

ARTICLES

Kalecki – a pioneer of modern macroeconomics¹

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Abstract: The purpose of this study is to vindicate the position of Michał Kalecki as a pioneer of modern macroeconomics whose numerous papers in 1929-1933 laid foundations for what is presently known as the macroeconomic stock-flow consistent approach in examining the economic dynamics of a capitalist economy. Comparative economic analysis is used to define the critical differences between Kalecki's micro-assumption and his macro-analysis and policy recommendations against those of his contemporary, and the present-day mainstream economics. Following a concise intellectual biography note, Kalecki's mechanism of business fluctuations, and then his theory of distribution of national income are examined. Next his theory of profits is discussed, and his theory of effective demand which follows from it. This discussion culminates in outlining his theory of economic dynamics of a capitalist economy. In conclusion the present day relevance of Kalecki's macroeconomics and its limitations are examined.

Keywords: Kalecki Michał, macroeconomics, full employment, capitalist economic dynamics, post-Keynesian economics.

JEL codes: E12, B22, E32 E23.

Introduction

In 2015 a selection of papers on the present-day relevance of Michał Kalecki's studies in economics was published (Toporowski & Mamica, 2015). Its first part deals with "Kalecki and Macroeconomics" and at the time of my writing this paper, a new study appeared, *Michał Kalecki et l'essor de la macroé-*

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conomie (Assous & Fourchard, 2017). The shared line of thought of these two books, as well as of numerous other publications, including the present study, is to vindicate the position of Michał Kalecki as a pioneer of modern macroeconomics whose numerous papers between 1929 and 1933 laid the foundations to what is presently known as the macroeconomic stock-flow consistent approach to examining economic dynamics of a capitalist economy (Kalecki, 1990). Moreover, in 1934 and 1935, together with Ludwik Landau, Kalecki estimated the volume of national income of Poland in 1929 and in 1933, i.e. at the beginning and at the end of the world 1929-1933 economic crisis.³ The unique feature of those estimates was that they disclosed the functional distribution of Poland's aggregate national income between profits and wages in those years (and that they also spelled out some methodological guidelines for making such national income estimates). The macroeconomic essence of those estimates, which were among the first estimations of the volume of national income in the world ever done, is that the distribution of gross national income between profits and wages contained therein was implicitly linked to Kalecki's macroeconomic business cycle theory which had gross aggregate investments determining gross profits which in turn determine cyclical fluctuations of gross national income and employment.

Kalecki focused on relationships between macroeconomic aggregates such as national output, employment, investments, profits and wages and on changes in those aggregates. In a market economy these relationships and their changes are a product of many factors: (i) the behaviour of individuals, households and firms regarding their respective short- and long term spending on consumption and investment, (ii) various monopoly and quasi-monopoly market structures, as well as (iii) the interactions among these individuals, firms and monopoly structures in individual markets, on the one hand and (iv) various government policies and government interventions on the other. Always carefully defining the micro foundations of his macro-modelling, Kalecki was foreign to the paradigm of individualism, as reflected, e.g. in the idea that an individual, in pursuit of his own interest and led by an "invisible hand", promotes at the same time the interest of the society as a whole (Smith), an idea that was echoed in our times by President Ronald Regan and Prime Minister Margaret Thatcher for whom "(...)you know, there is no such thing as society. There are individual men and women, and there are families" (Thatcher, 1987), and for whom the macro is no more than a sum of the micro and "[a]ny woman who understands the problems of running a home will be nearer to understanding the problem of running a country".⁴

³ Published in 1934 and 1935 respectively (see Kalecki, 1996; see also Osiatynski's editorial notes therein, pp. 554-555).

⁴ Margaret Thatcher as quoted in: <https://www.brainyquote.com/quotes/quotes/m/margaretth153838.html>.

This marks the watershed between neoclassical macroeconomics at the time of Kalecki and of its present-day followers of the general equilibrium macroeconomics of the DSGE variety on the one hand and the effective demand macroeconomics of Kalecki and Keynes and of their post-Keynesian followers on the other, which can be summarized as follows. For the former, market self-regulation, the essence of which is that following short-time economic shocks the market mechanism, if only not distorted by government interventions, would restore long-term macroeconomic equilibrium at full employment of factors of production. For the latter, and especially for Kalecki, the market economy is inherently unstable and without government intervention it is subject to cyclical fluctuations. Moreover, it is unable to secure long-run full employment, nor – in the absence of technical progress (in the Schumpetrian sense) – to generate sustainable long-term economic growth.

Kalecki's economic output, next to his studies on the theory of the business cycles and economic dynamics of a capitalist economy, covers also two other domains: his studies in the theory of long-term planning and economic growth of a centrally planned economy, as well as studies in development of Third World countries. Also in the latter two domains Kalecki was a macroeconomist par excellence. His macroeconomics of a centrally planned economy focused on macro-relationships between similar macro aggregates as in his studies in market economies, except that those relationships and their changes resulted here from the decisions of the central planner rather than from decisions of entrepreneurs and the operation of the market mechanism. In the context of developing countries he examined those aggregate relationships and their changes as resulting from a combination of market mechanism and central planning.

As this essay focuses on Kalecki's pioneering contributions to macroeconomic studies in cyclical fluctuations and economic dynamics of a capitalist economy, which represent his most important and lasting contribution to macroeconomic theorizing, neither his contributions to the theory of economic development of a centrally planned economy, nor his studies on non-inflationary financing of development of underdeveloped economies will be discussed here.⁵ Before I proceed, however, a short biographical note in Section 1 may help the reader better to grasp a broader perspective of Kalecki's theorizing. This will be followed by Section 2 examining Kalecki's mechanism of business cycle, and the next one – examining his theory of distribution of national income. Then his theory of profits will be discussed in Section 4 and his version

⁵ For an account of his contributions to macroeconomics of a centrally planned economy, see editor's Comments to Volumes 3 and 4 of Kalecki's *Collected Works* (Kalecki, 1992 and 1993 respectively), and regarding his studies in economic development of the Third World countries, see Vol. 5 of his *Collected Works* (Kalecki, 1993a); see also (Osiatyński, 1988; Toporowski, 2013; López & Assous, 2010; Toporowski & Mamica, 2015).

of effective demand theory which follows from it. This discussion will culminate in his theory of economic dynamics of a capitalist economy outlined in Section 5. The concluding section will close.

1. Concise intellectual biography (June 22, 1889 – April 18 1970)⁶

Born on June 22, 1899 in Łódź, a single child in a middle class Jewish family, in 1913 he saw a bankruptcy of his father spinning mill and then, in 1925, of his uncle's large shipping company where his father worked after losing his business. Following the latter, Kalecki had to discontinue his studies at the Engineering Department of the Gdańsk Technical University (he started his engineering studies in 1917 in Warsaw) and to return to Łódź in order to financially support his father. Two years later he moved to Warsaw where he earned his living by taking part time jobs related mainly to his engineering education. Self-thought in economics, his interest in economic ideas and the actual economic developments dates back to 1925 when he did extensive reading of contemporary economic theorists, mainly of leftist persuasion. Since 1927 Kalecki regularly published business reviews in Polish economic periodicals. He examined operations of large corporations and cartels, business conditions in individual commodity and industrial goods' markets, and in the world economy as a whole. An eye-witness of the beginning and the subsequent course of the 1929-1933 business crises, which hit Poland exceptionally hard, the causes of that crises and the undertaken measures to alleviate its effects become a natural center of his interest. His publications of that period earned him, in December 1929, his first permanent job in the newly founded government think-tank, the Institute for the Study of Business Cycle and Prices.

In the Institute Kalecki's main subject of research was the mechanism of the business cycle and a theory that would explain it, as well as the aforementioned estimates of the volume of social income in Poland in 1929 and 1933. Following several papers that preceded his theory of business fluctuations (Kalecki, 1990, Parts 1 and 2), in 1933 the Institute published his *Essay on the Business Cycle Theory* in which he not only laid theoretical foundations for the cyclical nature of capital accumulation, but together with his several other papers set out the core of what later was recognized as his original version of the theory of effective demand (Kalecki, 1933, 1990, Parts 2 and 4).

The French and English summaries of Kalecki's 1933 *Essay* as well as its presentation at the European meeting of the Econometric Society in Leyden later

⁶ Next to biographical Introduction to Vol. 1 of Kalecki's *Collected Works* there are many intellectual biographies of Kalecki (starting with: (Feiwel, 1975; Łaski, 1987; Toporowski, 2013, 2018; Osiatyński, 2015a (in Polish)) to mention a few only).

that year won him, at the end of 1935, a Rockefeller fellowship. In February 1936 he went to Sweden and shortly after Keynes's *General Theory of Employment, Interest and Money* was published (Keynes, 1936) he moved to London. At the end of that year, in protest against disciplinary firing from the Warsaw Institute his two closest friends for writing a critical commentary on Government policy, Kalecki resigned his position there. In England he was wholeheartedly met by Joan Robinson, a close member of the Keynes's circle, and with amalgamate of attention mixed with distance by Keynes. Some time later Keynes arranged for him a research job in the Department of Applied Economics in Cambridge when Kalecki's fellowship ended in 1938 and it was clear that with the nearing outbreak of war he must not return to Poland.

In Cambridge Kalecki wrote his *Essays in the Theory of Economic Fluctuations* (1939a, 1990) in which he focused on filling gaps in Keynes's short-period theory, on its refinement and statistical corroboration, and on integrating it with his own theory of business cycles. No wonder that the book earned Kalecki the status of Keynes's student and follower rather than of a parallel author of the theory of effective demand (which fact was admitted only after Keynes's death).

With the outbreak of war, because of military confinement of Cambridgeshire, Kalecki moved to the Oxford University Institute of Statistics which gave shelter to many economists who escaped fascism in their native European countries. During the war years Kalecki became the Institute's guru in its research and publications on the British war economy. He wrote mainly on war financing, mobilizing material and human resources for the war effort, on expenditure rationing and price controls, on the distribution of the burden of war financing between individual social classes, as well as on securing full employment in the course of post-war reconstruction and later. In 1943 he also published his *Studies in Economic Dynamics* (Kalecki, 1943, 1991), in which he combined his business cycle theory with long-run growth.

After the war Kalecki worked for a year in the International Labour Office, spent a few months in Warsaw advising the Polish Government and from end 1946 until end 1954 he worked as Assistant Director in the Economic Department of the UN Secretariat in New York. In the UN he supervised annual reports on inflationary and deflationary tendencies in individual countries and regions and reports on full employment policies, but first and foremost the annual World Economic Report series. In 1954 his *Theory of Economic Dynamics: An Essay on Cyclical and Long-Run Changes in Capitalist Economy* was published (Kalecki, 1954, 1991). On account of McCarthyism-driven harassment and seeing his responsibilities in the UN Secretariat increasingly limited, at the end of the year he resigned his job at the UN.

Having returned to Poland at the end of February 1955, Kalecki assumed a high ranking advisory position to the Government and in the Planning Commission. Although he kept an interest in the economic dynamics of a capitalist economy (Kalecki, 1991, Parts 4 and 5), he concentrated on the problems

of the annual and long-term plans of Poland's development, on national income distribution and proportions of growth of investment and consumption and also on a system of economic management that would harmonize central planning with some measure of market mechanism. His work on long-term planning and proportions of growth gave birth to his 1963 *Introduction to the Theory of Growth in a Socialist Economy* (Kalecki, 1963, 1993), and to numerous publications on methodology of long-term planning and on the economic efficiency of large investment projects. Critical to a voluntary setting of over-ambitious economic growth rate targets of successive five-year plans and of the first Polish Perspective Plan, 1961-1975, Kalecki's advice was increasingly neglected by political authorities and his position in the Planning Commission was marginalized. This culminated in 1963 in the contemptuous dismissal of Kalecki's critical comments by the General Secretary of the Polish Communist Party (Kalecki, 1992, p. 422). Following this dismissal, Kalecki submitted his resignation from his job in the Planning Commission and a few months later he left. In November 1964, in the presence of many government officials and a crowd of teachers and students who came to the Warsaw School of Planning and Statistics to celebrate Kalecki's and Oskar Lange's 65 and 60 birthdays respectively, Kalecki asked a Hamletian question: 'to give advice or not to give it'. No one in the audience had doubts regarding the political context of the question. Kalecki's answer, somewhat surprisingly, was in the positive. Even if your advice is not followed, he argued, at least future planners and students could use it as teaching material.

Since 1964 Kalecki was preoccupied with teaching and running what were in fact three centres for advanced studies. The first, a small team in the Polish Academy of Sciences, studied contemporary capitalist development. The second, attended by many academicians and policy makers, including Kalecki's close collaborators in the Planning Commission, dealt with problems of economic growth and long-term central planning. The third was a multi-layer structure composed of a work-shop on economic planning and development of Third World countries, of the Centre for Research on Underdeveloped Economies (established in 1961, with Kalecki leading its Research Board), and of the Advanced Course in National Economic Planning. Those three centres of study, the quality of their publications and teaching, made Joan Robinson call Warsaw at the time 'a socialist Cambridge'.

It did not last very long. Political infighting in the leadership of the Polish communist party in 1967-1968 took the form of an anti-Semitic campaign. Many of Kalecki's friends and collaborators were dismissed from their jobs and positions, some forced to emigrate. Kalecki's theory of growth of a centrally planned economy was heavily criticized in a series of politically orchestrated conferences, including one at the Central School of Planning and Statistics (17-18 May 1968) where Kalecki taught and many of his friends and collaborators were employed. In his re-joinder Kalecki considered the argument presented

in the conference papers of his critics: “verbose, vague and their economic reasoning [of] low standard” (Kalecki, 1993, p. 259). Following these developments Kalecki once again submitted his resignation from the professorship in the Central School and went on early retirement. In a couple of months his school of thought ceased to exist.

In the last two years of his life he continued writing, mainly on the dynamics of a capitalist economy, including his “Observations on the «crucial reform»”,⁷ and preparing a paper on a required ‘crucial reform’ of a centrally planned economy. Having suffered in earlier years two cardiac arrests, and also diabetic, he died on April 18, 1970.

2. Mechanism of the business cycle

At the time of the 1929-1933 crisis the macroeconomic analytical framework of mainstream economics was that of general equilibrium, distortions of which were automatically corrected by the perfect operation of the market mechanism. The implied assumption was Say’s Law, according to which supply automatically created demand of equal volume. The sources of business fluctuations were seen therefore mainly in terms of monetary phenomena. The background for Kalecki’s theory of business fluctuations was different. He was inspired by ideas developed by John A. Hobson, but first and foremost by Mikhail Tugan Baranovsky and Rosa Luxemburg. With the former he shared the idea on the ‘antagonistic’ nature of the capitalist system and on the critical role of private investment as the engine of capitalist reproduction. With the latter he shared the idea of insufficient demand being the main limiting factor of that reproduction. The more immediate sources of his inspiration were studies by Albert Aftalion and Mentor Bouniatian, who outlined a theory of cyclical fluctuations that was founded on the periodic fluctuation of investment outlays due to construction period time-lags (Aftalion, 1913; Bouniatian, 1930). Finally, in his 1933 *Essay* Kalecki acknowledged the affinity of his model and its mathematical formulation with that of Jan Tinbergen’s “Ein Schiffbauzyklus” (Tinbergen, 1931).

What are the most important differences between the assumptions of Kalecki’s theory and those of his contemporary mainstream economics? The cornerstone of his analysis is the assumption that even at the top of a boom the capitalist economy operates below full employment of factors of production – of labour as well as of productive capital equipment. Moreover, market mechanism even under perfect competition is unable as a rule to secure full employment unless additional demand is created either by government net spending, or by net exports. Furthermore, the economy is never in equilibrium but moves along a trajectory determined by cyclical changes of private

⁷ Written with Tadeusz Kowalik (see: Kalecki, 1991).

investment (in a simple model which ignores foreign trade and government sectors). The long-run is nothing else but a succession of short run positions of the economy that seeks short-period equilibrium. This, however, is unstable and leads to cyclical fluctuations; “the long-run trend is only a slowly changing component of a chain of short period situations; it has no independent entity” (Kalecki, 1968, p. 435).

Kalecki’s second group of assumption relates to price determination. Are they determined by the ‘invisible hand’ of market mechanism, or are prices fixed by producers? Kalecki distinguishes between prices of raw materials and agricultural products, the supply of which cannot be easily increased in the short-run and which are therefore demand determined, and the prices of manufactured goods and services, which – as long as the economy operates below full capacity – can be increased without a rise in unit variable costs (which mainly represent the cost of manual labour). How then are the prices of manufactured goods determined? Their producers mark-up unit variable costs by a gross profit margin in order to cover overhead costs and earn profits. The freedom of producers changing their profit margins is limited by the relative margins charged by their competitors, the strength of trade unions, etc.

Kalecki’s second group of assumptions led him, again in variance with mainstream economics, to a concept of the horizontal supply curve of a firm, an industry and the manufacturing sector as a whole – as long as the economy operates below capacity. In mainstream economics, under perfect competition, rising marginal costs together with a declining demand schedule when prices increase make these prices equilibrate supply and demand. Kalecki argued instead that there is no need for prices of manufactured goods to rise when demand rises since as long as there is undercapacity utilization of factors of production marginal costs are roughly constant. Hence the supply curve runs horizontally to the abscissa axis (along which the volume of output and employment are denoted). Should unit prime costs rise when demand rises (say, because of extra costs related to the introduction the second or the third shift in factories), the slope of the supply curve would also be slightly rising. But the corollary of his argument is that with rising aggregate demand, unless income distribution between profits and wages changes, neither unit prime costs, nor prices need to rise and even if they do rise, quantity adjustment would always dominate.

Kalecki’s pricing theory at the same time determined national income distribution between wages and profits. After Abba Lerner, Kalecki nicknamed all factors determining the relationship between unit gross profit margins and prices the ‘degree of monopoly’. As long as that coefficient has not changed, neither has income distribution changed. In many of his writings he examined that relationship empirically and has shown it to be fairly constant in the course of the business cycle and in the long run.

Can changes in the wage bill generate business fluctuations? Again, on the basis of empirical studies Kalecki assumed worker savings to be negligible and

their spending to depend first and foremost on changes in employment. Hence his conclusion: “workers spend what they earn”; changes in workers’ consumption are the result of changes in other components of national income rather than their cause.

If workers’ spending does not generate business fluctuations, what does? They are generated by oscillations of capitalists’ profits. In a simple model of a closed economy with no government sector the sum of wages and profits is by definition equal to the sum of worker consumption plus capitalist consumption plus private investment. If for simplicity it is assumed that workers do not save, i.e. their consumption equals their wage bill, by the same token capitalists’ profits are equal to the sum of their investment and their consumption. A rather rhetorical question then arises: are capitalists free to decide about their profits or rather about their spending. And if the latter, we end with Kalecki’s famous observation: “workers spend what they earn, and capitalists earn what they spend”.

When the simplifying assumptions are relaxed, the examined economy is opened, the rest of the world is allowed for, the government sector is introduced, as are workers’ savings, and part of capitalist consumption is made dependent on profits, Kalecki’s fundamental profit equation becomes more complicated but its essence does not change. Profits are a rising (increasing) function of private investment, of government deficit spending and of net export and a negative function of household savings since the latter reduce aggregate demand and hence aggregate profits. Given the distribution of national income between profits and wages, the volume and changes of total output and employment are therefore determined by the volume and changes in private investment. When they fall, profits, total output and employment follow suit and they all rise when private investment rise. Private investment determines the economic dynamics of a capitalist economy.

3. Income distribution theory

As was already noted, Kalecki’s theory of income distribution is founded on his theory of price determination under monopoly market structures and on the concept of the ‘degree of monopoly’. In his early publications the concept was implicitly linked to the marginal elasticity of demand. In its subsequent modifications Kalecki cut that link and made his concept depend on the concentration of production (local and in an industry), on sales promotion, on the strength of trade unions etc. However, his approach to factors determining income distribution – with one exception – was of a rather instrumental nature. As long as he could assume that relative shares in income distribution were *grosso modo* constant over the business cycle and in the long-run, that assumption provided an indispensable link between cyclical changes in private investment which determined changes in profits, which in turn – given roughly

stable the relative share of wages and profits in national income – determined cyclical changes in total output and employment.

What made relative shares in income distribution roughly constant? On the one hand the share of wages is determined by gross profit mark-ups, and on the other hand by the ratio of unit costs of raw materials (and semi-products) to unit labour costs. During a business down-swing when output falls in order to defend profit margins the ‘degree of monopoly’ tends to increase and the reverse applies during a business up-swing. On the other hand, prices of raw materials (and unprocessed agricultural goods) change pro-cyclically and together with them the ratios of the unit cost of materials to unit labour costs. Thus those changes taken together tend to offset each other and to secure a relative stability of the share of wages in the national product. Statistical evidence which Kalecki much quoted supported his argument.

What was then the exception mentioned above? Since the early 1930s Kalecki vehemently argued against the view that reduction of wages was a successful way of fighting unemployment. That economic policy recommendation (that Kalecki called ‘classical’ theory of wages) was founded, he wrote, on two types of assumptions:

“(i) The assumption of perfect competition and of the so-called ‘law of increasing marginal costs’. The consequence of this assumption is the association of the rise in employment with a decline in real wages.

(ii) The assumption of a given general price level or a given value of the aggregate demand, from which it follows that real wages change in the same direction as monetary wages.

Now, the cut in money wages being followed by a decline in real wages, and the latter being associated with a rise in employment, the reduction of money wages leads, according to the ‘classical’ theory [of wages], to an increase in employment” (Kalecki, 1939b, p. 21).

Kalecki thought those assumptions unrealistic and opposed the conclusion derived from them. Following him, let us consider a simple two sector model of a closed economy in which its sector I produces investment goods and its sector II produces workers’ consumption goods. Assume also that workers do not save and capitalists do not consume. Once money wages are effectively reduced, and in the face of falling demand, prices adjust downward sufficiently to prevent a fall in real wages. Under these assumptions nothing changes. If, however, prices are sticky and real wages fall, part of the output of sector II takes the form of an unintended rise of unsold inventories. In sector I, in turn, the volume of output is determined by the investment decisions made earlier. Hence, following a reduction of money wages throughout the economy, the volume of investment will not change. Will then capitalists who operate in Sector II be ready to expand their output considering that the effective reduction of real wages resulted mainly in an accumulation of unwanted inventories? Kalecki’s answer is: no, they will not.

“If the capitalists, having succeeded in cutting wages, immediately raise the volume of their consumption and investments in the expectation of higher profits, employment must increase. Indeed, capitalist income expressed in stable values must rise by the same amount that the volume of their consumption and investment has risen, and this can be attained only by an increase in employment. The latter is connected in our model with the fall of real wages, which therefore decline as a result of a decline in money wages. (...)

Such a state of affairs is, however, extremely unlikely. First, entrepreneurs will in general not hurry with new investment orders simply on the strength of a successful wage reduction, but will rather wait until the expectations of higher profitability have been realized. Even if they place new orders at once the technical time-lag between investment orders and the actual production of investment goods would prevent the latter from increasing immediately.

The position as regards capitalist consumption is similar. (...) If the above is a true description of the course of events, then a wage cut cannot raise capitalist incomes expressed in stable values either immediately or later. (...) Thus nothing is changed by wage reduction except the general level of prices and thus there is no reason for capitalists to increase the volume of their consumption and investment later if they did not do so at the beginning”⁸

What appears to benefit an individual entrepreneur whose costs are reduced following a wage reduction, does not benefit the entrepreneurs as a class, since following the wage reduction output and employment in the consumer goods sector will decline. Given the distribution of national income between wages and profits, factors that determine investment decisions of capitalists determine the cyclical fluctuations of aggregate output and employment. Therefore, Kalecki argued, “capitalists are unable to increase their share of social income (...) during the downswing by reducing workers’ wages, and workers are unable to increase their share of social income during the upswing by raising them”⁹. When the strong assumptions used in his simple analytical model are relaxed, the argument becomes more complicated but the corollary is unchanged: rigid wages are not the cause of unemployment and in a closed economy wage reductions cannot improve aggregate profits and thereby aggregate output and employment.

In Kalecki’s theory, once wages are reduced the mechanism of short-run macroeconomic adjustment goes through unchanged profits and the reduced output of worker consumption goods to a reduction of aggregate output and employment. The share of profit in national income will indeed increase, but

⁸ Kalecki, 1939a, pp. 275-276. Kalecki used a similar argument already in his 1933 *Essay* (see: Kalecki, 1990, p. 100).

⁹ See: (Kalecki, 1933, p. 100). This conclusion was heavily criticized by Polish Marxists; for an account of their argument, see Osiatyński (in Kalecki, 1990, p. 478) and also (Osiatyński, 2015a).

this will happen because at given profits total output will decline (and not because at given a output profits will increase). “The ineffectiveness of reducing nominal wages in an attempt to combat unemployment becomes clear if one avoids the popular fallacy of confusing the *share* of profits in national income with the *volume* of profits. Unemployment increases when, at constant private investment, the share of profits in national income rises, and it decreases when, at constant share of profits in national income, private investment grows. In other words, what we need is not an increase of the share of profits in national income but an increase of profits in absolute terms and that primarily depends on the volume of private investment”¹⁰

Here lies the difference between his adjustment mechanism and that of mainstream economics which assumes malleable capital and, with cheaper unit labour costs, a substitution of labour for capital which is one of the two channels leading to increased employment. The other channel is, of course, rising unit profits when labour costs decline, following which new investment decisions are induced.

At the same time Kalecki pointed out that what holds good for a closed economy does not need to for an open one. In his 1933 *Essay* he wrote: “In an open economy (...), wage reductions or increases will unquestionably cause a shift in the distribution of social income between capitalists and workers. The accumulation of capital can be realized in that case not only in the form of production of investment goods, as in our closed system, but also as a foreign-trade surplus” (Kalecki, 1933, p. 101). And he continued: “In an open system, increasing profits by rising prices or reducing wage rates is unquestionably possible, since increased profits can be realized then as an export surplus” (Kalecki, 1933, p. 108). In a sense the early 1930s’ papers by Kalecki (and those of Keynes) already showed at that time another way of ‘beggar-thy-neighbour’ policy, i.e. through competitive wage rate reductions, that in the past 20 years have dominated the present neo-mercantilist policies.

In the late 1980s two followers of Kalecki’s thought, Amit Bhaduri and Stephen Marglin, attempted to extend his argument related to the effects of wage reduction on employment (Marglin & Bhaduri, 1990; Bhaduri & Marglin, 1990). They noted the dual role of wages which represent a cost of production and at the same time the purchasing power of worker households. Since propensity to save out of wages is less than that out of profits, a shift in income distribution towards profits reduces aggregate demand. On the other hand, they argue, any such shift improves expectations of future profits and increases the ability to finance investment projects. While Keynes and Kalecki underlined the negative impact of reduced money wages on aggregate demand, and thus on total output and employment, Bhaduri and Marglin distinguish between the depressing impact of reduced aggregate demand and the encouraging invest-

¹⁰ See: (Łaski, 2015, p. 13), translation into English by James West.

ment impact of increasing unit profit margins. When the former effect dominates the latter, they call such changes in income distribution the “consumption-led”, or the “wage-led” growth path. When the improved profitability effect dominates, they call the change in income distribution the “investment-led” or “profit-led” growth path.

Bhaduri’s and Marglin’s “profit-led” scenario appears to rely heavily on the assumptions that (i) profit expectations are formed prior to actual profits achieved as a result of a wage reduction are reaped, and (ii) that in expectation of increased future profits financial resources will be invested to some extent independently from actual changes in aggregate demand. While some Kaleckians thought those assumptions doubtful,¹¹ the contributions of Bhaduri and Marglin gave rise to numerous theoretical and empirical studies and a rather hot debate recently culminating in four successive volumes of the *Review of Keynesian Economics* that contain contributions to a symposium: on “Wage-versus Profit-Led Growth after 25 years”.¹²

4. Kalecki’s canonic profit equation

Determinants of profits

As was already noted, the main line of argument of Kalecki’s theory of cyclical fluctuations and long-run changes in a capitalist economy runs from changes in investment through the resulting changes in profits and, given the distribution of national income between profits and wages, to corresponding changes in aggregate income and employment. The two key elements in his macroeconomic argument are: (i) determinants of profits and (ii) determinants of investment.

Kalecki’s canonic profit equation system may be expressed as follows:¹³

$$P = IP + (G - T) + (EX - IM) - (YH - CP),$$

$$P = IP + D + NE - SH, \tag{1}$$

$$Y = P/(1 - \alpha), \tag{2}$$

where:

P – stands for non-distributed profits after taxation,

IP – for private investment (including residential building),

¹¹ See e.g.: (Mott & Slattery, 1994; Łaski, 2015; Osiatyński, 2015a); see also (Hein, 2014) for a comprehensive discussion of that debate.

¹² “Symposium: Wage- versus Profit-Led Growth after 25 Years”, *Review of Keynesian Economics*, 2016, Vol. 4, No. 4, 2017 and Vol. 5, No. 1-3.

¹³ The argument below borrows from (Łaski, 2015) and his unpublished presentation (Łaski, 2015a).

G , T , and D , $D = (G - T)$ – represent government expenditure, taxes, and budget deficit respectively,

EX , IM , and NE , $NE = (EX - IM)$ – represent exports, imports, and net exports,

YH , CP , and SH , $SH = (YH - CP)$ – are income of private households after taxation, private consumption and private savings,

Y – stands for national income,

α – is the share of YH in Y ,

$(1 - \alpha)$ – is the share of P in Y .

It follows from (1) that non-distributed profits, P , increase when private investment, IP , increases, budget deficit, D , increases, and net export, NE , increases, while P decreases when private households savings, SH , increases. Moreover, it follows from (2) that Y is an increasing function of profits, and once profits are given, Y is a decreasing function of the share of profits.

It also follows from (1) that the difference between intended private savings and intended private investment is by definition the sum of budget deficit and export surplus. This relationship between the private, the public, and the Rest-of-the-World sectors is critical to understanding the significance of Kalecki's profit equation and its relevance for present-day capitalism. Private savings are decided by households and individual firms on a different basis than their intended private investment. In many developed capitalist economies the former tend to be larger than the latter for long periods. Capacity expansion investment of firms is as a rule greater than their undistributed profits and it is financed by borrowing household savings. However, household intended saving, determined by precautionary motives, for old age insurance, health and other reasons, is in turn, as a rule, greater than that which firms wish to borrow.

This interpretation of Kalecki's profit equation leads directly to the conclusion that (in a model of an open economy, with a government sector), when such a gap between intended private savings and intended private investment regularly appears, unless it is closed by export surplus, it needs to be closed by government deficit spending. As long as foreign trade turnovers are balanced, government deficit spending must come to the rescue. This in fact explains the persistence of budget deficits in capitalist countries. Prior to the 2008 world financial crisis, following which the budget deficit to GDP ratios sharply increased in nearly all crisis affected countries and ever since 1970 until 2007 in the most important EU countries there were only few instances of budget surpluses.¹⁴ The cause of that persistence of budget deficits has been by no means the profligacy of governments, or the extravagant nature of their respective

¹⁴ In Germany between 1970 and 2007 there were only six occasions when the budget deficit/GDP ratio was positive, annual deficits averaging 2.1% of GDP, in France in the same period only seven such instances, with average deficits equal to 2.8% of GDP, in France between 1978 and 2007 there was no year when there was a budget surplus and the annual deficit to GDP ratios averaged 2.9%, and also in Italy between 1996 and 2007 each year recorded a budget deficit, the annual average of which was 7.4% (see: Łaski, 2009, p. 62; Łaski, 2015, pp. 103-105).

ministers of finance – which must have been of all political colours over that long period under examination. It was the result of attempts to prevent the deficiency of aggregate demand and the accumulation of unsold stocks and a decline in aggregate output and employment that would have followed in the absence of those deficits.

Determinants of private investment

In Kalecki's theory the key determinant of profits is private investment that expands productive capacities. What then are the determinants of private investment? First, the a critical role of the time dimension must be emphasized. His is not a static (or dynamic) analysis of short- or long-term positions of equilibrium, which are reference points in neo-classical economics, where under perfect competition and uninhibited market regulation adjustments to what it calls 'external shocks' are automatic and instantaneous. Nor is it Keynes's approach to investment, which Kalecki thought to be "basically static to a matter that is by its nature dynamic" (Kalecki, 1990, p. 231). He distinguished between investment decisions and actual investments, taking into account the time-lags between them as well as the investment construction period. Those time-lags are, in his theory, a critical factor co-determining the economic dynamics of the system and its stability.

"Investment cannot be compared to the purchase of consumer goods, routinely made by households, sometimes on impulse. Investment projects are irrevocable undertakings which tie up considerable resources for a long time and are financed not only with the investors' own capital, but usually also with bank loans. Thus, investment is not made on the spur of the moment, but rather as a result of in-depth studies, analyses, and calculations. (...) To reiterate Kalecki's distinction – an investment decision is not an investment. The investment implemented in a given year usually results from decisions made the previous year while this year's decisions will turn into investment the following year.... Investment is by nature changeable and unpredictable as no-one knows the future. Thus, it is little wonder that investment fluctuates over time. At times entrepreneurs are more optimistic and ready to take risks, while at other times they tend to be more wary. Furthermore, there is a tendency towards a cumulative movement of investment. Pessimism, just as optimism, is contagious; hence, the growth or decline of investment is likely to accelerate rapidly" (Łaski, 2015, pp. 219-220).

Keynes nicknamed the factors determining capitalist propensity to invest "animal spirits". Nowadays we sometime call them "appetite for risk-taking". In Kalecki's last paper on trend and business cycles, while criticizing his contemporary theory of growth for its examination of the problem of long-term trend and of the business cycle in terms of moving equilibrium, instead of following similar method as that applied in the study of business cycles, Kalecki

wrote: “The latter consists of establishing two relationships: one based on the impact of the effective demand generated by investment upon profits and the national income; and the other showing the determination of investment decisions by, broadly speaking, the level and the rate of change of economic activity. The first relationship does not involve particularly intricate questions. The second, to my mind, remains the *pièce de résistance* of economics” (Kalecki, 1968, p. 435). He thought his 1968 paper represented “for better or worse – a novel approach” (Kalecki, 1991, p. viii).

Kalecki recognized the rate of interest on borrowed capital not just a single determinant of investment decision function, but merely one of several, and not of high importance. He thought two other factors more important. One was the capitalists’ perception of future sales and profits, which are in turn determined by present and recent changes in profits. The other was the volume and changes of the utilization of productive equipment. The former factor determines the benefits gained or the losses sustained. The latter shows whether new investment is at all needed. Moreover, since most of investment projects are financed with borrowed money, the volume of the entrepreneur’s own capital is yet another determinant of investment decisions. This is not only because it determines the volume of available collateral, but also – in line with Kalecki’s ‘principle of increasing risk’ – the greater the own capital of the entrepreneur, the greater loss may be sustained in case of business failure.¹⁵ Finally, technical progress which generates new business opportunities and opens new markets is also an important determinant of investment decisions; in fact, were it not for technical progress, in Kalecki’s theory, the economy would tend to fluctuate around a stationary position.

Why are investment decisions subject to cyclical fluctuations? This follows from the distinction between the income generating effect and the capacity increasing effect of investment. As long as an investment project is under implementation it generates additional demand and incomes, which after allowing for leakages due to private savings, taxation and imports, creates savings which in turn go to financing investment. In the course of investment construction the income effect rules and the supply effect does not yet appear. However, once the project is put into operation it adds to production capacities and competes with plants already under operation. When the income effect dominates it increases the present and expected profitability and encourages new investment. When the supply effect appears it works in the opposite direction, through reducing the profitability of investment and the degree of operation of already

¹⁵ Thus his factors determining private investment and thereby aggregate profits, together with his “principle of increasing risk” are at the same time the basis of Kalecki’s approach to money supply (his monetary theory). They explain differences in access to borrowed capital as well as the velocity of money circulation which is decided by factors determining private investment decisions and the rate of interest.

existing production capacities. If these two effects are not coordinated but left to the unrestrained operation of the market mechanism, the time-lag between the income effect and the supply effect leads to cyclical fluctuations of aggregate investment, output and employment. “A mutual adjustment of these two effects is theoretically possible at a constant rate of investment growth and upon meeting some additional conditions, and that requires a wise macroeconomic policy” (Łaski, 2015, p. 81).

What makes investment fluctuations exhibit a regular amplitude? In the early formulations of Kalecki’s business cycle theory the fact that cyclical fluctuations of investment showed neither dumped, nor explosive amplitude, depended critically on the assumed time-lags between the investment decision-taking and putting the new investment goods into operation. Although the assumed lags fitted well with the empirical evidence, it was pointed out that it was unsatisfactory to claim that the assumed time-lag coefficients are right simply because they are empirically supported. Kalecki accepted that criticism (Kalecki, 1936), and in his later formulation of business cycle theory the regularity of investment fluctuations followed from random shocks of ‘normal’ frequency (Kalecki, 1954, pp. 319-321).

5. Economic dynamics

It may be shown that mutual adjustment of income and capacity effects of investments that would eliminate their cyclical fluctuations and secure balanced and sustainable growth of national product and employment requires a special relationship between the rate of growth of private investment, the rate of private savings (i.e. their ratio to GDP) and the technical capital intensity coefficient corrected for the degree of production capacity utilization.¹⁶ The underlying model of any such trajectory of investment growth, based on a combination of the investment multiplier and the principle of accelerator, is “extremely unstable because the slightest deviation from the sustainable course leads either to depression or inflation.... That is why it has been rightly termed a “razor edge” growth model, which cannot be used reliably to describe and understand real economic dynamics”.¹⁷

¹⁶ This condition may be put as: $\Delta I/I = sp/(v/u)$, where sp is the share of private investment in GDP, v is the technical capital-output ratio (i.e. capital related to full capacity product), and u represents the degree of utilization of productive capacities. An increment in GDP may be represented as $\Delta Y = u\Delta Y^* + Y^*\Delta u$, where Y^* is GDP at full employment of factors of production, for a more detailed discussion of that condition (Łaski, 2015, p. 214 and 216).

¹⁷ (Łaski, 2015a, p. 219). The “razor edge” growth models mentioned here relate mainly to those of Harrod-Domar provenance, elaborated in the mid 1950s and later by, e.g. Solow (1956) and Phelps (1961 and 1966); see also (Osiatyński, 2015b).

Kalecki's examination of the economic dynamics of a capitalist economy starts with a simple model of regular cyclical fluctuations of investment, output and employment, and only having explained the mechanism of the business cycle he superimposes on it the factors that generate long-term growth. His business cycle model does not by itself generate growth and the volume of investment oscillates there along the volume of depreciation of productive capital. True, a new investment project that replaces worn-out capital stock would as a rule embody new technologies and the implied technical progress and thereby invoke growth. However, in this simple model of business fluctuations he assumes the replacement of amortized machinery merely to restore the depreciated productive capacity, but not to expand it. Expansion of capital stock is considered only when he turns to growth factors and superimposes a growth trend upon his cyclical fluctuations model.

Growth is primarily driven by technological progress in the form of innovation. At the same time growth is dampened by rentier-type savings in which Kalecki included that part of company undistributed profits which managers attempt to "park" in capital and financial market instruments, rather than to reinvest them towards expanding their productive capacities (in his business cycle model Kalecki also identifies profits with internal company savings). The growth trend would be positive only when the effect of innovations and market expansion outweighs that of rentier savings.¹⁸

Kalecki's specific approach to factors determining the business cycle and to those determining long-run growth gave the impression that the growth of the capitalist economy as well as its mere passage to the phase of business upswing was only possible due to the operation of semi-external factors in which he included technical progress. Growth of population, he argued, widens growth potential but its effect depends on whether it increases purchasing power, since – as he waspishly observed – "an increase in the number of paupers does not broaden the market" (Kalecki, 1954, 1991, p. 337). As a matter of fact, in the absence of semi-external factors broadening aggregate demand, Kalecki thought the capitalist economy to be fairly stagnant. This idea dates back to his 1943 *Studies in Economic Dynamics*, in which he superimposed trend factors upon his business cycle model.¹⁹

Nevertheless Kalecki was too great a realist not to appreciate high rates of growth of labour productivity thanks to innovations introduced in the private sector, even if originated in the public sector, as well as long periods of fairly low rates of unemployment in the post-war capitalist economy thanks to govern-

¹⁸ Kalecki was aware that factors that give rise to cyclical changes of investment affect at the same time long-term growth, and the reverse, but it was not until his last paper on economic dynamics of a capitalist economy that he combined these factors together (Kalecki, 1968).

¹⁹ Kalecki's 1943 *Studies* became an important inspiration for Joseph Steindl's *Maturity and Stagnation in American Capitalism* where many Kalecki's insights were developed and elaborated (Steindl, 1952).

ment counter-cyclical policies. This made him in the late 1960s, discuss what he thought to have been a fundamental reform of the capitalist system which for many years stabilized it, at least temporarily, securing its high rates of growth and nearly full employment.²⁰ In the light of rather radical policy changes since the mid-1970s until the present day, Kalecki would most probably have revised his optimism regarding the ability of the capitalist system to maintain long-run full employment and high rates of growth and he would have returned to the conclusions of his “Political Aspects of Full Employment” and to the stagnation-prone trend of capitalist development. Nevertheless, considering the empirical evidence regarding capitalist development after World War II until early the 1970s his observations on the “crucial reform” were rather well founded.

Political business cycle

Although Kalecki’s theory of effective demand laid the foundations for maintaining full employment through government deficit spending, he was skeptical with regard to the practical following of his policy recommendations. With Keynes he shared distrust towards stimulating private investment by low interest rates (which Keynes thought equivalent to “pushing on a string”). Notwithstanding the lower propensity to save out of low income households, he believed changes in income distribution towards increasing shares of low income groups, except for extraordinary situations of wars or social revolution, would not be used as a policy instrument to counter business downswings. Thus the only remaining policy instrument was government deficit spending. The question then arises on what to spend. The choice on what to spend, however, is far quite different from writing an essay on a subject of one’s own choice. Should the government decide to invest in production capacities, this would be opposed by entrepreneurs who, although themselves abstaining from investment, would not wish the government to compete with private business. This includes among other health and education services as well as infrastructure, the only exception being direct or indirect military spending. Subsidizing mass consumption is even more opposed than public investment since it violates the moral principle of “earning one’s bread in sweat”.

Finally, there is yet another important reason for capitalists to oppose full employment. “(...) the *maintenance* of full employment would cause social and political changes which would give a new impetus to the opposition of business leaders. Indeed, under a regime of full employment the ‘sack’ would cease to play its role as a disciplinary measure. The social position of the boss would be undermined, and his self-assurance and the class-consciousness of the working class would grow. Strikes for wage increases and improvements in conditions of work would create political tensions. It is true that profits would

²⁰ See his “Observations on the ‘Crucial Reform’” written with (Kowalik & Kalecki, 1971).

be higher under a regime of full employment than they are on average under *laissez-faire*(...). But ‘discipline in the factories’ and ‘political stability’ are more appreciated than profits by business leaders. Their class instinct tells them that lasting full employment is unsound from their point of view, and that unemployment is an integral part of the ‘normal’ capitalist system” (Kalecki, 1943, 1990, p. 331).

In conclusion, Kalecki prophetically thought a regime of the “political business cycle” would rule. “In the slump, either under the pressure of the masses, or even without it, public investment financed by borrowing will be undertaken to prevent large scale unemployment. But if attempts are made to apply this method in order to maintain the high level of employment reached in the subsequent boom, (...) a powerful alliance is likely to be formed between big business and rentier interests, and they would probably find more than one economist to declare that the situation was manifestly unsound. The pressure of all these factors, and in particular of big business – as a rule influential in government departments – would most probably induce the government to return to the orthodox policy of cutting the budget deficit. A slump would follow in which government spending policy would again come into its own. [It that regime] “full employment would be reached only at the top of the boom, but slumps would be relatively mild and short-lived” (Kalecki 1943, 1990, p. 351).

Conclusions – Kalecki’s theory

In conclusion, let me focus on four most important changes in the capitalist economy over the past half century since Kalecki’s death. The first is substituting market self-regulation for government intervention aiming at a sustainable full employment policy. The second are changes in income distribution between profits and wages and their impact on business fluctuations and long-term economic dynamics. The third is globalization and the fourth is the international aspect of neo-mercantilist ways of fighting unemployment.

The world oil-crisis of the early 1970s and the resulting deterioration of terms of trade for net importers of fuels gave rise to accelerating inflation which overlapped with a slump phase of the business cycle, and next to prolonged stagflation. Responsibility for those developments was put on the full employment policy which was accused of being ineffective, too interventionist and hampering the natural market mechanism, which if left to itself would have far more quickly restored economic growth and full employment. Discussion of the process of abandoning full employment policies, limiting the welfare state and its social policy, undermining the powers of trade unions, and restoring pre-Keynesian and pre-Kaleckian economics, goes far beyond the scope of this paper. No doubt this process was much facilitated by the collapse of the Soviet Union and the total discrediting of a centrally planned economy, as well as dis-

closure of the extent and forms of political oppression of the Soviet totalitarian system. It must be noted, however, that the final result of all these changes was the entrusting of the full employment policy to the unrestrained operation of the market mechanism. In that way the ‘state of confidence’ of financial markets, the guarantee of which is ‘sound finance’, which means a balanced fiscal budget, low public debt, low taxation of profits and social spending limited to a bare minimum and public consumption, have left in the present-day capitalist system hardly any room for counter-cyclical government interventions recommended by Kalecki and Keynes. This policy led to the world financial crisis of 2007, the greatest since that of 1929-1933 and a fall of the volume of output and employment that in many European countries has not been made good by mid-2017.

The second area of key changes are those in income distribution. After about a 30 year-long period of roughly constant relative shares of profits and incomes in national output, the last four decades saw – albeit with different intensity in individual countries – profit shares rising, especially in the USA (Atkinson, Picketty, & Suarez, 2011; Stiglitz, 2011; Lazonick, 2013; Picketty, 2013). These changes have many causes. One is rising demand for highly qualified and well-paid workers, which is a consequence of the present-day nature of technical progress. The other is a trend of reducing profit tax rates and a form of cross-country profit tax rate dumping which it is hoped will encourage foreign investors.

The third area is globalization of the world economy. This has many consequences. One is a ‘bargain economy’ in which plants, sometimes whole branches of industry, are moved around the world, as if on a platform, in search for countries with low wage rates, low profit taxation, low standards of environment protection, and so on, at the expense of depressing wages and aggregate demand.²¹ The economy becomes increasingly world-global but governments continue to be national, which results in a shift of power between multinational corporations which have no countervailing power in a world political centre. This undermines the past balance of power between once nationally limited markets and national governments.²² One result of the new imbalance is tax avoidance by multinational corporations at the expense of tax revenues necessary to maintain and improve material and social infrastructure, finance public services and public welfare and, at the same time serves to raise taxation of the middle and lower income earners and indirect taxes. Another aspect of globalization is the expansion of financial markets, and especially of shadow-banking, in order to escape national bank-

²¹ For a more comprehensive account of this development and its impact (Palley, 2012, Part II).

²² Kalecki dealt with that aspect of globalization in his 1946 paper, “Multilateralism and Full Employment” (Kalecki, 1990) where he pointed out that multilateralism and full employment were feasible as long as debt was fully accommodated. As soon as there was no concern about debt the system would break down. This is of especial relevance to the European Union, which has abandoned the coordination of macroeconomic policies to ensure full employment, in favour of a self-defeating debt reduction (I owe this observation to Jan Toporowski).

ing supervision. This leads to marginalization of financing of real sectors of the economy and to a huge expansion of financial speculations and to financial capital largely dominating industrial capital. However, when prospects of notional capital gains deteriorate and speculators attempt to realize those gains, financial crisis erupts (Minsky, 1986), as that of 2007. Financial globalization also leads to large foreign financing of national public and private debts, which in turn makes national fiscal policy depend on global financial markets. Indeed, when 'sound public finance' doctrine rules, those markets leave hardly sufficient room for public finance to perform its task of maintaining the aggregate demand necessary to secure full employment. In fact, once money markets are internationally integrated, monetary policy run by any single country ceases to be effective (except in the case of the Federal Reserve and a few other countries with sovereign currency, i. e. which do not face solvency constraint), because no national central bank can manage liquidity for the international market.

The fourth area is linked to the present-day neo-mercantilist policy the essence of which is improving one country's competitive position against other countries through lasting downward pressure on wage rates and thereby on unit prime costs. This form of exporting unemployment improves employment rates in countries with permanent net exports. Although that policy cannot improve the situation of the world as a whole, nor for all countries in a common market area, the trade balance of which taken as a whole is close to zero (as it has been for a long time in the European Union), yet – again by depressing the wage fund and aggregate demand – it slows the rate of development of the region as a whole.

What can be said in conclusion about all these changes in the present-day modus operandi of the capitalist system? Full employment policy at its very beginning, in the 1930s, whether founded on neoclassical economics, or on the effective demand theory, had a national dimension. Moreover, the effective demand theory, in comparison with commonly applied policies of improving the national competitive position either through wage rate reductions, or through rate of exchange depreciation, demonstrated that those policies could be ineffective in case of a single country and doomed to failure should they be applied by all countries together. No wonder, therefore, that among Kalecki's "Three Ways to Full Employment" mercantilist policies are conspicuously absent and his recommendations only rely on choices that are within the competence of a single country (Kalecki, 1944, 1990). Under globalization the ability of any single country to run its sovereign macroeconomic policy is however severely limited. Only countries that enjoy a truly sovereign monetary policy can exercise it. Those are countries that are independent of the 'confidence' of financial world markets.²³

²³ Another complication of modern times is the automation of industry and the new IT revolution, which may imply difficult to imagine reductions in labour intensity in output. Although

Moreover, the single most important instrument to counter the present world financial and economic crisis is fiscal policy aimed at administering aggregate demand. This in turn implies that the central bank is de facto (if not de jure) the ‘lender of last resort’ not only with respect to commercial banks but also to government. Only then can the central bank effectively influence the profitability of government securities while the government does not need to outcompete the enterprise sector on credit markets. However, the precondition of any such fiscal policy is the recognition that a full employment policy is both, needed and effective. Indeed, shortly after the outbreak of the 2007 financial and economic crisis that recognition seemed to have reappeared for a while, resulting in huge rise of public debt triggered by the need to prevent the collapse of many large multinational commercial banks and thereby of the financial systems in many countries.

Although that deviation from the ‘sound finance’ doctrine was accepted by politicians and mainstream economists lest the financial system collapsed, it was short-lived. At present, efforts to combat ‘excessive’ public debt, especially in the Euro-zone, is again the main tool to fight the crisis. This is accompanied by a return to mercantilism which is supposed to benefit all euro-zone countries at the same time, which is logically not possible. The EU strategy to overcome the present crisis which is founded on the ideology of mainstream economics is unable to achieve its goals. Therefore, the single option is to change that strategy. Although the struggle to overthrow it may appear at present as tilting at windmills, either it will ultimately bring success, or the great European Project, the significance of which goes far beyond its purely economic implications, may well end up in failure. Kaleckian macroeconomics provides a necessary, even if in the present-day capitalist system an inadequate, analytical framework to understand this and to return to what nearly half a century ago appeared to be a ‘crucial reform’ of the capitalist system.

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changes in the structure of aggregate employment towards increasing shares of labour intensive services in health and social care for the elderly, in education, etc. can partly compensate for the unemployment related to the new nature of technical progress, they are unlikely to offset it. This partly explains new interest in the concept of ‘universal basic income’, or the ideas of ‘taxing the robots’ etc. Any discussion of those issues, however, goes beyond the scope of this paper.

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