

# Money and Keynesian Uncertainty

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‘Unemployment develops….because people want the moon – men cannot be employed when the object of desire (i.e. money) is something which cannot be readily produced and the demand for which cannot be readily choked off’ (Keynes, 1936, p. 235).

## ABSTRACT

*Keynes’s theory of a monetary economy and his liquidity preference theory of investment will be examined in order to highlight the essential properties of money under the conditions of uncertainty, which inevitably prefigures the existence of involuntary unemployment and could – within a laissez faire, deregulated financial system – induce phases of endemic financial instability and crises.*

## INTRODUCTION

A modern capitalist monetary economy is inherently unstable. One of the most insightful contributions to our understanding of the essential *non-ergodic* characteristics of a monetary economy is the original Keynesian theory of money under the conditions of radical uncertainty. Keynes’s theory of money reveals how the problem of involuntary unemployment is inextricably bound up in the liquidity preferences by wealth-holders. Unfortunately, these original insights have been eclipsed by the neoclassical reinstatement of Say’s law and its more recent incarnations in the guise of rational expectations and the efficient markets hypothesis. It will be argued that Keynes’s critique of his ‘classical’ contemporaries over the problem of uncertainty acquires even greater resonance in relation to their modern progenies: ‘I accuse the classical economic theory of being itself one of

those pretty, polite techniques which tries to deal with the present by abstracting from the fact that we know very little about the future' (Keynes, 1937b, p. 115).

## A MONETARY THEORY OF PRODUCTION

In the *General Theory,* Keynes argued that there is a fundamental distinction between the system of barter and a modern monetary economy. Whereas barter can only take place in a *bilateral* set of social relations, a monetary economy is essentially governed by the use of an abstract money of account, which is characterised by a whole chain of debtors and creditors in a complex decentralised market (Ingham, 2001, p.309). This view challenges the orthodox theory that money is a 'veil over barter' and that what distinguishes a pure barter economy from a monetary economy is the simple fact that money is used as a means of exchange between commodities to derive a price based on their respective exchange ratios. In this traditional perspective, money emerges historically and spontaneously to perform the role of medium of exchange in order to facilitate trade and as such, has neutral effects on the 'real' economy (Sardoni, 1987, p.71). Doubtless, this pure commodity economy, or what Keynes describes as a 'real exchange economy', bears very little relation to a sophisticated monetary economy.

The conditions necessary for the 'neutrality' of money abstract entirely from the possibility of crises. The neutrality of money tends to correspond with a *real exchange economy,* or in Marxian terminology, to a pure commodity economy in which use-value determines the exchange of commodities, represented by the formula C-M-C' (Rotheim, 1981, p.576). Under these idealised conditions, Say's law of the market will be validated. In a monetary economy, however, the sole aim of production is to realise profits in its money form, represented by the formula M-C-M'. It was from this seminal insight that Keynes developed

his monetary theory of production (Keynes, 1933). This insight was to transform the very logic of the classical postulates of the market and overthrow the dogma of Say's law.

> Now the conditions required for the 'neutrality' of money….are, I suspect precisely the same as those will insure that *crises do not occur*. If this is true, the real exchange economies….though a valuable abstraction in itself and perfectly valid as an intellectual conception, is a singularly blunt weapon for dealing with the problem of booms and depressions. For it has assumed away the very matter under investigation….This is not the same thing as to say that the problem of booms and depressions is a purely monetary problem….I am saying that booms and depressions are phenomena peculiar to an economy in which – in some significant sense which I am not attempting to define precisely in this place – money is not neutral (Keynes, 1933, p.410-11).

Keynes (1930) contends that the evolution of fiat money transformed the economic system from a real exchange economy to a monetary economy. In a monetary economy, the object is not the immediate satisfaction of social needs (or use-values) but the desire to accumulate wealth in the form of money. As Marx quite perceptively understood, capitalism is governed by the realisation of exchange-values into their monetary equivalent (Dillard, 1984, p.423). In other words, entrepreneurs will invest on the expectation of increasing their monetary wealth. The evolution of chartalist forms of money was a necessary development in the denomination of market prices in a specific fiat money, or the official state money of account (Wray, 2006, p.215). Unlike the classical theory, which was informed by a real exchange economy in which commodity money predominates, fiat money is not a commodity and cannot be produced by labour. The imposition of fiat money transforms the very nature of exchange since purchasing power is not determined by simple commodity exchange but by

the acquisition of money.[1] The banking institutions which issue money enjoy the privileges of intrinsic purchasing power as long as the unit of account is validated by the state. The state and the central bank are thus inscribed with a monopoly over the purchasing power of fiat money (Bertocco, 2005, p.490).

In a real exchange economy, Say's law applies because money income is ultimately spent, either directly or indirectly, in order to realise use-values. But in a monetary economy, this simple postulate no longer applies. The essential properties of fiat money are characterised by: (1) zero elasticity and (2) zero elasticity of substitution between liquid assets and commodities. In the former, fiat money, unlike commodity money, cannot be produced on the basis of labour values. In the latter, Keynes (1936) argues that an increase in the demand for money does not lead to the substitution of fiat money for other forms of commodity money or other liquid assets. It follows that under a regime of fiat money, an increase in the demand for money might lead to a fall in effective demand. Since fiat money possesses no

[1] The Cambridge equation of the value of money was formulated to provide an alternative theory to the quantity theories of money and to reflect changes in the purchasing power of money as a result of changes in supply and demand. To quote from Joan Robinson:

'The apparatus used to analyse the determination of the price level were tautological statements known as Quantity Equations. The 'Cambridge' equation was consciously designed to deal with the value of money in terms of supply and demand. In its simplest form the Cambridge equation was as follows:

$\Pi = kR/M$

Where $\Pi$ is the purchasing power of money, $R$ the real national income, $k$ the proportion of real income held in the form of money (cash, bank balances), and $M$ the quantity of money. $kR$ then represents the demand for money in terms of real wealth, and $M$ the supply of money. The equation leads naturally to the simple argument that the greater the supply of money ($M$) the smaller its value ($\Pi$), and the greater the demand for money ($kR$) the greater is its value' (Robinson, 1933, p. 23).

real intrinsic value, fluctuations in aggregate demand depend upon the willingness of economic agents to employ fiat money to generate spending. The presence of fiat money in a monetary economy means that the existence of involuntary unemployment is always possible (Bertocco, 2007, p.104). The paradox of investment implies that an increase in the demand for money causes a relative diminution in aggregate demand because of the presence of uncertainty. The decision to invest by entrepreneurs determines aggregate demand but if saving exceeds investment as a result of a shift in liquidity preferences, the level of aggregate demand might not be sufficient to absorb aggregate output. This represents the ostensible 'paradox of thrift'. A crisis of relative over-production ensues.

The evolution of credit implies that banks act as the receptacles by which credit-money is created. In this critical sense, the unit of account functions of money tend to supersede its function as a means of circulation. With the existence of forward contracts, money acquires the characteristics of a debt issued to transfer purchasing power from the future to the present. Fiat money is assigned the highest liquidity premium of which high-powered central bank money constitutes the most liquid type. Endogenous theories of money merely state that an increase in the demand for money is automatically met by an expansion of credit through an increase in bank liabilities. Rising liquidity preferences, however, act in the opposite direction in which economic agents desire to shift their portfolio preferences from relatively illiquid assets into more liquid assets. Bank liabilities therefore act as a store of value. An increase in liquidity preferences thus corresponds to the destruction of credit money as economic agents curtail their expenditure and engage in the liquidation of assets (Wray, 1992, p. 303). Conversely, an increase in the demand for money implies a willingness by banks to expand the creation of credit.

The existence of contracts, which have to be converted into their money form, is an essential characteristic of modern capitalist money conceived as an abstract unit of account. Since

production occurs over a relatively long time horizon, transactions are premised on future expectations, which involve forward contracts (Davidson, 1978, p.57-58). The concept of a 'monetary constraint' compels economic agents to respect their contracts and to validate their debt obligations. In the absence of these contractual obligations, the market system would inevitably break down. Indeed, it is precisely during financial crises that this institutional web of contractual networks encounters severe stress as the chain of payments is interrupted through a series of cascading defaults and bankruptcies. These payments contracts are mediated by the banking system. Private banknotes are nothing more than a mechanism of 'clearing' private debts. To be sure, these new forms of money are not merely forms of deferred payment but constitute intricate types of 'credit money' issued by private banks, which circulate as means of payments. As long as private banknotes are backed by a system of central bank reserves, which regulate their circulation as high-powered money, the whole system of credit money becomes a regime of *negotiable debt* issued as means of payments. These forms of 'depersonalised' debt constitute specifically capitalist money. As Davidson has quite cogently argued:

> Bank money is, of course, simply evidence of a private debt contract, but the discovery of the efficiency of 'clearing', that is the realisation that some forms of private debt can be used in settlement of the overlapping myriad of private contracts immensely increased the efficiency of the monetary system. Three conditions are necessary in order for such a private debt to operate as a medium of exchange: (1) the private debt must be denominated in terms of the monetary unit, (2) a clearing institution for these private debts must be developed; and (3) assurances that uncleared debts are convertible at a known parity into the legally enforceable medium of exchange (Davidson, 1972, pp.151-52).

In the *Treatise on Money* (1930), Keynes's theory of money assimilates some of the

chartalist conceptions developed by Knapp (1924). Quite contrary to the prevailing Monetarist and exogenous theories of money, modern economies are characterised by the pre-eminence of chartalist forms of money. The government ultimately defines the nature of money by choosing the monetary unit that it will accept in the payment of taxes. Consequently, the issuing of fiat money implies that in order to pay taxes, economic agents need to acquire money. A monetary circuit is set in motion in which the money issued by the government presupposes that it is bestowed with the privileges of seigniorage: 'As a monopoly supplier of the currency, the government can set the price of those things it is willing to buy since this is the only source of the currency needed by the public to pay taxes' (Wray, 1998, p.7). But taxes can only be levied in the future insofar as the initial expenditures of firms and the state constitute the monetary circuit by which the final payment of taxes is realised. The central bank therefore creates credit by issuing debts onto itself in order to activate the spending of the government. The causation runs from the issuing of sovereign debt which then allows governments to specify the amount of debts that the state needs to collect through taxation. This, in turn, will liquidate the debt obligations incurred by the state (or the Treasury) to the central bank (Parguez and Seccarella, 2000, p.111). Tax revenue simultaneously cancels the central bank debt which has been issued in the original monetary circuit. In the chartalist conception, money is the ultimate creature of the state. 'From this perspective, money is predominantly state money and the liabilities of the state central banks, for example, acquire the status of *valuata* or base money because of the coercive power of the state and, in particular, because of its ability to levy taxes on its citizens payable in its own currency' (Smithin, 2003, p.26).

Government spending is therefore financed through the creation of fiat money, rather than through tax revenues or the issuing of bonds. In this context, bond sales are simply a means by which excess reserves are sterilised in order to ensure a positive rate of interest in the central bank overnight or prime rate. Bond sales are rarely used to finance government

deficits, except in very exceptional cases of war and other crises. It follows that a balanced budget over the economic cycle represents the theoretical minimum that governments should aim to aspire. Indeed, there is a very sound argument, based upon the tenets of functional finance, that moderate budget deficits are required to maintain the issuing of government bonds and by so doing, provide the very rationale for the existence of a bond market. ‘Budget deficits do not require 'borrowing' by the government (bond sales); rather, the government provides bonds to allow the public to hold interest-bearing alternatives to non-interest-bearing government money’ (Wray, 1998, p.19). At the same time, since commercial bank debts are convertible into fiat money, commercial banks are able to acquire central bank liabilities. Thus, a considerable proportion of state money circulates as commercial banknotes, which will appear as either assets or reserves on commercial bank balance sheets. Conversely, there is a certain amount of commercial bank money that circulates and is converted into fiat money as private economic agents, depending upon their liquidity preferences, choose to hold a proportion of these banknotes as cash. The extent to which commercial debts are regulated is determined by the central bank, which regulates the creation of liquidity. In the final analysis, credit-money cannot exist without the state and all credit-money is necessarily state money regardless of its form of circulation as either commercial credit or as central bank liabilities.

## THE THEORY OF LIQUIDITY PREFERENCE

Central to the Keynesian vision is the role performed by uncertainty. The concept of *liquidity preference* means that, unlike simple barter, sales and purchases need no longer coincide. As soon as the critical element of time is introduced, the possibility arises that economic agents have a propensity to hoard; the seller is not obliged to buy as soon as selling. Money therefore not only acts as a means of circulation but also as a *store of value.* The essential

and ineluctable problem of uncertainty implies that there is a profound nexus between time and money: 'For the importance of money essentially flows from its being a link between the present and the future' (Keynes, 1936, pp.293-94). As soon as money is construed as a *store of value,* the whole logic of Say's law breaks down: 'To assert that money matters in a world of complete predictability is to be logically inconsistent, for money's special properties as a store of wealth, is due to its ability to postpone the undertaking of rigid and far-reaching resource commitments. *Money only matters in a world of uncertainty'* (Davidson, 1972, p.16). The nexus between money and uncertainty is therefore quite seminal in the Keynesian view of a modern economy in the sense that investment is dependent upon future expectations on the expected rate of return. The fact that private investment decisions are based upon uncertainty suggests that investment itself is volatile and explains, to a certain extent, the reason why capitalist economies are inherently unstable. Uncertainty in the original Keynesian conception is radically different from the neoclassical notions of calculable and probabilistic risk:

> By uncertain knowledge, let me explain, I do not mean merely to distinguish what is known for certain from what is only probable. The game of roulette is not subject, in this sense, to uncertainty; nor is the prospect of a Victory bond being drawn. Or, again, the expectation of life is only slightly uncertain. Even the weather is only moderately uncertain. The sense in which I am using the term is that in which the prospect of a European war is uncertain, or the price of copper and the rate of interest twenty years hence, or the obsolescence of a new invention, or the position of private wealth owners in the social system in 1970. About these matters there is no scientific basis on which to form any calculable probability whatever. We simply do not know (Keynes, 1937b, p.114).

In the *General Theory,* liquidity preferences tend to inform real expenditure choices over

time. Money plays a unique role in relation to the existence of future contracts, which are normally denominated in nominal terms. These forward contracts are subject to uncertainty. It follows that the ability to meet these contractual obligations, the possession of money or other highly liquid assets are essential in the face of future uncertainty. These liquid assets also perform the function of a store of wealth or as a safe haven during periods of heightened uncertainty (Davidson, 1996, p 63). Money becomes a crucial link between the irreversible past and the unknown future; it acts as a 'time machine': 'The possession of actual money lulls our disquietude; and the premium which we require to make us part with money is the measure of the degree of our disquietude' (Keynes, 1937b, p.116).

In this perspective, money as a store of value depresses effective demand and delays the activation of idle resources. This only creates further uncertainty and postpones potential demand for goods and services. Entrepreneurs encounter problems in relation to their respective formation of future expectations and the timing of their investment expenditure (Fontana, 2000, p.32). Keynes argues that the existence of uncertainty is an essential condition for the function of money to act as a store of wealth: 'The interest rate is the premium which has to be offered to induce people to hold wealth in some form other than hoarded money' (Keynes, 1937b, p.116). Under the conditions of unutilised excess capacity and rising unemployment, the state of uncertainty merely postpones planned investment and influences the expectations of wealth holders to hold their assets in a more liquid form (Dillard, 1962, p.22). The excessive demand for liquidity will tend to divert real resources from being employed in the sphere of productive investment and leads inevitably to the existence of involuntary unemployment.

> Of the maxims of orthodox finance none, surely, is more anti-social than the fetish of liquidity, the doctrine that it is a positive virtue on the part of investment institutions to concentrate their resources upon the holding of 'liquid' securities. It forgets that there

> is no such thing as liquidity of investment for the community as a whole. 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 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 (Keynes, 1936, p.155).

Whereas the transactions and precautionary motives relate to money as a means of payments, the speculative motive embodies the role of money as a store of wealth. The critical significance of Keynes's theory of liquidity preferences was that it had rejected the neoclassical view of the *ex-ante* identity between saving and investment, which had reinstated Say's law. Quite simply, the role of money as a store of value could not possibly exist in the absence of uncertainty. In an ergodic world of calculable risk and certainty (or rational expectations), the motive for holding money as a store of wealth would cease to exist: 'But in the world of the classical economy, what an insane use to which to put it! For it is a recognised characteristic of money as a store of wealth that it is barren; whereas practically every other form of storing wealth yields some interest or profit. Why should anyone outside a lunatic asylum wish to use money as a store of wealth?' (Keynes, 1937b, p.116). Yet the role performed by uncertainty in the radical Keynesian conception, has been ruled out by neoclassical assumptions.

Keynes developed a theory of liquidity preference based upon the types of money required to satisfy subjective motives in a world governed by future uncertainty. The transactions and precautionary motives would necessarily correspond with the preference for cash deposits or highly liquid assets. The speculative motive, on the other hand, would govern the short-term money markets and the bond markets. While the precautionary and transactions motives are closely linked to the level of income and expenditure, the speculative motive, on the other hand, is associated with the level of wealth and the relative returns on investment and the

rate of interest respectively (Sawyer, 2003, p.8). In the absence of uncertainty, these motives would be meaningless and money itself would cease to provide a means by which to form expectations about the future. The formation of liquidity preferences are thus inextricably connected to the notion of uncertainty. Money provides liquidity and acts as a store of value or a perceived safe haven during periods of radical uncertainty. This conception stands in stark contrast to the notion of probabilistic and calculable risk.

> Even apart from the instability due to speculation, there is the instability due to the characteristic of human nature that a large proportion of our positive activities depend on spontaneous optimism rather than on a mathematical expectation, whether moral or hedonistic or economic. Most, probably, of our decisions to do something positive, the full consequences of which will be drawn out over many years to come, can only be taken as a result of animal spirits – of a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities (Keynes, 1936, p.161).

In the original Keynesian schema of the *General Theory*, liquidity preferences reflect portfolio choices, which are influenced by an exogenously determined stock of money supplied by the central bank. The rate of interest is therefore a function of monetary policy, even though the demand for money is also an endogenous process of private credit-creation. Money as a store of wealth implies a stock demand for money based upon liquidity preferences by wealth-holders. The money supply can be influenced by either the exogenous instruments of central banks (open market operations) or through the endogenous expansion and contraction of private bank money. Keynes argues that the peculiar nature of a monetary economy is that liquidity preferences tend to fluctuate on the basis of subjective valuations of future rates of return on investment. Thus, an increased demand for money for either precautionary or speculative motives might be at the expense of planned investment, which

will ultimately have a detrimental effect on the level of employment. The paradox of thrift suggests that the economy could be operating at an equilibrium level of output which does not necessarily correspond with full employment.

> This is the idea of the paradox of thrift: investment determines saving so that given low investment by firms when households are excessively thrifty, income falls until the aggregate of saving decisions (as determined by the marginal propensity to save) is consistent with the aggregate of investment decisions. Alternatively, aggregate saving cannot be increased by trying to have more, but only by investing more – which raises income and thus saving (Wray, 1998, p.82).

Under these circumstances, an increased preference to hold money might induce a failure to meet future financial commitments. As defaults escalate, there emerges a chain reaction because the banks and other financial institutions will be unable to meet their commitments. Indeed, since deposits represent liabilities from the standpoint of the banks, the opposite applies to depositors who consider these deposits as assets. Hence, an increase in liquidity preferences implies an automatic curtailment of the ability of both lenders and borrowers to fulfil their future contractual obligations. These cascading defaults and bankruptcies could lead inexorably to a severe phase of debt-deflation (Kregel, 2008, p. 134).

In a monetary economy of production, money (or credit money) must always be endogenous; its quantity is determined by debt contracts denominated in a unit of account. Keynes's transactions motive is further divided into an 'income' motive and an 'investment' motive. In the *General Theory,* Keynes had ignored the endogeneity of credit money to concentrate on the liquidity preference theory of the rate of interest. However, in the post-*General Theory* articles in a debate with Ohlin, Hawtrey and Robertson in the *Economic Journal* in 1937/38, Keynes introduces what became known as the 'finance motive'. The finance

motive related to the demand by firms for external finance by the commercial banks (Hein, 2008, p.35). As the rate of investment increases, there is a corresponding increase in the demand for external finance (Keynes, 1938). As long as banks continue to be profitable by increasing their assets and liabilities and as long as only a small proportion of defaults are incurred, the banking system itself will experience a shift in its initial liquidity position (Asimakopulos, 1986, p.86-87).

> Planned investment – i.e. investment *ex-ante* – may have to secure its 'financial provision' *before* the investment takes place; that is to say, before the corresponding saving has taken place….This service may be provided either by the new issue market or by the banks; – which it is, makes no difference.(Keynes, 1937, p.246).

Ohlin's, Robertson's and Hawtrey's (1937) critiques focused upon Keynes's argument that the transactions demand for money depends on *current* output *per se*. The issue of financing *ex-ante* investment remains unresolved in the *General Theory*. This critique and the subsequent debates over the liquidity preference theory, persuaded Keynes to modify and clarify his original position by introducing the 'finance' motive (Bibow, 1995, p.650). In order to provide the *extra* finance, Keynes develops a 'revolving fund' theory of investment finance:

> If investment is proceeding at a steady state, the finance (or the commitments to finance) required can be supplied from a revolving fund of a more or less constant amount, one entrepreneur having his finance replenished for the purpose of a projected investment as another exhausts his on paying for his completed investment. But if decisions to invest are (e.g.) increasing, the extra finance involved will constitute an additional demand for money….But 'finance' and 'commitments to finance' are mere credit and debit book entries, which allow entrepreneurs to go ahead with

> assurance….Credit, in the sense of 'finance' looks after a flow of investment. It is a revolving fund which can be used over and over again. It does not absorb or exhaust any resources (Keynes, 1937, p.247).

A sequential process is thus set in train as the initial expansion of credit is compensated by the destruction of credit money via the revolving fund of finance. According to Asimakopulos (1986), the initial investment finance can only be available after the full multiplier effect is realised. Hence, there is a time lag involved: the increase in desired saving does not necessarily arise simultaneously with the new investment expenditure, even though *ex post* investment and *ex post* saving are, by definition, always equal.

Keynes's theory of the rate of interest in the *General Theory* was formulated as a liquidity preference theory of interest. This view contrasted with Keynes's earlier, more orthodox treatment in the *Treatise* in which the rate of interest is determined by saving and investment. The neoclassical chain of causation is reversed in the *General Theory* in which expenditure decisions govern aggregate demand and thus provide the primary determinant in the level of output. Investment decisions represent a prior claim on output since business expenditure determines the share of profits. It follows that business profits should always be sufficient to provide the residual amount of saving required to finance investment: 'To state the matter in a different way: profits *ex post* will always be sufficient to generate residual savings which means that *ex post* saving will equal *ex post* investment' (Kaldor, 1985, p.34). In the *General Theory*, Keynes's argument was that the rate of interest was not a reward for saving or abstinence from consumption because the propensity to save was determined by the level of income and thus by investment expenditure. Indeed, under circumstances in which effective demand is depressed and with the onset of a deflationary spiral, the paradox of thrift is characterised by a liquidity trap. An expansionary monetary policy under these

extreme conditions is doubtless quite ineffectual. [2]

Consequently, the demand for money influences the rate of interest on bonds and sets the upper limit to the bond yield. Liquidity preference permits the rate of interest to be determined by the supply and demand for a given quantity of money. The market rate of interest, however, does not necessarily correspond with the equality between saving and investment at full employment equilibrium (Sawyer, 2005, p.101). Planned investment (i.e., investment *ex ante*) might not be sufficient to ensure full employment. It can be surmised that in the *General Theory,* Keynes argued that interest rates are a *monetary* phenomena determined by the theory of liquidity preference. The direction of causation runs from investment to saving. However, the analysis in the *General Theory* continues to assume a fixed quantity of money and the tentative treatment of endogenous money from a chartalist standpoint, which was suggestive in the *Treatise,* appears to have been neglected (Smithin, 2003).

## CONCLUSION

In a world governed by radical uncertainty, a monetary economy is doubtless characterised by destabilising waves of optimism and pessimism as investors and speculators are driven by fluctuating liquidity preferences in a self-reinforcing herd-like behaviour. Financial markets are by their very nature volatile and unpredictable if left to their own devices. Keynes's original critique of the 'classical' economists during his own era has been entirely ignored and superseded by the recent ascendancy of rational expectations and efficient markets hypotheses. It appears that economic theory has gone full circle: the classical postulates,

[2] The Japanese experience of chronic stagnation in the 1990s provides the most recent exemplar of this cumulative process characterised by a deflationary trap.

which had informed Say's law and which the Keynesian revolution sought to overthrow, have simply been reinstated, albeit in the guise of more sophisticated mathematical models. Ultimately, the problem of uncertainty, which was central to the Keynesian vision of a modern, monetary economy, has been subsumed and relegated to the status of calculable, probabilistic notions of risk in the prevailing economic discourse. Keynes's own words perhaps best capture this neoclassical fallacy: 'The calculus of probability, though mention of it was kept in the background, was supposed to be capable of reducing uncertainty to the same calculable status as that of certainty itself; just as in the Benthamite calculus of pains and pleasures or of advantage and disadvantage, by which the Benthamite philosophy assumed men to be influenced in their general ethical behaviour' (Keynes, 1937b, p.113).

# REFERENCES


Asimakopulos A. (1986) Finance, liquidity, saving and investment, *Journal of Post Keynesian Economics,* 9 (1), pp.79-90.

Bertocco G. (2007) The characteristics of a monetary economy: A Keynes-Schumpeter approach, *Cambridge Journal of Economics,* 31 (1), pp. 101-123.

_____ (2005) The role of credit in a Keynesian monetary economy, *Review of Political Economy*, Vol. 17, No.4, pp. 489-511.

Bibow J. (1995) Some reflections on Keynes's 'finance motive', *Cambridge Journal of Economics,*19 (5), pp. 647-666.

Caravale G.A. (1991) ed., *Marx and Modern Economic Analysis, Vol. 1 & 2,* (Aldershot, UK, Edward Elgar).

DAVIDSON P. (1972) *Money and the Real World,* (London, MacMillan).

_____ (1996) What are the essential elements of Post Keynesian monetary policy?, in Deleplace & Nell (eds) *Money in Motion: The Post Keynesian and Circulation Approaches,* (London, MacMillan Press, Ltd).

_____ (1978) Why money matters: lessons from a half century of monetary theory, *Journal of Post Keynesian Economics,* 1 (1), pp.46-70.

Deleplace G. & Nell E.J. (Ed) (1996) *Money in Motion: The Post Keynesian and Circulation Approaches* (London, MacMillan Press, Ltd).

Dillard D. (1984) Keynes and Marx: a centennial appraisal, *Journal of Post Keynesian Economics*, Spring, 6 (3), pp.421-32.

_____ (1962) The theory of a monetary economy, in Kurihara (ed), *Post-Keynesian Economics* (London, Allen & Unwin)

Fontana G. (2000) Post Keynesians and circuitists on money and uncertainty: an attempt at generality, *Journal of Post Keynesian Economics*, 23 (1), pp.27-47.

Fontana G. &Realfonzo R. (Eds) (2005) *The Monetary Theory of Production*, (New York, Palgrave McMillan).

Forstater M. & Wray L.R. (Eds) (2008) *Keynes for the Twenty-First Century* (New York, Palgrave MacMillan).

Hein E. (2008) *Money, Distribution, Conflict and Capital Accumulation* (London & New York, Palgrave MacMillan).

Ingham G. (2001) Fundamentals of a theory of money: untangling Fine, Lapavitsas and Zelizer, *Economy and Society*, 34 (3), pp.407-27.

Kaldor N. (1985). *Economics Without Equilibrium* (New York M. E. Sharp, Inc, New York).

Keynes J.M. (1937) Alternative theories of the rate of interest, *Economic Journal,* 47 (186), pp. 241-52.

_____ (1933) A monetary theory of production, in Moggridge (Ed) *Collected Writings: The General Theory and After: Part I, Preparation,* Vol. XII. pp.408-11 (London, MacMillan).

_____ (1930) *A Treatise on Money, Vol I & II,* (London, MacMillan).

_____ (1938) D.H. Robertson on Mr Keynes and finance: a comment, *Economic Journal,* 48 (190), pp.318-322.

_____ (1937a) The 'ex-ante' theory of the rate of interest, *Economic Journal,* 47 (188), pp. 663-69.

_____ (1936) *The General Theory of Employment, Interest and Money* (London, MacMillan & Co).

_____ (1937b) The general theory of employment, *Quarterly Journal of Economics,* 51 (2), in Moggridge (Ed) (1973) *Collected Writings: The General Theory and After: Part II, Defence & Development,* Vol. XIV, pp.109-23 (London, MacMillan).

Kregel J. (2008) The continuing policy relevance of Keynes's *General Theory,* in Forstater M. & Wray L.R. (Eds.) *Keynes for the Twenty-First Century* (New York, Palgrave MacMillan).

Knapp G.F. (1924) *The State Theory of Money* (New York, Augustus M. Kelley).

Kurihara K.K. (Ed) (1962) *Post-Keynesian Economics* (London, Allen & Unwin).

Ohlin B., Robertson D.H. & Hawtrey R.G. (1937) Theories of the rate of interest: three rejoinders, *Economic Journal*, 47, (187), September, pp.423-43.

Parguez A. & Seccarella M. (2000) The credit theory of money: the monetary circuit approach, in Smithin J.N. (Ed), *What is Money?* (New York, Routledge).

Robinson J. (1933) The theory of money and the analysis of output, *Review of Economic Studies*, October, pp.22-26.

Rochon L. & Rossi S. (Eds) (2003) *Modern Theories of Money* (Cheltenham, UK, Edward Elgar).

_____ (Eds) (2006) *Monetary & Exchange Rate Systems* (Cheltenham, UK, Edward Elgar).

Rotheim R.J. (1991) Marx and Keynes and the theory of a monetary economy, in Caravale G.A. (Ed.), *Marx and Modern Economic Analysis, Vol. 2* (Aldershot, UK, Edward Elgar).

_____ (1981) Keynes's monetary theory of value, *Journal of Post Keynesian Economics*, Fall, 3 (4), pp.568-85.

Sardoni C. (1987) *Marx and Keynes on Economic Recession* (New York, New York University Press).

Sawyer M. (2003) Money: means of payments or store of wealth?, in Rochon & Rossi (Eds), *Modern Theories of Money* (Cheltenham, UK, Edward Elgar).

_____ (2005) Some reflections on changes in Keynes's analysis between the *Treatise* and the *General Theory*, in Fontana & Realfonzo (Ed), *The Monetary Theory of Production* (New York, Palgrave McMillan).

Smithin J.N. (2003) *Controversies in Monetary Economics* (Cheltenham, UK, Edward Elgar).

_____ (2000) (Ed) *What is Money?* (New York, Routledge).

Wray R.L. (1992) Commercial banks, the central bank and endogenous money, *Journal of Post Keynesian Economics,* Spring, 14 (3), pp.297-310.

_____ (2006) To fix or to float: theoretical and pragmatic considerations; in Rochon & Rossi (Eds) *Monetary & Exchange Rate Systems* (Cheltenham, UK, Elgar).

_____ (1998) *Understanding Modern Money* (Cheltenham, UK, Edward Elgar).