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Abstract

Both Rosa Luxemburg and Michal Kalecki utilised Marx's scheme's or reproduction as the starting point of their analysis of economic dynamics. However, Luxemburg did not realise that they were not meant to serve as models of capitalist growth, but rather to show that the conditions for stable growth were unachievable. Luxemburg was an early proponent of the stagnationist thesis which was popularised by Kalecki, Steindl, Baran and Sweezy. She argued that capitalist economies were doomed to stagnate unless markets outside the capitalist arena could be utilised, although she also acknowledged the importance of government expenditure on armaments. Kalecki, while acknowledging some of the limitations of her analysis, was able to extend it to incorporate the main elements of modern capitalist growth.

Keywords: reproduction schema, Marxian economics, economic growth, economic cycles, effective demand, imperialism

JEL Classification: B14, B24, B51, E11, E12

In addition to his own contributions to economic thought, Tadeusz Kowalik has added substantially to our knowledge of three great Polish economists, Rosa Luzemburg, Oscar Lange and Michał Kalecki. In addition to editing collections of their works, he has contributed to our understanding of their contemporary relevance. He co-authored with Kalecki a sequel to the latter's fundamental contribution to political economy, "Political aspects of full employment" (Kalecki 1943), considering the question of whether a crucial reform had occurred in capitalist

* This paper was written for a volume commemorating the life work of the great Polish economist Tadeusz Kowalik. The authors would like to thank, but not implicate Prue Kerr and Jan Toporowski for their helpful comments.

economies to allow full employment to be maintainable (Kalecki and Kowalik 1971). Kowalik was joint editor of the Polish editions of the Collected Works of both Oscar Lange and (with Jerzy Osiatyński) Kalecki, as well as editing a new edition of Rosa Luxemburg's *The Accumulation of Capital*. In addition, he has written extensively on the writings of Kalecki and Luxemburg, arguing that "Michał Kalecki's theory is the best theoretical continuation and solution to the main problems that Rosa Luxemburg wanted to solve in her *magnus opum*." (Kowalik 2009, 102)

Because of his fine scholarship, we deemed it most appropriate for us to reconsider the contributions of Kalecki and Luxemburg to our understanding of modern capitalist economies.

In particular, it is appropriate to concentrate on Rosa Luxemburg's *The Accumulation of Capital* (1913), which is her *magnum opus*. Both Joan Robinson (1951) and Kowalik (2003) have written important introductions to its English translation. Michał Kalecki wrote about its contributions and limitations in an analysis of how capitalism might be expected to develop, comparing her conjectures with those of Tugan-Baranovsky, see Kalecki (1967), 451-8. Luxemburg's book was an important milestone in Joan Robinson's development of her own *magnum opus* of the same title, Joan Robinson (1956). As we have argued elsewhere [Harcourt and Kriesler (2011), Harcourt and Kerr (2009)], Kalecki was the major influence on the structure of the analysis in her *Accumulation of Capital*.

II

The starting point for all these authors was their understanding of Marx's schemes of production and reproduction in an analysis of the laws of motion of the capitalist mode of production. Kowalik gives an excellent summary of the analytical similarities of the two:

> As far as theory is concerned, both R.L. and M.K. took from Marx the very notion of capital, and the conviction that the capitalist system polarized society by two antagonistic classes: the capitalists and the workers. Both were interested more in the dynamics of capitalism than in static theory of value and prices…… both used Marxian reproduction schemata of reproduction to search for the limits of capitalist accumulation. Using more modern words, they treated capitalism as a system, limited by effective demand, sharply distinguishing the production of commodities from their realization. Of course, both rejected so-called Say's law. Both treated rivalry and instability as permanent features of capitalism. Kowalik 2009, 111

However, there also are important points of distinction. Both Kalecki and Joan Robinson recognised, as Luxemburg and Tugan-Baranovsky seem not to have, the true purpose of the schemes[1]. Luxemburg and Tugan-Baranovsky made the same mistake as many latter day mainstream economists and many Marxist scholars[2] have, in that they interpret the schemes as forerunners of steady-state growth models which nevertheless constitute descriptive analysis of the development of capitalism[3]. Joan Robinson's Golden Ages were never so intended; in contrast, Nicholas Kaldor's growth models of the 1950s and 1960s were, see, for example, Kaldor (1955-56, 1957); Kaldor and Mirrlees (1962). Robert Solow (1956) and Trevor Swan (1956) were providing their solutions to problems thrown up by Harrod's seminal article

[1] Our understanding of them has been greatly influenced by Claudio Sardoni's definitive article on them, Sardoni (1981).

[2] For example, Desai (1974, 85-6) makes this error when discussing Luxemburg's critique of Marx, see also Desai and Veneziani (2009).

[3] Foremost amongst modern economists who made this mistake was the late Paul Samuelson, see Harcourt (2006), 136, for evidence of this in Samuelson's articles on Marx and in various editions of his textbook.

(1939) and book (1948) in explicitly highly abstract theoretical contexts but their many surrogates proceeded as if they had also provided descriptive analyses.

As Sardoni shows conclusively, and as Joan Robinson and Kalecki had recognised, this was not Marx's purpose. Rather, he was attempting to set out the conditions that had to be satisfied in order that, as we would say now, aggregate demand and aggregate supply and their compositions as created in the three Departments, would all match up, i.e., be purchased. Marx's purpose was to show how unlikely it was that individual capitalist decision-makers left to themselves could collectively bring about these two sets of matches; and, if they did not, the sources of instability and crisis in capitalist dynamics would have been revealed. This was also the substance of Joan Robinson's criticism of Harrod, that he had rediscovered Marx vol II without knowing it, a criticism which he gallantly took on board. (Joan Robinson 1953, 263) Similarly, Kalecki argued that the "basic formula of the Harod-Domar theory … [and]… In fact, many of the contemporary theories of growth are simply variations on the theme of Marxian schemes of expanded reproduction." (Kalecki 1968a, 63) Moreover, as Sardoni argues, even if both sets of conditions were to be satisfied in any one period, this does not imply steady-state growth from period to period. According to Kalecki, equilibrium would require very specific – and unlikely -investment behaviour:

> As regards Marx's schemata, his system can be in equilibrium only when automatic expanded reproduction is assumed, i.e. when there is a complete reinvestment of accumulation. … From the spirit of Marx's analysis, it follows that this reinvestment does not always take place, and hence there is a deviation from his schemata. This deviation, which Marx did not systematically investigate

> is more consistently emphasised by Rosa Luxemburg. The supply nature of Marx's schemata lies in his assumption of total reinvestment of accumulation. However, from this it follows that the schemata represent a certain ideal equilibrium, which is in contradiction with the fundamental and often-quoted statement of Marx on the incommensurable development of the forces of production and the expansion of purchasing power. Long-run instability appears in the schemata as soon as the automatic reinvestment of accumulation is no longer assumed. Kalecki 1965, 559

III

Kalecki points out that Tugan-Baranovsky and Luxemburg are poles apart in their discussions of how the market operates in the Marxian schemes of reproduction. Tugan-Baranovsky in effect is a Say's Law person, denying the possibility of a general glut, arguing that what is produced in all Departments will always be purchased, either internally or by the other Departments, so that the only constraint on capitalist development is how fast productive capacity increases in these circumstances.

Luxemburg, in contrast, argues that there is always insufficient aggregate demand in a closed economy, so that to continue to develop, capitalist economies must export to the (non-capitalist) rest of the world, usually through imperialistic conquests, in order to ensure there are markets and supplies of raw material abroad.

The Accumulation of Capital represents one of the earliest statements of the stagnationist thesis which was popularised by Kalecki, Steindl, Baran and Sweezy. Underlying this thesis is the argument that "under monopoly capitalism the laws of capitalist accumulation have been fundamentally changed" (Halevi and Kriesler 1998, 194) Luxemburg demonstrated via Marx's reproduction schemas that capitalism had problems in the long run maintaining sufficient effective demand to avoid stagnation. Ever expanding accumulation requires ever expanding demand, and it is unclear where this demand comes from, as a result of "the deep and fundamental antagonism between the capacity to consume and the capacity to produce in a capitalist society, a conflict resulting from the very accumulation of capital which periodically busts out in crises and spurs capital on to a continual extension of the market." (Luxemburg 1913, 347)

Her solution: external markets - "buyers outside capitalist society" (Luxemburg 1913, 350) – ie. external to the global capitalist system, and/or armaments expenditures. Kalecki (and Kowalik) clearly understood that this was her important contribution:

> For her, the basic contradiction of capitalism is not disproportion of development of individual branches of industry but the separation between production and market. In her analysis of the divergence between the development of forces of production and relations of production, the main problem is that of realization of the accumulated surplus. (Kalecki and Kowalik 1971, 469-70)

Kalecki finds it "most interesting that both authors commit important errors [yet] their theories have a correct picture of some essentials of [the] capitalist economy", Kalecki (1967), 451. Tugan-Baranovsky rightly sees that satisfaction of consumer demand is not the driving force of capitalism, which is characterised by him as "antagonistic in nature", with the making of profits and the accumulation of capital the ultimate driving forces of capitalist development. So for Tugan-Baranovsky (and Kalecki), what has become the central mainstream notion, that it is the consumer queen trying to maximise her expected lifetime utility through consumption and saving that is the driving force, is not in fact to be found in the actual workings of capitalist markets and economies.

Kalecki accepts that Luxemburg's "external markets", while not the sole driver of capitalist development, are nevertheless an "important part". He finds "a point of intersection" for the two poles apart theories in present day (read 1960s/1970s) capitalism, especially the USA, where the market created by government for production of armaments plays a decisive role, Kalecki 1967, 451.

The error in Tugan-Baranovsky's analysis, Kalecki argues, is that he confuses what is possible in development with what must always actually happen. Kalecki's argument has some resemblance to an analysis of the conditions needed for Harrod's warranted rate of growth (g_w) to coincide with Harrod's natural rate of growth (g_n) and to Harrod's argument as to why, if actual growth (g_a) is not equal to g_w, the economy will give out signals that, under plausible conditions, leads g_a to depart further and further from g_w. So, even if g_a were momentarily to coincide with g_n, this would not be a sustainable position. Kalecki argues that accumulation associated with embodying innovations that result from technical progress may produce growth, though not necessarily at such a rate as to eliminate deficient effective demand. This possibility, which is not necessarily a result of "external markets", provides the starting point for Kalecki's discussion of Luxemburg's analysis.

IV

He first points out that she argues as if the capitalist class as a whole decide collectively how much investment to do. And if the class perceives that there is not a sufficient market for the surplus of goods corresponding to accumulation, it is led to the query: "So why invest?" Kalecki (1967), 455. Kalecki's knock-down blow follows immediately: "Now capitalists do many things as a class, but they certainly do not invest as a class," Kalecki (1967), 455. If they did, he notes, they may well do so in such a way as to vindicate Tugan-Baranovsky's Say's Law analysis.

Because Luxemburg regards exports from the capitalist system as the mainspring of development, she has a pessimistic view of the future of capitalism. As the capitalist system cumulatively makes the rest of the world (including the non-capitalist sectors of its own society) in its own image, it at the same time eliminates the possibility of future development. Allied with her basic view there is, according to Kalecki, a serious over-estimate of the role of "external markets", in that she identifies the market for the surplus created with *total* exports; whereas, Kalecki argues, it is only *net* exports (induced by the export of capital) that perform this role.

Kalecki points out that Luxemburg did have a role for expenditure on armaments in the process of staving off the decline of capitalism. But, again, she over played her hand, in that she did not ask how the expenditure would be financed. Kalecki points out that if taxation is the source of finance, its incidence ultimately falls on wage-earners and their consumption expenditure, so largely offsetting the expansionary effects of expenditure on armaments and its role in absorbing the surplus of goods associated with the process of accumulation – a balanced budget multiplier type of argument. Only if armaments are purchased from the proceeds of the issue of government bonds (or by writing cheques on the central bank) will their greatest potential impact be realised.

Kalecki also argued that Luxemburg missed an important extension of her armaments argument, which was applicable to government expenditure in general. Government expenditure is an "external market" with respect to the capitalist production[4]. However, as with armaments, it is only government expenditure which is not offset by taxes (particularly on the working class), so it is either "financed" by the central bank or by the sale of government securities to the private sector. "As, capital is here being 'exported' to the 'foreign market 'created by the government". (Kalecki 1967, 457). So, government expenditure acts as an "*internal export* … It is *internal* to the closed economy, but it is *external* to the capitalist area." (Bellofiore 2009, 60 emphasis in original) In addition, Kalecki extends the analysis of "external" factors which can explain accumulation to include "semi-autonomous" influences such as innovation. (Kalecki 1968a, see also Steindl 1981, 148)

Kalecki concludes that, though there are serious errors in the theories of both Tugan-Baranovsky and Luxemburg, yet both showed "a striking perspicacity" in their evaluation of certain basic elements of late stage capitalism so contributing to "the understanding of the perverse world in which we are living", Kalecki (1967), 458. This view is reinforced by Darity's argument that, given the political limits to the attainment of full employment discussed in Kalecki 1943, imperialism and external

[4] He also referred to government expenditure as "domestic exports" – see Darity 1979-80, 224

markets may prove an expedient politically acceptable strategy for dealing "with crises of effective demand." (Darity 1979-80, 229)

V

Kalecki published his article on Tugan-Baranovsky and Luxemburg in 1967. In 1968 he followed it up with an article, "The Marxian equations of reproduction and modern economics", Kalecki (1968a), in which he drew on the arguments of his preceding article and related his take on modern steady-state growth theory emanating from Harrod's and Domar's seminal contributions to discussions of Marxian schemes of reproduction.

On his interpretation, (then) modern growth theory often did a Tugan-Baranovsky, that is to say, argued that there was no problem of effective demand to be faced in the long-run development of capitalism. (Such a delusion has been continued even more so in modern endogenous growth theory. The following quote from Robert Lucas illustrates this well: "The balanced growth path will be a good approximation to any actual path "most of the time" … exactly the reason why the balanced path is interesting to us", Lucas (1988), 11.) Kalecki argued that, in arriving at this finding, the authors concerned had been hoodwinked by the impact of expenditure on armaments and investment expenditure embodying technical progress in the temporary solution of Luxemburg's problem into believing that full employment growth was an inevitable outcome. That is to say, they made the same argument that “Jean Baptiste” Kaldor had concerning the assumption of full employment in his many growth models of the 1950s and 1960s.

Kalecki torpedoed whatever merit could be found in these conclusions by a judicious quote from Marx’s third volume concerning the realisation problem: “The conditions of direct exploitation and those of the realisation of surplus-value are not identical. They are separated not only by time and space but logically as well. The former are limited merely by the productive capacity of society, the latter by the proportions of various branches of production and by consumer power in society”, quoted in Kalecki 1968a, 465. Kalecki notes that Marx has not “systematically [scrutinized] the process described by [Marx’s] reproduction schemes from the point of view of the contradictions inherent in capitalism as a result of the problem of effective demand”, Kalecki 1968a), 465. Luxemburg’s “definite and even extreme” views were meant to tackle this. These elements of this analysis reached their finest hour in Don Harris’s diagram which is a synthesis of Marx’s spheres of production and distribution and exchange in which the latter takes in the Cambridge saving equation and the “animal spirits” function derived from Keynes, as set out in Joan Robinson’s banana diagram, see Harris (1975), Joan Robinson (1962), 48.

VI

Joan Robinson’s 1951 Introduction to Rosa Luxemburg’s book tells essentially the same story as Kalecki does, albeit in much more detail, as she develops her analysis with many references to Luxemburg's text for the ingredients she discusses. She draws attention to limitations in Luxemburg's analysis, for example, that Luxemburg neglects the rise in real wages that occurs as capitalism develops (until now in USA and Europe) and denies – perhaps ignores is the more just word – the role of technical progress in inducing investment, so that "[s]he is left with only one influence (economic imperialism) to account for continuous capital accumulation", Joan Robinson (1951), 28. Nevertheless, Joan Robinson's final evaluation is that: "For all its confusions and exaggerations, this book shows more prescience than any orthodox contemporary could claim", Joan Robinson (1951), 28.

Joan Robinson's reading of Rosa Luxemburg is similar to her reading of Marx: She wished to extract what she thought was their purely analytical, logical structure from the complex interrelated organic make up of both Marx's and Luxemburg's systems. When Joan Robinson was writing her essay on Marxian economics, published in 1942, she had a voluminous correspondence with Maurice Dobb on the drafts. Dobb repeatedly attempted to point out to her the illegality of what she was trying to do, as far as Marx was concerned, but she never took this on board, indeed, understood his patient attempts to persuade her of this point of view, for a full discussion of their exchanges and the points at issue, see Harcourt and Kerr (2009), 34-45[5]. She was still unpersuaded when she wrote the Introduction to Rosa Luxemburg's book, that is to say, she was still primarily concerned to find the "Keynesian" element, (Joan Robinson 1960, vii) in both authors.

[5] The argument in Harcourt and Kerr (2009) is based on Prue's thorough research in the archives.

VII

Kalecki always argued that accumulation was the most vital factor in determining how capitalism develops over the decades. He put forward increasingly sophisticated and insightful theories of investment decision-making and implementation, what he called "the *pièce de resistance* of economics", Kalecki, 1968b) 435., emphasis in original, but he was never satisfied with his theories. His last version is in his 1968 *Economic Journal* article. Very early on he had also recognised the key role which sources of finance play in imposing the ultimate constraints on how much investment can actually be realised when other relevant factors have been taken into account. But perhaps even more important is that the 1968 article contains his major methodological conclusion that the trend and cycle are indissolubly mixed, that the trend is but a statistical outcome of the factors responsible for accumulation and the cycle, resulting in a theory of cyclical growth similar to Richard Goodwin's many seminal articles on this theme, see Harcourt (2012). The key quote is: "In fact, the long-run trend is only a slowly changing component of a chain of short-period situations; it has no independent entity", Kalecki, 1968b, 435.

With this decisive argument, Kalecki has removed a major problem that still bugs modern mainstream analysis – the incoherence of the mainstream's understanding of the supposed medium term between their analysis of the short run and the long run, with the factors determining the last two being regarded as independent of one another. With Kalecki's and Goodwin's (also Joan Robinson's) insight this becomes a non-existent problem to be solved. We conjecture that it was Kalecki's criticism of the then modern theories of growth emanating from Harrod, Domar and the post-Keynesian and neoclassical responses to them, that produced his final and definitive stance, alas, only two years before his death in 1970.

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