

MICHAL KALECKI

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Michal Kalecki has a permanent place in the history of economic thought having independently discovered the basic elements of Keynesian theory several years before the publication of J. M. Keynes's "General Theory". He made a significant contribution to the development of theories of the business cycle, growth, full employment, income distribution, the political boom cycle, the oligopolistic economy and risk. Although



he was among those world economists who did not overestimate the effect of monetary factors on economic development, his views on many issues relating to finance, interest and inflation remain stimulating. Much of Kalecki's work served as an inspiration to the Cambridge Keynesians – Robinson, Kaldor and Goodwin among others – and it is a significant source for the present-day, especially American, Post Keynesianism.

Michal Kalecki was born on 22 June 1899 in Łódź. He studied engineering at the polytechnics in Warsaw and Gdansk. In 1929 he joined the Research Institute of Business Cycles and Prices in Warsaw, where he worked for seven years.

During this period he formulated underlying ideas for his macroeconomic theory that were similar to those which Keynes came out with three years later in "The General Theory of Employment, Interest and Money" (1936). Kalecki presented them in 1933 at an international conference of the Econometric Society held in Leiden; they were published in 1935 in the French magazine *Revue d'Économie Politique*, after he had developed them in "An Essay on the Theory of the Business Cycle", published in Warsaw in 1933. He was at that time recognised only by a small circle of economists, especially econometrists. Kalecki achieved wider acceptance only after he was published in English and the similarity between his theory and Keynes's was demonstrated.

In 1936 he protested against the politically motivated disciplinary measures taken against colleagues by resigning from the research institute; with a grant from the Rockefeller Foundation, he left to be a Travelling Fellow first in Sweden and then in the United Kingdom – at

London and Cambridge. During the war years he worked in research at the Oxford Institute of Statistics, and after the war joined the International Labour Office in Montreal, moving from there in 1946 to the United Nations Secretariat in New York where his main task was to prepare the World Economic Reports.

In 1955 he returned to Poland, becoming an economic advisor to government bodies, a university professor and a member of the Polish Academy of Sciences.

His retirement was precipitated in 1968 and he resigned all his important posts. Even after resigning, however, he continued his research activity. This was shown in numerous research articles and in a lecture he gave at Cambridge University in 1969 during the celebration of his seventieth birthday.

The eminent American economist J. K. Galbraith wrote a letter of thanks to Kalecki on the occasion of his birthday, saying: "I wonder if you realise how much those of us in the world around have owed to the intellectual capital you have provided over these past decades...I believe that your position in the world is unrepeatable". In 1970 Kalecki was nominated for the Nobel Prize for Economics

Michal Kalecki died on 17 April 1970 in Warsaw.

The Kalecki Business Cycle Model

Kalecki did not write about money and finance in a separate, more extensive work. He addressed them rather in several independent articles and in various chapters or parts of his numerous essays on economic processes, in particular business cycles.

His business cycle theory is an "internal" theory, which means that he understood the business cycle to be above all a process generated by the internal strengths of the economy. He created a macroeconomic model for the cyclical fluctuation of economic

activity, one that explained the cycle, its automatism and regularity by means of endogenous changes, without the effect of external factors. In his initial model of the cycle he assumed the following for the purpose of simplification: perfect competition, balanced trade, a balanced government budget, and the fact that workers consumed all their income and that capitalists saved all of theirs. In order to stress the cyclical components of the system, he abstracted them from the long-term trend.

In explaining the cyclicity of economic development he posited that although the main source of



investments is the aggregate savings of enterprises, the investment decisions of entrepreneurs are based on the anticipated aggregate profitability in the expected future period – the rate of profitability in new plants, estimated on the basis of current gross profitability. He defined it as a ratio between total gross profitability and the existing capital stock. Within the investment process he distinguished three stages each separated by a time-lag:

1. the decision to invest – orders,
2. production of capital goods,
3. actual investment – installation of capital goods

For him, the very cyclical nature of the economy was a continual process in which cyclical development resulted from the dual role of investment - from the fact that "investment is not only produced but also producing".

Kalecki wrote: "Investment considered as capitalists' spending is the source of prosperity, and every increase of it improves business and stimulates a further rise of spending for investment."

On the other hand, every investment produces capital equipment and expands the existing stock, it is – abstracted from technical progress – a simple addition to the older generation. The growth in the volume of capital equipment, which depends on the size of the investment orders realised in past periods, means that amid continuing profits there is a reduction in the rate of profit. In this way the growth of total capital stock has an adverse effect on its gross profitability and therefore on the demand for further investments. Investment orders grow more slowly and by the next stage are in decline, triggering a phase of depression. It is in this sense that Kalecki formulated his well-known statement: "The tragedy of investment is that it calls forth because it is useful." Where effective investment has fallen below the level of depreciation, then the total capital stock will fall, halting the decline in profitability and inducing renewed growth in investment spending, which leads into the cyclical phase of economic recovery.

Investments made in a certain period are determined by the level of economic activity in the past periods. This, wrote Kalecki, "creates a basis for analysing the dynamic of the economic process and in particular makes it possible to demonstrate that this process is connected to cyclical development".

In elaborating his cycle theory Kalecki took into consideration technical progress. He shows that, thanks to innovations, investments are not merely an addition to the older generation of capital equipment. Instead of the profitability of capital declining, investment projects become more attractive, investment spending continues, aggregate demand expands, and therefore economic growth rises. "The effect that

a steady flow of innovations has on investment may be compared with the effect of a steady rate of profit growth. This flow contributes to increasing the investments per unit of time above the level without innovation... Innovations transform a static system into a system of long-term growth". Kalecki considers innovations to be factors of development which "do not allow the system to persist in a static position and which cause a long-term upswing".

The Kalecki model differs from the later Keynes model in which the balance of capital is assumed to be constant and the investment decision is based upon the marginal utility of capital in comparison with the interest rate. Kalecki by contrast posited a balance of capital which fluctuates over the course of the cycle and which, together with the expected aggregate profitability of capital, has a significant effect on the investment decision.

Lawrence Klein, 1980 Nobel Laureate in Economics, has written: "From a certain viewpoint the Kalecki model is superior to the Keynes model, above all for the fact that it is considerably dynamic."

The interest rate

Most of Kalecki's views on interest-rate development were related to his interpretation of the business cycle.

Like Keynes, Kalecki saw the interest rate to be in a certain sense a monetary phenomenon and not a mechanism for bringing about equality between savings and investments. He wrote that "the rate of interest cannot be determined by the demand for and supply of capital because investment automatically brings into existence an equal amount of savings. Thus investment 'finances itself' whatever the level of the rate of interest. The rate of interest is, therefore, the result of the interplay of other factors".

As for the effect the interest rate has on the investment decisions of entrepreneurs, Kalecki reasoned that their willingness to invest increases when the profitability of capital equipment and the expected profitability inferred from this are higher, while it falls when the interest rate is raised. In general, however, he considered the interest rate to be a less significant factor than the effect of aggregate profitability, "the interest rate is of secondary importance for the will to invest, the factor of prime importance being unquestionably the gross profitability of existing plants". Regarding the relationship between the interest rate and business cycle, Kalecki draws a distinction between the short-term and long-term interest rate.

The short-term interest rate is affected, according to him, on the one hand by transaction demand for money, influenced by the volume of transactions,



and, on the other hand, by the supply of money from banks.

The transaction demand for money, in other words the money used as a medium of exchange, may be met through a larger or smaller money supply. A larger money supply in relation to the total value of transactions enables transactions to be executed more effectively and easily. The higher the short-term interest rate however, the more unprofitable this "facilitation", since revenue is lost by the short-term placing of money in short-term deposits, bills and so on.

Where the value of transactions rises during the recovery phase, the need for a larger money supply grows and the short-term interest rate is raised as a result. Banks react to this by increasing the supply of money, which puts downward pressure on the development of the short-term interest rate. During the depression, the volume of transactions declines and so does the short-term interest rate. The banks react by tightening the money supply, which has the opposite effect on the short-term interest rate by supporting an upward tendency.

The supply of money by banks does not react proportionately to the fluctuating value of transactions, on the basis of which it is possible to clarify the actual character of the cyclical fluctuation of the short-term interest rate. In general, according to Kalecki, bank money supply "fluctuates less than the value of transactions and so the velocity of circulation of money and the short-term interest rate increase during the recovery and decrease during the depression", insofar as the banks do not make an exceptional resort to the policy of "cheap money" during the recovery.

In the event that banks reacted to growing demand for credit by raising the interest rate relatively steeply, then the upswing would be brought to an end; as Kalecki shows, this is because "the precondition for the upswing is that the rate of interest should not increase too much in response to an increased demand for credit".

In clarifying the development of the long-term interest rate, Kalecki takes as a basis the possible substitution between a short-term asset, such as a bill of exchange, and a long-term asset, such as a government security. He presents the example of the security owner who is comparing the potential performance of the short-term and long-term asset over the course of the next several years. Rather than the common short-term interest rate, he takes into consideration the expected short-term interest rate over the course of the expected period and the current profit on the long-term asset – the current long-term interest rate. In addition he takes into account the devaluation of the long-term asset. The cyclical fluctuation

of the short-term interest rate is then reflected only to small extent in the long-term interest rate, which does not fluctuate on a cyclical basis.

To the extent that Kalecki dealt with the effect of the interest rate on the willingness to invest, he considered the most decisive factor to be the long-term interest rate. This is, according to him, relatively stable and a change in it is unlikely to have a substantial effect on investment activity. This led him to reject those business cycle theories, according to which the end of the boom derives directly from an increase in the rate of interest.

Kalecki in the end asserted that, on the basis of long-term data, it is not at all certain whether consumption is really encouraged or discouraged by a higher rate of interest. Most likely is that its effect would be made significantly clear only if the interest rate fell to a very great extent. The long-term interest rate could affect spending decisions, but may itself be changed only slightly. Therefore Kalecki was also sceptical about the effectiveness of monetary policy, which, mainly through the anticipated effect on the interest rate, could have had no more than a relatively small effect on the level of aggregate demand. Where monetary policy affects demand, it does so above all through its impact on investment.

In summarising his analysis of the interest rate, Kalecki stated: "Several authors have attached to the interest rate a significant role in the progress of economic fluctuations. Since in fact the long-term interest rate is a determinant of investment and thus of the business cycle mechanism...and does not display substantial cyclical fluctuation, it can hardly be considered a significant element of the business cycle mechanism".

Inflation

Kalecki from the outset of his research dealt with the issue of inflation in connection with the business cycle and noted the process of "credit inflation". He asked: "How can capitalists invest more than remains from their current profits? This is made possible by the banking system in various forms of credit inflation...Hence, ..., without credit inflation there would be no fluctuations in investment activity. Business fluctuations are strictly connected with credit inflation... A similar type of inflation is the financing of investments from bank deposits, a process usually not classified as inflation but one which perhaps has the greatest importance in the inflationary financing of investments during an upswing in the business cycle."

While in the UK during the war he examined inflation in more detail and devoted several articles to the



subject. In one of them he posed the question: "What is inflation?". He considered it incorrect to identify inflation with every increase in the level of prices. He said that many of the factors increasing the level of prices were not inflationary in the strict sense of the word. The increase in prices happens, for example, as a consequence, of currency depreciation or a one-off hike in wages but at the same time there does not emerge a self-regulating spiral process that could be termed inflation.

The essence of inflation may be approached more closely if its cause is understood in the following sense: where there is increasing effective demand together with constant or declining supply, an equilibrium is created by the effect of rising prices. But even here there arises the difficulty of measuring the extent and pace of inflation since prices may increase for reasons other than a relative shortage of inputs. He sees the way around this obstacle to be in understanding that a cursed inflationary spiral emerges from the fact that, after the decline of real wages caused by the increase in prices, it is not possible for nominal wages to "catch up with" the rising prices nor for the previous level of real wages to be restored. Workers strive to maintain their previous standard of living, in other words the previous level of real wages, by securing higher nominal wages. However the increase in them is a cause of further increase in the level of prices and the "chase" continues.

Where there is a rich supply of inputs for the production of consumer goods, there is also more or less a close correspondence between the prices of products and their initial costs. The supply curve is horizontal or rising slightly. During inflation however it is rising steeply and prices rise considerably above the level corresponding to a "normal" relation between prices and initial costs. This increase represents inflationary profits. Their amount may be taken as a measure of inflation. According to Kalecki, the advantage of such an approach is that inflation may be measured as a whole and in the way it is actually manifested in individual sectors. It is important for the selection of anti-inflationary measures since the fight against inflation means coming to terms with inflation in the markets for individual goods.

Kalecki considered not only the disproportionate increase of prices to costs as being symptomatic of inflation, but also the reduction of stocks. The running down of stocks indicated, according to him, a discrepancy between consumption and the supply of consumer goods. While it may for a certain time stave off inflationary pressures, it is restricted by the volume of stocks. Once stocks have been reduced to a critically low level, the inevitable inflationary pressures will kick in and lead to the increase in prices. The intensi-

ty with which stocks are reduced may therefore be considered as latent inflation, measurable by the rate at which the stocks are spent. Latent inflation may, and often does, go hand in hand with actual inflation – the reduction of stocks is accompanied by an inflationary increase in prices and the creation of excessive profits.

The suppression of inflation during the war by the official regulation of prices was deemed ineffective by Kalecki, on the grounds that prices continue to increase illegally in such a situation and that this is reflected both in excessive demand and in the random distribution of goods – not in accordance with the interest of society but largely dependent on the arbitrariness of the sellers. Open inflation could be restricted but suppressed inflation continues. He saw the better solution in economic rationing since price regulation without a rationing system suffers from the uneven distribution of those goods that are in short supply.

He also took a critical stance against the policy of using wage stabilisation as a remedy to suppress inflation. He showed that prices in such a situation will rise only up to the level where demand for consumer goods matches the available supply. In fact, real wages are not stabilised in this way, but will rather fall, while the continued reduction in the supply of consumer goods will be accompanied by a new increase in prices and a subsequent decline in real wages. Besides its unfavourable effect on the living standards of those who had worked hard, the freezing of wages reduced the incentive to raise productivity in both the war sector and in the sectors manufacturing consumer goods. It was for these reasons that Kalecki vehemently opposed the government programme of wage stabilisation and in this connection he tended towards the introduction of the full rationing system.

Kalecki devoted special attention to the issue of hyperinflation. "The theory of hyperinflation is of interest even though the phenomenon is rather exceptional, because this phenomenon is striking and because, even though hyperinflation does not last too long, it leaves considerable traces in the economy in the years to come". Interest in the theory of hyperinflation also arises from the fact that it is "the one case where the quantity theory of money finds its full application" wrote Kalecki, who had cast doubt on its applicability in the hyperinflation-free economy.

In such an economy, according to him, the increase in the supply of money in circulation causes an increase in liquidity and a fall in the velocity of circulation of money, rather than a rise in the level of prices. A reduction of the interest rate, occurring as the result of a rise in the supply of money in connection



with the profit outlook, does stimulate a rise in investments and, under the multiplier effect, an increase in consumption and output which leads eventually a rise in prices. That said, this effect is insignificant since the reduction of the short-term interest rate is reflected only partly and to a small extent in the long-term interest rate. In such conditions, the effect of the increase in money supply on prices will be only indirect.

This is not the case in the conditions of hyperinflation. In this case every increase in the supply of money in circulation directly induces a rise in the level of prices. This results from rise in general preferences for goods and the disposing of money. The money supply increment is speedily converted into goods, within a timeframe whose length is a function of the rate of acceleration of the increase in prices. The velocity of circulation of money again causes an increase in prices, the rate of which is, according to Kalecki, proportional to the money circulation velocity

where it is assumed that macroeconomic policy ensures a stable inflow of money through channels of budget deficit financing and bank loans.

On the other hand, the money circulation velocity is a function of the anticipated increase in prices and may cause further acceleration of the price growth. An inflationary spiral may thus develop, driven by the increase in the money circulation velocity. This "phenomenon of accelerated hyperinflation is nothing else but the galloping inflation which is based on increasing velocity of circulation". It does not develop indefinitely however, since the money circulation velocity has maximum possible levels. But these are not reached as a result of the previously taken stabilisation measures, whose initiation is forced by the reaction of various social groups to the hyperinflationary effects on income distribution and the overall economic situation.

Selected works of Michal Kalecki

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- Theory of Economic Dynamics: An Essay on Cyclical and Long-run Changes in Capitalist Economy (1954),
- A Model of Hyperinflation. *Manchester School of Economics and Social Studies*. Vol. 72, N°3 (1962),
- Zarys teorii wzrostu gospodarki socjalistycznej (1963),
- Studies in the Theory of Business Cycles: 1933 – 1939 (1966),
- Selected Essays on the Dynamics of the Capitalist Economy, 1933 – 1970 (1971),
- The collected works of Michal Kalecki: published in Warsaw between 1979 and 1988 in seven volumes under the title "Dziela"; published in English between 1990 and 1997 in seven volumes under the title "The Collected Works of Michal Kalecki" by the Clarendon Press, Oxford.