DRAFT OF APRIL 2000

(INCOMPLETE DRAFT - PLEASE DO NOT QUOTE)

MACROECONOMIC THEORY AND CAPITALISM

John Smithin
York University

Department of Economics and Schulich School of Business, York University, Toronto, Canada, M3J 1P3

Tel: (416) 736 2100 ext. 20670, Fax: (416) 736 5967, E-mail: jsmithin@yorku.ca

Macroeconomic Theory and Capitalism

John Smithin

Introduction

One of the major difficulties in pursuing theoretical research on macroeconomic and monetary issues in the contemporary academic environment is the pressure to conform to a well-defined, and extremely narrow, set of methodological criteria in the presentation of ideas and research results. This pressure is both perceived and real. It is certainly "perceived" by graduate students, for example, as they undergo the educational/socialization process which prepares them for careers in academia (Colander & Klamer 1990, Fischer 1996). It is real in the sense that it is genuinely difficult, most would say impossible, for work which does not conform to the accepted criteria to find an outlet in the supposedly most prestigious academic journals or other high-profile *fora* (Tobin 1986), and hence to receive attention from the relevant audience. This has obvious consequences for the academic careers of those who are willing to undertake non-conforming research (no matter what its objective scientific quality), and therefore on the incentives for scholars to pursue questions which cannot easily be fitted into the accepted framework.

Presumably, except for those insiders deeply committed to the *status quo* for either careerist or ideological reasons, it would be generally accepted by most observers that this type of "methodological fascism", to use the strong but not unjustified, terms employed by Hodgson (1988), is unlikely to actually further the growth of knowledge in economics or any other discipline. Hence the present paper will not belabor this particular point. Rather it has two objectives. First, to describe and evaluate the methodological criteria mentioned above, and to discuss the impact these have had on the way in which macro/money research is actually conducted. Second, to put forward a substantive approach to macroeconomic processes in a capitalist economy, which does not necessarily conform to the contemporary methodological criteria, but nonetheless does have roots in the more traditional macroeconomic literature, and does claim a degree of explanatory power, particularly in terms of the political economy of the system.

The Microfoundations Literature

The most obvious feature of the constraints on the pursuit of macroeconomic research in mainstream academia is the repeated insistence that macroeconomic theory should be based on what are usually called "microfoundations" or "micro-underpinnings" (Tobin 1980, 1986, Scarth 1996, Turnovsky 1995, Walsh 1998). At the textbook level the difference between microeconomics and macroeconomics is sometimes said to be that between the investigation of the workings of individual markets and that of the economy as a whole. However, this is not really the point of the microfoundations literature. A better definition of microeconomics for these purposes would be that it is the pure theory of individual "choice", essentially divorced from the institutional or social context in which the choice is supposed to take place.[1] The insistence on microfoundations, from this point of view, is therefore the insistence that an explanation of macroeconomic phenomena should be based on the logic of the outcomes of the interaction of the individual decisions of atomistic agents, without reference to any higher-level social structures or groupings. The commitment to so-called methodological individualism is shared by a number of schools of thought in economics, notably the Austrian School, associated with such writers as Menger (1871), Hayek (1988, 1994) and Mises (1912, 1978), and also the contemporary mainstream or neoclassical school. There are, however, different interpretations as to what should be regarded as good, or acceptable, economic theory in practice. In particular, there are differences on the role of mathematics in economic theory, the former group rejecting mathematics, while the latter embraces it.

For the mainstream neoclassical economists, therefore, another methodological *obiter dicta*, which seems from their point of view to be closely connected with the above, is the demand that theory should be “rigorous” (Sargent 1979, Tobin 1980).[2] If this term was used in its most general sense presumably this would be unexceptionable. However, in contemporary academic economics the application of the term “rigor” seems to be restricted only to certain types of mathematical optimization problem. In macroeconomics this is usually the problem to be solved by the “representative agent” (**add reference**), a mythical character whose choices supposedly reflect those of the society as a whole, and are literally taken as illustrative of the aggregate of such choices in the macroeconomy.

At the operational level, the first order conditions, or Euler equations, of the representative agent’s maximization problem are taken to be valid mathematical expressions also of aggregative behavior. In other words, the (e.g.) money demand or labor supply equations derived from the individual utility maximization exercise, can be treated as the corresponding functions at the aggregative level. And, furthermore, that *no* postulated behavior at the aggregate level should be regarded as a legitimate hypothesis *unless* it can be derived from this type of exercise.

Needless to say, this was not the position taken by the original “macro thinkers” (Nell 1998a), such as Keynes (1930, 1936), Kalecki (1971), Kaldor (1956/57, 1986), Pasinetti (1962), Robinson (1956, 1962), Lerner (1983), Weintraub (1959), Davidson & Smolensky (1964), et al. during the years when macroeconomics was first developing as an academic discipline. These writers certainly did not disdain mathematical expressions of macroeconomic magnitudes. However, these were not based on putative microeconomic assumptions, but plausible conjectures or hypotheses as to the behavior of the system as a whole. Examples would be such things as Keynes’s (1936) “psychological propensities”, the presumed consumption or saving behavior of different social classes, or given institutional data such as the existence of banks or labor unions. But, it is precisely this type of thing which is anathema to contemporary methodological purists, and, whatever the underlying motives of such strictures, it is reasonable to suggest that at least one practical consequence of these attitudes is to preclude certain types of questions from being asked.

Having said this, however, it should immediately be made clear that the implied censorship of macroeconomic discussion is actually rather more subtle than either the defenders or opponents of the academic *status quo* usually allow. It is not usually recognized, for example, that given any initial hypothesis regarding aggregative behavior, it is always possible to work backwards, as it were, and specify particular functional forms for utility functions, maximands, or constraints, which in combination will yield the originally hypothesized aggregative forms. Examples of this are to be found (e.g.), in MacKinnon & Smithin (1993), Paraskevopoulos, Paschakis & Smithin (1996), and Kam, Mansoorian & Smithin (1998). The point at issue is therefore better framed rather by saying that there is *no point* in doing this from the perspective of the acquisition of additional “scientific knowledge” about how the system operates. The objective of such exercises can only be such things as (a) communication with colleagues whose training is in the standard methodology, (b) the objective of furthering one’s career by proving to one’s colleagues that one can “do the math”, (c) being able to publish in the approved journals, (d) the obligations of graduate student instruction, and so on. The important point which should be made, however, is that this laborious type of procedure does not actually add anything in terms of discoveries about how the economy really works. Similar remarks could be made on the more general topic of the principle of marginalism in economics. For example, Lavoie (1992), in a discussion of the Post Keynesian theory of pricing, remarks that the same results can always be obtained in a marginalist framework by (e.g.) assuming imperfect competition and constant costs over the relevant range.[3] So again, the main point of debate is not so much the issue of technique, but the substantive implications of whatever theory of prices is employed. In particular, in the field of pricing, just mentioned, the key issue is whether or not the setting of prices allows for the reality of the generation of profits or a surplus (Nell 1998b), which clearly the neoclassical microeconomic theory of perfect competition does not.

The Methodological Debate

There are diverse reasons behind the emphasis on various versions of methodological individualism in conventional economic theory, and these have been widely discussed by both their advocates and critics, and in contributions by historians of thought and philosophers of science specializing in economics. In terms of macroeconomics the basic idea seems to be that aggregates (such as *total* investment or *total* consumption), or such concepts as social classes are not legitimate subjects for investigation because they can have no independent existence apart from their individual components or members. There is no such thing as a working class, for example, just a number of individual workers each with their own goals, ambitions and activities, which may or may not resemble those of their peers. The former British Prime Minister, Margaret Thatcher, used to express this point of view in an extreme form with her well-known phrase “there is no such thing as society”. This may be going too far for the majority of academics, but, even if many proponents of similar views would not deny the actual existence of social institutions and groupings, they do insist that the evolution and development of these entities can (and should) be explained as the outcome of the interaction of spontaneous and voluntary choices of individual actors maximizing their individual self-interest or utility. This then brings us back to the microfoundations literature, or the type of research strategy exemplified by such developments as the "new institutional economics" (Williamson 1985).

The deeper motivations causing scholars and others to adopt the worldview described above are also presumably many and varied. The most important would presumably be concerns that any untoward emphasis on aggregates, classes, or groups in the social sphere is to deny the importance of individual agency, personal responsibility, individual liberties and so on, and hence lead ultimately to collectivist or totalitarian tendencies in politics. In other words, that to take any other view is the *Road to Serfdom* as Hayek (1944) put it in the title of his most famous book.

The above might be described as the legitimate motivation for the individualist methodological stance. However, at the sharp end of academic trench warfare, involving editorial and refereeing decisions at academic journals, hiring, tenure and promotions procedures, the allocation of research funding, etc., it is sometimes difficult to believe that any such philosophical reflection is going on. At that level, the outcome of the methodological debate seems much more to hinge on academic politics, peer-group pressure, careerism, cronyism, and other manifestations of *social* environment of the economics profession.

From the point of view of macroeconomic theory, the consequences for the development of the discipline are more-or-less obvious. The point is that macroeconomics, as such, inevitably falls under suspicion when looked at through the lenses of the orthodox approach to economic methodology. As argued by Ingham (1996b) macroeconomics, the most basic or underlying objective of which is to discover the “law of motion” (Marx 1867) of the economic system as a whole, of necessity takes on a somewhat sociological character (using this term now in the sense of the academic discipline). This, however, is something akin to sacrilege to the “true believers” among microeconomists. In our own era, there have therefore been conscious attempts to literally eradicate the topic of macroeconomics, as this would have been understood by (e.g.,) Keynes (1936), Kalecki (1971), or even Samuelson (1948), from the corpus of economics altogether. According to Lucas (1987):

> The most interesting recent developments in macroeconomic theory seem to me describable as the reincorporation of aggregative problems such as inflation and the business cycle within the general framework of ‘microeconomic’ theory. If these developments succeed the term ‘macroeconomic’ will simply disappear from use and the modifier ‘micro’ will become superfluous. We will simply speak, as did Smith, Ricardo, Marshall and Walras of *economic* theory. (original emphasis)

As against this, some guidance as to what may be a more appropriate methodological stance for macroeconomic theory, given its *inevitable* overtones of social investigation, may be provided by an approach which has been elaborated by philosophers of science in the past couple of decades under the label of *critical realism*. According to Lawson (1997) who has played a leading role in introducing these notions to economists, the term 'critical realism' encompasses both a general philosophy of science (transcendental realism) and a specific theory of social ontology.[4] It is the latter, in particular, which seems relevant to potentially breaking the impasse reached by the microfoundations of macroeconomics literature. This ontology affirms the real existence and the importance of social structures constituted by such things rules, positions and relations. On this view, a social structure which is relatively enduring can be thought of as an institution. The basic definition of a social structure, however, is as a set of "continually reproduced interdependencies" (Lawson 1997), meaning that the focus is on the process whereby the social structure reproduces itself over time (or is transformed over time) as a result of the mutual interaction, decisions, and activities of its members, whose positional situation within the structure can be internally (organically) related, as well as externally (atomistically) related. The advantage of this approach, from the point of view of thinking about macroeconomics, is that it is able to steer a middle course between the two extremes which have characterized much of the discussion of the structure-agency relationship in the social sciences. These are, on the one hand, the reductionism (implicit in the orthodox view discussed above), that social structures resolve simply to the actions of atomistic individuals, and on the other, the deterministic view, objectionable on political and other grounds to many, that individual behavior is completely controlled by an external social structure (e.g., by membership of a social class).

The underlying vision seems to be that social structures *do* exist and are the pre-condition for human action, but, at the same time, the structures also depend on action, they are not fixed, and can be transformed over time through both individual initiative and collective activity. The usual illustration given is that of language. The English language, for example, with its rules of grammar, syntax and vocabulary, certainly existed and developed before any of the current individual speakers of English were born. It is not of their creation, and yet to an extent their actions and thoughts are shaped and controlled by this pre-existing social institution. Just as obviously, though, the language will continue to evolve as time progresses, as a result of both the intentional and unintentional human agency of current and future English-speakers. In other words, the English language is a real social structure, and it is reproduced and has considerable continuity over time, and yet to recognize this, and to accept that the structure has consequences for the actual course of events (e.g., the writing of this paper) is not to deny the efficacy of the individual embedded in the structure. It is possible, for example, for both (a) an individual to "coin a phrase" which passes into the language, and (b) for usage to change over time as a result of unconscious collective practice, as words, phrases, and grammatical constructs fall in and out of fashion.

From the point of view of macroeconomic thought, the argument must be that the development of economic structures and institutions has much the same character and can be thought of in an analogous manner. If accepted, this then appears to completely undercut the insistence on atomistic microfoundations which has been held to be so deleterious to the development of useful macroeconomic theory in the modern era. Putting the point more positively, the acceptance of something like the critical realist account of the nature of social reality would seem to make possible a macroeconomic science which is not as completely hamstrung as is contemporary orthodox macroeconomics by obeisance to the microfoundations project. The social world is conceived of as an open system, but it is also structured. Scientific investigation would consist of the study of social structure and the ways in which this both constrains and enables human action, and the associated “powers, tendencies and mechanisms” (Lawson 1997) which may be discovered in the social world. One of the main objectives would be to uncover those aspects of social structure (and those tendencies and mechanisms) which are relatively enduring, i.e., have been reproduced in a recognizable way over some period of time, and can therefore provide some type of theoretical explanation for the actual course of events over that time period.

Whether or not the critical realist philosophers would themselves accept this view, it seems to me that this approach does provide something of a *magna carta* for macroeconomic theory as this was traditionally or originally conceived.[5] Specifically, it establishes the crucial point the treatment of social classes, groupings, aggregates, or institutions, does *not* imply an anthropomorphic stance where human propensities such as will, intention, or purpose is attributed to some collectivity. But, in addition to this defensive stance, it can also be argued that it becomes possible to go even further, and to insist that what is required in economic science is not so much the “microfoundations of macroeconomics” but, on the contrary, the “macrofoundations of microeconomics”. That is to say, the nature of the inquiry should be to ask what the social structure must be like, or how the social structure has evolved, such that it seems to many observers that so-called microeconomic rationality, economizing, optimization, rent-seeking, strategic behavior and so on, may become a relevant guide to the conduct of some or most individuals who find themselves embedded in that structure. If the social structure was different (e.g., an isolated monastic community) presumably the types of conduct required or imposed would also be different. Is *homo economicus,* in short, a cause or a consequence of the development of the social system of capitalism? This is a highly relevant question regardless of whether one is an opponent or defender of that particular method of economic organization.

Towards a "Monetary Theory of Production"

If we are considering the historically specific "mode of production" (Marx 1867) which has been known, and still is known, under the name of "capitalism" it would seem clear that the social institution or structure which is most in need of investigation is that of money. By this is meant not only the primary concept of a "money of account" (Keynes 1930) by which price list, monetary calculation and accounting are made possible, but also the entire social apparatus of banks, central banks, and other financial institutions, which are involved in the production of money and its social control, and the granting of credit. From a commonsense point of view economic activity under capitalism is all about money, making money, earning money, spending money, saving money and so forth (Smithin 2000). However, as explained by Ingham (1996a, 1996b, 2000) the serious study of money from this perspective has apparently been neglected by *both* mainstream economics and mainstream sociology for reasons that are not entirely coincidental. Ingham (1996b) has insisted, to the contrary, that "money is a social relation". Like laws, language, customs and other such things, it is a relation *between* agents as differentiated from the usual concerns of microeconomics with the relationship between either agents and goods (consumption demand) or between goods and goods (production). This perspective is congruent with such insights in the literature, as Schumpeter's (1954) distinction between "monetary" and "real" analysis (see also Rogers 1989), and Keynes's (1933) concept of "monetary production". As argued by Smithin (1994), the basic idea is that the economic system under which we live and which has existed in one form or another (and has evolved) over the past several centuries, is in fact, pre-eminently a monetary system. Those responsible for setting production in train, whether they are entrepreneurs or corporations, must first acquire monetary resources by borrowing, selling equity, or previous accumulation, before they can do so. The ultimate proceeds of productive activity from the subsequent sales of goods and services are also sums of money, and output and employment outcomes depend on the expectations of money receipts relative to cost. Moreover, the ultimate reward structure of the society, and the distribution of power and prestige, also depends on the accumulation of wealth denominated in monetary or financial terms.

The ultimate explanation of all this, which is more complex in actuality than it seems to be to write down in so many words, can only be some tacit social convention (or social structure) which entails that the possessors of money, as validated by social custom and convention, should have unique claims to the social product. Also, that privilege, status, etc. should accrue more-or-less in proportion to one's money holdings. Some writers, such as Keynes (1930, 1936), Freud (1900, 1908), Fercenczi (1914, 1916), and, more recently, Winslow (1999) and Dostaler & Maris (2000), have pointed to the psychological motives underlying the drive for accumulation or the "love of money". The latter surely do help to explain the genesis of the monetary system of production, and also certain pathological behaviors of the system once it has developed (c.f. "manias, panics and crashes", in the words of Kindleberger 1978). At the same time, however, once a social structure of this type exists, the behavior of the agents embedded in that structure, whether "rational" or otherwise, is as argued above, largely constrained precisely by that particular structure. It may therefore be suggested, that, from this point of view at least, the role of money in capitalism is in principle no more difficult to understand than (say) the role of physical force in acquiring privileges and pre-requisites in a different type of social structure. However, it does lead to a perspective very different to that of the standard approach in neoclassical economics in which "money does not matter", or "money is a veil" over a system the fundamental basis of which is assumed to be the rational barter transactions of agents similar to Adam Smith's (1776) mythical "early and rude" hunters. In this type of world money supposedly emerges from the market, as some kind of optimizing response to the technical inefficiencies of barter, as in Menger's (1892) classic account. The concept of money as a social relation, however, implies that, if anything, the reverse is true (Smithin 2000). The market emerges as a consequence of money and monetary practice.

In terms of the earlier discussion it is, of course, true that monetary systems, practices, and structures evolve and are transformed over time as are all other human institutions (Chick 1986, Hicks 1989). However, it is also reasonable to argue that there has been a substantial degree of reproduction and continuity of this particular social institution from the early modern period. This is what justifies discussion of a coherent (albeit evolving) capitalist system in the first place. To put the point concretely, there is little doubt that (e.g.) a Lorenzo de Medici, Henry Thornton, or Walter Bagehot, if they were brought back to life today, would easily be able to understand the role and function of the contemporary Bank of Canada, or the Bank of Montreal, and the various financial products and services which are in use today. Moreover, they would surely also understand (as many contemporary pundits and commentators apparently do not) that the computerization of the financial services industry and the payments system, which is such an obvious surface feature of monetary practice today, is primarily a change of form rather than substance.

Another relatively enduring feature of capitalist monetary production seems to be the concept of the firm or enterprise. This is also closely connected with the social phenomenon of money. According to Dillard (1988):

> ….. a monetary theory of production requires a theory of business enterprise, which is the dominant economic institution of modern civilization. Money has very special meaning for business. It is both the means and the end of business activity.

The author also quotes Keynes (1979) in an early draft of the general theory:

> The firm is dealing throughout in terms of money. It has no object in the world except to end up with more money than it started with. That is the essential characteristic of an entrepreneur economy.

ADD MORE ABOUT BOTH FIRMS AND LABOUR AS SOCIAL INSTITUTIONS

END WITH SOME DISCUSSION OF THE ROLE OF THE STATE, THE STATE THEORY OF MONEY, CONTEMPORARY NEO-CHARTILISM, ETC.

The Political Economy of the Macroeconomic System

One of the most informative sketches of the basic political economy of the macroeconomic system remains that by Keynes (1923) in his *Tract on Monetary Reform.*

DISCUSS KEYNES'S THREE "CLASSES" HERE + POSSIBLE OBJECTIONS + RELATE TO PREVIOUS DISCUSSION OF HOW SOCIAL STRUCTURE EVOLVES

ADD MATERIAL FROM “MPPCE”.

Additional Comments on Methodology

DISCUSS: (A) ROLE OF MATHEMATICAL MODELS IN MACRO THEORIZING

(B) STATUS OF ARGUMENTS BASED ON PROFIT MAXIMIZATION

Conclusion

Notes

1. The reason for the quotes around the word “choice” is to acknowledge the point that has often been made, that in spite of claims to the contrary, the neoclassical theory does not actually allow for much “choice” as such. It is more a question of a mechanical response to stimuli. Cf. Veblen (1919) as quoted by Wray (2000):

   > The hedonistic concept of man is that of a lightning calculator of pleasures and pains, who oscillates like a homogenous globule of desire under the impulse of stimuli that shift him about the area but leave him intact ….. Self-imposed in elemental space, he spins symmetrically about his own spiritual axis until the parallelogram of forces bears down upon him, whereupon he follows the line of the resultant. When the force of the impact is spent, he comes to rest, a self-contained globule of desire as before.

   See also Lawson (1997).

2. The first of the two writers cited endorses this demand, the second is critical of it.

3. Lavoie is, however, critical of the implausibly large demand elasticities which would be required for the marginalist theory to emulate the Post Keynesian approach.

4. Lawson (1997) provides references to the earlier development of this literature, with particular emphasis on the work of Bhaskar (e.g., 1978).

5. This phrase echoes an expression used by Schumpeter who thought that Walras! gave economics its *magna carta.* See Tobin (1980).

References

Bhaskar, R. (1978), *A Realist Theory of Science* (second edition), Leeds: Harvester Press.

Colander, D. & A. Klamer (1990),

Davidson, P. & E. Smolensky (1964),

Dillard, D. (1987), "Money as an institution of capitalism", *Journal of Economic Issues*, 31, December, 1623-47,

Dillard, D. (1988), "The barter illusion in classical and neoclassical economics", *Eastern Economic Journal*, XIV, 4, October-December, 299-318.

Fischer, D.H. (1996), *The Great Wave: Price Revolutions and the Rhythm of History*, Oxford: Oxford University Press.

Hayek, F.A. (1944), *The Road to Serfdom*, London: Routledge and Sons.

Hayek, F.A. (1988), *The Fatal Conceit: The Errors of Socialism*, W.W. Bartley III (ed.), Chicago: University of Chicago Press.

Hayek, F.A. (1994), *Hayek on Hayek: An Autobiographical Dialogue*, S. Kresge & L. Wenar (eds), Chicago: University of Chicago Press.

Heinsohn, G. and Steiger, O. (1989) "The Veil of Barter: The Solution to 'the Task of Obtaining Representations of an Economy in which Money is Essential', in J. Kregel (ed) *Inflation, Income Distribution and Capitalist Crisis: Essays in Memory of Sidney Weintraub*, New York: New York University Press.

Hodgson, G. (1988), *Economics and Institutions: A Manifesto for a Modern Institutional Economics*, Cambridge: Polity Press.

Ingham, G. (1996a), "Money is a Social Relation", *Review of Social Economy* 54, 4, Winter, 243-75.

Ingham, G. (1996b), "Some recent changes in the relationship between economics and sociology", *Cambridge Journal of Economics*, 20, 243-75.

Ingham, G. (1998) "On the Underdevelopment of the Sociology of Money", *Acta Sociologica* 41, 1: 507-29.

Ingham, G. (2000), "'Babylonian madness: on the historical and sociological origins of money", in *What is Money?*, J. Smithin (ed.), London: Routledge, 16-41.

Kaldor, N. (1956/57),

Kaldor, N. (1986). *The Scourge of Monetarism* (second edition). Oxford: Oxford University Press.
Kalecki, M. (1971), *Selected Essays on the Dynamics of a Capitalist Economy 1933-1970*, Cambridge: Cambridge University Press.

Keynes, J.M. (1930), *A Treatise on Money* (2 vols), London: Macmillan.

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

Lavoie, M. (1992), *Foundations of Post-Keynesian Economic Analysis*, Aldershot: Edward Elgar.

Lawson, T. (1994), "The nature of Post Keynesianism and its links to other traditions", *Journal of Post Keynesian Economics*, 16, 4, Summer, 503-38.

Lawson, T. (1997), *Economics and Reality*, London: Routledge.

Lerner, A. (1943), "Functional Finance and the Federal Debt", *Social Research* 10: 38-51.

Lerner, A. (1983),

Lucas, R.E. (1987),

Marx, K. (1967),

Menger, C. (1871),

Menger, C. (1892) "On the Origin of Money", *Economic Journal* 2: 239-55.

Mises, von L. (1981 [1912]), *The Theory of Money and Credit*, Indianapolis: LibertyClassics.

Mises, von L. (1978),

Nell, E.J. (1998a),

Nell, E.J. (1998b),

Paraskevopoulos, C.C., J. Paschakis & J. Smithin (1996), "Is monetary sovereignty an option for the small open economy?", *North American Journal of Economics and Finance*, 7, 1, Spring, 5-18.

Paschakis, J. & J. Smithin (1998), “Exchange risk and the supply side effect of real exchange rate changes”, *Journal of Macroeconomics*, 20, 4, Fall, 703-20.

Ricardo, D. (1973 [1817]) *The Principles of Political Economy and Taxation*, D. Winch (ed.), London: J.M. Dent & Sons.

Robinson, J. (1956),

Robinson, J. (1962),

Rogers, C. (1989) *Money, Interest and Capital: A Study in the Foundations of Monetary Theory*, Cambridge: Cambridge University Press.

Sargent, T.J. (1979),

Scarth, W.M. (1996),

Schumpeter, J.A. (1994 [1954]) *History of Economic Analysis*, London: Routledge.

Smith, A. (1981 [1776]) *An Inquiry into the Nature and Causes of the Wealth of Nations* (2 vols), R.H. Campbell and A.S. Skinner (eds), Indianapolis: Liberty Fund.

Smithin, J. (1990), *Macroeconomics After Thatcher and Reagan: The Conservative Policy Revolution in Retrospect*, Aldershot: Edward Elgar.

Smithin, J. (1994), *Controversies in Monetary Economics: Ideas, Issues and Policy*, Aldershot: Edward Elgar.

Smithin, J. (1996), *Macroeconomic Policy and the Future of Capitalism: The Revenge of the Rentiers and the Threat to Prosperity*, Aldershot: Edward Elgar.

Smithin, J. (ed.) (2000), *What is Money?*, London: Routledge.

Tobin, J. (1980), *Asset Accumulation and Economic Activity: Reflections on Contemporary Macroeconomic Theory*, Chicago: University of Chicago Press.

Tobin, J. (1986), “The future of Keynesian macroeconomics”, *Eastern Economic Journal*, XIII, 4, October-December, 347-56.

Turnovsky, S. (1995),

Veblen, T. (1919), *The Place of Science in Modern Civilization*, New York: B.W. Huebsch.

Walsh, C.E. (1998),

Weintraub, S. (1959),

Wray, L.R. (2000), “Modern money”, in *What is Money?*, J. Smithin (ed.), London: Routledge, 42-66.