II KALECKI'S MONETARY ANALYSIS TODAY

From *INTEREST AND CAPITAL THE MONETARY ECONOMICS OF MICHAŁ KALECKI*

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As the previous section showed, his monetary economics was the major casualty of Kalecki's revisions of his 'essays'. It meant that Kalecki did not leave any systematic account of money or monetary circulation in the economy, an account that might have tackled the monetary controversies of his time countering residual efforts to sustain the quantity theory of money in the face of assaults on it by the followers of Keynes and Wicksell. Kalecki restricted himself to going over monetary aspects of the business cycle that was the centre-piece of his macroeconomics, the determination of output and employment at any given time, and the monetary consequences of the financing that was necessary to remedy the deficiencies of capitalism, in its gross and unnecessary inequalities and the inefficiency of its use of labour.

His incidental interest in monetary economics means that Kalecki's monetary economics needs to be reconstructed in order to tackle the monetary controversies and issues that have arisen since his time. Since the failure of monetarism in the 1980s, monetary theory has largely reverted to Wicksellian orthodoxy, in which the classical theory of interest holds because the economic process is supposed to consist of arbitrage between the rate of interest and the rate of profit from real production. The return of liquidity of capital markets since the 1980s, amid increasing financial instability, highlights the absence of any theory of

asset prices in Kalecki's analysis. The rise of a property-owning middle class and its financial operations highlights the starkness of a theory of distribution in which there are only capitalists and property-less workers.

This section outlines the foundations of Kalecki's monetary ideas, and places them in an institutional setting, before extending them into some twenty-first century controversies and issues. Chapter 6, on 'Capitalist Money' outlines the essential principles of Kalecki's monetary economics and their roots in the system of long-term finance. Chapter 7 examines in greater detail the 'classical' doctrine of interest and the reasons for Kalecki's rejection of it. Chapter 8, on 'Industrial without Financial Circulation' presents a reassessment of one of the major contributions to the 'circuit theory of money' that, in the Post-Keynesian literature, is perhaps the closest to Kalecki's monetary thinking, and uses this analysis to criticise some of the more classically-inspired concepts of finance that have emerged with recent studies of 'financialisation'. Finally, in this section, Chapter 9, 'The Transfer Theory of Government Debt' examines government finance and how Kalecki resolved the problem of deficit financing, by comparison with a distinguished predecessor, and how Kalecki's solution depends very much on his view of monetary circulation.

Chapter 6

CAPITALIST MONEY

Kalecki's fragments on money are based on certain common principles. A common thread in those fragments is the idea that money is essentially credit money. This is of course widely accepted: The key distinction among monetary theorists is simply whether this credit money is state money, i.e., based on money issued by the state through its central bank's note issue monopoly and the rate of interest at which it lends the reserves from which banks create credit in a fractional reserve system; or whether credit money is a bank creation, because banks can create the bank deposits that are used as means of payment. Keynes's monetary analysis was based on a state theory of money and in general Post-Keynesians have followed Keynes, with theories of monetary endogeneity centred around the accommodation that the state's central bank must give to commercial banks in order to enforce its policy rate of interest. More structuralist Post-Keynesians regard monetary endogeneity as arising out of financial and monetary innovation. Kalecki understood the need for such accommodation and he regarded monetary innovation as arising out of the liquidity needs of capitalist businesses, rather than of banking.

The distinctive feature of Kalecki's monetary economics is that, for Kalecki, capitalist money is the money of capitalists. It is not the money of banks behaving as capitalists, and

determining their supply of credit according to its profitability. Nor is it, as in Keynes, a state monopoly exercised through the banking system for the convenience of capitalists and wealthier consumers. On this foundation, Kalecki developed certain principles of his monetary analysis.[1]

1. Principles of Kalecki's monetary economics

There are certain fundamental principles that run through the fragments on money and monetary circulation in Kalecki's work. **The first and most important of these principles is his assertion that capitalist money is the money of capitalists**. This money capitalists is thrown into circulation when capitalists undertake production and investment. Production and exchange concentrate money in the hands of the economically most powerful capitalists. In a developing country, those concentrations are shared with pre-industrial classes, merchants, money-lenders and landowners. But the characteristic feature of capitalism is that money hoards accumulate in the balance sheets of capitalist firms, rather than in the pockets of pre-industrial ruling classes. In the modern economy capitalists hold money, or they acquire it when workers consume, or governments spend money.

The idea that, in a capitalist economy, money is capitalist money, is therefore inherent in the nature of the dominant class under capitalism. The ownership of money, along with the ownership, more commonly observed by economists, of means of production, is what defines capitalists. This assertion is perhaps most obvious in Kalecki's famous definition of a capitalist: 'Many economists assume, at least in their abstract theories, a state of business democracy where anybody endowed with entrepreneurial ability can obtain capital for starting a business venture. This picture of the activities of the "pure" entrepreneur is, to put

[1] The summary provided here differs somewhat from the summaries provided in Sawyer 'Money and finance in Kalecki's analysis' (2004) and the same author's 'Kalecki on money and finance' 2001 in that I try to highlight here the distinctive features of Kalecki's view, rather than its parallels with the views of other writers.

it mildly, unrealistic. The most important prerequisite for becoming an entrepreneur is the *ownership* of capital.'[2] By capital, here, Kalecki quite clearly meant 'money capital'. His famous working assumption that workers do not save or, in Joan Robinson's phrase 'workers spend what they get and the capitalists get what they spend'[3] amounts to a view that workers are monetarily passive. It is capitalists who, at any one time, can activate money in ways other than just buying consumption goods. With wage and salary differentiation, the velocity of circulation of money rises as incomes rise.[4]

A second principle concerns the origin of this money. In Kalecki's analysis, the source of money in a capitalist economy is process of production in a market (as opposed to a subsistence) economy, circulating money from capitalists who pay their workers and suppliers with money that they have in their reserves, augmented by money that they might borrow from their banks. Kalecki alluded to this macroeconomic circulation in his explanation of how profits arise from this circulation. In the first place it implies an equality between saving and investment (since the value of consumption accrues to capitalists who sell or produce consumption goods): '... the equality between savings and investment plus export surplus plus budget deficit in the general case – or investment alone in the special case [of a closed economy with no government – JT] – will be valid under all circumstances... ... investment, once carried out, automatically provides the savings necessary to finance it... If investment increases by a certain amount, savings out of profits are *pro tanto* higher.'[5] The automatic availability of savings to finance investment means that, as Keynes argued in his *General Theory*, the rate of interest is not required to equalise saving with investment (or the supply of loanable funds with the demand for investment finance).

[2] Kalecki *Theory of Economic Dynamics* 1954a pp. 94-95.

[3] Robinson 'Kalecki and Keynes' p. 341.

[4] Kalecki 'Wage Bill and Cash Circulation' 1940b.

[5] Kalecki *Theory of Economic Dynamics* 1954a p. 50.

Kalecki went on: 'if some capitalists increase their investment by using for this purpose their liquid reserves, the profits of other capitalists will rise *pro tanto* and thus the liquid reserves will pass into the possession of the latter. If additional investment is financed by bank credit, the spending of the amounts in question will cause equal amounts of saved profits to accumulate as bank deposits. The investing capitalists will thus find it possible to float bonds to the same extent and thus to repay the bank credits.'[6]

Thus capitalists acquire money because they make profits on production and exchange. The origin of this in Rosa Luxemburg's insistence that capitalists undertake production for the sake of monetary reward, rather then outright exploitation, is obvious. This conception of monetary circulation is very different to the standard textbook notion of monetary circulation that is the number of times a banknote or a coin changes hands in a given period, essentially a commodity, or fiat money concept. For Kalecki monetary circulation is about how money flows between social classes as money income[7], giving a macroeconomic foundation to his monetary theory. In his 1933 'Essay on the Business Cycle Theory' an appendix on 'The Money Market' shows precisely how the business cycle is financed by accelerating the circulation of a quantity of money that, as a stock, stays the same.[8]

So much is obvious from Kalecki's theory of profits. But what determines the distribution of those profits, or monetary accumulation, among capitalist firms? The answer to this is given in Kalecki's *price theory*, according to which prices are a mark-up on the *direct* cost of production (labour and raw materials) with the size of that mark-up determined by the degree

[6] Ibid.

[7] For example, wage increases that tend 'to increase the thriftiness of capitalists by causing a relative shift of income from rentiers to corporations.' Kalecki *Essays in the Theory of Economic Fluctuations* 1939a, p. 91.

[8] Kalecki, 'An Essay of the Business Cycle Theory' 1933.

of monopoly or control over its markets that a given firm possesses.[9] This means that monetary accumulation is distributed not in proportion to the value of production, as suggested by proponents of a uniform rate of profit across the whole economy, but is concentrated among the largest, most powerful firms. Since the end of the nineteenth century, these dominant firms are big, monopolistic corporations.

The process of concentrating monetary resources in the largest corporations is a feature of modern industrial capitalist economies. In the case of developing countries, the process occurs in a somewhat different way that is fundamental to Kalecki's development economics, but also reveals his thinking on the question of the activation of 'idle' funds. Developing countries suffer from an inelasticity of supply of basic necessities, in particular food, that may be observed even in the twenty-first century in the famines and inflation afflicting those countries. Any increase in employment results in higher wage revenue being spent on such necessities. Without an increase in their supply, their prices rise. Real wages fall and the money accumulates in the pockets of merchants, money-lenders and landowners, as higher farm incomes are drained by higher rents. Those merchants, money-lenders and landowners are the ruling classes that absorb the surplus of a pre-industrial economy. With the rise of industrial capitalism, more of the surplus is taken by industrial capitalists.

This approach to the price system in an economy is almost unique in economic theory. The standard textbook exposition treats prices as being important for determination of equilibrium between supply and demand in particular markets, i.e., consigning prices to the microeconomics part of economics that is supposed to provide correct insight irrespective of the money in the economy, while money along with monetary policy, is treated separately in a part that is macroeconomics. By contrast, Kalecki put forward a *monetary theory of prices*,

[9] Kalecki *Essays in the Theory of Economic Fluctuations* 1939a chapter 1.

in which the price system determines the distribution of monetary resources from production and trade among individual capitalists, or firms.

Alongside the acquisition of monetary resources through production and exchange is the acquisition of monetary resources through borrowing or financial operations. This is the subject of the next chapter.

In Post-Keynesian monetary thinking, perhaps the closest to Kalecki in respect of this view on the origin of capitalist's money has been the 'theory of the monetary circuit'.[10] This theory was put forward as an alternative both to general equilibrium theories of money (including the neo-classical synthesis of Hicks and Tobin), and the state or banking theories of money that prevail among Post-Keynesians. However, there is one important difference between Kalecki's notion of money and that of the 'circuitists', namely that, in their efforts to demonstrate the endogeneity of credit supply, the starting point of 'circuit' theory are capitalists who have no money, and therefore have to borrow from banks. For Kalecki, the supply of money or credit is elastic precisely because capitalists, with the exception of those on the margins of capitalist production who lack money (and may even constitute the majority of capitalists[11]), start off with money capital which they can then augment with bank credit. This is fundamental because, as is argued in chapter 7, the possession of money capital is what detaches the rate of interest, in a capitalist economy with a financial system, from the rate of profit, or the 'classical' theory of interest.

A third principle is that an increase in the money supply is not necessary to finance production and investment. A boom in business is marked by an increase in the velocity of

[10] See, for example, Halevi and Taouil 'On a Post-Keynesian stream from France and Italy: the *Circuit* approach' 2002. The theory of the monetary circuit is further discussed in chapter 8 below.

[11] Steindl 'Capitalist Enterprise and Risk' 1945, which Kalecki cited with approval, Kalecki *Theory of Economic Dynamics* 1954, p. 95).

circulation of already existing money in the accounts of capitalists. In his first account of the business cycle, Kalecki included an appendix on 'The Money Market' that showed how a boom is financed by the transfer of funds from the reserve accounts of capitalists to their current accounts: The value of the total balance sheet of the banking system stays the same through the boom.[12]

Here it may be helpful to make some comparison with the monetary theory of Keynes. Keynes laid out the principles of his monetary analysis in chapter 15 of his *General Theory* 'On the Psychological and Business Incentives to Liquidity'. Here, he introduced the key nexus of the demand for money, Keynes's 'Liquidity Preference' with uncertainty, and the novel part of that analysis in the *precautionary* and *speculative* demand for money (precautionary demand being due to uncertainty, and speculative demand being related to changes in the rate of interest, or bond prices). He wrote that:

'A change in M [the supply of money] can be assumed to lead operate by changing *r* [the money rate of interest], and a change in *r* will lead to a new equilibrium partly by changing M_2 [the speculative demand for money] and partly by changing Y [national income or output] and therefore M_1 [the transactions and precautionary demand for money]. The division of the new increment of cash between M_1 and M_2 in the new position of equilibrium will depend on the responses of investment to a reduction in the rate of interest and of income to an increase in investment.'[13] This response of investment and income to the change in the rate of interest came to be known as the 'Keynes effect'. According to the proponents of the 'classical' theory, was supposed to justify deflationary policies to reduce wages, because this would increase the value of any given money supply. The increase in the supply of 'real

[12] Kalecki 'Essay on the Business cycle Theory' 1933.

[13] Keynes *General Theory* 1936, pp. 200-201.

money balances' would cause the 'real' rate of interest to decrease, and therefby stimulate investment.[14]

The novelty of this approach clearly motivated Keynes to provide some kind of explanation of how his new theory of the demand for money related to the quantity theory of money, which had featured as one of the mainstays of his *Treatise on Money*.[15] He therefore continued '... the income velocity of money is defined as ... the ratio of Y to M_1. Thus, if V is the income-velocity of money,

$$L_1(Y) = Y/V = M_1.$$

There is, of course, no reason for supposing that V is constant. Its value will depend on the character of banking and industrial organisation, on social habits, on the distribution of income between different classes and on the effective cost of holding idle cash. Nevertheless, if we have a short period of time in view and can safely assume no material change in any of these factors, we can treat V as nearly enough constant.'[16]

Keynes then digressed into various institutional, conventional and psychological factors that may influence liquidity preference, and the role in it of monetary policy, until he came to his conclusion, where he stated the conditions under which the income velocity of money will be constant:

'In a static society, or in a society in which for any other reason no one feels any uncertainty about the future rates of interest, the Liquidity Function L_2 [the liquidity preference function that relates the speculative demand for money to changes in the rate of interest], or the propensity to hoard (as we might term it), will always be zero in equilibrium. Hence in equilibrium $M_2 = 0$ and $M = M_1$; so that any change in [the money supply] M will cause the

[14] In his 'The Lesson of the Blum Experiment' (1938/1990) Kalecki showed that the Keynes effect does actually happen.

[15] Keynes *Treatise on Money* 1930/1971b, chapter 24.

[16] Keynes *General Theory* 1936, p. 201.

rate of interest to fluctuate until income reaches a level at which the change in [transactions demand] is equal to the supposed change in M.'[17]

Kalecki's approach is exactly the opposite. Rather than interest rates and income fluctuating until the supply of money is equal to demand for it, in Kalecki there is no 'equilibrium' and the rate of interest and the velocity of circulation of deposits vary in response to a change in income or expenditure. Production is determined by demand, which can be limited by income. But, since production is undertaken by capitalists who are deemed to hold money, production cannot be frustrated by a shortage of money in the aggregate. Any increase in the money supply will merely depress the rate of interest; while, with a given money supply, any investment or growth in production can be accommodated by an increase in the velocity of circulation of that money. The rate of interest may bring the money markets in the financial system into equilibrium. But in the non-financial economy it is the velocity of circulation that adjusts to bring Keynes's transactions demand for money into equilibrium with the supply available to the non-financial public.

Kalecki postulated a positive relationship between the money market rate of interest and the velocity of circulation of money, viewed as the turnover of bank deposits, where the key factor was the 'marginal convenience of holding cash': '... the higher the short-term rate the greater is the inducement to invest money for short periods rather than to keep it as cash reserve. Or, to put it more precisely: transactions can be managed with a larger or smaller stock of money; however, a larger stock of money in relation to turnover means on the average a smoother and more convenient handling of transactions. The higher the short-term rate of interest the more expensive is this convenience as compared with the

[17] Keynes *General Theory* 1936, p. 209. Later, in chapter 21, on 'The Theory of Prices' Keynes defined the income velocity of money as 'The ratio between the quantity of effective demand and the quantity of money closely corresponds to what is often called the "income-velocity of money"; - except that effective demand corresponds to the income the expectation of which has set production moving, not to the actually realised income, and to gross, not net, income.' (p. 299).

alternative of investing in short-term assets.'[18] It is by drawing on the funds that firms have invested in short-term assets that those firms are able to finance investments and the growth of production without an increase in the money supply.[19]

This leads onto **a fourth principle of Kalecki's monetary economics, namely that the *monetary* function of fiscal policy is to mobilise the unused (uncirculated or 'idle') monetary balances of capitalists**, or the wealthy classes, to finance demand, or expenditure, in the real (non-financial) economy.[20] Taxes on profits and, in particular the capital levy on wealth that he favoured, if spent on government contracts with the private sector, or on public services, or on welfare payments, recycle these idle balances into current profits. For Kalecki the excess of liquid savings was a general problem, whether the money balances were held by households or firms. Government borrowing therefore does not need additional 'real' resources, but merely increases the circulation of existing 'idle' balances.

Steindl was later to show a particular version of this argument, in which household saving have their counterpart in the running down of firms' reserves or the 'forced indebtedness' of firms.[21] Taxation and the management of government debt should therefore aim also to stabilise the money capital that accrues through profits. The taxation of wealth is especially appropriate for debt management because it is a way of recycling that money capital as tax

[18] Kalecki *Theory of Economic Dynamics* 1954a, pp. 73-74.

[19] See 'The Money Market' appendix to Kalecki' s 'Essay on the Business Cycle Theory'.

[20] Kalecki 'The Maintenance of Full Employment after the Transition Period' 1945.

[21] Steindl 'The Role of Household Saving in the Modern Economy' 1982. Steindl here exposed the true meaning of Kalecki's observation in 'A New Approach to the Problem of Business Cycles' (1950) that 'with the high level of income there is correlated a high level of savings, and that stream of new savings makes it possible to undertake investment without increasing indebtedness.' Dennis Robertson interpreted this as conceding that 'it is not so much investment which governs savings as savings which governs investment.' (Robertson 'Thoughts on Meeting Some Important Persons' 1954/1966 p. 244). In fact, Kalecki never departed from the view that investment determines saving. In his 1950 article he had in mind the savings of firms, rather than savings in general.

revenue, which is then returned to holders of government bonds. In aggregate the monetary reserves of the capitalists remain the same.

A fifth principle of Kalecki's monetary economics is the use of fiscal policy to stabilise that money capital, in situations where its excess may cause financial instability, in particular in developing countries prone to capital flight through the dollarisation of savings. Wealth taxes not only reduce the amounts of money held in the asset portfolios of the rich. Where such wealth is illiquid (for example in the case of land) a wealth tax obliges owners of such wealth to hold liquid assets against future wealth tax payments. Kalecki argued that fiscal deficits should be a permanent feature of full employment policy. But the resulting accumulations of profits need to be taken off the money markets through the issue of long-term government bonds. Such bonds have fiscal advantages in fixing government debt costs, and reduced cash outflow in rolling over short-term bills. Their long term to maturity also ties up further liquidity in secondary markets for long-term securities.[22]

For Kalecki, the problem of financing economic development is not the question of where the government of a developing country may obtain the funds to pay for public works or industrial infrastructure, or how the 'savings' of rich countries may be made available to countries with inadequate 'savings'. Rather financing economic development is about how to immobilise the liquid assets that accrue to merchants, money-lenders and landowners in the process of economic development, in order to prevent the expenditure of those funds on luxury imports, or capital flight. This should be done through taxing away those assets, or immobilising them with the issue of long-term debt.[23]

[22] Kalecki 'The "Mysteries" of the Money Market' 1940a; Kalecki 'A Theory of Commodity, Income and Capital Taxation 1937; Kalecki 'The Problem of Financing Economic Development' 1954b.

[23] Kalecki 'The Problem of Financing Economic Development' 1954b.

In the more industrially advanced capitalist economies Kalecki's theories of taxation and fiscal policy are more about how to mobilise these accumulations of 'idle' money to prevent them depressing economic activity because private investment, the usual capitalist way of recirculating accumulated profits, is inadequate. His fiscal strategy for full employment was to tax accumulations of money, or replace them with government debt to allow the government to put the money into circulation, since capitalists will not naturally do so. The money taken or borrowed by the government returns of course to capitalists as the government, or its employees and their dependents, spend the money.[24]

Kalecki's monetary economics extended to international monetary arrangements in the discussions before and after the Bretton Woods conference in 1944, although it is difficult here to separate Kalecki's own views from those of his chief collaborator in commenting on Bretton Woods, Ernst 'Fritz' Schumacher, or the other author of an 'Oxford Critique' of Bretton Woods, Thomas Balogh.[25] In general Kalecki favoured fixed exchange rates. But he saw the international monetary system as bedevilled by a problem of trade imbalances if countries tried to move towards full employment. Floating exchange rates would not achieve trade balance, but would impart a deflationary bias, as they had in the 1930s, exacerbating the problem of unemployment. However, fixed exchange rates, even if adjustable to allow for misalignments, required adequate international reserves to be available to trading countries. For this reason, he preferred the Keynes Plan, to the White Plan. However, he considered the mechanisms put forward by Keynes for achieving trade balance, through charging interest on borrowing reserves as well as surpluses of such reserves, to be inadequate, and he considered Keynes's definition of international equilibrium in the form of balanced trade inappropriate for developing countries that need to import capital equipment. Development

[24] Kalecki 1937 and 1943. This last paper offers brief but penetrating insights into the effects of fiscal policy on monetary circulation. Unfortunately these were taken out of some of the later editions. The full text is given in the original and in the first volume of Kalecki's Collected Works.

[25] Toporowski *Michał Kalecki An intellectual Biography Volume 2...* 2018 pp. 127-136.

needs should be met by means of long-term loans while the surpluses of richer countries should be directed towards imports from countries with chronic trade deficits.[26] After the War Kalecki reiterated his view that full employment could not be sustained without adequate foreign currency reserves and long-term loans for deficit countries.[27]

2. **Monetary endogeneity in finance**

Kalecki's view that the 'idle' money balances of capitalists needed to be mobilised and thrown into circulation, and that this mobilisation increases the velocity of circulation of money, led at least one observer, Harry Johnson, to conclude that Kalecki adhered to the quantity theory of money, according to which the rate of inflation is determined in some way by changes in the money supply. Johnson observed that 'on the one occasion on which I met him in Cambridge [in 1955 – JT]... Kalecki delivered a lecture on inflation that employed a simple quantity theory of money together with expectations about the future trend of prices – and which met with a reception from his former admirers so hostile that he was discouraged from publishing it.'[28]

The lecture was in fact a lecture on hyper-inflation. A revised version of it was published seven years later as 'A Model of Hyper-inflation'. The model was distinctive in presenting hyper-inflation as a temporary aberration in which the rapid conversion of money into goods, when money ceases to be an effective store of value, causes the velocity of circulation of money to accelerate. To illustrate this Kalecki used the famous Fisher equation in which the quantity of money multiplied by its velocity of circulation (the number of times its changes

[26] Kalecki and Schumacher 'International Clearing and Long-term Lending' 1943.

[27] Kalecki 'Mulilateralism and Full Employment' 1946/1990.

[28] Johnson and Johnson *The Shadow of Keynes* 1978, p. 159.

hands) is equal to nominal national income, that is the quantity of goods and services produced multiplied by the prices of those goods and services.[29]

Johnson's recollection of the lecture was not reliable and Kalecki's mathematics may have misled his audience. The article in which Kalecki published the lecture, made clear that the quantity theory was being applied to cases of hyper-inflation, rather than to the regulation of the price level in 'normal' times and a reliance on a stable velocity of circulation, so that changes in the quantity of money make for proportionate changes in prices. According to the article, 'in normal conditions the increase of the quantity of money in circulation results directly in a greater liquidity and lower velocity of circulation than an increase in prices… the consequent fall in the rate of interest will tend to increase investment and thus output and prices. But this effect may be small. The fall in the short-term rate of interest will normally affect but little the long-term rate of interest in short and medium periods, and this limits the effect upon investment in fixed capital. In any case the effect of the quantity of money on prices will be very indirect in character.'[30] He had pointed out in an earlier note for the United Nations that, in hyperinflation, the monetary factor increasing the price level in hyperinflation is the rise the velocity of circulation that occurs when people decide to hoard commodities instead of holding cash balances.[31]

The results of central bank quantitative easing since the 2008 have borne out Kalecki's analysis. In the absence of hyperinflation, the increase in the money supply has indeed given rise to a reduction in the average velocity of circulation of that money. This reduction in lending has been widely attributed to a Keynesian 'liquidity trap', and this might be regarded as simply another way of saying that the velocity of circulation of money has fallen. However,

[29] Kalecki 'A Model of Hyper-inflation' 1962. See also Toporowski *Michał Kalecki Volume 2* 2018, pp. 199-202 and Łaski *Lectures in Macroeconomics* 2019 p. 84.

[30] Kalecki 'A Model of Hyper-inflation' 1962.

[31] Kalecki 'Introductory Remarks on Inflationary and Deflationary Processes' 1949.

there is one difference between Kalecki's argument and Keynes's liquidity trap hypothesis. For Keynes, the liquidity trap would arise if the central bank tried to push its policy rate of interest fell below some critical level.[32] For Kalecki, the reduction in the velocity of circulation may occur at any rate of interest. Keynesians would argue that this is simply the increase in the demand for money attendant upon a fall in the long-term rate of interest, as measured by the market yield on bonds (their nominal rate of interest or coupon rate, divided by the price of the bonds). But this long-term rate is not the same as the rate of interest in the money markets.

Like Post-Keynesians today, and unlike monetarists who regard the money supply as being issued by the state, or its agent the central bank, Kalecki saw the supply of money as endogenous, or emerging from economic or financial processes that are independent of government control. In that earlier note he identified two sources of 'additions to the money supply'. One of them was 'the financing of budget deficits' and the other was 'expanding bank credit to business'.[33]

For Post-Keynesians, money is endogenous because the central bank *has* to supply whatever reserves commercial banks desire, if the central bank is to function as a lender of last resort, or control short-term interest rates. An alternative Post-Keynesian view is that endogeneity is a 'structural' result of financial innovation.[34] However, an older view of endogeneity that was more familiar to Kalecki was the notion that bank credit money was

[32] 'There is the possibility... that, after the rate of interest has fallen to a certain level , liquidity preference may become virtually absolute in the sense that almost everyone prefers cash to holding a debt which yields so low a rate of interest. In this event the monetary authority would have lost effective control over the rate of interest...' Keynes *General Theory* p. 207.

[33] Kalecki 'Introductory Remarks on Inflationary and Deflationary Processes' 1949.

[34] Thereis, by now, a huge literature on this. But the key texts are Kaldor's *The Scourge of Monetarism* 1982, Moore *Horizontalists and Verticalists* 1988, Smithin *Controversies in Monetary Economics* 2003 chapter 5, Chick and Dow 'Monetary Policy with Endogenous Money and Liquidity Preference' 2002, and Chick ''The Evolution of the Banking System and the Theory of Saving, Investment and Interest' 1986.

created and regulated not through the interaction of commercial banks with central banks, but from the lending activity of banks with their customers.

The notion that bank advances create deposits was well known in the 1930s. It was originally put forward by Hartley Withers and was taken up by the political economist J.A. Hobson who pointed out that most of this credit was advanced not on the security of some future revenue that would be obtained by investment in factories and machinery, but on the basis of a much more immediately priced (even if, in Marx's view, 'fictitious') security of financial collateral: 'We have spoken of bankers and financiers as the makers of credit. But we have also recognized that the chief financial material out of which they make it is the stocks and shares and other certificates of value which represent the capital created by the saving and investing classes.'[35] Financial assets make especially good security for loans because there is always a market from which to obtain a money value for that security. It was Hobson's and Withers' discovery that the British banking system was readily advancing loans, and creating deposits that could be used as means of payment, in other words as money, against long-term securities, that put paid, in Hobson's, if not in Withers' (or even Keynes's at that time) view, to the gold standard and the quantity theory of money. According to that theory, the restriction of the banknote issue to the amount of gold reserves in the banking system, was supposed to keep prices stable. In fact, the monetary system had innovated to substitute a credit supply, for capitalists with financial assets to put up as collateral, for the inelastic banknote issue.

Nowadays economists would say that this is merely the same as the notion of monetary endogeneity, according to which the money supply is somehow determined by the needs of trade and business. But on the whole, the long-term securities that are used to leverage up

[35] Hobson *Gold Prices and Wages* 1913 p. 89. Withers put forward the view that loans create deposits in his book *The Meaning of Money* 1909. See also chapter 5 above.

the supply of credit have disappeared from the monetary analysis. The severely 'real' neo-classical analysis considers only real (i.e., fixed capital) as possible collateral, 'shocked' by productivity and other supply changes.[36] In any case, monetary endogeneity based on financial collateral poses difficulties for financial economists operating with models that have highy reduced financial systems. The model then has to explain how credit cycles or crises may occur where monetary endogeneity is presumed to supply credit more or less on demand. With highly reduced financial systems, changes in credit are attributed to 'shocks' that are either 'real', or difficulties that arise on bank balance sheets. In recent models such difficulties are held to arise because of 'illiquidity' which a central bank may relieve.

For example, in a recent paper Gregory de Walque, Olivier Pierrard and Abdelaziz Rouabah have a representative firm that borrows and a representative household that lends. Two banks with endogenous balance sheet decisions, one a net lender, the other a net borrower on the interbank market (operated by two firms). That interbank market is dependent on monetary policy liquidity injections, and difficulties arise if those injections do not arrive on time or are too small. But the (undifferentiated and representative) firm does not hold liquid assets, making it very different to the large firm, which Kalecki described.[37] Even before the 2008 crisis made such studies fashionable, Charles Goodhart collaborated with various colleagues to model how illiquidity may give way to default. This is generally in the context of Dynamic Stochastic General Equilibrium models, where 'shocks' occur that expose the illiquidity of banks that have engaged in maturity transformation.[38] The relief of illiquidity by

[36] Kiyotaki and Moore 'Credit Cycles' 1997; Bernanke and Gertler suggest 'shocks' in the form of changes in 'net wealth', which renders ambiguous changes in the value of collateral (Bernanke and Gertler 'Agency Costs, Net Worth and Business Fluctuations' 1989).

[37] de Walque, Pierrard and Rouabah 'Financial (In)Stability, Supervision and Liquidity Injections: A Dynamic General Equilibrium Approach' 2010.

[38] Goodhart et. al., 'A risk assessment model for banksto analyse financial fragility' 2005, 'A model to analyse financial fragility' 2006; Hőrman and A. Schabert 'A Monetary Analysis of Balance Sheet Policies' 2015. A more general and more critical discussion is provided in Goodhart et al., 'Macro-modeling, Default and Money' 2019.

central open market operations, buying securities in exchange for reserves, is obvious. But it has also reinforced a Keynesian, 'state money' notion of monetary endogeneity. With this has come a view that looks at the banking system as it was in the mid-nineteenth century, rather than the more complex financial system at the heart of which are the financial operations of capitalist business, rather than the inter-bank operations of banks, with liquidity viewed as the *financial* circulation of money, rather than the reserve transfers of banks.

Keynesians and Post-Keynesians have in general followed Keynes in embracing *state* theories of money derived from the historic grant from the state to the Bank of England, or other banks of issue, of monopoly powers over the money supply in the form of banknotes. Hence the focus of recent Post-Keynesian theory on the interaction of the central bank and the banking system.[39] An older generation of Post-Keynesians regarded the link with financial asset markets as important. But this is because they attached importance to the Keynes's speculative *demand* for money, rather than because financial assets affect the *supply* of credit.[40] The other branch of Post-Keynesian monetary thought, based around the theory of the monetary circuit is discussed in a later chapter.

There is no doubt that Kalecki was well aware of the practice of banks making advances on the basis of financial collateral. He noted this as the way in which the financier Ivar Kreuger operated, until he ran out of collateral and committed suicide in 1932.[41] This technique of expanding the supply of credit is also mentioned in Kalecki's later observations on the financing of full employment. Here, Kalecki supposed that the government, finances its fiscal deficit, by paying its suppliers with short-term bills. The recipients of these bills either hold them as savings, or sell them to their bank in exchange for bank deposits, *which banks*

[39] Moore *Horizontalists and Verticalists* 1988; Wray 'Money' 2013

[40] e.g., Kahn 'Some notes on liquidity preference' 1954/1972.

[41] Kalecki 'Ivar Kreuger 1932/1996. See also Toporowski *Michał Kalecki Volume 1* 2013, pp. 22-23.

create for the purpose of buying the bills. If the rate at which the banks discount the bills starts to rise (the price of the bills in terms of bank deposits falls) then the central bank can always force an increase in the discount rate by issuing bonds and using the proceeds to buy in the bills.[42]

There is an important difference between a state theory of money in a banking system, as postulated in the *General Theory* of Keynes, and in some of the literature cited above, and a credit theory in a financial system which this chapter argues is the monetary theory of Kalecki. In the state money-banking view, a change in the rate of interest gives rise to arbitrage through the purchase or sale of real assets. This is the foundation of Keynes's theory of interest, and his policy of the 'euthanasia of the rentier', which was supposed to force capitalists into real investment because a profit could be earned on the margin between the expected return on investment (Keynes's 'marginal efficiency of capital') and the cost of borrowing the money to finance the investment.[43] This was the interpretation of Keynes that was taken up in the 'Neo-Classical Synthesis' of J.R. Hicks and James Tobin.[44] In the Post-Keynesian interpretation of Keynes, this arbitrage channel through real investment is frustrated by uncertainty and 'liquidity preference' leading, in the extreme case, to a liquidity trap.[45] In the neo-Wicksellian orthodoxy that rules today, changes in the rate of interest are supposed to give rise to arbitrage between consumption today and consumption in retirement, that are then supposed to determines saving and investment.[46]

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[42] Kalecki 'Political Aspects of Full Employment' 1943/1990.

[43] Keynes *General Theory* 1936, pp. 375-377.

[44] Hicks, 'A Suggestion for Simplifying the Theory of Money' 1935; Tobin 'A General Equilibrium Approach to Monetary Theory' 1969.

[45] E.g., Davidson *Money and the Real World* 1978 chapters 10 and 11. Davidson's account is interesting because although he recognizes the distinction between the short-term rate of interest and the long-term rate, and adheres to Keynes's view that it is the long-term rate that is critical for investment, he still holds onto the Wicksellian notion that it is the arbitrage between the rate of interest and real investment that is critical for the economy.

[46] Woodford, *Interest and Prices* 2003.

Kalecki rejected the notion that the rate of interest, whether the short-term rate or the long-term one, affects the dynamics of the real economy. The part of monetary endogeneity that interested him was the ability of businesses to use their monetary and financial resources as collateral for loans, thereby giving them preferential access to credit. The endogeneity of credit supply within a complex system of credit and debt allowed Kalecki to go further than Keynes in rejecting the classical theory of interest, whereby interest is somehow related to, or derived from the rate of profit. In the remainder of this section this argument is expanded in the context of recent monetary controversies. The third section of this book discusses the implications for monetary policy of this rejection.