

ALEKSANDER SULEJEWICZ*

Modelling in the Case of a Heterodox Economist: Success and Failure of Michał Kalecki

Introduction

The work of Michał Kalecki (1899–1970) remains an important contribution to economics and continues to inspire another generation of researchers. In the paper, I propose to look at his work through the lens of the history of economic thought. The aims of the paper belong in the domain of meta-economics. I propose to use a (meta)model suggested in methodological literature by Uskali Mäki, philosopher of economics from Helsinki, labelled by him as [ModRep], in the area of the history of economic thought. Sympathetically, it is hoped, I re-label the meta-model as ‘Big Mäk’, and after enhancing it with additional features, I apply it to the question: which factors listed by Mäki in his appraisal of the “modelling failure” by economic orthodoxy of the global financial crisis of the beginning of the 21st century may be found in the scientific practice of M. Kalecki. How is it that ideas of an eminent economist, close to J.M. Keynes and the Cambridge Circle, ideas that are constantly being discussed, modified, and developed, of an economist who has thereby contributed to the emergence and consolidation of a distinct current of economic thought (post-keynesianism), that, hypostasising somewhat, avoided errors in modelling the GFC committed by neoclassical orthodoxy, are not regularly taught in Poland, do not provide topics for students’ master or doctoral dissertations, and are not used by macroeconomic experts and advisors?

It is the main hypothesis of the text that, in the dozen factors encompassed by the expanded scheme of analysis of economic modelling proposed by Uskali Mäki, we can identify epistemic problems, discursive practices, formal and informal institutional rules that cast light on the neglect of post-Keynesian and post-Kaleckian analyses in the contemporary economic mass education and exercise of expertise. In the paper, I provide a ‘bird’s eye view’ of elements of Kalecki’s

* Dr. hab. Aleksander Sulejewicz, Professor of Warsaw School of Economics (SGH), Chair of Economics II; e-mail: asulej@sgh.waw.pl

scientific practice, as stipulated below in the ‘Big Mäk’ (*A, P, E, I, X, M, V, B, D, C, S, R*) and come to the conclusion that we cannot ascribe to Kalecki virtually any of the factors proposed by Mäki as explanation of orthodox economic “modelling failure”. Why has a more ‘correct’, Kaleckian/post-Keynesian economic modelling not been recognized as successful? Why is the entire post-Keynesian movement placed so low in the scientometric statistics, is so selectively represented in rankings of “top contemporary economists” publicised in the Internet? What is missing in Mäki’s model?

While this is a separate and important question, readers of the article can easily gather remarks and suggestions building towards the main conclusion that the mainstream economics is a largely informal institution yet strengthened by formal rules, one which, à la Rodrik, is unforgiving to heterodox economists even when they obey certain ‘insider’ practices. On this account Kalecki seems to have been a ‘paradigmatic’ case of a successful academic heterodox economist, author of significant innovations in the analyses of capitalism, socialism, and the ‘intermediate regimes’, all of which were ultimately rejected by the dominant social forces of the day, signalling ‘modelling failure’ of his, in all academic and policy-institutional contexts. I dispute, therefore, the view offered sometimes that Kalecki has a firm place in contemporary mainstream economics, and was the originator of many ideas generally accepted today. If that is indeed the case, then Mäki’s model (even if expanded as below) fails to provide an explanation of modelling failure in economics.

1. Modelling success/failure: an extended version (‘Big Mäk’)

“Economics is a science of thinking in terms of models joined to the art of choosing models which are relevant to the contemporary world. (...) Good economists are scarce because the gift for using ‘vigilant observation’ to choose good models, although it does not require a highly specialised intellectual technique, appears to be a very rare one. In the second place, as against Robbins, economics is essentially a moral science and not a natural science. That is to say, it employs introspection and judgments of value.”

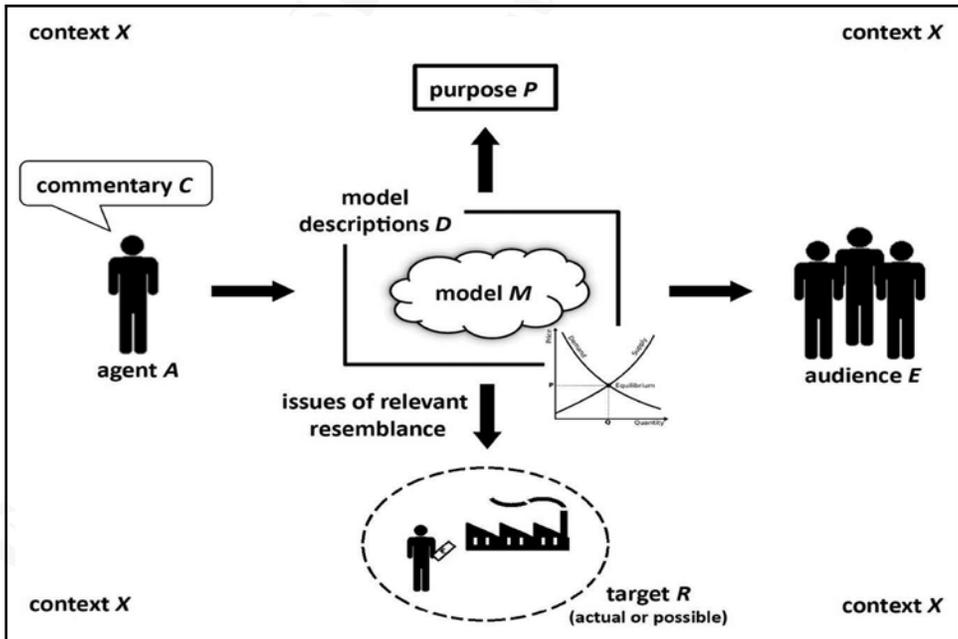
(Keynes 1938)

The above quotation is 80 years old, but these words seem to provide a ‘new’ reading of the conventional economics methodology. The first two sentences provide the gist of much of the argumentations of Dani Rodrik (Rodrik 2015) where he reflects on the state of economics and its ambivalent achievements, to say the least, to explain and to remedy the global financial crisis (GFC) of the beginning of the 21st century. Rodrik provides some telling summaries of the positive ‘heuristics’ of the views exposed in his book and leaves us with a few memorable phrases: “economics is unforgiving of those who violate the way work in the

discipline is done”; “models can incorporate a wide range of assumptions, but there are limits to what one is allowed to do”; “not all assumptions are equally acceptable”; “the greater the departure from benchmark assumptions, the greater the burden of justifying and motivating why those departures are needed”; “one needs insider training to be taken seriously in this profession”, “models are required for disciplined research rather than to display credentials”, etc.

In a series of papers Mäki has provided “a framework in terms of which many of Rodrik’s insights can be elaborated in a systematic fashion. This will enable exposing them to critical philosophical scrutiny and identifying possible issues for further debate and elaboration to make further progress in *our understanding of economics*.” (Mäki 2018, p. 219, italics added). Its original graphic, author-approved representation (Mäki 2017, p. 385) is visualised in Fig. 1. Mäki describes his meta-model [ModRep] (Mäki 2017, p. 386) as: Agent *A* uses multi-component object *M* as a representative of (actual or possible) target *R*, for purpose *P*, addressing audience *E*, at least potentially prompting genuine issues of relevant resemblance between *M* and *R* to arise, describing *M* and drawing inferences about *M* and *R* in terms of one or more model descriptions *D*, applies commentary *C* to identify and coordinate the other components, and all this takes place within a context *X*.¹

Figure 1
Realistic model of success and failure in economics



Source: Mäki (2016, 2017, 2018); some textual modifications by the author of this paper, i.e. subscripts in context *X* do not appear in this original figure.

¹ For a book-length exposition of Mäki’s philosophy of economics see Lehtinen et al. (2012).

Mäki has started from the core epistemological question of representation of reality by its model: its illustration is a two-element relationship: model (M) and target (R). However, such an implied positivist image of science (knowledge without the knowing subject, the context of justification only, etc.), implicit in such a thin version, cannot satisfy a realistic philosopher of economics. Objects do not become models without being proposed as such (agency), without a specific task to perform (purpose), and without recipients of knowledge (audience). These and other consumers of epistemic goods may not have the relevant skills to assess the ‘goodness’ of models and may benefit from additional specifications (description, commentary) of the authors and their critics (background theory, value judgments, institutional and contextual details).

Therefore, Mäki’s full model is composed of two (partially overlapping) lists of factors deemed useful in explaining success or failure of the economist as modeller. This set of elements is being amplified here. We further decompose the context (X) of the model into X_1 (values), X_2 (background theory), X_3 (institutions), X_4 (residual context). We obtain:

- a) referring to the selected personal, social, institutional, pragmatic features of the working economist – modelling actor and his social environment: agent A , purpose P , audience E , institutions I (X_3), context X (X_4);
- b) referring to the (cognitive) knowledge characteristics of the scientific process and output: model M , values V (X_1), background theory B (X_2), model descriptions (D), commentary (C), issue of relevant resemblance (similitude) S , target R .

We obtain a structure that includes all the original components, but is amplified by values (V) (methodological, evaluative, predictive), background theory (B) deemed necessary in view of multiplicity of models envisaged in the appraisal of a given thinker, institutions (I) in order to separate formal and informal rules and practices involved in functioning science at different social scales, and residual context (X). In this manner, the functional decomposition is carried further and various inclusions and exclusions can be made – the larger pool of procedures (more formal science institutions) or practices (more informal science institutions) may be drawn to the meta-model so as to account for the success/failure of the economic models produced by the individual or collective agent (A). The list A emphasises an externalist account of science while the list B emphasises an internalist account of science.

1.1. Mäki’s example: mainstream macroeconomics and the global financial crisis²

Mäki himself offered three examples of his [ModRep] scrutiny: (a) early marginalism in Johann H. von Thünen’s *The Isolated State* (Mäki 2011, pp. 47–63), (b) weakness of ‘orthodox’ economics in tackling the global financial crisis (Mäki

² Mäki (2017).

2017, pp. 381–400), (c) strength and weakness of Dani Rodrik’s ‘*Economic Rules*’ (Mäki 2018, pp. 218–236). Like (a) we study one economist, like (b) we consider more than one model, but unlike (c) we take a heterodox economist, albeit having multiple and not unequivocal relations with 20th century and contemporary mainstream.

In his account of ‘orthodox’ economics’ success and failures in modelling world financial conditions and the ‘unexpected’ and ‘unpredictable’ crisis, Mäki singles out among others: *agents* (too narrowly educated, too ignorant about history, socialized into epistemic preferences ill-suited for modelling the complexities of social reality, enamoured of mathematically inclined style, predilection for epistemically harmful math puzzle solving, overconfidence, arrogance); *values* (self-seeking); *model* (leaving out key factors; strong idealizing assumptions in micro, use of representative agents in macro); *similitude* (failure to distinguish between the model and the target, *as if* reasoning, no information generated about real systems, targets too narrowly conceived); *purpose* (dominant purposes removed too far from needs, intra-academic puzzle-solving, too much room for escape, failure of prediction, failure of conception); *audience* (a mixture of pragmatic considerations: conveying information, educating, impressing, persuading, handling expectations of scientists, students, journalists, editors, media, policy makers); *target* (failure of relevant resemblance, abundance of substitute modelling, accepting beauty instead of truth, imaginary modelling); *description* (popularity of sophisticated maths, obsession with technique over substance; suppressed interest in truth (Krugman); inability (so far) to model frictions and imperfections); *context* (intra-disciplinary academic conventions and practices, standards, incentives, arrangements of education, research and publishing, reproducing narrow approaches, increased specialization, formalism, substitute modelling); *institutions* (enabling and constraining conditions, expectations, pressures, resources, university institutions, societal status of economics – ‘false’ prestige).

The above long – and unfinished – list of factors prompts one to diagnose the modelling failure of orthodox economics (grand neoclassical synthesis) and hypothesise multiple and deep-rooted causes of the situation. Mäki confirms modelling failure but, surprisingly, does not notice continued ‘success’, i.e. dominance of ‘ugly’ practices of substitute (and not surrogate) modelling, to name just one.³ How is it that, in economics, ‘modelling failure’ of orthodoxy does not lead to abandonment of its theory and substitution with heterodox current(s), including, of course, the Kaleckians?

Thus, as an indication of the task ahead, let us emphasise that we do not aim to discuss directly any of the models proposed by Kalecki or his followers. We look for elements throwing light on the position of Kalecki in contemporary

³ Mäki makes the distinction between surrogate models (agent is trying to represent reality) and substitute models (agent is not even trying to represent reality and engages in *imaginary modelling* (Mäki 2017, pp. 393–394).

economics, and advance a hypothesis that few if any of the factors listed by Mäki, in case of ‘mainstream agents’ modelling GFC, may be adduced to explain it. We are puzzled by the visible discrepancy between the sophisticated, realistic economic knowledge Kalecki left us, the high reputation his work enjoys among professionals, the growing numbers of neo-Kaleckian economists developing his approach to the study of capitalist dynamics and his relative absence in the core mainstream research and curricula. We propose to use the ‘Big Mäk’ as a tool of history of economic thought for a summary of Kalecki’s economic views and thus provide an account of possible reasons for Kalecki’s mix of ‘success and failures’ as postulated by a mainstream philosopher of mainstream economics.

2. Michał Kalecki’s economic modelling: success and failure

What is attempted below is an appraisal of factors likely to be part of the explanation for the success and/or failure of the modelling work of the Michał Kalecki (Kalecki 1990–1997: vols. I–VII edited admirably by Jerzy Osiatyński). The entire *opus* of Kalecki is taken into account and, given space limitations, the assessment of his scientific practice is inevitably cursory. Rather than posing epistemic questions, we use the extended model (‘Big Mäk’) to pose and answer questions of pragmatic and institutional character rendering it useful in the history of economic thought.

Agent (A) (economist)

Michał Kalecki’s⁴ primary education was interrupted by WWI and Prussian occupation but he persisted in learning and managed to study individually (advanced) mathematics. Formal higher education of Kalecki consisted of one year of mathematics (at the department of philosophy of the Warsaw University in 1920) and two years of (probably) construction engineering at Gdańsk Polytechnic. He had not graduated (only received a certificate)⁵ and subsequently he never, apart from temporary jobs, practiced the engineering profession.

His family being in dire economic situation,⁶ the mathematical and statistical skills allowed him to enter the “consulting market”, consisting in engineering and statistical calculations as well as business accounting. It is easy to suppose that the young man’s temperament enriched by mathematical thinking as well as early experience made Kalecki look at the social world from the point of view of an engineer who cherished being creative with a calculable mathematical model of his own.

⁴ Main dates and facts in Kalecki’s life, see: *Collected Works*, vol. VII, pp. 586–605.

⁵ He interrupted his Gdańsk studies because his father had lost the job; he had to look for work to maintain himself and his parents.

⁶ His father had owned a small scale spinning workshop but in 1913 went bankrupt, being a victim of technical progress and his own “social responsibility of business” (simply, he paid his debts).

But above all, the painful experience of business life in Łódź, the later catastrophe of the Great Depression⁷ made him see the economic life not with the eyes of some theoretical economist but rather forced him to derive his understanding from alertness to social reality and practice. Kalecki was a self-taught economist and until 1936 his economic socialisation took place entirely outside the academic world. His intellectual capital, to repeat the title of the first book devoted entirely to his work (Feiwei 1975), was seemingly built on two pillars: intellectual abstractions of pure mathematics and empirical concreteness of business practice amplified by the struggle against his own declassification. The observation of Polish economic life rife with social conflict provided the foundation for his disciplinary culture and research practice of consulting.

One can easily hypothesise that absence of academic credentials⁸ made later for low persuasion of Kalecki's modelling. Lack of formal degrees and extremely sparse referencing in his articles and books might have weakened considerably the scope of influence in the academic circles. The *pivot* of his initial and subsequent success among professional economists during 1930s-40s resided in the ease of use of advanced mathematical techniques. On the other hand, his empirical inclinations (more pronounced than was usual at Oxbridge), were a source of misunderstanding and uncertainties about the advantages of his modelling approach.

Values (V) (X_1)

Modelling in economics, in an informal way, relies on one's values providing the basis for formulation of *explicit* or *implicit* value judgments. Kalecki included in his scientific research, the values of (left) social democracy contemporary to him. His early reading, explicitly referred to in his last publications,⁹ the content of his early journalism in "Przegląd Socjalistyczny" (Kalecki, vol. I) leave us in no doubt. According to Jan Toporowski, Kalecki considered capitalism a faulty system and was its staunch critic but he did not espouse communist views. He was not interested in ideological quarrels and responded to critiques (sometimes camouflaged, by self-proclaimed orthodox Marxists) only at the level of logic and mathematical reasoning. Kalecki, as an aspiring engineer did not philosophise and looked for solutions to well defined problems.¹⁰ One can see a certain practicalism in his intellectual activities coupled with loyalty to high ethical principles and proneness to steadfastly holding to one's ideas. These ideas necessarily had

⁷ It is highly plausible that news about the 1905 (socialist) revolution in the Polish Kingdom and the school strike lasting three years reached him as well. Acute social context of Kalecki's early life is noted by Kowalik (2006) and Toporowski (2013, 2014).

⁸ He never wrote a BA (BSc), MA (MSc), or a PhD thesis, not to mention post-doctoral *habilitacja*, and none of his works was recognised as such.

⁹ References are to Tugan-Baranowski (1909), Lenin (1917 [1919]), Luxemburg (1914) Hilferding (1910) as well as works of Eduard Bernstein, Karl Kautsky and Ludwik Krzywicki.

¹⁰ Joan Robinson reminisces: "The interesting thing is that two thinkers, from completely different political and intellectual starting points, should come to the same conclusion. For us in Cambridge it was a great comfort." (Robinson, in: Kowalik, ed., 1964, p. 337).

macro-social, political, and organisational overtones. On many occasions, he experienced the effects of this consistency and several times paid with interruption of his career.

Background theory (B) (X₂)

The precise delimitation of Kalecki's 'fundamental' theory in economics is not an easy task. Most often it is labelled "left-wing Keynesianism". Left-wing because he never let go of the anchor, i.e. the perception of capitalism as a *social* system, composed of economic classes engaged in conflict, some dimensions of which he modelled himself. Left-wing because the conclusions that he drew theoretically had explicit defence of the interests of the weaker class of employees (and the unemployed) in view (real wages, income distribution, levels of demand of the worker population). He was a Keynesian as he worked on the same two problems emphasised by Keynes that *laissez-faire* capitalism was unable to solve, i.e. full employment and just income distribution. Kalecki endeavoured to inscribe his modelling (but not subordinate it to) into the emerging Keynesian macroeconomics that later fuelled the post-Keynesian tradition (also called 'Cambridge Keynesianism').

The scope and nature of absorption of Marxian ideas by Kalecki is open to debate. His own indications are only to *Das Kapital* and it seems that he relied essentially on ideas advanced by Rosa Luxemburg, Mikhail Tugan-Baranowski and Rudolf Hilferding on theoretical constructs of the volume II: schemes of sectoral reproduction, aggregate demand ("sphere of circulation", "sphere of realisation"), theory of crisis.¹¹ In a short paper on *Econometric model and historical materialism* (1964)¹² he stressed that while "econometric model and historical materialism constitute two different approaches to the development of society (...) the two approaches do not seem to be irreconcilable. After all Marx's schemes of reproduction are nothing else but simple econometric models" (Kalecki, vol. VII, p. 301). In conclusion, he hoped to be working some day with a "generalized econometric model" as a determinant of economic development (or indeed, "a new way of presenting the evolution of society") where the changing relationships between the economic variables put in equations result from the evolution of natural resources, productive relations, and the superstructure" (Kalecki, vol. VII, p. 307). Clearly, Kalecki did aim at incorporating into modern, essentially classical micro/meso/macro-economics, elements of Marxian

¹¹ Michał Kalecki deserved two commentaries by Leszek Kołakowski: 1) on the critique of Luxemburg and Tugan-Baranowski's models (vol. 2, p.74), and thus is labelled as someone who does not commit "the error of luxemburgism"; 2) in which Kalecki is recognized as an Eastern-European „revisionist” economist (vol. III, p. 464). See: Kołakowski (1978). Joan Robinson suggested that Kalecki had committed the error of not committing the error of luxemburgism: "I do not think he does justice to Rosa Luxemburg vision of the long-run problem of investment opportunities drying up when the geographical expansion of capitalism comes to an end (Robinson, *Collected Papers*, vol. IV, p. 91, reprinted in Kalecki, vol. II, p. 593).

¹² Kalecki, vol. VII, pp. 301–307). It was unusual for him to explicitly engage philosophical terminology in advancing his views.

opus that he found indispensable as components of a proper analysis of economic development, and not the other way round.

In theorising he would never engage in discussions on dialectical methodology in political economy and his references to Marxian economics are nowhere to be found in his papers and books. And yet, as his correspondence with Joan Robinson, reminiscences of his Cambridge fellows, and the late texts co-signed with Tadeusz Kowalik testify, his knowledge of Marx's theory was precise even if selective.

Model (M)

Kalecki's modelling of economic targets (components of economic systems) was determined by his meta-theoretical assumptions¹³ and empirically evident historical context of socio-economic development. His ambition was to model mathematically selected elements (targets) of key mechanisms driving a given economic system. This economic system was at the same time a socio-political system that was not modelled, and if it had been attempted, the model was stylized, extremely selective. He understood very well and demonstrated on several occasions that economic mechanisms are embedded in institutional contexts. Thus the formal models constructed did not determine the institutional shape of possible policies.

In one of the latest papers, *Theories of Growth in Different Social Systems*,¹⁴ he emphasised that “the institutional framework of a social system is a basic element of its economic dynamics and thus of the theory of growth relevant to that system. The idea sounds plausible but nevertheless there is a tendency in Western economics – which shows at present a considerable interest in the theory of economic growth – to deal with something like a *general* theory of growth working on models fairly remote from the realities of the present capitalist, socialist, or ‘mixed’ economies. Actually the writings in question usually relate (at least by implication) to some sort of idealized *laissez-faire* capitalism.”¹⁵ Włodzimierz Brus commented: “Obviously this was not a matter of latter-day conversion: he always explicitly stated what kind of social system was taken as a framework and what changes in it were postulated in his analysis” (Brus 1977, p. 57).

For Kalecki institutions and history mattered long before mainstream economics re-discovered institutional variables. He modelled, broadly speaking, three societies: capitalist, socialist, and less developed „*intermediate regimes*”. In-

¹³ “Kalecki can justly be considered an exponent of the great tradition of political economy from the classics to Marx, to Schumpeter, to Keynes – which combined a practical attitude towards real-life problems and the implications of economic policy with the conviction that issues must be analysed within a general interpretative framework of the ‘law of motion’ of capitalist society, and a firm conviction of the relativity inherent in such a law” (Sebastiani 1989, p. xi).

¹⁴ Kalecki, vol. IV, p. 111.

¹⁵ Kalecki, vol. IV, pp. 111–117). Osiatyński notes: “The paper in a sense represented Kalecki's response to that criticism [by the ruling PZPR authorities and party economists – AS] after the March 1968 events in Poland, in which his growth theory of a socialist economy was accused of being universal in character, making it equally applicable to growth in any social system” (Kalecki, vol. IV, p. 286).

stitutional dynamics loomed in the background of his models, and formal mathematics was not determining deep causal factors.¹⁶ His thinking was non-marginalist, and in case of socialism – very clearly – non party-economics. This meant that neither Kalecki’s ‘capitalism’ nor ‘socialism’ were especially useful for indoctrination, both in earlier post-Stalinist or later in post-1989 liberal-democratic Poland.

Rich, fully articulated, Marxian concepts like *modes of production* were never used in writing by Kalecki. While he always insisted on the use of the term *capitalism* instead of the conventional ‘market economy’, his usage of the term *socialism* for the conventional ‘command economy’ was much rarer. It is characteristic that even in his late paper on *Basic Problems in the Theory of the Efficiency of Investment* (1970) which first appeared in Russian, the concepts of *capitalism* and *socialism* did not appear (neither in the final title, nor in the text).

Simplicity was one of the ideas discussed among methodologists after World War II and Kalecki was sympathetic to this general approach to modelling: “During the entire course of reasoning I adhere to the following assumptions: (1) I am concerned with the closed economy, (2) I assume that the working men do not save money, (3) I abstract from the changes in reserves, (4) I disregard the expenses and the state revenues,, and (5) I do not take into account the delay in time as far as the food expenses are concerned. The assumptions (3), (4), and (5) may seem rather drastic but they simplify reasoning to a large extent... While discussing the given problems in my book *The Theory of the Economic Dynamics* [...], I did not introduce these simplifications which complicated the exposition to a large extent” (Kalecki, vol. II, p. 412). He also clearly aimed at generality, treating some earlier versions of his models as special cases of later ones (Kalecki, vol. II, p. 541).

For developed capitalism

From the point of view of the history of economic thought, Kalecki is sometimes, and appropriately, hailed as a genius of eclecticism. For instance, the functional theory of income distribution is a combination of classical and Marxian political economy, Keynesian macro-economics and imperfect competition (in his own version of the degree of monopoly).¹⁷ The analysis is meso-economics with own micro-foundations and macro-economics of the business cycle. The model

¹⁶ “The formula [for the rate of growth of national income, the so called Kalecki’s formula – AS] will remain entirely correct in *laissez-faire* capitalism but the interpretation of the coefficients is quite different” (Kalecki, vol. IV, p. 116).

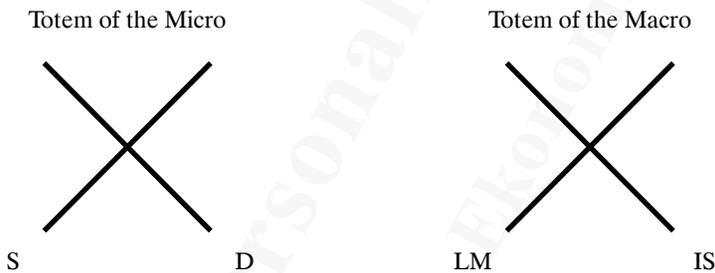
¹⁷ The first texts of Kalecki in business press, in late 1920s, „*Przegląd Gospodarczy*“ and “*Przemysł i Handel*”, originated from his alert observation of the conduct of business: cartelization, monopolies, risks, cyclical business instability, financial and capital market practices, that is conflict-ridden industrial and class relations. These were the phenomena he could not bring himself to abstract from. In contradistinction, conventional (macro)economics treats these as “distortions” (market failures, policy failures) and of lesser theoretical importance.

is a causal model *par excellence* rather than being merely functional(ist). Kalecki was able to develop and enrich models created by others: the most famous examples are: the first version of the business cycle inspired by ship building cycle (Tinbergen 1931) and the principle of increasing risk (Breit 1936).

Kalecki rejected neoclassical theories in economics, both partial equilibrium models of Marshallian type and general equilibrium ones of Walrasian origin. He did belong to neither of the two tribes mocked by A. Leijonhufvud in his well-known 1973 paper (see Figure 2).

Figure 2

Totems of the Econ tribes: microeconomists and macroeconomists



Source: Leijonhufvud (1973, p. 331).

Kalecki did not consider price adjustments as the principal mechanism of the capitalist market and even less a mechanism that would stabilise the oscillation of production and trade (the business cycle) and contribute to economic growth. He never embraced “optimal allocation of resources” as the *principium* of economics. His own theorising consisted in the specific combination of (‘pure’) economics based on mathematical modelling¹⁸ with implicit openness of political economy and uncertainties of social life.¹⁹ The economic dynamics was rooted in conflict over the distribution of the national income caused by the existence of economic classes. However, Kalecki’s rejection *a priori* of the marginalist thinking does not mean that his results cannot be reproduced by neoclassical economists.²⁰

¹⁸ Yet not subordinated to the fundamentals of the neoclassical system: utility function, methodological individualism, methodological instrumentalism, methodological equilibration (Arnsperger and Varoufakis 2006).

¹⁹ “Kalecki’s economics does fit within the framework of critical realism, since it was based on the development of theory grounded in empirical data, with the aim of uncovering significant causal processes and underlying structures and mechanisms affecting important empirical events. (...) Kalecki’s work does reflect open-system thinking, and incorporates principles of historical specificity and the endogeneity of social institutions” (Jefferson and King 2011, p. 971). Critical realism is a heterodox alternative (e.g. Lawson) to mainstream realism (e.g. Mäki).

²⁰ I.M.D. Little wrote in his correspondence with Kalecki, in relation to the possible publication of an article: “It is mainly devoted to arriving at well-known results in ways that are likely to be more acceptable in Poland than the conventional Western approaches to the same conclusions” (Kalecki, vol. IV, p. 312; see also Sulejewicz 1999).

For developed ‘socialism’

Kalecki’s concept of socialism, in the form contemporary to him (‘real socialism’) was specific.²¹ He never pronounced himself ‘fully’ on the Soviet-Bolshevik economy. And although he did not accept ‘market socialism’ and criticised Oskar Lange’s ‘calculating machine’ model, he thought it to be a system in which rational macro-decisions could be taken. He believed in economic planning as its fundamental characteristic and assumed collectivist central planning in any theoretical elaboration. This idea served as the anchor of his growth models, long-term planning, and efficiency of investment calculations – to name a few ‘mechanisms’. At the same time, he did not participate in discussions on clearly apologetic and crypto-Stalinist themes of the “political economy of socialism” (the stuff of textbooks of Brus, Minc, Pohorille). During the 1956 reformist discussions Kalecki did not favour full decentralisation which was then conceived as an antidote to Stalinism.²² He wrote in 1957: “Price control cannot be left to enterprises. Its effect would not so much be free competition as overt or covert price agreements between enterprises” (Kalecki, vol. III, p. 70). He stressed ‘barriers’ to growth in a style which became accepted by the Polish United Workers’ Party (PZPR) and taken up immediately by apologetic economics. In other words, “Kalecki’s formula” and strong idealising assumptions focussed on ‘technical’ matters and neglected the institutional ‘residuum’, e.g. the institutional and class conceptualisation of the so called “Centre”. ‘Socialist’ mathematical modelling stood in sharp contrast to his realistic, critical, conflict-encompassing, analytical approach to capitalism. Only before and during the Polish October of 1956 his short policy papers openly engaged in democratisation movement and proposed anti-bureaucratic legislation.

For less developed economies: modelling the ‘intermediate regimes’

Kalecki refrained from mathematical modelling of the less developed economies; with the possible exception of *Problems of financing economic development in a mixed economy* (1963).²³ He begins both papers with a clear statement of some of the assumptions: “We shall distinguish in our model the following social classes: capitalists, workers, and small proprietors. The last group includes poorer peasants, artisans, small shopkeepers, etc.” (Kalecki, vol. V, p. 23). Osiatyński’s comment is as follows: “On the theoretical plane, the concept of an ‘intermediate regime’ was an attempt to explain the specific features of the situation that had

²¹ “Kalecki did not leave behind any work which systematically deals (...) with socialist reproduction, a work that could be the counterpart to his *Theory of Economic Dynamics* of the capitalist economy. He himself never tried to bring together his reflections on various aspects of a socialist reproduction” (Osiatyński 1988, p. vii).

²² In 1956 and 1957 he wrote e.g.: *Liberalization in the Management of Small Industry, Material Incentives in a Socialist Economy, Workers Councils and Central Planning* (Kalecki, vol. III, pp. 47–88).

²³ This text was a continuation of the previous article *El problema del financiamiento del desarrollo económico*, “El Trimestre Económico”, 1954, vol. V, p. 23–44.

developed at the beginning of the 1960s in some developing countries by using the Marxist method, yet at the same time questioning the traditional Marxist view that a lasting coalition based on the hegemony of the interests of the petty bourgeoisie was impossible” (Kalecki, vol. V, p. 201).

Absence of conflict resolution at the political level would have made the mathematical economic modelling a purely abstract exercise, not useful in implementing development policies.²⁴ Commenting on Marx’s ideas in the context of developed capitalism Kalecki underlines the idealisation character of assumptions made by the author of *Das Kapital*: “On Marx’s assumptions as you put them one *can* construct a complete theory of profits. (...) Marx’s assumptions are, of course, wrong; but if they are accepted they do provide us with a theory of profits” (Kalecki’s emphasis) (in Harcourt and Kerr 2009, p. 47).²⁵

He decided, it seems, that for his needs of studying intermediate regimes, making such powerful, abstract and false, assumptions is beside the point, methodologically incorrect, even though it would be correct for modelling developed capitalist economies.

Conventional economists might object these *sociological* models, they would even say, have little to do with ‘proper’ macroeconomics. This is the crux of the matter. Kalecki refused to treat economic variables as a-social ones and whenever more ‘pure’, abstract modelling made sense, he intended to put this social content into his assumptions.

Let us summarise. Kalecki did not attempt any grandiose comprehensive model of either capitalism or socialism. He was ‘humble’. He always handled the task at hand (pragmatism) and thought of policy implications and applications (practicism). As Reiss emphasised in his conclusions on modelling: “My point is stronger: to build models with no particular application in mind is to commit a methodological error – as long as the aims of economics are considered to be largely practical” (Reiss 2013, p. 114). Kalecki was of the same opinion and, as far as we could judge, did not commit the error.

Target (R)

A model in economics stands in place of a *real social object*. As Mäki affirms, the object may be actually existing or merely possible. Realism provides us with a norm stipulating conceptualisation of a real object existing beyond the collective or individual imaginations. Kalecki’s modelling had as starting points not explicit multi-level neoclassical or Marxist assumptions of the adopted system of thought but was rather building a ‘middle range’ theory, a theory of the selected

²⁴ We remember the famous *dictum* of Abba Lerner: “An economic transaction is a solved political problem” (Lerner 1972, p. 259).

²⁵ Mäki’s approach emerged out of discussion and critique of Leszek Nowak’s methodology. L. Nowak, *The Structure of Idealization: Towards a Systematic Interpretation of the Marxian Idea of Science*, Springer Science Business Media, Dordrecht 1980. Nowak refers approvingly to Kalecki’s exposition of his use of assumptions, e.g. those cited above (p. 13–14), in *Observations on the Theory of Growth* (1962).

economic mechanism.²⁶ This economic mechanism should have been, on his account, empirically ascertainable,²⁷ e.g. the ship construction cycle – generalised to the level of creating the entire productive apparatus, the share of wages in the national income – thereby confirming/acknowledging the existence of economic classes. On our reading, he clearly stood against instrumentalism and *as if* reasoning.

In a defence speech “*Why economics is not an exact science*” (Kalecki, vol. VII, p. 308–311) he used the so called Say’s law as an example of a false model of capitalism. He was aware of the interaction of social actors and social structure and the instabilities they bring with them. And yet in his own business cycle analytics, for instance, he did not use the term *crisis* which is arguably the *differentia specifica* of the Marxist approach to capitalist dynamics.²⁸ Kalecki always avoided any essentialist ontological commitments for any of the economic systems analysed. In particular, there is notable absence of any ‘metaphysics’ (ideology) of ‘free markets’ or equally apologetic “political economy of socialism” and (ontological) ‘dialectics’.²⁹

Purpose (P)

Kalecki’s modelling of capitalism was never intended to encompass in some systemic thinking the entire socio-economic system; he was not a creator of an economic doctrine in an academic sense. It is understandable, however, that rational reconstruction of his thought allows us to propose some hypotheses and systematise his implicit economics. This is the task that belongs to neo-Kaleckians (K. Łaski, L. Podkaminer, J. Osiatyński are among the few represented in Poland). In comparison to Keynes who attributed a lot of weight to expectations, “Kalecki aimed at thoroughly understand the determinants and mechanisms of economic processes, while Keynes was motivated by his ‘desperate desire to influence policy’ (...). Paradoxically, it is Kalecki’s analysis which relies more on the interplay of socio-political and economic factors than Keynes, providing a more realistic dimension to his exposition” (Szymborska, Toporowski 2013, p. 113).

Kalecki did not write textbooks of economics, did not solve Kuhnian puzzles, did not compose exercises for academic requirements. His purpose in economics was always to solve (remedy) a burning social/economic problem. He did not mathematise his reflections at all cost, and the success of his modelling was to be found in the fruits of rational economic policy, even if somewhat belatedly.

²⁶ And so, in order to analyse capitalism, he did start neither from a utility function of an individual decision maker – a *homo oeconomicus* – or a production function, nor from labour theory of value or the ‘liberating mission of the proletariat exploited by the bourgeoisie’.

²⁷ Induction-type verification or falsification-type corroboration, the two philosophies important for the period in which Kalecki wrote, were never explicitly reflected upon. His remarks pertaining to philosophy or methodology of economics appeared only in passing.

²⁸ Accordingly, J. Osiatyński included the term ‘*crisis*’ in the Index of Subjects only in vol. I of *Collected Works*.

²⁹ ‘Socialist metaphysics’ refers to various dogmas, ‘laws’ of movement, ideological presuppositions of the ‘political economy of socialism’, ‘leading role of the party’, etc.

His own conception of socialism could be labelled ‘democratic-distributive’ as opposed to ‘authoritarian distributive’. It would comprise a system of central planning coupled with some forms of social co-participation and control. He himself called it “democratic socialist planning” (Osiatyński 1988, p. 172). He did not question the (ostensibly crucial) ideological premises of apologetic political economy of socialism: the system’s objective (function) was to be the feasibly/practically fullest satisfaction of the needs of the people; nationalisation (ownership by the State) was seen as an instance of ‘people’s power’, and so on. Kalecki attempted to introduce ‘technical’ strategic thinking (theory of growth, long term planning, technical change) into a politically guaranteed system and to rationalise its functioning through activity of the working collectives (alertness) and anti-bureaucratic safeguards (democracy).

Audience (E)

Kalecki’s most important models posed very high requirements: advanced technical apparatus in mathematical modelling, non-standard assumption in micro- and macro-analysis, mechanisms of statics and dynamics different from conventional Anglo-Saxon economics. In letters written by John Maynard Keynes we can find frequent examples of misunderstanding, and finally, of lack of acceptance of Kalecki’s reasoning by Keynes himself and his colleagues (with the exception of, at least, Joan Robinson), not to mention non-Keynesian contemporaries who did not dig into *cutting edge* research.³⁰

His empirical and applied studies in Cambridge and Oxford during World War II made, perhaps indirectly, the authorities pay attention to his work. In writing about developed capitalism of the period of the Great Depression and the World War, Kalecki saw the policy makers, i.e. the capitalist state as an institution, as the addressee of his intellectual work. Like Keynes, he considered the state to be an indispensable factor of re-establishing relative stability in the conduct of business activity and, especially, incentivising private investment. During the war Kalecki focussed his attention on just allocation of the war burden (rationing of basic goods, price and wage controls, re-distribution) which was the prerogative of the government and was acceptable as a political programme. The political content of his economic modelling was sufficiently transparent but Kalecki avoided socialist phraseology.³¹

A number of his own important works had been translated into Spanish and were popular among left-leaning academics and activists. His left-Keynesian, non-essentialist understanding of capitalist dynamics, including the less devel-

³⁰ See: *Newly discovered correspondence of J.M. Keynes on two Kalecki’s papers* and *Newly discovered letters of Kalecki to Joan Robinson and of Piero Sraffa to Joan Robinson on Kalecki*, in: Kalecki, *Collected Works*, vol. II, pp. 530–536.

³¹ In January 1945, he advised briefly the new Government of France. Pierre Mendès-France, a socialist and a short-lived minister of finance and the economy, confessed: “Why are we discussing this? They won’t do anything that you suggest” (Toporowski 2018, p. 149). Also Kalecki, *Collected Works*, vol. VII, p. 493.

oped economies (LDCs), could make him a participant in the emerging discussions on the world capitalist system, i.e. the Latin American *teoría de la dependencia*,³² but in spite of an invitation he was unable to take up the subject.³³

When writing about the functioning of Eastern-European ‘socialism’ Kalecki emphasised the ‘barriers’ to its growth. The formulation was somewhat similar to ‘market failures’ in the case of capitalism, i.e. a functionalist approach to the obstacles on the achievement of ‘optimum’, ‘equilibrium’, or simply of the result satisfying the dominant social forces. After 1956, *PZPR* accepted the style of gentle and ambiguous critique of the existing system (but not going as far as accepting the concept of ‘planning failure’), which was taken up by apologetic economics. Numerous master’s and doctoral theses³⁴ as well as texts belonging in journalistic and official policy rhetoric were written to cope with the problems in many sectors. It is important to note that economics produced in ‘socialist’ Poland was in large measure of the ‘vertical type’: texts were written, models and narratives were produced (bottom-up) for the party and state authorities and received the deserved approval (top-down) from the political and censorship authorities if the authors did not undermine the status-quo of the socio-political forces. Generally speaking, Kalecki’s models, such as ‘Kalecki’s formula’, or narratives on ‘explaining the economic delinquency’ did not entirely escape the bottom-up/top down discourse in “*real socialism*”.

Issue of similitude (S) (relevant resemblance)

In his critique of Say’s law (lecture at the Warsaw University in 1964) Kalecki stated: “How could the law of preservation be maintained for so long? In my view, for two basic reasons: the class interests of the capitalists and the apparent corroboration of the law by the experience of the individual. A doctrine which ruled out general overproduction made the capitalist system appear capable of a full utilization of productive resources and dismissed cyclical fluctuations as insignificant frictions. These apologetics were facilitated by the application to the economy as a whole of the experience of a house-keeping...” (Kalecki, vol. VII, p. 309) We read here, in somewhat official-speak, Kalecki’s sociology of knowledge and a critique of neoclassical economics (strictly speaking, J.B. Say belongs to classical economics) whose models do not show the relevant resemblance to reality. In agreement with modern philosophy of science, Kalecki affirms that imaginary models replace the modeller’s target, become the substitutes for reality and lead to incorrect reading of economic dynamics.

32 Among the authors of works discussed at the time let us point to A.G. Frank, F.H. Cardoso, E. Faletto, J.I. Cecena-Cervantes, T. Dos Santos, V. Bambirra, O. Sunkel. All with intellectual debt to Raúl Prebisch.

33 For a discussion of the proposal, in late 1969, to join a *dependentista* scientific project see: A. Sulejewicz, *Kalecki and the problem of international equilibrium: between the centre and the periphery*, paper presented at the conference “Michał Kalecki and the problem of international equilibrium”, Standing Representation of the Republic of Poland at OECD, Paris, 26 September, 2019.

34 ‘Barrierology’ remained until this very day the style of much economic research in Poland.

Kalecki's early work on democratically planned economy and his proposal to work out theoretically and, subsequently, perhaps legislate on 'economic delinquency'³⁵ demonstrated the narrow confines of the acceptable scientific critique of 'real socialism', perhaps also his suggestion of worker alienation in a 'worker's state'. Realistically, in a subtle way, he avoided "the nineteenth-century, maximalist vision of the socialist society" (Kalecki, vol. VII, p. 372) and silently disagreed with "many contemporary writers, who in the name of rationalizing the progress achieved are willing to settle accounts with Marx" (Kalecki, vol. VII, p. 373). This was the period of the cold war and it seems that Kalecki early on had made the decision to silently assist the construction of a non-capitalist society even at the cost of being rendered impotent in its scientific critique. The project of socialism was supposedly worth his theoretical support (after he had supported the project personally, returning from emigration lasting almost 20 years).³⁶

So one can fairly safely conclude that his models of the socialist economy failed the tests of *relevant resemblance* to actually existing system.³⁷ On the other hand, the models of capitalism, e.g. with the *excess capacity* as a standard feature of imperfectly competitive business firms, an assumption which was the object of so much quarrel with J.M. Keynes, survived the tests very well.

Models are bridges, they generate information about the modelled element, the target (*R*). The intention of building such a bridge is to avoid *imaginary modelling*. It appears that Kalecki's models of economic mechanism of the 'actually existing socialism' did not pass the test and were below the methodological standards of relevant resemblance. The models of capitalism, on the other hand, still developed by heterodox – neo-Kaleckians, are increasingly accepted among professional economists and, after the global financial crisis, sometimes even within the mainstream.

Description (D)

Kalecki's mathematical talent is well acknowledged in Polish history of economic thought. Section III, Part 4 of volume VII of his *Collected Works* contains his mathematical papers spanning the period of 1945–1971. Sometimes ostentatiously anti-neoclassical concepts and non-marginalist modelling were a source in numerous misunderstandings. J.M. Keynes (himself possessing a BA degree

³⁵ One should remember that, in the official legal (bolshevik) doctrine, superior collective ownership of the means of production under socialism was supposed to have removed many if not all incentives for 'illegal' economic activities and there was no room for economic crimes and misdemeanours. According to official Stalinist concept of the planned economy, all economic exchanges were planned, state managers were loyal to their collectives and authorities, and every worker was motivated by the goal of building socialism. In contemporary institutional economics: no cheating or shirking took place ("zero-transaction-cost socialism").

³⁶ Although Kalecki's wife Adela, confessed towards the end of her life that the decision to return to Poland had been „a great mistake" (private source).

³⁷ This is also the conclusion of Jerzy Osiatyński (see e.g.:1988 *passim*, 2015, p. 37–41). On the other hand, D. Nuti, J. Toporowski, J. B. Foster, *inter alia*, note the relevance of Kaleckianism for *socialist strategies* in both developed and underdeveloped capitalism.

in mathematics) criticised Kalecki for unclear assumptions in his mathematical modelling: “after a highly rational introduction of a couple of pages my first impression is that it becomes high, almost delirious nonsense (...) there are some assumptions in relation to which his conclusions are correct. But so many of them are latent and tacit that no-one could say (...) whether he has proved his proposition. Indeed, I do not feel perfectly whether the hypotheses may not be self-contradictory” (after Feiwel 1989, p. 120).

The misunderstandings with Keynes are described in the following manner by Keynes himself: “by the time you have got to the end of the article you seem to have persuaded yourself that you are dealing with the real world. This makes it all the more important to emphasize the assumptions you are making which distinguish your model from reality” (after Carabelli and Cedrini 2017, p. 357).

It seems that Kalecki proposed the following hierarchy of his descriptions: algebra, geometrical illustrations, statistical (and econometric) diagrams, narratives. He was not interested in the ‘beauty’ of the model in the sense of fulfilling the requirements of the dominant methodologies of école de Lausanne or the Cambridge school. He usually decided not to engage in excessive simplification for the reader’s sake.

Commentary (C)

The first great work of Kalecki contains the following author’s commentary in the preface: “The essay is divided into three parts. Part I presents a general outline of the theory of the business cycle. Part II contains a mathematical elaboration of this theory. With the help of some statistical data the argument of Part II enables us also to estimate the period of the cycle. Finally, in Part III, some of the topics which were treated rather summarily in Part I are dealt with more extensively. Part II, the understanding of which requires some *advanced mathematics, may be omitted without detriment to an understanding of the essence of our theory*” (italics added – A.S.) (Kalecki, *Collected Works*, vol. I, p. 66) Kalecki’s optimism concerning the understanding of the totality of his ground breaking effort was premature. Even mathematically advanced professionals had great difficulty in recognising the theoretical import of what he had written.

In 1941, Joan Robinson wrote to Keynes: “Where Kalecki is barmy is insisting in writing articles in this inhuman style. It is a kind of sinful pride that makes him do it.” Keynes replied: “At any rate, he must write the article in such a style that it is fairly evident on the surface whether or not he is talking through his hat. I do not doubt that he is saying something. But I suspect him of being at one of his old tricks in an extreme form, namely of taking artificial assumptions which have no possible relation to reality or any other merit except that they happen to lead up to a needed result” (after Feiwel 1989, p. 121, 122). Keynes, seemingly not understanding the message, concluded: “For publication in the *Journal* an article must pass beyond the stage of esoteric abracadabra.” The ‘unnatural assumptions’ of Kalecki, not conformed to conventions of Marshallian/Cambridge economics were the crux of the matter. Kalecki did not want to let go and Keynes was un-

able to accept. Robinson reproached to Kalecki his ‘clumsiness’ (1937): “Your article in *Econometrica* makes me feel ashamed. We should have welcomed you as a friendly soul a long time ago. (...) I consider unnecessary your suggestion at the beginning of the paper that you are attacking Keynes’ system while your real objective is to fill the gap that exists in it” (Kalecki, vol. I, p. 502).

These quotations seem to confirm the intuition that Kalecki did not make it easier for the readers to get to the core of his argumentation and so did not enlarge the circle of academic and policy making consumers of theories who would ‘naturally’ comprehend the gist of his thinking. It is possible that linguistic factors also played a role (Feiwel 1972, p. 54). Also in his didactic practice he stuck steadfastly to the version presented.

Joan Robinson reminisces: “Michal Kalecki swam into my ken just after the publication of the *General Theory of Employment, Interest and Money*, in 1936. The small group who had been working with Maynard Keynes during the gestation of the book understood what it was about, but amongst the public as a whole it was still a mystery. Kalecki, however, knew it all. He had taken a year’s leave from the institute where he was working in Warsaw to write the theory of employment but Keynes’ book came out, and got all the glory. Michal never made any claim for himself and I made it my business to blow his trumpet for him, but most of the profession (including Keynes) just thought that I was being kind to a lame duck” (Robinson 1977, p. 67). Only after the publication of *Selected Essays on the Dynamics of the Capitalist Economy* in 1971 did it become clear, again for the selected few rather than for the general public, that he had had all the major things fully thought out already when he had been writing in Polish in the mid 1930s.

Institutions I (X_3)

The historians of economic thought in Poland are proud in reporting that the three intellectual centres sustained by Kalecki’s economics in the 1960s in Warsaw (The Centre of Research on Underdeveloped Economies, The Advanced Course in National Economic Planning, The Seminar for Experts on Planning Economic Development of Underdeveloped Countries) were collectively known as the “Polish Cambridge”.³⁸ Academic institutions animated by a great theoretician, organisationally strengthened by the promotion of international, scientific Oxbridge standards, relative openness of Gomułka’s Poland, internationalisation of research, reputation independent from the ruling *PZPR* party, and truly world contacts accumulated intellectual and organisational capital that would have been impossible to replicate in the social sciences. The terms “Kalecki’s school” or “the Polish school in development economics” were signs of coming out of the backwaters of Eastern Europe and successful out-maneuvring of the ruling par-

³⁸ The term, first used by Joan Robinson after her visit in Warsaw, included also Kalecki’s (and Łaski’s) workshop on the theory of growth in a centrally-planned economy and also the workshop on the dynamics of capitalist economy (in the Polish Academy of Sciences) which included, *inter alia*, Zofia Dobrska, Adam Szeworski and Władysław Sadowski. (The author is grateful to the Reviewer for bringing that up).

ty ideology by the party members themselves. From the mass of academic cadres a relatively small group of ambitious scientists emerged whose professional and personal fates were decisively distorted by the political games of high ranking party apparatchiks (March 1968). After the replacement of the academic and administrative personnel, the original circle scattered over the world and only some of Kalecki's disciples continued to comment on the master's work in their further research. In principle, only Kazimierz Łaski, Jerzy Osiatyński and Leon Podkaminer continued not only the *exegesis* of Kalecki's modelling but attempted to develop the theory. One can surmise that most if not all others have largely abandoned Kalecki's thought, e.g. Ignacy Sachs for holistic ecological economics. The institution of the "Polish school" ceased to exist.³⁹ We can only applaud continuous efforts by J. Osiatyński to continue teaching courses on Kalecki (e.g. at Warsaw School of Economics in 2015/16 and 2016/17) and provide a stream of publications devoted to Kaleckian themes.

In contradistinction, outside Poland, economists working in the post-Keynesian tradition kept the torch burning and it is owing to their effort that a new current in economic thought emerged, bearing the name of our master – neo-Kaleckian economics.⁴⁰ In Poland, after the 1989 transformation break, only historians of economic thought have discussed Kalecki's models. Even the somewhat unexpected, for some, popularity of post-Keynesian theories in the 21st century, especially after the global financial crisis, and a certain renaissance of Kalecki's thought outside Poland have not changed the situation in any significant manner. Academic programmes in economics rarely if ever mention his theories or models, the Polish macroeconomists' market for expertise – DSGE destined for the banking and government sectors – ignores him completely. Didactic programmes

³⁹ Edward Łukawer (1920–2007) opines differently: "Michał Kalecki left a huge number of – directly or indirectly collaborating with him – disciples and continuators. One could name, for example: K. Łaski, I. Sachs, A. Szeworski, C. Józefiak, J. Osiatyński, M. Nasilowski, H. Flakierski, A. Muller, and many, many others" (Łukawer 2006, pp. 9–14).

⁴⁰ The list of Kalecki-friendly contributors is very long indeed and it includes British, American, Australian, German, Italian, Greek economists, in particular: J. Courvisanos, G. Harcourt, P. Kriesler, M. Sawyer, P. Arestis, J. Toporowski, A. Bhaduri, F. Lee, M. Lavoie, T. Palley, P. Kerr, M. Assous, R. Pressman, R. Holt, R. Rotheim, P. Reynolds, E. Hein, E. Stockhammer, F. Petri, D. Nuti, F. Serrano. A number of excellent compendia on PKE, containing numerous and rich developments of Kalecki's ideas have been published; "Cambridge Journal of Economics" and "Journal of Post-Keynesian Economics", to name only two, enjoy high reputation (their impact factors rising in 2007–2011). In neo-Kaleckian thinking developing in Latin America one can witness some economists that emphasize Keynesian/post-Keynesian side and some neo-Marxian / neo-Ricardian ideas (E. Perez, J. Lopez, N. Levy, J. Santarcángelo, F. Tenjo, H. Azcurra, A. Girón, M.E. Gallo). In a developmental debate, neo-Austrians condemn Kalecki as Marxist: "The thesis that 'deficits don't matter' does not originate with the English economist John Maynard Keynes, but with the much-less-known Polish economist Michał Kalecki (...). This Marxist economist counts among the precursors of Modern Monetary Theory. (...) The countries that followed the Kaleckian model have suffered from chronic stagnation and have remained stuck in the underdevelopment of the middle-income trap" (A.P. Mueller, *Las raíces neomarxistas de la teoría monetaria moderna*, Mises Wire 27.05.2019, www.mises.org/es/wire/las-raizes-neomarxistas-de-la-teoria-monetaria-moderna; accessed 15 09.2020).

seldom mention his work, his theories are never part of examination sets, no Ph.D. or M.A. theses are written (Sulejewicz 2019). Some new intellectual centres for social-democratic thought, such as *Krytyka Polityczna* (Political Critics) in Warsaw⁴¹, maintain interest in Kalecki's thought, for instance, inviting Osiatyński, Łaski, Kregel, or Bhaduri to talk about Kaleckian economics.

Working at academic institutions for 15 years, despite being granted numerous high positions, largely advisory, he essentially left no school of thought, promoted only two PhD students (one at Warsaw School of Economics and one at Warsaw University), had not supervised M.A. theses, his name was reflected in titles of only two M.A. theses and 1½ doctoral dissertations at Warsaw School of Economics (formerly Central School of Planning and Statistics) for the past 90 years. He is rarely, if ever, mentioned in any Polish textbook of economics (the only exception is “neutral” national income statistics), and his models are not presented, theories are not taught at regular courses. Problems he had taken up and solutions he had offered have not been put by high schools into the sets of examination questions in economics being part of the defence of student dissertations. One fears that increasing standardisation of exit requirements in higher economics education clearly continues to work against him. And yet, in a recent semi-biographical, semi-analytical review of Kalecki, Leszek Jasiński (Jasiński 2019) advanced a thesis that various Kalecki's models and formulae are squarely in orthodox frameworks, e.g. Marshallian model of supply and demand, Mankiw–Romer–Weil models of economic growth. While situating him in the mainstream might be somewhat easier in macroeconomics, although it will altogether not be successful, microeconomics posed and still poses a much greater challenge for such a project, since Kalecki's “degree of monopoly”, “principle of increasing risk”, pricing models, and class-based income distribution theory are clearly among non-neoclassical models of economic activity under capitalism. An attempted re-appropriation of ‘true’ Kalecki by the mainstream (see the OECD conference referred to above), finds little, if any, substance. After all a post-Keynesian Nobel prize winner in economics is yet to appear. One can conjecture that such an attempt would be more realistic if the ‘core’ of academic economics moved sufficiently in the direction of post-Keynesian methodology and/or micro, meso and macro theory. Despite the analytical and empirical richness and realism of post-Keynesian economics, this seems unlikely.⁴²

⁴¹ Another one is the Kalecki Foundation, established in 2014 in Warsaw; it makes use of an ennobling and catchy name, but its publications have a rather loose relation to Kalecki and have yet to apply any of his core economic models.

⁴² One example of the chasm between the two paradigms has been persuasively exposed in Thompson et al. (2006). A conspicuous current in neoclassical economic methodology appropriates pluralism, and claiming to have incorporated all that has been significant in hitherto economic theorizing, effectively dispenses with the need to encompass ‘heretic’ thought of someone like Kalecki. See i.a. Colander (2000, 2010). Various popular rankings of ‘top economists’ (top 50, top 10%) list surprisingly very few post-Keynesians, e.g. IDEAS of repec repository, as of August 2020, name only Philip Arestis (525th) and Marc Lavoie (976th) in top 1000 (out of 60 thousand persons ranked). Source: <https://ideas.repec.org/top/top.person.all.html> (accessed 19.09 2020).

Context (X)

Michał Kalecki started his practice of economic modelling in pre-war Poland, perceiving increasing threat of fascism and impending world conflict. The context of peripheral Europe, relative backwardness and inequalities inherited from 123 years of lost national independence after 18th century partitions and generated by the developing capitalism, turned out not to favour economic innovations. Academic economics had much to catch up with Western Europe. The foundations for precise economic policy were only being created, including the statistical base to which Kalecki himself made a contribution. Left-wing economic thought, essentially of Marxist origin, was relegated outside the academic world, leading to even more radicalised and politicised positions. Kalecki's 'luck' of belonging to the pre-war research team of a socialist – Edward Lipiński – did not last long.

The period of emigration was Kalecki's most successful spell of scientific work. In the 1930s/40s, he wrote and edited his most important scientific texts, entered the *avant garde* (macro)economists grouped around J.M. Keynes, built for himself there a unique position, his applied research was used fairly widely, and he gained a reputation that served him and his disciples during subsequent decades. However, the idiosyncrasy of Kaleckian 'Keynesianism' did not bring him official academic recognition. The left leaning innovator was unable to fit the world of the neoclassical British economics and Kalecki's uncompromising modelling style did not allow him to abandon his methodological assumptions in favour of conventions reigning in the theoretical and applied academic economics of the West. The same firmness/boldness shown in the defences of his social point of view and the awkward position of being one of the originators of post-war development economics but not having gained the *placet* of the international organisations (ILO and the UN), subsequently falling within the purview of the House un-American Activities Committee under senator McCarthy, all did accelerate their parting. The advisory services to the governments of France, Israel, Mexico, Cuba, and India showed his international *renommée* and the application qualities of his theories but invited a comment of Kalecki himself: "... [my] only immediate impact was a negative correlation, in the case of Israel, where the policies adopted were the exact opposite of those [I] had recommended".⁴³

Finally, the *couronnement* of his scientific career in People's Poland proved to be another cocktail of success and failure, of recognition of the importance of his achievements and the bitterness of "less than full use of his productive capacity". He came back from emigration to his native country led by the hopes of con-

⁴³ Feiwel's *Introduction* in (Kalecki 1972, p. 8). The bitter truth was confirmed by Zofia Dobrska: "Though Kalecki's recommendations to break up the feudal structures in agriculture and considerably reduce inequality in the distribution of incomes were fully consistent with the official policy of India, in fact the Nehru government put none of his suggestions into practice" (Kalecki, vol. V, p. 246).

tributing to the construction of a non-capitalist economic system. However, the ruling party, promising him the freedom of research and teaching, accepted only a part of his intellectual innovations. Although Kalecki himself never belonged to the ‘communist’ party (*PZPR*), a majority of his collaborators were in the *PZPR*, and some occupied, at times, important posts in the state apparatus. This fact did not spare them from repressions when political configuration at the top of political power became an arena for open fractional struggles (1968). He worked during the post-Stalinist ‘thaw’ and Gomułka’s ‘small stabilisation’ ending with the ‘Polish December’ (1970) just eight months after his death.

In subsequent decades, the *opus* of Kalecki did not leave a distinctive mark in Polish economics. ‘The leadership’ of the late ‘real socialism’ did not need such theoretical engagement and satisfied themselves with sterile functionalist ‘systems analysis’, essentially apologetic institutional descriptions supplemented at times with some Walrasian overtones. At the same time ‘the political economy of capitalism’ turned into an incoherent and superficial mixture of several threads taken from Marxian theories, microeconomics of Marshallian origin, Keynesian-inspired macroeconomics and profuse institutionalist descriptions.

In the 1960s Kalecki was allowed to continue relatively freely his research on economic development, on heterogeneous societies of the “Third World”. In his verbal models, he used the terms ‘intermediate regimes’⁴⁴ and ‘mixed economy’ (Kalecki, vol. V, pp. 45–60) to account for complex class societies comprising elements of weakly competitive markets and weak central planning. “Kalecki’s activity in the theory and practice of the development of the underdeveloped economies in the 1960s led to the formation of a distinct Polish school of thought about problems of economic development. In mid 1960s, in setting up [the syllabus of the course of planning] he took pains that the course participants would acquire the most objective picture possible of the mechanism and operation of the socialist economy – both its merits and its drawbacks. (...) The non-biased approach of Kalecki secured support from many specialised UN agencies, but at the same time troubled some American politicians, for in a certain sense it was a counterpoise to the Center of International Studies (CENIS) at the Massachusetts Institute of Technology” (...) Consequently, it came as no surprise that in 1967, a report of a subcommittee of the United States Senate mentioned the Advanced Course in National Economic Planning as a centre shaping the views of economic policy makers and academic staff from the developing countries which was *dangerous precisely because it engaged in no ideological indoctrination* (italics original – AS). Kalecki was very proud of this opinion, and the break-up, less than a year later, of the team that gave the course such a character he regarded as ‘an action that must have most pleased the CIA’ (Osiatyński, in: Kalecki, vol. V, p. 198). If during the first period of his scientific life, Kalecki saw fascism and monopoly capitalism as the

⁴⁴ The discussion proved fertile and continued well into the 21st century (especially among Marxists): see K.N. Raj, Jayati Ghosh, Barbara Harriss-White.

main threats, his UN work, development of socialist growth theory and LDC advice were overcast with the deep shadow of the cold war. It is significant that throughout his career Kalecki, with rare exceptions, did not use Marxist terminology, and respectively post-Stalinist political economy, to characterise any of the social systems analysed. And so he mentioned neither the ‘fundamental contradictions’ of the capitalist countries, nor ‘the law of development of social needs’ (supposedly ‘discovered’ by Lenin), nor the ‘law of ever fuller satisfaction of needs under socialism’ nor the ideological concept of the ‘Third World’ as a tool to analyse the less developed economies. His models of income distribution, business cycle and theory of employment have clearly incorporated social classes (at least two: capitalists and working class) and class conflicts, but generally speaking Kalecki did not investigate (in an essentialist fashion) ‘class struggle’ beyond and above empirically ascertainable conflicting characteristics of production, consumption, and distribution (e.g. mark-up). The concepts of political economy visibly belonged to a sort of *residuum* from which he pulled concepts when he exhausted (if attempted at all) the possibilities of mathematical modelling. Yet, Kalecki’s approach on this matter was not fully consistent and probably dictated by practical considerations.

This meant that the degree of usefulness of Kalecki’s conceptions for indoctrination of students and the state’s executive apparatus (working intelligentsia) in the 1960s and subsequent decades of ‘real socialism’ was low. Also after the Polish transformation initiated in 1989, confidence in neoclassical models of capitalism and the faith in the ideological message of classless market society meant that the degree of usefulness of Kalecki’s concepts for education of students and the creation of human (intellectual) capital for the executive *stratum* (managers) at the turn of the 21st century was, *nomen omen*, marginal.

3. Concluding remarks

The sequence of presentation and span of appraisal of a set of economic ideas in textbooks of the history of economic thought bears close affinity to the ‘Big Mäk’ model. In a two-page section devoted to Kalecki, Alessandro Roncaglia introduces the problem of ‘firstness’, i.e. Keynes vs. Kalecki (academic context); gives a brief indication of socialisation, values, background theory of the author (agent, context); suggests, as his important contribution, analyses of the relations between income, consumption and investment, political cycle, principle of increasing risk, tendency to stagnation (models); refers to the “necessity of active policy interventions” (purpose, audience); indicates capitalistic, planned, and mixed economy as objects of analysis (target); signals problems of uncertainty, expectations, marginal vs. full-cost pricing, formal extensions (background theory, model, description, commentary, issue of similitude); mentions the marginalisation of Kalecki in the last years of his life (institutions, context) and the role of national-

ity (agent, context). He summarises the success/failure of Kalecki: “Comparison with Keynes shows just how much importance nationality, conditions of birth and ‘degree of political antipathy’ may have in determining the impact of an economist’s ideas and analysis” (Roncaglia 2005, p. 411–412).

These characteristics of Kalecki’s scientific activities, important for a historian of economic thought, have been ‘organised’ in this paper with the aid of a methodological appraisal of economic modelling. In the ‘Big Mäk’ we are invited to consider wider account of scientific thought in order to pass a judgment on the success or failure of a given model (M) and author (A). Various scientific practices subsumed under the labels (P, D, C, E, X) aim ultimately at pursuing truth in economics (S, R) (Mäki 2011). While space limitations do not allow us to consider subtle discussions of credible or believable worlds (Sudgen 2000, Hardt 2017), the multiple discussions between Kalecki and his audiences signalled in the paper fairly persuasively demonstrate his attachment to realist philosophy of science and to realistic modelling through idealisation. If Kalecki could be judged to pursue truth correctly through surrogate rather than substitute modelling (*imagined worlds*), then the key question re-emerges: why has this implied methodological success not been matched with equally successful theoretical import and policy implementation in the real world?

If one looks again at Mäki’s factors of failure of orthodox macroeconomics when faced with theorising global financial crisis⁴⁵, one is struck how few can be attributed to Kalecki. To follow the ‘Big Mäk’ sequence: Michał Kalecki (A) was painfully aware of history, had epistemic preferences sensitive to social complexity, was a brilliant mathematician but not enamoured with ‘mathy’ style in economics, rejected puzzle solving; (V) rejected self-seeking (career mindedness) by holding to his ethical and methodological values; (M) insightfully used strong idealizing assumptions and did not leave out key factors; (S) clearly distinguished between the model and the target, rejected *as if* reasoning, conceived rich (socio-political) targets; (P) his models always had a purpose, aimed at solving an important socio-economic problem; (E) was generally able to address effectively different audiences, (R) aimed clearly at relevant resemblance, did not accept beauty instead of truth, (C, D) reportedly had problems communicating the entirety of his ideas (Robinson), (X) did not follow standard academic incentives, eschewed formalism, courageously defended his non-orthodox ideas, academically and socially; (I) experienced several (costly) mismatches.

Addressing Rodrik’s generalisations: Kalecki is an idiosyncratic case of resisting a standard set of institutional practices, of “unforgiving” marginalisation of heterodox economics in spite of proclamations of innovation, openness, inter-disciplinarity or otherwise called ‘progress’ in dominant economic thought.

⁴⁵ One distinguishes failure of (mainstream) economics from failure of economists (while economics is correct): Rodrik ‘confesses’ the latter (much weaker), Mäki accepts the former albeit with the possibility of ‘redemption’ while post-Keynesians would ‘condemn’ the neoclassical paradigm altogether.

Heterodoxy seems to be one of the significant features of institutionally ‘normal’ science, one which radically diminishes the probability of agent’s success in economics, and this despite all the talk of innovation and openness. Hardly compatible with neoclassical (and Keynes’) individualism, his dynamic structuralism⁴⁶ casts him outside the world of permissible assumptions of ‘max U’, a passport to successful modelling in orthodox economics.⁴⁷ “Kalecki can justly be considered an exponent of the great tradition of political economy from the classics to Marx, to Schumpeter, to Keynes – which combined a practical attitude towards real-life problems and the implications of economic policy with the conviction issues must be analysed within a general interpretative framework of the ‘law of motion’ of capitalist society, and a firm conviction of the relativity inherent in such a law” (Sebastiani 1989, p. xi).

Working in England, in Cambridge and Oxford (1936–1945), Michał Kalecki was an innovator, an awkward albeit “friendly soul” of the Keynesian revolution, ultimately rejected by the *master* and the British institutional academic *milieu*. Working in the United Nations (1946–1955; visiting some ‘Third World’ countries), he advanced, in a pragmatic vein, policy solutions dictated by his left-wing values and consistent with policy pronouncements of respective governments but the proposals were being rejected and never implemented.

Thus the success of Michał Kalecki’s economics has been mixed. The belated news about the proposal to put his candidature on the list Nobel prize nominees (1970), the emergence of a lively international neo-Kaleckian school of economics, high recognition among professional economists, celebration of anniversaries related to his life confirm the high quality of scientific innovations he brought into 20th century economics⁴⁸. Joan Robinson called him a “neglected prophet”; the ‘Big Mäk’ scheme suggests several factors responsible for this ‘neglect’, both epistemic and institutional.

From the beginnings of his writing on the theory of business cycle to the late texts on *Class struggle and Distribution of National Income* in 1971 and *Observations on Crucial Reform* (1971), abstract ideas and moral values related to the construction of new economic world provide a context without which one can understand neither the person nor his work and which are ever present in his analytic modelling of the economic life in the social system he happened to live. From “Przegląd Socjalistyczny” in pre-war Poland to “Critica Marxista” in Italy of the coming “Compromesso storico”, Kalecki was, as far as one can judge, faithful

⁴⁶ His approach was labelled “quasi-dialectical structuralism” by C. Paiva. Kalecki remains a source of continuous inspiration among Latin American academic socialists.

⁴⁷ ‘Max U’, is a label for utility maximisation, an inescapable characteristic of orthodoxy in economics, with numerous philosophical and theoretical implications. See: Hodgson 2019.

⁴⁸ In September 2019 a special OECD seminar was organised by Poland’s Standing Representation at OECD, in Paris, to commemorate Kalecki and re-affirm his contemporary relevance <https://www.gov.pl/web/oecd/michal-kalecki-w-oecd>; https://oecdtv.webtv-solution.com/5714/or/permanent_representation_of_the_republic_of_poland.html (access 30.06.2020).

to a pessimistic vision of capitalism.⁴⁹ This Schumpeterian *vision* had been imprinted very early in Kalecki's mind and survived numerous turns, influencing decisively his modelling successes and failures. One is led to conclude that Mäki's original meta-model is not capable of fully accounting for scientific practice of heterodox economists and needs further refinement.

Received: 14 July 2020

Revised version: 7 December 2020

Bibliography

- Arnsperger C., Varoufakis Y. (2006), *What Is Neoclassical Economics?* “Post-Autistic Economics Review”, no. 38(1), pp. 2–12.
- Breit M. (1935), *Ein Beitrag zur Theorie des Geld- und Kapitalmarktes*, “Zeitschrift für Nationalökonomie”, no. 5, pp. 632–658.
- Brus W. (1977), *Kalecki's economics of socialism*, “Oxford Bulletin of Economics and Statistics”, no. 39(1), pp. 57–67.
- Carabelli A.M., Cedrini M.A. (2017), *Keynes against Kalecki on economic method*, “Journal of Post-Keynesian Economics”, no. 40(3), pp. 349–375.
- Colander D. (2000), *The Death of Neoclassical Economics*, “Journal of the History of Economic Thought”, no. 22(2), pp. 127–143.
- Colander D. (2010), *Moving beyond the rhetoric of pluralism: Sugestions for “inside-the-mainstream” heterodoxy*, in: R. Garnett et al. (eds.), *Economic Pluralism*, Routledge, London, pp. 36–47.
- Corsi M. et al. (2018), *A case study of pluralism in economics. The heterodox glass ceiling in Italy*, “Review of Political Economy”, no. 30(2), pp.172–189.
- Feiwel G.R. (1972), *Introduction to: Michal Kalecki, The last phase in the transformation of capitalism*, “Monthly Review Press”, no. [...], pp. 1–58.
- Feiwel G.R. (1975), *The Intellectual Capital of Michal Kalecki: A Study in Economic Theory and Policy*, University of Tennessee Press, Tennessee.
- Feiwel G.R. (1989), *Towards an Integration of Imperfect Competition and Macrodynamics: Kalecki, Keynes, Joan Robinson*, in: G.R. Feiwel (ed.), *The Economics of Imperfect Competition and Employment*, Palgrave Macmillan, London.
- Foster J.B. (2013), *Marx, Kalecki, and Socialist Strategy*, “Monthly Review”, April 2013, <https://monthlyreview.org/2013/04/01/marx-kalecki-and-socialist-strategy/> (accessed 22.09.2020).
- Harcourt G.C., Kerr P. (2009), *Joan Robinson*, Palgrave Macmillan, London.
- Hardt Ł. (2017), *Economics Without Laws, Towards a New Philosophy of Economics*, Palgrave Macmillan, London.

⁴⁹ In a *Rejoinder to Pesenti*, Tadeusz Kowalik (co-author of *Observations on Crucial Reform*, written between 1969 and 1970), notes that “To the end of his life Kalecki liked to stress that in its criticism his theory of developed capitalism went even further than Marx's theory.” And Kowalik perceptively adds: “It is not by chance that the popularity of Kalecki's theory and his publications are in inverse relationship to the economic performance of modern capitalism.” (In: M. Kalecki, *Collected Works*, vol. II, Annex 5, p. 614).

- Hodgson G. (2019), *Is There a Future for Heterodox Economics?*, Edward Elgar, Cheltenham.
- Jasiński L.J. (2019), *Michał Kalecki odczytany po pół wieku [Michał Kalecki: a (re-)reading after half a century]*, Centrum Europejskie Natolin, Warszawa.
- Jefferson T., King J.E. (2011), *Michał Kalecki and critical realism*, “Cambridge Journal of Economics”, no. 35, p. 957–972.
- Kalecki M., *Dziela*, vol. 1–6, ed. J. Osiatyński, Państwowe Wydawnictwo Ekonomiczne, Warszawa 1979–1988.
- Kalecki M., *Collected Works of Michał Kalecki*, vol. I–VII, ed. J. Osiatyński, Oxford University Press, Oxford 1990–1997.
- Keynes J.M. to R. Harrod, 4 July 1938, <http://economia.unipv.it/harrod/edition/edition-stuff/rfh.346.htm> (accessed 02 06 2019).
- Kolakowski L. (1978), *Main currents of Marxism: the founders, the golden age, the breakdown*, Clarendon Press, Oxford.
- Kowalik T. (2006), *Michał Kalecki, kim był, jakim go znałem i podziwiałem*, in: *Twórczość naukowa Michała Kaleckiego i jej znaczenie w teorii ekonomii*, “Prace Naukowe”, Akademia Ekonomiczna w Katowicach, pp. 67–92.
- Lehtinen A., Kuorikoski J., Ylikoski P. (eds.) (2012), *Economics for Real: Uskali Mäki and the Place of Truth in Economics*, Routledge, London.
- Leijonhufvud A. (1973), *Life among the Econ*, “Western Economic Journal”, no. 11(3), p. 327–337.
- Lerner A. (1972), *The economics and politics of consumer sovereignty*, “American Economic Review”, no. 62, pp. 258–66.
- Łaski K. (2015). *Wykłady z makroekonomii: gospodarka kapitalistyczna bez bezrobocia [Lectures in Macroeconomics: Capitalist Economy without Unemployment]*, ed. by J. Osiatyński, Polskie Towarzystwo Ekonomiczne, Warszawa.
- Łukawer E. (2006), *W nawiązaniu do idei i przekonań Michała Kaleckiego*, “Nierówności Społeczne a Wzrost Gospodarczy”, no. 8, Uniwersytet Rzeszowski, Rzeszów, pp. 9–14.
- Mäki U. (2011), *Models and the locus of their truth*, “Synthese”, no. 180(1), pp. 47–63.
- Mäki U. (2017), *Modelling failure*, in: H. Leitgeb et al. (eds.), *Logic, Methodology And Philosophy of Science – Proceedings of the 15th International Congress (Helsinki)*, College Publications UK, pp. 381–400.
- Mäki U. (2018), *Rights and wrongs of economic modelling. Refining Rodrik*, “Journal of Economic Methodology”, no. 25(3), pp. 218–236.
- Mueller A.P. (2019), *Las raíces neomarxistas de la teoría monetaria moderna*, Mises Wire, 27.05.2019, www.mises.org/es/wire/las-raizes-neomarxistas-de-la-teoria-monetaria-moderna
- Nowak L. (1980), *The Structure of Idealization: Towards a Systematic Interpretation of the Marxian Idea of Science*, Springer Science Business Media, Dordrecht.
- Nuti D. (1986), *Michał Kalecki's contribution to the theory and practice of socialist planning*, EUI Working Paper 86/227, Florence, reprinted in: M. Sebastiani, ed., *Kalecki's Relevance Today*, Palgrave Macmillan, London.
- Osiatyński J. (1988), *Michał Kalecki on a Socialist Economy*, Macmillan Press, Basingstoke and London.
- Osiatyński J. (2015), *Ekonomia Michała Kaleckiego*, in: M. Kalecki, *Kapitalizm: dynamika gospodarcza i pełne zatrudnienie*, ed. by J. Osiatyński and K. Łaski, iTON Society, Warszawa, pp. 7–82.

- Osiatyński J. (2020), *Michał Kalecki a współczesne problemy rozwoju gospodarki kapitalistycznej*, „Ekonomista”, no. 2, pp. 232–248.
- Paiva C.A.N. (1996), *Kalecki: un antikeynesiano?*, “Revista de Economía Política”, no. 16(1), pp. 70–78.
- Reiss J. (2013), *Models, Representation, and Economic Practice. Commentary on Uskali Mäki*, in: U. Gähde et al. (eds.), *Models, Simulations, and the Reduction of Complexity*, De Gruyter, Berlin/Boston, pp. 107–116.
- Roberts J. (1989), *Towards an Integration of Imperfect Competition and Macrodynamics: Kalecki, Keynes, Joan Robinson, Appendix*, in: G. Feiwel (ed.), *The Economics of Imperfect Competition and Employment. Joan Robinson and Beyond*, Macmillan Press, pp. 115–145.
- Robinson J.V.R. (1964), *Kalecki and Keynes*, in: T. Kowalik (ed.), *Problems of Economic Dynamics and Planning, Essays in Honour of Michał Kalecki*, Państwowe Wydawnictwo Naukowe, Warszawa.
- Rodrik D. (2015), *Economics Rules. Why Economics Works, When It Fails, and How to Tell the Difference*, OUP, Oxford (another subtitle: *Why economics works, when it fails, and how to tell the difference*).
- Roncaglia A. (2005), *Wealth of Ideas, A History of Economic Thought*, Cambridge University Press, Cambridge.
- Sebastiani M., ed. (1989), *Kalecki's Relevance Today*, Palgrave Macmillan, London.
- Sugden R. (2000), *Credible worlds: the status of theoretical models in economics*, “Journal of Economic Methodology”, no. 7(1), pp. 1–31.
- Sulejewicz A. (1999), *Michał Kalecki and Industrial Organisation*, paper presented at the Conference “Michał Kalecki and contemporary economic thought”, 90th Anniversary of Michał Kalecki, SGH/WSE, Warsaw.
- Sulejewicz A. (2019), *Michał Kalecki: niedoceniany innowator światowej ekonomii, czyli – losy ekonomisty heterodoksyjnego*, in: M. Szostak (ed.), *Z dziejów Wydziału Handlu Zagranicznego i Kolegium Gospodarki Światowej Szkoły Głównej Handlowej w Warszawie: siedemdziesięciolecie 1949–2019*, SGH, Warsaw, pp. 195–246.
- Szyborska H., Toporowski J. (2013), ‘*Dr Kalecki*’ on Mr. Keynes, in: J. Toporowski, Ł. Mamica (eds.), *Kalecki in the 21st Century*, Palgrave Macmillan, Basingstoke, pp. 108–115.
- Tinbergen J. (1931), *Ein Schiffbauzyklus?*, “Weltwirtschaftliches Archiv”, pp. 152–164.
- Thompson J.R. et al. (2006), *Nobels for nonsense*, “Journal of Post-Keynesian Economics”, no. 29(1), p. 3–18.
- Toporowski J. (2013), *Michał Kalecki: An Intellectual Biography*, vol. I: *Rendez-vous in Cambridge 1899–1939*, Palgrave Macmillan, Basingstoke.
- Toporowski J. (2014), *Michał Kalecki's Legacy. An interview with Jan Toporowski*, “WEA Commentaries”.
- Toporowski J. (2018), *Michał Kalecki An Intellectual Biography*, vol. II: *By Intellect Alone 1939–1970*, Palgrave Macmillan, Basingstoke.

MODELLING IN THE CASE OF A HETERODOX ECONOMIST: SUCCESS AND FAILURE OF MICHAŁ KALECKI

Summary

The author proposes to look at the work of M. Kalecki through the lens of the history of economic thought informed by the methodology of economics, by applying to this aim a meta-economic model suggested by U. Mäki, enhanced with additional features. On the basis of the review of the main works of Kalecki, he finds that we cannot ascribe to his works virtually any of the factors proposed by Mäki as explanation of orthodox economic modelling failure. If it is so, the question may be asked why a more correct economic modelling based on the Kalecki's theory and post-Keynesian theories has not been recognized as successful. It seems that the mainstream economics is an informal institution, yet strengthened by formal rules, which is unforgiving to heterodox economists. Kalecki seems to have been a paradigmatic case of a successful academic heterodox economist, author of significant innovations in the analyses of capitalism, socialism, and the intermediate regimes, all of which were ultimately rejected by the dominant social forces of the day, signalling 'modelling failure' in all academic and policy-institutional contexts. If that is indeed the case, then Mäki's model fails to provide an explanation of modelling failure in economics.

Keywords: Michał Kalecki, economic modelling, heterodox economics, history of economic thought

JEL: B22, B29, B31, B59

MODELOWANIE W PRZYPADKU EKONOMISTY HETERODOKSYJNEGO – SUKCESY I NIEPOWODZENIA MICHAŁA KALECKIEGO

Streszczenie

Autor proponuje spojrzeć na dzieło M. Kaleckiego przez pryzmat historii myśli ekonomicznej uzbrojonej w metodologię ekonomii. Sugeruje zastosowanie w tym celu meta-ekonomicznego modelu przedstawionego przez U. Mäkiego, uzupełnionego pewnymi dodatkowymi elementami. Na podstawie przeglądu prac Kaleckiego dochodzi do wniosku, że praktycznie żadnego z czynników zidentyfikowanych przez Mäkiego jako źródła zawodności ortodoksyjnego modelowania ekonomicznego nie można przypisać Kaleckiemu. Jeśli tak, to powstaje pytanie, dlaczego bardziej poprawne modelowanie ekonomiczne, oparte na teorii Kaleckiego i teoriach pokeynesowskich, nie zostało uznane za właściwe. Wydaje się, że ekonomia głównego nurtu to nieformalna instytucja, wzmacniana formalnymi regułami, która nie wybacza heterodoksyjnym ekonomistom. Kalecki jawi się jako paradygmatyczny przykład ekonomisty heterodoksyjnego, autora istotnych innowacji w analizach kapitalizmu, socjalizmu i ustrojów pośrednich, które jednak były każdorazowo odrzucane przez dominujące wówczas siły społeczne, sygnalizując „zawodność modelowania” we wszystkich akademickich i polityczno-instytucjonalnych kontekstach. Jeśli tak jest w istocie, to model Mäkiego zawodzi, jeśli chodzi o wyjaśnienie zawodności modelowania w ekonomii.

Słowa kluczowe: Michał Kalecki, modelowanie ekonomiczne, ekonomia heterodoksyjna, historia myśli ekonomicznej

JEL: B22, B29, B31, B59

МОДЕЛИРОВАНИЕ ГЕТЕРОДОКСАЛЬНОГО ЭКОНОМИСТА – УСПЕХИ И НЕУДАЧИ МИХАЛА КАЛЕЦКОГО

Резюме

Автор предлагает посмотреть на труды М. Калецкого сквозь призму истории экономической мысли, используя такой инструмент как методология экономики. Для этой цели он применяет мета-экономическую модель, представленную У. Маки (U. Mäki), с некоторыми дополнительными элементами. В этой модели выявляются факторы, приводящие к ошибкам при ортодоксальном экономическом моделировании. Ни один из этих факторов в работах М. Калецкого не был обнаружен. Но тогда возникает вопрос, почему экономическое моделирование, опирающееся на теорию Калецкого и посткейнсианские теории, также не было признано верным. Можно предположить, что экономический мейнстрим — это неформальный институт, усиленный формальными правилами, который не приветствует гетеродоксальных экономистов. Калецкого можно представить в качестве парадигматического примера гетеродоксального экономиста, автора существенных инноваций в области анализа капитализма, социализма и стран переходной экономики, который, однако, был каждый раз отвергаем доминирующими тогда общественными силами, что свидетельствует о «ненадежности моделирования» во всех академических и политико-институциональных контекстах. Если это так, то модель У. Маки становится неверной при объяснении ненадежности экономического моделирования.

Ключевые слова: Михал Калецкий, экономическое моделирование, гетеродоксальная экономика, история экономической мысли

JEL: B22, B29, B31, B59