

This does not in and of itself make dynamic general equilibrium models bad economics, because to resort to a metaphor is merely to say that one thing behaves "as if" it were another. Many of us are quite comfortable with empirically testing "as if" statements about how the economy functions, tentatively accepting them if they seem to be useful and otherwise rejecting them. Some of us are even willing to deploy particular already well-tested "as if" hypotheses in contexts where they seem likely to work, though we also know that in others they don't. Dynamic general equilibrium modeling in macro-economics, of the type that that began with Lucas's (1972) "money-supply surprise" model, could, and still can, therefore, be defended on an "as if" basis as one potentially useful approach among others, even if limited in its applicability. Indeed in some places from the early 1990s until recently, such an approach – essentially that codified by Woodford (2003) - provided a very useful framework for monetary policy making, But, as a matter of fact, since the mid-1970s, the market-clearing postulate has often been treated by its exponents, not as a refutable conjecture about how economies might helpfully be modeled in some circumatances, but as an axiom, alongside that of rational maximizing behaviour, upon whose acceptance the admissibility of any model into the ranks of what is then worth testing depends.[8]

---

[7] Although "certain kinds of monetary variations" – cash in advance, over-lapping generations models, or simply a money stock that responds passively to the demand for money, though Lucas does not itemize these – have been indeed introduced into such analysis, it is not clear by what criteria the success he claims for these exercises should be judged.

[8] This author tried, without much success to start a debate about the empirical weaknesses of the money-supply surprise model of the cycle from the late 1970s onwards, drawing attention in particular to that model's inconsistency with one of the best established sets of stylized facts in economics, namely that variations in money growth precede those in output, which in turn precede those in the inflation rate See for example Laidler (1982) Lucas himself does not seem to have acknowledged the model's empirical difficulties, and the impetus they had given to real business cycle theory, until his (1996) Nobel Prize lecture. Recently, in a 2009 lecture offering an interpretation of today's crisis in terms of a framework that harks back to Friedman and Schwartz's (1963) treatment of the Great Depression, he remarks "But we don't

One can see why well articulated micro-economic foundations began to take such strong precedence over empirical evidence in macroeconomics in the early 1970s. After all, a permanent inflation-unemployment trade-off had been presented as a well established fact in the preceding decade and had quickly found a central place not just in the text-books, but in the policy debates of the period too, but Phelps and Friedman had challenged its authority with *a priori* micro-economic reasoning before the empirical counter-examples that confirmed their skepticism had been generated. Once inflation began to generate these counter-examples in the early 1970s, however, it became patently obvious that the careful deductive analysis of rational behaviour had been a better guide to assessing propositions about real world economies than had empirical generalizations with no obvious basis in such reasoning.

Even so, the temptation to draw general conclusions about how to proceed with macro-economic modeling from examples such as this has its dangers. The rational maximization postulate is most easily deployed in macro-economics by adopting the "representative agent" simplification to dispose of all the many complications that disparities and interactions among multiple agents can create for the analysis of aggregate behaviour. When such models are extended to multiple-agent formulations, the assumption of continuously clearing markets plays the apparently primarily technical role of enabling the analysis to continue to focus on rational maximizing behaviour, and in particular on the formulation and use of rational expectations to guide it.[9]

But in fact, this assumption of clearing markets, technically useful though it certainly is, is also of immense substantive significance. To treat it as an axiom rather than an empirical hypothesis is to do nothing less than resolve by assumption, and hence place beyond debate, two of the oldest and most contentious questions in the history of economics, namely whether, and if so how, a decentralized market economy is capable of coordinating the individual consumption and production decisions of those who

---

have a reliable way to predict how spending changes break down into price effects and production effects". I am grateful to Russell Boyer for drawing my attention to this lecture.

[9] And of course, in empirical work the representative agent assumption permits cross equation constraints to be imposed upon the model's behaviour, whether it is to be tested by estimation or calibration. I am unaware of any arguments, either theoretical or empirical that support such a style of modeling to the exclusion of other less exacting procedures. Of course, there can be no harm in imposing such constraints on a "as if" basis as a prelude to testing their validity. What is wrong is to insist on them.

participate in it. Only the answers "yes" to the first and "as if by agents who respond to the market clearing prices posted by an auctioneer who works very quickly" to the second are admissible. Other responses, such as "sometimes" and "by indirect exchange mediated by monetary and financial systems that are subject to failure from time to time", let alone any more radical suggestions that might boil down to "never", are ruled out.

But, in Lucas's view the deployment of Arrow-Debreu analysis represents nothing more (nor less) than the fulfillment of what was always the goal of a long line of theorists, stretching from David Hume to Patinkin who, wanting ". . . to think in general equilibrium terms . . . resort to disequilibrium dynamics only because the analytic equipment available to them offers no alternative" (1996, p. 253). Or, as he put it in (2004)

> I see the progressive . . . element in economics as entirely technical: better mathematics, better mathematical formulation, better data, better data-processing methods, better statistical methods, better computational methods, I think of all progress in economic thinking, in the kind of basic core of economic theory as developing entirely as learning how to do what Hume, and Smith and Ricardo wanted to do, only better. (2004, p.22)

However, as we have seen, no theoretical system based on the assumption of continuously clearing markets – and this is true even of those mislabeled "new Keynesians" models deployed for example by Woodford (2003) in which money-wage and nominal price adjustment is slowed down by arbitrarily introduced overlapping contracts – can deal with some of the critical monetary and financial features of any real world economy.[10] It is not just that such macroeconomic models cannot address the policy issues that the recent convulsions in financial markets have created, though they can't, but rather that it is difficult for anyone brought up under their influence even to conceive of such events occurring in the first place. That is why a crisis in macro-economics is an integral part of the current economic situation.

.

[10] This is indeed to suggest that Lucas has misread the intentions of Hume, Smith, Ricardo et al., as Mark Blaug (2001) argued at much greater length.

IV *Keynes as an Alleged Scientific Outlier*

The extent to which modern economic theory has contributed to the upheavals that began to shake economies in 2007 is a problem for future economic historians and historians of economic thought to worry about. For today's economists, or at least those who take the subject's past seriously, a more immediate question is where in that past we might look for guidance as we try to reconfigure its future.

One answer already widely on offer, not least from Akerlof and Shiller (2009) is the Keynesian Revolution of the late 1930s. Somewhat paradoxically, although these authors have a high opinion of Keynes as an economist, their assessment of the facts of his place in the history of macroeconomics is very similar to Lucas's. They too treat him as an outlier who tried and failed to divert economics from a continuously developing orthodoxy that could be traced back to Adam Smith and the other founders of Classical economics. As they describe that orthodoxy,

> According to traditional economics, free market capitalism will be essentially perfect and stable . . . This line of reasoning goes back to Adam Smith . . . If people rationally pursue their own economic interests in such markets, they will exhaust all mutually beneficial opportunities to produce goods and exchange with one another [and this] results in full employment" (2009. p.2)

And of course at least one other authority took a similar view of Keynes' place in the history of economic thought even before the publication of the *General Theory*, namely its author. Recall that famous letter to George Bernard Shaw, later quoted on the back cover of the "Papermac" edition of the book in question: " . . .you have to know that I believe myself to be writing a book on economic theory which will largely revolutionise [sic] – not, I suppose at once but in the course of the next ten years – the way the world thinks about economic problems"; but note also that the *General Theory's* own account of "Classical economics" was castigated by Pigou (1936) as "a macedoine of misrepresentation", and that another reviewer, Frank H. Knight (1937) described Keynes' treatment of it in the following similar, if more even- tempered, terms:

> the references under this phrase are the sort of caricatures, which are typically set up as straw men for purposes of attack in controversial writing . . . the reader of Mr. Keynes's [sic] book would do well to keep in mind that references to

"classical economics" are to be interpreted as relating to economic analysis *at the stage* at which uncertainty and monetary disturbances are assumed absent" (1937, p. 101)

This judgment is surely right, for though Keynes did have interesting and sometimes novel things to say about "uncertainty and monetary disturbances", it is by now a commonplace of the history of macroeconomic thought that he systematically downplayed the fact that so did many of his then academically respectable contemporaries and predecessors. It is worrisome therefore that, at a time when the sub-discipline is having so much difficulty coping with empirical puzzles that seem to be associated with these very phenomena, important theorists like Akerlof and Shiller, and of course Lucas, remain content to take Keynes' own account of his place in that history at face value.

V *Some Psychological Components of Keynes' Macro-economics*

In *Animal Spirits* Akerlof and Shiller invoke Keynes' name and vocabulary mainly as rhetorical devices in support of the view that macroeconomics should take a little more notice of psychology and rely somewhat less on utility maximizing hypotheses. The ultimate test of their claims here must be whether they help us to understand the world we live in better than the alternative, and on this question I am willing to suspend judgment pending the outcome of further empirical investigations. But, though it is certainly true that there is much in the *General Theory* that derives from Keynes' own keen interest in psychology, a point often stressed by Gilles Dostaler – most recently in (2007, Ch. 6) - not all of the precedents for such an approach on display in the *General Theory* are encouraging.

To begin with, Keynes invoked not maximizing behaviour but psychology to get the stable marginal propensity to consume that he needed to generate a stable multiplier, which was both a useful simplification to deploy in his explanation of unemployment as a consequence of deficient private investment and a crucial lynchpin for his policy recommendation that this gap could be filled by public expenditure. He told his readers that though the "propensity to consume" was influenced by both subjective and objective factors, the former, namely "those psychological characteristics of human nature, . . .

social practices and institutions . . . though not unalterable . . .are unlikely to undergo a material change over a short period of time, except in abnormal or revolutionary circumstances" so that, ultimately

> The fundamental psychological law, upon which we are entitled to depend with great confidence both *a priori* from our knowledge of human nature and from the detailed facts of experience, is that men are disposed, as a rule and on average, to increase their consumption as their income increases, but not by as much as the increase in their income. (1936, p. 98)

As Allan Hynes (1998) has documented, however, this building block of *The General Theory,* which Bertil Ohlin had criticized as an over-simplification as early as (1937), began to crack under the weight of empirical evidence in the early 1940s and was ultimately replaced by the utility-maximizing models of Franco Modigliani and Richard Brumberg (1954) and Friedman (1957)

Or to cite another example, Allan Meltzer (1988, p.146) has drawn attention to Keynes's way of switching between extrapolative and regressive hypotheses about interest-rate expectations, not least as the needs of his case changed between the *Treatise on Money* (1930) and the *General Theory*. In the *Treatise*, when discussing the use of monetary policy to influence the long-term rate of interest in order to offset the effects on investment of swings in "the spirit of enterprise", he argued that the short interest rates that the central bank could undoubtedly influence "affect long rates more than one might expect" because "mob psychology" - at first sight an unreliable foundation for monetary policy - in fact provided the basis for "a homeopathic cure , , ,The real prospects do not suffer such large and quick changes as does the spirit of enterprise" so "it is not unreasonable to depend on short-period influences for counteracting a violent, and perhaps unreasoning change in sentiment" In the *General Theory,* on the other hand, though Keynes still presented that same long rate of interest as "a highly psychological phenomenon" he quickly qualified this characterization by suggesting that it was "more accurately . . . a highly conventional . . .phenomenon . . ." which would sometimes be impervious to monetary policy because

> "*Any* level of interest which is accepted with sufficient conviction as *likely* to be durable *will* be durable; subject of course, in a changing society to fluctuations for

all kinds of reasons round the expected normal. . . . it may fluctuate for decades about a level which is chronically too high for full employment . . ." (italics in original)

As to swings in the above-mentioned "spirit of enterprise", which had already appeared, though not under that label, in the work of Lavington (1922) and Pigou (eg.1927) as driven by cumulative and contagious "errors of optimism and pessimism", these would reappear in the *General Theory* as consequences of exogenous changes in "animal spirits" that are there presented as more important determinants of the marginal efficiency of capital than any "weighted average of quantitative benefits multiplied by quantitative probabilities" (p. 161) Now Roger Backhouse and Laidler (2004) among others have followed Jan Kregel (1976) in pointing out that Keynes' treatment of long term expectations about the profitability of investment as exogenous enabled him to develop an essentially comparative static and hence analytically manageable framework to expound the central theme of the *General Theory*, namely that it is changes in expectations *about the future* which largely cause variations *in the present* level of employment, so this was surely a fruitful and productive simplification.[11] But though Keynes had many amusing things to say about the gyrations of the "spirit of enterprise" and its interactions with what he called "speculation" in his Chapter 12 on "The State of Long-term Expectation", the fact remains that in accounting for swings in investment by attributing them to exogenous changes in "animal spirits" (or to exogenous changes in anything else for that matter) he left them entirely unexplained.

Now Keynes was not the first economist to appeal to psychology when lacking an explanation for seemingly important facts: There is, for example, more psychology and

[11]. Before 1930 there had actually been some non-trivial discussions by Gunnar Myrdal (1927) and Eric Lindahl (1929) of rational forward looking expectations as determinants of current behaviour, which, for want of any means of analyzing these interactions, had given way to ideas about endogenously determined extrapolative expectations. But, as Bjorn Hansson (1982) documents, when embedded in dynamic "model sequences" these too had proved analytically complex and unmanageable and had yielded little in the way of definite results. Others would soon formalize Keynes' essentially static framework into the IS-LM model which was not only technically accessible to the average professional economist of the period, but also yielded clear-cut and above all easily taught results, not least about the effects of shifts of the IS curve on real income, and hence by implication, employment. This was hardly a be-all and end-all as far as modeling the role of expectations in the macro-economy was concerned, but it was nevertheless the best that could be done at the time. Given generally available analytic techniques in the late 1930s, therefore,, to make expectations exogenous was actually a progressive step, and it was only in the third quarter of the century that most economists mastered the methods that permitted more subtle ideas to be explored productively.

less rational maximization at the heart of the *Wealth of Nations* (1776) than either Lucas or Akerlof and Shiller seem willing to concede. Adam Smith even invoked an inherent "propensity to truck and barter" to explain the phenomenon of exchange itself. Nor was Keynes the last, asAkerlof and Shiller's own example shows. But even given the advances that the latter tell us have been made since 1936 in the course of a further seventy years work on the idea of "animal spirits" (See, p. xi), one wonders whether their optimistic claim that the modern version of this concept provides "easy answers" to the eight undoubtedly important economic questions which their book addresses is justified.[12] Perhaps such answers are just a bit too easy when it is permissible to cast them in terms of behavioural hypotheses that, not being firmly grounded in rational maximization, can be custom-tailored to the relevant facts.

VI *Keynes on Money and Coordination*

Keynes' deployment of exogenous long-term expectations to permit the analytic simplifications needed to generate a coherent theory of employment provides compelling support for Lucas's views on the role of analytic techniques as limiting factors in the development of economic theory, and subsequent developments in the treatment of expectations just as surely illustrate his contentions about the importance of purely technical advances in the permitting theory to move forward. As we have seen, however, Lucas goes beyond such claims. He explicitly treats technical advances as in and of themselves defining theoretical progress, and he implicitly treats that progress as coming at no cost. If he is right here, any doubling back of economic thought to the 1930s, or any other era, is unnecessary, now or at any other time.

Akerlof and Shiller clearly reject this viewpoint, but it is not necessary to share their enthusiasm for psychology in general or "animal spirits" in particular, to agree with their broader judgment. As Backhouse and Laidler (2004) pointed out, much else besides Keynes' deployment of psychological ideas became hidden from view as IS-LM based

[12] These questions, whose specifics need not concern us here, are listed by them on page 6 of their book. Note that, as Peter Howitt has suggested to me, some at least of the differences between Akerlof and Shiller's ideas about "animal spirits" and those of Keynes stem from their habit of using the phrase to characterize any deviation of economic agents' motivation from the rational maximizing norm of neo-classical economics, whereas Keynes used it to refer only to what he elsewhere termed the "spirit of enterprise" among investors.

macro-economics cast its ever deepening shadow over macro-economic in the 1940s and '50s. This is not to argue that such economics was not legitimately derived from the *General Theory*.[13] But it is to argue that there was much else both in that book, and in the literature in whose context it should be read, that did not find its way into the so-called Keynesian education of Lucas and of most of his contemporaries.

In particular Keynes attributed an utterly central role to money in his new theory of how the economy functioned. Readers of his Preface were told that

> . . . whilst … money enters into the economic scheme in an essential and peculiar manner, technical monetary detail falls into the background A monetary economy, we shall find, is one in which changing views about the future are capable of influencing the quantity of employment and not merely its direction. (p. vii)

Even so, had the *General Theory* said no more than that the key to macro-economic instability was to be found in the workings of the monetary system, this would not have set it apart from a host of other writings of the period. John Stuart Mill's insights into the way an excess supply of output as a whole could arise as a counterpart to an excess demand for money in times of crisis first appeared in a rather obscure paper published in (1844) but written in the late 1820s, but they were also set out in his *Principles* (1848), and were taken up in due course by Alfred Marshall and Mary Marshall (1879). In the inter-war years, much developed, they were on prominent display in Ralph Hawtrey's (eg. 1919, 1932) work. Furthermore, as Axel Leijonhufvud (1981) has documented so persuasively, Knut Wicksell's (1898) analysis of how an interest rate determined within the monetary system might disrupt capital markets' ability to maintain equilibrium between saving and investment inspired a lively and diverse subsequent literature from which Keynes' own *Treatise on Money* drew much of its inspiration. By 1936, that is to say, the literature of macro-economics was dominated, not by the view that the economy could be analyzed "as if" functioning by barter, but by a bewildering variety of efforts,

[13] A comparison of Chapter 18 of that book - "The General Theory of Employment re-stated" with Hick's famous (!937) article will provide ample evidence that it was, while Patinkin (1990) provides a much more elaborate statement of the case for regarding IS-LM as conveying a – he would surely have said the – legitimate account of the book's central message.

each in its own way unsatisfactory, to articulate just what it was about money that made an economy that used it different in general, and crisis prone in particular.

As I argued in Laidler (1999), there was therefore nothing original about this question when the *General Theory* posed it, nor were any of the concepts Keynes deployed in formulating his particular response new. The multiplier was borrowed from Richard Kahn (1931) and Jens Warming (1932), the "marginal efficiency of capital" from Fisher (1907) - where it was called the "rate of return over cost" - while "liquidity preference" – also a new name for an older idea – came from Frederick Lavington (1921) by way of Keynes's own earlier *Treatise on Money* and John Hicks (1935).

What was new in (1936) was a uniquely powerful and coherent synthesis of these ideas. The point of liquidity preference theory was that money, whose use as a means of exchange and unit of account made coordinated economic activity feasible in the first place, also could and did function as a store of value along-side claims to the income streams generated by capital goods.[14] Thus

> The psychological time-preferences of an individual require two distinct sets of decisions to carry them out completely. The first is concerned with that aspect of time-preference which . . . determines how much of his income he will consume and how much he will reserve in *some* form of command over future consumption.
>
> But this decision having been made, there is a further decision . . . namely in *what form* he will hold the command over future consumption which he has reserved, whether out of his current income or from previous savings. Does he want to hold it in the form of immediate, liquid command (*i.e.* in money or its equivalent)? Or is he prepared to part with immediate command for a specified or indefinite period, leaving it to future market conditions to determine on what terms he can, if necessary, convert deferred command over specific goods into immediate command over goods in general? (p. 166)

[14] Akerlof and Shiller make much of the potential for money's unit of account role to create "money illusion" and hence to cause departures from rational behaviour. Without wishing to commit myself here either against or for their particular applications of this idea to current macroeconomic issues, let me record my judgment that they overstate role played by this idea in the *General Theory's* analysis of the importance of money. See also below, p. 22.

In the "as if" model of a barter economy that Keynes misleadingly identified as representing the sum total of classical economics, the rate of interest has only one function, to equilibrate the first of the abovementioned decisions with the investment choices of firms. But, he argued, a monetary economy *is not* an "as if barter" economy precisely because, when money can be held as a store of value, the rate of interest also acquires a crucial role in portfolio allocation decisions, which *may* undermine its capacity simultaneously to coordinate the allocation of resources over time.

Keynes posited the logical possibility of co-ordination failures in a monetary economy, not their logical necessity, however, and he went to considerable trouble to describe the circumstances under which a monetary economy would converge on an equilibrium in which what he called the "neutral" rate of interest – that which would equate saving and investment at a full employment level of income - would prevail. However, writing as he was in the mid 1930s (and recall that in his native Britain, mass unemployment had been chronic since 1921) it was nevertheless reasonable for him conclude that at least some of many factors to which he could point as making this outcome unlikely had in fact prevailed, and to suggest both a diagnosis of the depression, and policy remedies for it.

The General Theory's treatment of these issues will seem to many nowadays both dated and politically naive[15]: It attributes the depression of its times to a chronic lack of investment opportunities that are privately profitable even at a low positive value of the long term rate of interest, this state of affairs being caused in turn by a secular slowdown in technical progress which was expected to persist into the foreseeable future; it then suggests remedies that require some permanent changes in economic and social organization: "a much lower rate of interest than has ruled hitherto", a "state of affairs . . . quite compatible with some measure of individualism, yet it would mean the euthanasia of the rentier" (p 375-6), not to mention a "somewhat comprehensive socialization of investment" (p. 378).

[15] Though Roger Backhouse has rightly warned me that much of this impression stems from viewing the book from the stand-point of today's political and economic orthodoxy, which is of relatively recent origin. It is worth speculating that, when the dust created by the present crisis has settled, a different perspective on some of these matters might emerge.

We might conjecture that the clearly political content of these recommendations combined with the dramatic flair with which they were advanced as seeming ". . . to a nineteenth-century publicist or to a contemporary American financier to be a terrific encroachment on individualism" (p 380) were what helped to convince Lucas that their author's theoretical ideas could be of no account for the development of scientific economics. But, as Patinkin (1983) pointed out in the course of his critique of Meltzer's (1981) "different perspective" on the *General Theory*, that book's final Chapter 24, in which these ideas appear, is not a conventional closing summary of a scientific monograph dedicated to expounding a new theory, but merely "Concluding notes on the Social Philosophy towards which the General Theory *might* lead"(italics added).

Even Keynes, that is to say, knew that the political appendages of the *General Theory* were not logically implied by its theoretical economic content, but by certain empirical judgments with which he supplemented the book's analytic framework. But claims on behalf of the importance and originality of that theoretical economic content are not, as Lucas would have them, "hot air". That "general theory" to which the book's title alludes is, after all, a systematic and successful effort to show why the logic of a monetary economy cannot in general be reduced to that of an economy in which, to borrow Lucas's terminology, a very quick auctioneer is always at work, and how that economy's distinguishing monetary characteristics render it prone to co-ordination failures. Furthermore, as Peter Howitt has argued in a number of places (eg. 1995, 2006), the logic of macroeconomic systems that rely on an auctioneer to support the interlinked hypotheses of clearing markets and rational expectations cannot be extended to encompass such failures. If therefore, as Lucas would have us do, we treat the differences between these two classes of models as reflecting not the presence of different substantive and testable "as-if" hypotheses about the way in which economies actually function, but simply the technical superiority of one of them, which we are then bound to choose, we not only find ourselves unable to think about co-ordination failures, but we also rule out any efforts to do so as scientifically retrogressive.

VII *The General Theory's Current Relevance*

The General Theory of Employment, Interest and Money is not a treatise on the overall anatomy of economic crises. Though it does have things to say about their origins, it is primarily about why they involve unemployment, and what might be done about this, and it is with these same issues that it is most likely to be helpful today. Keynes argued that an understanding of monetary matters was essential to grasping how the level of employment could sometimes be deficient, that this very understanding implied that wage and price flexibility, which operated through its effects on the monetary system, could not and should not be relied on to restore it to a satisfactory level, and also that expansionary monetary policy might sometimes be of limited usefulness for this purpose.

It is convenient to take up the role of price flexibility, or the lack thereof, in the story first of all. *Pace* Akerlof and Shiller and a host of others, the significance of price stickiness for a monetary economy does not rest in any essential way on money illusion, contractually determined money wage rigidities or any other such *dei ex machina.* Rather, as only became entirely clear in the 1960s from the work of Robert Clower (1965) and Leijonhufvud (1968), it derives from the more fundamental fact that, though in such an economy variations in the general price level are required to keep the supply and demand for money in equilibrium at full employment, there is no auctioneer present to set this variable's value[16]. Its behaviour is therefore the aggregate byproduct of the activities of a host of individual agents, each of whom sets the nominal price of whatever is traded in his or her own market with no regard to that aggregate outcome. These agents can bring as much (or little) flexibility and rationality to these activities as we care to attribute to them, but just so long as they do not always make exactly the right array of decisions to keep the overall price level at its market-clearing value, then trading at false prices will take place in some markets, with consequences for subsequent decisions about quantities whose aggregate outcomes may sometimes look like multiplier processes.

Not that Keynes in any case regarded a degree of price level stickiness as a drawback in a monetary economy. On the contrary, he clearly believed that the

[16] The work of Clower and Leijonhufvud' on the market-theoretic foundations of Keynesian macro-economics of the late 1960s was eclipsed by the success of Lucas's new-classical approach to the same issues, unfortunately so in my view. For a fuller discussion of its place in the history of macro-economics, see Laidler (2009). Note that there was also what we might call a "monetarist" branch to this line of thought, See, for example, Karl Brunner and Meltzer (1971) and Laidler (1974)

predictability in nominal values that it brought with it helped to make rational decisions possible, and from the *Tract on Monetary Reform* (1923) to *How to Pay for the War* (1940), he was a firm advocate of price level stability as a policy goal. This was his position in the *General Theory* as well, even in the face of employment problems

> . . .the chief result of . . .[money wage flexibility] would be to cause a great instability of prices, so violent perhaps as to make business calculations futile in an economic society functioning after the manner of that in which we live. To suppose that a flexible wage policy is a right and proper adjunct of a system . . . which on the whole is one of *laissez-faire*, is the opposite of the truth (p.269)

But when it came to explaining the possibility of unemployment arising, and warning about limits on the efficacy of monetary cures for this state of affairs, Keynes emphasized not price stickiness *per se* but money's capacity to satisfy liquidity preference, though of course this did derive from its role in the processes of price formation and exchange that price stability helped support..

According to Keynes, The basic reason that unemployment could arise was that, to use a more modern terminology than he deployed himself, liquidity preference interfered with the rate of interest's ability to keep the allocation of resources over time coordinated in the face of changing investment and saving decisions, thus forcing it to abdicate this task to movements in income and employment; and monetary cures for unemployment were unreliable because the sensitivity of the demand for money to the rate of interest might place limits on the expansionary impact of increases in real balances, even when these were brought about directly by policy-induced increases in the supply of nominal balances, rather than price level variations.

Keynes' claims on behalf of the novelty and importance of these implications of his monetary theory of the rate of interest generated much immediate criticism, and the ensuing debate established a point that is crucially relevant to today's policy debates: namely that, though his explanation of how variations in employment could occur and his speculations about the weakness of monetary stabilizing measures are linked to one another by his insights into the unique nature of a monetary economy, one can accept the former without also assenting to the latter. Dennis Robertson (1936), Jacob Viner (1936)

and Hawtrey (1937) each in his own way took this position, and there is a lot to be said for it.

The key point here is that the interest sensitivity of the demand for money must be *non trivial* for a monetary economy to generate lapses from high employment in the face of shocks to saving and investment, but it needs to be *very high* to support doubts about the effectiveness of monetary stimulus in the face of such lapses. There is much less empirical evidence to support this latter position than the former. That is why Keynes' claims about the importance of liquidity preference as the key to co-ordination failures that can generate unemployment are still worth taking seriously, while his doubts about monetary policy as a cure for them are more questionable. Though he was himself ambivalent about the empirical relevance of that extreme case which Dennis Robertson later called the *liquidity trap*, there is ample textual evidence that he believed liquidity preference usually to be highly interest sensitive and unstable as well, a matter that Friedman (1974) in particular emphasized when he denied that his demand for money function was not so much a restated quantity theory as a development of Keynes' monetary theory [17]

If one can accept Keynes; view of the monetary roots of unemployment without being obliged to accept his skepticism about the efficacy of monetary remedies for it., this still leaves open questions about the adequacy of the explanations on offer in the *General Theory* for the onset of a crisis like today's. There is much that is attractive here: not least the parallel between Keynes' paradoxical proposition, already explored at length, that the very institution of monetary exchange that makes a market economy possible also renders it vulnerable to failure, and his equally paradoxical argument that the modern financial markets that do so much to mobilize savings and make them available for

[17]Furthermore, many contemporary commentators shared his views that experience in 1932 in the US had demonstrated at least the temporary impotence of monetary measures. Not all of them did, however, – Lauchlin Currie (1934) being notable among the dissenters - while the much later work of Friedman and Anna Schwartz (1963) and of Allan Meltzer (2003) has by now made dissent from Keynes' skepticism on this point something closer to a majority view Not a universal one, though, for Paul Krugman (eg 2007) is an important dissenter, but since his case for the liquidity trap's existence, as set out in (e.g. 1999) is a purely deductive one, based on a model rigged to produce an L shaped demand for money function by making this demand depend purely on an arbitrarily imposed cash-in-advance constraint while introducing a bond into the system that is a perfect substitute for money as a store of value, it is hard to know what to make of this dissent.

investment, also undermine the rationality of the latter activity.[18] As he put it: "The social object of skilled investment should be to defeat the dark forces of time and ignorance which envelop our future. The actual private object of the most skilled investment today is to "beat the gun" as the Americans so well express it, to outwit the crowd, and to pass the bad, or depreciating, half crown to the other fellow" (p. 155). And his recognition that "these tendencies are a scarcely avoidable outcome of having successfully organized 'liquid' investment markets" did not soften his judgment that "when the capital development of a country becomes the by-product of the activities of a casino, the job is likely to be ill done" (p.159)

It is hard to deny that all this has considerable contemporary resonance in 2009, or to fail to recognize that Hyman Minsky's (e.g 1982) nowadays finally popular analysis of financial markets' tendencies to develop into gigantic Ponzi schemes has some of its roots here. But Keynes' analysis is nevertheless incomplete, as has already been noted above. His insights into the role of financial markets in detaching investment decisions from fundamentals notwithstanding, a spontaneous collapse in animal spirits and hence in the marginal efficiency of capital and in investment expenditure is more an *ex post* rationalization of an economic crisis than an explanation for it, and it also leaves too many facts unaccounted for. That is why, as I have explained at greater length in Laidler (2007), I find analyses of booms and their collapse into financial crisis along Austrian – See e.g. Friedrich von Hayek (1929), and Roger Garrison (2001) – or Robertsonian – See e.g. Robertson (1928) - lines more satisfactory, inasmuch in particular as these find a place for the incomplete capital expenditure projects that, as an empirical matter, always seem to be left behind by these events; and if forced to refine this choice further, I would opt for Robertson, who avoided Hayek's tendency towards policy nihilism about how to deal with the subsequent slump because he had a better appreciation of the fact that bubbles are primarily sectoral in nature, even though the consequences of their collapse may often be economy-wide..

Even so, my skepticism about the adequacy of Keynes' views on monetary policy, and on the causes of crises notwithstanding, I hope that it is clear from the foregoing discussion that his interpretation of falling income and employment as a monetary

[18] I am grateful to Harald Hagemann for suggesting that I address these issues.

economy's way of moving saving and investment back towards equilibrium when its mechanisms prevent the rate of interest from doing the trick is as relevant today as it was in 1936, and an idea that modern macroeconomics would do well to revive. [19]

VIII *Summarizing Keynes' Contemporary Significance*

Lucas (2004) described Keynes's response to the depression as that of a political activist whose claims to have contributed to economic theory were unsustainable. And yet Lucas was not willing to argue that Keynes' influence was over, because further progress along "the internal mainstream of economics . . . that . . . we researchers live on", whose flow Keynes had temporarily interrupted, had not yet produced an adequate treatment of matters related to monetary instability. "Some people just deny that there are real effects of monetary instability, but I think that it is just a mistake" and in any event, researchers "as a group . . . have to earn our living by helping people diagnose situations that arise and helping them understand what is going on and what we can do about it"

While waiting for the above-mentioned "internal mainstream" to produce relevant results, therefore, Lucas seems willing, when discussing current policy as he does in a recent lecture (2009), to offer analysis in the spirit he attributes to Keynes, and also to Friedman, whose approach he doesn't find too different (see 2004, p.24).[20] But, as I argued at the outset of this paper, the mainstream of macro-economics does not follow a straight line characterized by purely technical advances. It is much more wayward, and sometimes encounters empirical obstacles sufficiently strong to divert its course and even turn it temporarily back on itself in search of theoretical ideas that have been prematurely mislaid in the face of changing policy problems or inadequacies of available analytic techniques.

Today's economic crisis is just such an obstacle, and my main purpose in this paper has been to argue that it calls for a reconsideration of Keynes's insights into the

[19] This is not to say that explanations of the onset of the current crisis along Keynes' (or Minsky's) lines would lack a respectable pedigree: see Michael Lawlor (2006), for example on the nature and origins of Keynes' views on the functioning of financial markets.

[20] Roger Backhouse has correctly pointed out to me that many other earlier commentators – eg. Johnson (1971), Patinkin (1974) - have noted affinities between the approaches taken by Keynes and Friedman to economics, but when Lucas does so, this is nevertheless of more than routine significance, for in doing so, he implicitly differentiates his own approach from Friedman's, thus casting doubt on the appropriateness of James Tobin's (1981) characterization of New-classical economics as "Monetarism Mark 2"

mechanics of inter-temporal co-ordination in a monetary economy and their proneness to occasional failure. More generally, because I have also argued that this exercise will not even be attempted by exponents of a macro-economics that insists on beginning everything from the assumption that markets clear continuously, I have also implied that it is not just Keynes' specific answer that nowadays needs reconsideration, but perhaps even more so, the basic question that he shared with his contemporaries: namely, what is it about a monetary economy that sometimes causes its coordination mechanisms to break down? Perhaps Lucas's recent ventures into "helping people diagnose . . . and understand what is going on" in today's economy will lead him, not to mention the many other researchers he has influenced, to restore this question to its rightful place at the centre of macro-economic theory.

References

Akerlof, G. A, and R. J. Shiller (2009) *Animal Spirits* Princeton, N.J., Princeton University Press

Backhouse R. and D. Laidler (2004) What was lost with IS-LM in M. De Vroey and K. Hoover (eds) *The IS-LM Model: Its Rise, Fall and Strange Persistence, Annual Supplement to Vol. 36 of History of Polical Economy,* Durham, NC, Duke University Press

Bailey, M. J. (1962) *National Income and the Price Level*, New York, McGraw Hill

Barens I, (1999) From Keynes to Hicks – an aberration: IS-LM and the analytic nucleus of the *General Theory* in P. Howitt, E. de Antoni and A Le9ijonhiufvud (eds.) *Money. Markets and Method: Essays in Honour of Robert W. Clower* Cheltenham, Edward Elgar

Blaug, M. (2001) No history of ideas please, we're economists *Journal of Economic Perspectives,* 15, (Winter) 143-184

Brunner, K. and A. H. Meltzer (1971) The uses of money: money in the theory of an exchange economy, *American Economic Review,* 61 784-805

Clower, R. W. (1965) The Keynesian counter-revolution – a theoretical appraisal in F.H. Hahn, and F.R.P Brechling (eds.) *The Theory of Interest Rates* London, Macmillan

Cohen, P. (2009) Ivory tower unswayed by crashing economy, *New York Times* (Arts) March 5th, 1-6

Currie, L. (1934) *The Supply and Control of Money in the United States*, Cambridge MA. Harvard University Press

De Vroey, M. and K Hoover (eds.) *The IS-LM Model: Its Rise, Fall and Strange Persistence, Annual Supplement to Volume 36 History of Political Economy,* Durham NC, Duke University Press

Dostaler, G. (2007) *Keynes and His Battles* Cheltenham, Edward Elgar

Fisher I. (1907) *The Rate of Interest: Its Nature, Determination and Relation to Economic Phenomena,* New York, Macmillan

---------- (1911) *The Purchasing Power of Money*, New York, Macmillan

Friedman. M (1957) *A Theory of the Consumption Function* Princeton, NJ, Princeton University Press for the NBER

---------- (1968) The role of monetary policy, *American Economic* Review 58 (March) 1- 17

---------- (1974) Comments on the critics, in R. J. Gordon (ed.) *Milton Friedman's Monetary Framework,* Chicago, University of Chicago Press

---------- and A. J. Schwartz (1963) *A Monetary History of the United States 1867-1960* Princeton, Princeton University Press, for the NBER

Garrison, R (2001) *Time and Money: the Macroeconomics of Capital Structure* London and New York, Routledge

Hahn, F. (1982) *Money and Inflation* Oxford, Blackwell

Hansson, B. A. (1982) *The Stockholm School and the Development of Dynamic Method* London, Croom Helm

Hawtrey, R. G. (1919) *Currency and Credit* London. Longman's Group

---------- (1932) *The Art of Central Banking* London, Longman Group

---------- (1937) *Capital and Employment* London, Longman Group

Hayek, F. A. von, (1929) *Monetary Theory and the Trade Cycle* (tr. N. Kaldor and H. Croome) London, Routledge and Kegan Paul, 1933

Helliwell, J. (2005-06) From flapper to bluestocking: what happened to the young woman of Wellington Street, *Bank of Canada Review* (Winter) 31-39

Hicks, J. R. (1935) A suggestion for simplifying the theory of money, *Economica, NS* 2 1-19

---------- (1937) Mr. Keynes and the Classics: a suggested Interpretation *Econometrica* 5 (April) 238-253

Howitt, P. W. (1997) Expectations and uncertainty in contemporary Keynesian models, in G. C, Harcourt and P. A Riach (eds.) *A "Second 'Edition" of the General Theory" Vol. 1,* London, Routledge

---------- (2006) Monetary policy and the limits of economic knowledge in D. Colander (ed.) *Post-Walrasian Macroeconomics: Beyond the Dynamic Stochastic General Equilibrium Model* New York, Cambridge University Press

Hynes, A. (1998) The emergence of the neoclassical consumption function: the formative years. 1940-1952, *Journal of the History of Economic Thought* 20 (March) 25-51

Johnson, E., (1978a) Scientist or Politician, in H. G. Johnson and E. Johnson, *The Shadow of Keynes* Chicago, University of Chicago Press

---------- (1978b) Keynes as a literary craftsman in H.G. Johnson and E. Johnson *op. cit*

Johnson, H. G. (1971) The Keynesian revolution and the monetarist counter revolution, *American Economic Review, Papers and Proceedings,* 61 (May) 1-14

Kahn, R. F. (1931) The relation of home investment to unemployment, *Economic Journal* 41 (June) 173-198

Keynes, J. M. (1919) *The Economic Consequences of the Peace,* London Macmillan

---------- (1923) *A Tract on Monetary Reform* London, Macmillan

---------- (1930) *A Treatise on Money,* London Macmillan

---------- (1931) *Essays in Persuasion* London Macmillan

---------- (1933) *The Means to Prosperity* London Macmillan

---------- (1936) *The General Theory of Employment Interest and Money*, London, Macmillan

---------- (1940) *How to Pay for the War,* London, Macmillan

Knight, F. H. (1937) Unemployment and Mr. Keynes' revolution in economic theory *Canadian Journal of Economics and Political Science* 3 (Feb.) 100-123

Kregel. J. A. (1976) Economic methodology in the face of uncertainty: the modeling methods of Keynes and the Post-Keynesians, *Economic Journal* 86 (June) 209-225

Krugman, P. (1999) Thinking about the liquidity trap (author's website)

---------- (2007) Who was Milton Friedman? *New York Review of Books* February 15th**.**

Laidler, D. (1974) Information, money and the macroeconomics of inflation, *Swedish Journal of Economics* March 26-41

---------- (1982) On Say's Law, money and the business cycle in *Monetarist Perspectives,* Deddington, Philip Allan

---------- (1999) *Fabricating the Keynesian Revolution* Cambridge, Cambridge University Press

---------- (2003) The role of the history of economic thought in modern macroeconomics, in P.Mizen (ed.) *Monetary History, Exchange Rates and Financial Markets*: *Essays in Honour of Charles Goodhart*, Cheltenham, Edward Elgar

---------- (2006) Woodford and Wicksell on *Interest and Prices* : the place of the pure credit economy in the theory of monetary policy, *Journal of the History of Economic Thought,* 28 (June) 151-159

---------- (2007) Financial stability, monetarism and the Wicksell connection, *EPRI Working Paper* 2007-3, University of Western Ontario

--------- (2009) Axel Leijonhufvud and the quest for micro-foundations: some reflections, in R.E.A Farmer (ed.) *Macroeconomics in the Small and the Large: Essays on Microfoundations, Macroeconomic Applications amd Economic History in Honor of Axel Leijonhufvud* Cheltenham, Edward Elgar

Lavington F. (1921) *The English Capital Market* London, Methuen

---------- (1922) *The Trade Cycle* London, P. S. King and Son.

Lawlor, M (2006) *The Economics of Keynes in Historical Context* Houndmills, Palgrave Macmillan

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

---------- (1981) The Wicksell Connection: Variations on a Theme in *Information and Coordination*, Oxford, Oxford University Press

Lindahl, E. (1929) Review of *Dynamic Prices* by G. Myrdal, *Economic Journal* 39 (March) 89-91

Lucas. Robert E. Jr. (1972) Expectations and the neutrality of money *Journal of Economic Theory* 4:2 103-124

---------- (1996) Nobel lecture: monetary neutrality *Journal of Political Economy* 104 (Aug.) 661-682

---------- (2004) My Keynesian education in M. De Vroey and K. Hoover (eds.) *The IS'LM Model: Its rise, Fall and Strange Persistence, Annual Supplement to Vol. 36 of History of Political Economy*, Durham, NC, Duke University Press

---------- (2008) The current financial crisis (power point deck) Lecture delivered at Universidad Torcuata di Tella, December 9th

---------- and L.Rapping (1969) Price expectations and the Phillips curve, *American Economic Review* 99 (June) 342-350

---------- and T. J. Sargent (1978) After Keynesian macroeconomics as repr. in R. E.Lucas Jr and T. J. Sargent (eds.) *Rational Expectations and Econometric Practice*, London, George Allen and Unwin, 1984

Marshall A., and M, P. Marshall (1879) *The Economics of Industry,* London Macmillan

Meltzer, A. H. (1981) Keynes' *General Theory,* a different perspective, *Journal of Economic Literature* 19 (March) 34-64

---------- (1988) *Keynes' Monetary Theory: a Different Interpretation*, Cambridge, Cambridge University Press

---------- (2003) *A History of the Federal Reserve, Vol. 1, 1913-1951*, Chicago, University of Chicago Press

Mill, J. S. (1844) On the influence of consumption upon production, in *Essays on Unsettled Questions in Political Economy,* London, Longmans, Green, Reader and Dyer

---------- (1848) *Principles of Political Economy with Some of Their Applications to Social Philosophy,* London

Minsky, H. P. (1982) *Can "It" Happen Again? Essays on Instability and Finance* Armonk, N. Y., M. E. Sharpe

Modigliani F. and Brumberg A. (1954) Utility analysis and the consumption function: an interpretation of the cross section evidence, in K. Kurihara (ed.) *Post-Keynesian Economics,* Rutgers University Press

Myrdal, G. (1927) *Prisbildungsproblemet och Foeraendeligheten* Stockholm, Alqvist and Wiksell

Ohlin, B (1937) Some notes on the Stockholm theory of saving and investment, *Economic Journal* 47 (March-June) 53-69, 221-240

Patinkin, D. (1957) *Money, Interest and Prices,* New York, Harper and Row

---------- (1974), Cambridge monetary theory and the Chicago school, in H. G. Johnson and A. R. Nobay (eds.) *Issues in Monetary Economics* Oxford, Oxford University Press

---------- (1983) New perspectives or old pitfalls? Some comments on Allan Meltzer's interpretation of the *General Theory, Journal of Economic Literature* 71 (March) 47-51

---------- (1990) In defence of IS-LM *Banca Nazionale del Lavoro Quarterly Review* 172 (March) 119-134

Phelps E. (1967) Phillips curves, expectations of inflation and optimal unemployment over time *Economica NS* 34 (Aug.) 254-281

Phillips, A. W. (1958) The relationship between unemployment and the rate of change of money wages in the United Kingdom, 1861-1957, *Economica* NS 25 281-299

Pigou, A. C. (1927) *Industrial Fluctuations* London, Macmillan

---------- (1936) Mr. J.M. Keynes' General Theory of Employment Interest and Money, *Economica NS* 3 (May) 115-132

---------- (1938) money wages in relation to unemployment *Economic Journal* 48 (March) 134-138

Robertson, D. H. (1928) *Money (3rd ed.)* London, Nisbet

---------- (1936) Some notes on Mr. Keynes' general theory of employment, *Quarterly Journal of Economics* 51 (Nov.) 168-191

Smith, A (1776) *An Inquiry into the Nature and Causes of the Wealth of Nations* , London

Thornton, H. (1802) *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain,* London,

Tobin, J. (1981) The monetarist counter-revolution today – an appraisal *Economic Journal* 91 (March) 29-42

Viner, J. (1936) Mr. Keynes on the causes of unemployment *Quarterly Journal of Economics* 51 (Nov.) 147-167

Warming, J. (1932) International difficulties arising out of the financing of public works during depression, *Economic Journal* 42 (June) 211-224

Wicksell K. (1898) *Interest and Prices* (tr. R. F. Kahn, for the Royal Economic Society) London Macmillan 1936

Woodford M. (2003) *Interest and Prices: Foundation of a Theory of Monetary Policy*, Princeton, NJ. Princeton University Press

.