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Joan Robinson in 1942, an encounter between Marxian Economics and Macroeconomics[†]

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This paper revisits why Joan Robinson turned to Karl Marx in 1942 and which insights from Marxian economics she sought to incorporate into her later works, while commenting on the legacies of this encounter and how was received by some her of contemporaries. By the end of the 1930s, Robinson wanted to bring academic and Marxian economics together in a search for a more realist theory of the rate of profit and income distribution, and clarifications on Keynes's concept of full employment, the nature of technical progress and a long-period theory within the Keynesian framework. The result, *An Essay on Marxian Economics* (1942), was her most important work in terms of laying the foundations of her enduring challenge to the orthodox economics. Here she relied on Marxian insights to escape Marshallian orthodoxy. It is the story of how the originator of imperfect competition pushed further into a theory of exploitation.

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Introduction

As the Great Depression unfolded in the early 1930s, the received economic orthodoxy was under challenge at Cambridge University, and pretty much everywhere else. The standard macroeconomic wisdom of the day was based on Say's law, that is, "production process (supply) generates the income necessary for the demand for these products" (Baumol 1999, p. 197), which offered no explanation for the collapse of output and commensurate rise in unemployment. The microeconomic wisdom of the day included the idea that each of the factors of production—in particular, labor and capital—was paid the marginal value of its output. At the time, the economic and political tectonic plates were shifting in Europe, which opened a space to question the orthodoxy of laissez-faire capitalism, and even to challenge what had often been the outright mockery of orthodox economists towards Marxism.

At Cambridge, when John Maynard Keynes was formulating his challenge to the conventional wisdom in the early 1930s, he focused on how effective demand could fall short of what was needed to support full employment. But although Keynes was a fierce critique of the Say's law aspect of orthodox theory, he in fact left most of the theoretical and methodological grounds of economics intact. Economist Piero Sraffa formed a discussion group known as the Cambridge Circus to discuss Keynes's work, but also to take a deep dive into the social problems associated with unemployment (Skidelsky 1992, p. 447). Once immersed in this rich and vibrant intellectual environment, Joan Robinson started a life-long journey to confront the marginalist theory of distribution and reconstruct economic theory.[1]

As a first step, she formulated *The Economics of Imperfect Competition* (1933), providing a theoretical base for thinking about profits and wages in an economy in the absence of competition. Her Cambridge colleagues Sraffa and Michal Kalecki took a more radical stance drawing upon a Marxist framework for analysis. They discussed crises and the impossibility of an automatic mechanism for re-establishing the equilibrium of the system, and placed the question of returns and distribution at the center of their analysis. They both took Marx's economics seriously, dissenting from the marginalist view that wages and returns to capital were determined by the marginal product of labor and capital, and instead beginning from the idea that capitalists would extract all they could from workers.[2]

Robinson became both a friendly critic and supporter of Keynes, and in the early 1930s provided elements for important developments in Keynes's thoughts (Harcourt and Kerr, 2009,

[1] In the 1930s, Keynes had become a more interesting figure to Robinson. During Robinson's time as a student at the beginning of 1920s, Keynes was part-time in Cambridge and part-time in London, teaching mainly orthodox monetary theory and policies.
[2] See Kurz (2000) and Toporowski (2013, 2018) for an introduction to the works of Sraffa and Kalecki, respectively.

chapter 3; Robinson, 1933a; and 1933c). After Keynes published the *General Theory* in 1936, Robinson published her *Essays in the Theory of Employment* the following year, retrospectively considered the "very first post-Keynesian text" (Harcourt and King 1995, p. 32). By the end of the 1930s, Robinson wanted to bring academic and Marxian economics together while also expecting Marx to "make her economics more 'real', to address the inequities of the capitalist world" (Harcourt and Kerr, 2009, p. 34). Robinson's interest in studying Karl Marx took hold around 1936 with her review of *The Nature of Capitalist Crisis* (1935), written by the British Labour politician John Strachey, and her friendship with Kalecki.

Some of her like-minded contemporaries at Cambridge saw this as no more than a passing "flirtation" with Marx (Pasinetti, 1987, p. 215). However, Cristina Marcuzzo (2003, p. 551), an expert in the Cambridge School of Economics, argues that Robinson had reached a fork in the road: that is, Robinson was unsatisfied with both orthodox economics and what would become known as Keynesian economics. On one hand, Robinson was still searching for a more realist theory of the rate of profit and income distribution. One the other hand, she had reservations about Keynes's concept of full employment and wondered about the nature of technical progress and a long-period theory within the Keynesian framework.

Of course, our current economic issues are not those of the Great Depression. However, we do live in a time where the United States, United Kingdom, and other developed economies are experiencing a combination of high profit rates along with a falling labor share of income, and the high and rising inequality between capital and labor is staggering and undeniable. Decades after Robinson's time, critical issues of profit distribution and crisis mechanisms have not yet been fully addressed. Rather than simply attributing these patterns to shifts in the marginal product of labor and capital, one can instead investigate a heterodox view built on the bargaining power of capital and labor.

With economics facing unprecedented challenges, the eightieth anniversary of the *Essay* in 2022 is an excellent occasion to review its critical observations on Marx, Keynes and twenty-first-century economics. In that end, I begin with some brief biographical notes on Robinson. I then focus on Robinson's 1942 *An Essay on Marxist Economics* (henceforth *Essay*). I revisit why Robinson felt the need to turn to Marx and which insights from Marxian economics she sought to incorporate into her later works, which can perhaps cast some light on today's profound macroeconomic challenges. I comment on the legacy of the *Essay* and how it was received by some her of contemporaries. I conclude with some thoughts on how Robinson came to view herself as Marxist—although I would not label her work in that way.

Biographical Sketch

Joan Violet Robinson (1903-1983) was born in the leafy village of Camberley, Surrey, in England. Her father was Major General Sir Frederick Maurice and her mother Helen Marsh, who was the daughter of a Professor and Master of Downing College, Cambridge. This rich family background led her to be privately educated, which gave her the foundation to apply and be admitted to the University of Cambridge in October 1922 via Girton College – Britain's first residential college for the degree-level education of women – despite the University not granting women degrees until 1948.

Robinson studied economics at Cambridge when Marshallian economics was the official language of the discipline, led by Alfredo Marshall's favourite pupil and chosen successor Arthur Cecil Pigou. As an aspirant economist, she vaguely hoped that the subject would help her "to understand poverty and how it could be cured" (Robinson, 1978a, p. ix). She concluded her studies in 1925, and by 1929 her academic life started to become intricately entwined with the story of Cambridge economics in the twentieth century, with first papers published in the early 1930. However, Robinson's formal academic progress was murky. Despite giving supervision (small group teaching) at various Colleges in Cambridge, she never held a teaching Fellowship in any of those Colleges. She had to wait until 1934 for her first university post as Assistant Lecturer and then was finally made university Lecturer in 1937, Reader in 1949, and Professor in 1965.

Robinson's journey, even with such a rich family background, was no mean feat for a woman at the time. In Cambridge in the 1920s, women could not receive degrees and scholarships, fellowships were blocked to women, and only male graduate students had a seat at the administration table. The economics profession had no visible female role models and rarely were academic papers or books in economics attributed to women.[3] Robinson realized very early that her chances of being an academic were small. Reflecting on her position in the Cambridge milieu, she said she felt the "emotional conflicts of a hermaphrodite" (Robinson, 1932c, 10/20–24/32, eagr/Box 8/2/1/13). However, she inherited a family trait of toughness and nonconformism seen in her father, who resigned his rank over principle after criticizing the UK government World War I policy (Gooch 1968), and her great-grandfather, a theologian who refused to believe in eternal damnation. She continued the family history of dissent as she pioneered unorthodox ideas in a bold, fearless, and outspoken manner.

[3] When Robinson (1932b) published "Imperfect Competition and Falling Supply Price?" in the *Economic Journal*, Gottfried Haberler, a Harvard Austrian-American economist, wrote to Richard Khan: "Who is Joan Robinson who wrote [in the last *Economic Journal*]? The Christian name sounds like a woman's but the article seems to me much too clever for a woman" (Harberler 1933, jvr/vii/171).

Robinson shook the foundations of the economics of her time, introducing the negatively sloped marginal revenue curve, coming up with concepts such as monopsony (Robert 2004), confronting the marginalist theory of distribution, and popularizing the unconventional economics ideas of John Maynard Keynes. In particular, *An Essay on Marxian Economics* (1942) is one of her three great works, the other two being *The Economics of Imperfect Competition* (1933) and *The Accumulation of Capital* (1956). It is also the least well-known, despite being the most important in terms of laying the foundations of her enduring challenge to the orthodox economics. If in 1933 Robinson offered an internal critique of Marshallian value theory, by 1942, with the *Essay*, she relied on Marxian insights to escape Marshallian orthodoxy. It is the story of how the originator of imperfect competition pushed further into a theory of exploitation.

Insights from Robinson's *Essay*

> *"The orthodox economists have been much preoccupied with elegant elaboration of minor problems. ... Marx's intellectual tools are far cruder, but his sense of reality is far stronger."*
>
> Robinson (1942)

Robinson was inspired by the conviction of Marx (and Keynes) that capitalism was run by capitalists and not consumers, which meant profit-making and accumulation were central goals for the capitalist class who "isn't at all interested in the full employment of workers" (Harcourt and King, 1995, p. 34). Marx critically followed the step of classical political economists by looking into production and trade to understand the creation and distribution of wealth, with great attention to distributional conflicts. Some of his economic concepts may look as alien to a modern academic economist as they looked to Robinson in the late 1930s, but this did not dissuade Robinson (and should not dissuade us today). In his schema, capitalist and worker can be viewed as different agents with different interests, and their relationship is mediated by power. The monetary amount obtained from paying workers less than the amount they produce is called "surplus value," and sits at the center of Marx's analysis of capitalism, underpinning this relationship of power. Here, we will explore the *Essay*'s insights about profits, investment and unemployment, and exploitation using this framework.

The Rate of Profit

In the orthodoxy at the time, rent is a surplus due to a 'free gift of nature', but profit and interest are the necessary return to risk, i.e., the supply price of capital. Wage, profit and interest are all grouped together under the umbrella of the reward for human sacrifice, and there is no distinction between income from work and income from property. Robinson saw this as a lack of explanation for profits. Profit and interest have a moral justification as a reward for patience, for waiting (Robinson, 1966, [1942], p. 52).

Different from the orthodoxy, the "Keynesian bunch" did develop a theory of the rate of profit. For Keynesians, the rate of profit is equal to the ratio of net investment to the value of capital divided by the ratio of saving to profit, where the ratio of net investment to the value of capital is nothing other than the rate of accumulation. Here, consumption by the workers covers the wage bill so that all saving comes out of profit. Net profit is split into net investment plus consumption out of profit (Robinson, 1966 [1942], p. xvii).

Robinson was dissatisfied with both Marshallian and Keynesian theories of profit, albeit for different reasons. The Marshallian view posited that the equilibrium rate of profit would be a steady state with no net new investment, which seemed an unsatisfactory description of reality.[4] Keynesian approaches of that time did allow for capital accumulation (as discussed in Robinson 1966 [1942] p. xvii), but left other questions unaddressed. What if the accumulation of capitalists and consumption are limited by exploitation and the relationship determining it? What if the "mystery" of the constant relative shares of wages and profits in the product of industry within a country is due to trade unions forming a countervailing power to monopoly?

Marx enters this discussion through his scheme of how capitalism expands, which is the building block of his economic analysis of capitalism. Behind Marx's scheme lies what he sees as the essential characteristic of the capitalist process—namely, capitalists producing and selling goods to obtain more money than they advance to buy means of production and hire workers. That is, capitalists engage in production to make 'money profit'.[5] As Marx developed this scheme, it portrays the economy as two "departments" producing capital and consumption goods.[6] The gross output of each department is given by:

$$y = c + v + s,$$

where c is constant capital (means of production used up in the production process), v is variable capital (wages advanced to workers) and s is surplus value. Marx refers the value of labor-

[4] Robinson directly refers to the lack of a coherent theory of "normal" profits in the setting of the stationary state in Marshall. Robinson was challenged that she had mischaracterized Marshall (for example, Shove 1944), but in the preface of the second edition of the *Essay* in 1966, she maintained her initial claim, saying that the problem with Marshall is that he does not "give a coherent account of what determines the `normal' rate of profit" (Robinson 1966 [1942], p. xvi).

[5] In Robinson's eyes, the theory of the rate of profit developed by Keynesians had a close affinity with Marx's scheme of expanded reproduction.

[6] For details of Marx's scheme of how capitalism expands, see Marx's discussion in the two volumes of *Capital* (1990, chapter 23; 1992 chapters 20 and 21). In Marx, there are two forms of social reproduction: simple and expanded. In the former, the whole surplus must be consumed by capitalists. In the latter, part of the surplus is invested, and it is where we have the issue of capital accumulation. For studies developing Marx's expanded reproduction scheme, see Sardoni (2009) and Trigg (2006) as well as Robinson (1951).

power as variable capital, because it is the part of capital used to buy the labor time that creates value. Only capitalists save, and they do out of the appropriated surplus value. In each period, capitalists invest a certain proportion of the saved surplus value in the previous period, which provides more means of production in each department and more variable capital to hire workers. Total net production is distributed as wages to workers and surplus value to capitalists. Depreciation and wages are the only costs of production while profit, interest, and rent are subdivisions of the surplus value. For simplicity, the discussion that follows will drop references to interest and rent, and so just use surplus value and profit interchangeably (unless explicitly stated otherwise).

This framework provides the basis for how Marx defines certain concepts. The division between payments to workers and to capitalist is determined by the rate of exploitation, which is defined here as the ratio of surplus value to variable capital: $e = s/v$. That is, distribution follows an independently given rate of exploitation.

In modern economics, the rate of profit can be viewed as a ratio: profit/capital stock. However, the rate of profit in Marx is the surplus relative to the sum of constant and variable capital: in the terms used here, $r = s/(c + v)$.[7] Because Marxian profit is built on both surplus and variable capital (the wage bill), it will be affected by the level of exploitation. That is, this rate is a ratio determined by the nature of class relations in society.

In Marx's view, once the rate of exploitation rate is given, the rate of profit is derived from it, followed by the wage rate. If one asks what determines the wage rate, one must ask what determines the rate of exploitation first. In this way, the rate of exploitation takes us to the forces underlying class struggle in capitalism and thus outside the system of price and technology (Harris 1972).

For Robinson, Marx's concept of surplus value and the related idea of exploitation is for her the most striking difference between Marx and orthodox economics. At the time of the *Essay*, she accepts the idea of Marx's rate of exploitation and argues that the real wage determines the profit per worker employed and the rate of profit on capital is then determined at the same time. This was clearly understandable in mid-20th century heavy-industry Britain, where the idea that wages were paid by marginal product and profits tended to zero were hard to believe with any conviction. Yet Robinson would wrestle with this question for years to come, as she wondered whether there is a mechanism that establishes, given technical

[7] The Marxian rate of profit is more like a profit share, as s, c and v are all flow variables. Robinson, however, finds it difficult to understand whether c and v are flows or stocks, which is one of her main critiques of Marxian economics.

conditions, the rate of profit and then real wage rates emerge as residual; or vice versa, so that profit emerges as a residual (Robinson 1956, 1979b).[8]

Marx also connects the rate of profit with what he calls the "organic composition of capital." Under capitalism, there is a tendency for the productivity of labor to rise systematically. Marx tries to capture and measure this tendency (and its implications) through the concept of the organic composition of capital, defined in this framework as $k = c/v$.[9] A rise in the organic composition of capital means that constant capital c growing faster than variable capital v – or as we would describe it now, rising capital is raising profits but also displacing payments to worker, which leads to "a relatively redundant population of workers" known as the reserve army of labor (Marx 1990, p. 782).

Robinson seems to accept this idea of an organic composition of capital, but with reservations. She understands Marx to be arguing that changes in the conditions of production lead to a fall in profits: that is, an increase in k leads to a fall in r. This argument, in its simplest form, holds the rate of exploitation constant. Robinson clarifies that, with the rate of exploitation held constant, a rise in the organic composition of capital leads to a rise productivity *and* levels of real wages. Furthermore, Robinson argues that this assumption of a fixed rate of exploitation is unfounded: instead, labor-saving techniques would reduce employment and raise output per head, "so that the rate of exploitation is raised and there is no reason to expect the rate of profit on capital to be falling—rather the reverse (Robinson, [1942] 1966, p. xiii). In her view, Marx neither explained the idea that exploitation could be treated as a constant nor noticed how a disproportionate rise in capital would lead to real wage increases.[10]

The *Essay* draws on Marx's insights for its critique of the orthodox theory of the rate of profit, and Robinson seemed fascinated by how these two different approaches lead to two very different ways to build a theory.[11] Nonetheless, she did not accept that Marx had a coherent theory of profits until 1951 after reading Sraffa's "Introduction" to *The Works and Correspondence of David Ricardo* (Harcourt and Kerr, 2019, p. 47).

[8] Later, in the 1970s, she acknowledges that Marx was onto something as he combined a theory of the share of profit with the rate of exploitation and highlighted how the share of profit is far more important than the rate of profit (Robinson, 1977a).

[9] Marx also elaborates on other two ratios to capture this tendency: one is the technical composition of capital and the other is the value composition of capital.

[10] A number of Marx scholars would strongly disagree with Robinson that Marx did not explain his thinking here. Marx was aware that given that $r = s/c+v$, anything that reduces either c or v and anything that increases s is likely to increase r. Thus, he holds the rate of exploitation (defined as s/v) constant initially and shows the tendency of the rate of profit to fall, but then discusses possible counteracting factors to this tendency, such as super-exploitation of the work force (absolute surplus), cheapening of raw materials, wages, goods through foreign trade, formation of joint stock companies and so on. More details about this can be found in Marx's discussion of value composition of capital (see also Fine and Saad-Filho, 2010, pp. 95-96).

[11] See the online Appendix for a table with a systematic listing of differences between these approaches.

Investment and Unemployment

In the *Essay,* Robinson also expanded on the analysis of unemployment and imperfect competition, which she argued were modern developments that had "shattered the structure of orthodox doctrine and destroyed the complacency with which economists were wont to view the working of *laissez-faire* capitalism" (Robinson, 1966 [1942], p. xxii). In her view, Marx's scheme leads us to think about the possibility of an imbalance between supply and demand and the possibility of a crisis of disproportionality, overproduction (insufficient level of effective demand) and underconsumption (Marx's attack on Say's Law). [12] Equally important, it takes our attention to investment demand and the inherent question of which mechanism can guarantee that capital accumulation takes place at the appropriate rate. Robinson reminded her contemporaries that an orthodox short-term theory was never clearly stated, which generates implications for the discussion of unemployment.[13]

For Marx, investment represents additional demand for the output of both of the two departments of capital and consumption goods. For the flows between departments to balance, we must look into a unique proportional allocation of labor between the two departments, which implies that the "outlay" on labor needs to grow at the same rate in each department. Marx is aware of the difficulty of achieving such consistency for reasons I summarize in two points. First, there is no guarantee that the growth rate of employment will match that of the available labor force. Marx introduces the rate of employment as an additional variable linked to the reserve army of labor. For Robinson, the Keynesian theory of unemployment as the failure of effective demand can be complemented by Marx's idea of non-employment: the supply of labor growing faster than the number of jobs offered by the capitalist economy. Robinson also highlights that the reserve army is one of the mechanisms behind the determination of real wage, in the sense that bargaining strength between capitalist and workers is key in determining the movements of the level of wages. Thus, when labor-saving technical progress reduces the need for labor, it tends to lower the wage rate while raising the rate of exploitation.

Robinson seems enthralled by how Marx and Marxists discuss the interaction of unemployment and the rate of exploitation. She reminds us that in Marx if the rate of exploitation rises because costs fall due to labor-saving technical progress while money-wages are constant, capitalists see a restriction upon the purchasing power of workers, so effective demand fails to expand with productive capacity. The labor share of output falls. Robinson

[12] In the 1942 *Essay*, Robinson thought that Marx's rejection of Say's Law was contradictory, as she interpreted that for Marx the law was inapplicable only during the crises. However, by the time of her in 1953 essay "On Re-Reading Marx," she is convinced that for Marx, Say's Law never holds (Sardoni 1987, p. 66).

[13] As in the case of a theory of profit, Robinson argues that a theory of employment (and by implication unemployment) scarcely existed within the orthodox world. Rather, it is assumed that Say's Law and wage-price flexibility will always guarantee full employment.

seemed to embrace this notion of crises, shared of course by the Keynesians but based in a different logic.

The second concern raised by Marx about the balance between the investment and consumer departments begins with the insight that the private profit of the capitalist is the sole motivation for production. Similarly to Keynes, Marx divides all spending between consumption and investment (initially leaving aside government and foreign investment), but with a distinction between wage and profit income and the assumption that all wages are spent on consumption. If part of previous income is saved or if capitalists hoard money from their profits, total spending declines and there is overproduction, in which case the value of goods supplied exceeds the planned spending from the previous period. Overproduction, then, results in capitalists laying off workers and reducing investments.

Robinson's engagement with this point seems to show her heading to embrace the view that in capitalism money is put into production if some profit is expected. Otherwise, money is kept idle. Thus, there is a positive relationship between investment and expected profit, and accumulation is determined in Keynes and Marx by the energy of the capitalists (what Keynes called "animal spirits").[14] The pre-Keynesian economic orthodoxy, based on the assumption of full employment, was that the rate of saving governs investment, as mediated by an equilibrium real interest rate. Of course, if full employment is assumed, the theory becomes irrelevant not only for Robinson's (1966 [1942], p. 65) "modern world," but also for ours.

In any case, Robinson sees both Marx and Keynes distancing themselves from the orthodoxy due to their understanding that the determination of the rate of interest lies somewhere else than in the interaction between saving and investment: for Marx, in the bargaining power between lenders and borrowers; for Keynes, in the supply and demand for money and the issue of liquidity preference. For both of them, the interest rate can be an obstacle to capital accumulation. In Marx, the higher the interest rate, the larger is the share of surplus going to *rentiers*. In Keynes, low demand for money resulting from low activity and employment means that the rate of interest tends to fall (Robinson, 1966 [1942], pp. 68-69). Moreover, Keynes had shown that a rise in saving, which reduces consumption, leads also to reduction in income, which then stops increased saving from materializing. Thus, an initial rise in saving can lead to a fall in rate of investment, not an increase. The rate of investment depends not upon savings, but the profitability of capital compared to the rate of interest on borrowed

[14] Although Robinson does not spare Marx on his unclear treatment of what induces investment, she argues that Keynes shared a similar view to Marx when arguing that our decisions to do something can only be taken as a result of animal spirits, that is, "of a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities" (Keynes, 1936, pp. 161-2).

funds. If anything, it is the rate of investment that 'governs' saving. This is not different to Marx.

Although Robinson makes clear that Marx did not directly discuss effective demand, she sees in Marx many hints that could have led Marxists to elaborate a theory of effective demand before Keynes did. She laments that the problem of effective demand does not arise in Marx, especially because he also "admits the divorce between decisions to save and decisions to invest, which, in Keynes's system, appears as the root cause of crises and unemployment" (Robinson, 1948, p. 141).[15] For her, Marxists had much to learn from modern economics at the time when it came to effective demand and theory of employment, which could also provide a basis for the study of the laws of motion of capitalism (Robinson, 1942, p. xxiii).

Exploitation

Following in the footsteps of Marx, Robinson (1966 [1942], p. 3) sees capital accumulation and unprecedented wealth levels as the result of drawing out the productive power of combined and specialized labor, while workers producing the wealth do not share the benefits from the increase in their productive power. She emphasizes that when Marx is dividing the net product of industry into wages and surplus value (consisting of profit, interest, and rent), he is offering a theory of distribution that is also a theory of exploitation. Interestingly, however, Robinson rejected the idea that labor is the source of value, choosing instead to separate the theory of value from the theory of exploitation, seeing the attention to value and prices as a secondary matter.[16]

Exploitation is an analytical category of significance for Robinson in both the 1933 *Imperfect Competition* and the 1942 *Essay*, albeit in related but different ways. In 1933, she showed that if imperfect competition takes place—which happens often—workers get paid less than the value of their marginal productivity, reflecting an exploitative system. This is indeed repudiated by Marshallian [moral] economics and Robinson seems to be determined to analytically show the weakness of the perfect competitive assumption. At the time she was an

[15] Robinson knew that Marx's focus was on the long-run dynamics of accumulation, but she argued that induced investment could be tied to the profit rate (surplus), but this rate needs to be linked to the level of consumer spending. Otherwise, there will be no demand shortfall

[16] Robinson's interpretation and rejection of the labor value theory is also an outcome of dismissing Marx's distinction between productive and circulation/exchange spheres. In Marx, there is a strict division between sphere of production (values) and circulation/exchange (prices). The discussion of the Marx's reproduction scheme can be made in terms of either value or prices, and each of these concepts is equally relevant in its own sphere. Value allows us to assess the amount of the social product above the value of wages (surplus value/unpaid labor) that is appropriated by the owners of the means of production. Given the existence of surplus value for capitalists, prices perform the role of distributing this surplus among them in the sphere of exchange (Harris 1972). Robinson dismisses this division as a red herring. However, it is in the exchange under competitive conditions where each capitalists try to expand their profits, which eventually leads to uniform this rate. That is why the rate of exploitation shows a relation between classes while the rate of profit shows us a relation between capitalists.

"analytical optimistic," as put she in her 1932 pamphlet *Economics is a Serious Subject* (1932a), where she defends Marshall's box of tools and the methodology of making unrealistic assumptions to give formal treatment to an economic problem (Marcuzzo 2010, p. 457). She defines exploitation as "payment to labor of less than its proper wage" (Robinson, 1933b, pp 281-282), but class struggle and a discussion of the social relations at work in capitalism do not feature in her analysis.

In 1942, she reinstated the argument from 1933 that the main influence on the share of labor in the total output is the degree of imperfect competition in both the consumer good via monopoly and the labor market via monopsony.[17] But her view is that the microeconomic focus on prices exposes us to minor defects in capitalism, while Marx is concentrating on major issues by shows us the complexity of the social fabric and the different forces behind the distribution of the product between labor and capital. She brings issues related to the laws of motion of capitalism and crises to her analysis, coming from classical political economy. She seems to be heading towards a belief that distribution of income should be viewed as grounded in social and historical circumstances, not as a remuneration for scarce factors of production.[18] For Robinson (1966 [1942], p. 80), both aspects are useful for a discussion of the nature of the system, but neither can tell us what really governs the margin of profit per unit of output.

By the time of *Essay*, Robinson had become even more careful about the tension between analytical and normative aspects of economics. She starts the *Essay* by making it clear that she wants to strip Marxian economics from ideology. She makes "amends" to Marxian concepts and ratios to make them not only understandable for an academic economist, but also empirically testable. However, her earlier "analytical optimistic" is tainted by a sober statement that orthodox economists assume the role of apologists of the system, while Marx wants to hasten its overthrowing. She argues that while Marx is aware of his purpose, orthodox economists are not, as "[t]hey wrote as they did because it seemed to them the only possible way to write, and they believed themselves to be endowed with scientific impartiality (Robinson, 1966 [1942], p. 1)

Marx's "awareness" – and bluntness about the utopia of scientific impartiality – is highlights by Robinson with his point that not even algebraic formulae are innocent of political implications. Take, for example, Marx's insistence in writing the rate of exploitation as surplus divided by variable capital (wage bill) s/v, not $s/(s+v)$. Robinson (1966 [1942], p. 22) writes:

[17] In the consumer good market, small number of sellers facing a large number of buyers makes imperfect competition favour the sellers. In the labour market, we have the reverse, so buyers are favoured.

[18] This point was made earlier by Sraffa. In 1953, once fully clear about Sraffa's point, Robinson would then criticize her *Imperfect Competition*, rejecting both capital as a factor of production and the rate of profit as the price which sets the quantity of capital employed (Marcuzzo 2003, p. 558).

> The two formulations express precisely the same situation, but they imply two different attitudes to the capitalist process. The ratio *s/v* expresses the "real fact" of the "exclusion of labourer from the product" of his work, while the ratio *s/(s+v)* presents the "false semblance of an association, in which the labourer and capitalist divide the product in proportion to the different elements which they respectively contribute towards its formation.

In the *Essay,* Robinson is wondering where it could ever be possible to separate economic analysis from moral aspects and ideology. She wonders in a footnote about the "the transmutation of the notion of 'exploitation' which takes place under the influence of the modern theory." From Marx's views that labor is exploited because capital earns a net return, to the orthodox scheme where labor is exploited because it receives less than the wage given under perfect competition, she argues that in the orthodox scheme "moral and analytical considerations thus become inextricably confused" (Robinson, 1966 [1942], p. 77).

The *Essay*'s Legacy

> *"[O]n the whole our regard for Marx is not increased but our regard for the old orthodoxy is somewhat diminished …"*
>
> *Harrod (1942)*

The *Essay*'s discussion is rooted in two fundamental differences Robinson sees between Marxian and orthodox economics. The first relates to whether one approaches capitalism as the natural order of things, as in the orthodox economics of the time, versus seeing it as a stage of development but neither the ideal nor the final stage, as in Marxian economics. The second relates to arguing in terms of a harmony of interests in society, as in the orthodox economics of the time, versus conceiving economic life in terms of a conflict of interests between property owners and workers with no property, as in Marxian economics. In orthodox economics, the shares of the social product among different classes are determined by inexorable natural laws. In Marxian economics, these shares are determined by the conflict between those who hope to gain and those who fear to lose.

But not only this striking contrast got Robinson's attention. For Robinson, Marxian economics provides a starting point for issues "where academic teaching was totally blank," such as "growth and stagnation, technical progress and the demand for labor, the balance of sectors in an expanding economy" (Robinson, 1962, p. 149). Even in the short run, she argues that Marx anticipated most of Keynes' theory, to the extent that starting with Marx would have saved Keynes "a lot of trouble" (Robinson, 1964, p. 96).[19] For Keynes, the major feature of his theory of effective demand is that the economy can experience an underemployment equilibrium for long periods of time; for Marx, the "non-optimal outcomes" take the form of crises, especially overproduction crises.[20] For Robinson, these two theories had close resemblance with what she called the modern theory of crisis. Marx's theory of the reserve army of unemployed labor and his theory of the relationship of capital-good to consumption-good industries (which shows the limitations of consumption) are what seem to have led her to expand on the Keynesian theories of unemployment and effective demand.

Marx helped Robinson to follow issues related to long-term accumulation that had only been touched on by Keynes (for example, Robinson, 1980, p. 1475). As she wrestled with the problem of the inducement to invest, which for her was not wholly resolved, she asked which theory of investment was the most appropriate for a capitalist economy and wondered whether investment was primarily determined by long-run structural considerations. She was interested in how, for Marx, capital engages in the process of exploitation and how exploitation might make profit possible even over the long run. In short, an adequate concept of profit was necessary for extending Keynes' analysis of the long period, for which Robinson tuned to both Marx and Sraffa's work in the 1940s. Robinson was starting a long path challenging that the rate of profit is the price that sets the quantity of capital employed.

Marx's thinking on the total supply of capital and the rate of profit on capital was a key influence that led Robinson (1953) to tackle the problem of how capital is to be measured in the aggregate production function. Studying Marx helped Robinson to argue that in the long period we cannot avoid the question "what is the quantity of capital" (Marcuzzo, 2018, pp. 124-125). By 1953, when her *Re-reading Marx* was published, Robinson was pointing out "the neoclassical failure to distinguish between changes in the conditions of producing a given output when the quantity of capital is altered from changes in the value of that capital due to variations in wages and profits" (Marcuzzo, 2018, p. 125). Robinson's views in 1942 and then 1953 can be seen as the starting point of what became known as the "Cambridge capital theory controversies" (Groenewegen 2003), a lengthy dispute between economists at Cambridge University and a group based in Cambridge, Massachusetts, over whether capital could be

[19] By 1964, Robinson considered Kalecki's theory of effective demand more satisfactory than Keynes's and attempted to enlarge the scope of Keynes's analysis to incorporate technical change, innovations, and changes in income distribution (Marcuzzo, 2010 p. 460). Later in life, Robinson would seek to make sure that Kalecki "received due recognition as the co-founder (with Keynes) of scientific macroeconomics" (Harcourt and King 1995, p. 32).

[20] It is difficult to place Keynes as someone who would have wanted to overthrow capitalism, but he was very much aware of the conflict between labour and capital. For a discussion on whether Keynes was a socialist, see Crotty (2019) and Fuller (2019).

meaningfully defined in an aggregate production function (for an overview see Cohen and Harcourt 2003).

Marxian economics gave Robinson the insights and motivation she needed to move away from Marshallian economics and closer to a more classical approach (Robinson 1951, 1956, 1973c). It started her on the path to differentiate Ricardo, Marx, Marshall and Keynes from Walras, Pigou and latter-day textbooks based on how the first group deal with "the process of accumulation in a changing world" (Robinson, 1973c, p. 247). Later on, in a move that would lead economists and historian of economics to consider her the midwife to post-Keynesian economics, she refused follow Hicks's reconciliation of Keynes with classical theory under the IS-LM model, but rather "attempted to bridge Keynes, via Kalecki and Sraffa, to Marx and the classical authors" (Marcuzzo, 2010, pp. 459-460).[21]

The reaction to Robinson's *Essay* was well mixed; it aroused controversy among orthodox and Marxian economists alike. Maurice Dobb, a Cambridge economist and historian who was part of Keynes's Cambridge milieu and a leading Marxian economist of his generation in Britain, had a continuous exchange with Robinson during the making of the *Essay*. He was skeptical about the idea of translating Marxian language to economics. He wrote to Robinson in 1941 saying "conventional ways of thoughts and modes of expression" are important parts of what one means, and "one is almost sure to miss, or even distort, the meaning in translation, as is so commonly done by historians of thought" (Dobb, 1941, jvr\vii\120\11–3). Dobb himself had made serious efforts in extending economic theory beyond deductive logic, and he made clear to Robinson that Marxian economic theory, or any theory for that matter, could not be reducible merely to deductive propositions.

Keynes responded to Robinson's effort with the remark: "there is something intrinsically boring in an attempt to make sense of what is in fact not sense" (Keynes, 1942a, jmk/L/42/102–3). He mentioned how Marx would have faced less difficulties assuming that capital is not scarce so that "depreciation, if we forget about risk, would be the only cost of capital" (Keynes, 1942b, jmk/CO/8/246).

On the other side, Robinson's rejection of the theory of value caused her to be treated as an "enemy by the professed Marxists" (Robinson 1978b, p. 276). Robinson could not see how applied research could be conducted in terms of Marx's system of labor values. In 1942, she argued that Marx's assertion that the value of a commodity consists of the labor time necessary to produce it is a purely dogmatic statement. In the 1966 edition of the *Essay*, she reinstates that the concept of value "in itself is quite devoid of operational meaning" and that it is a powerful

[21] Robinson later labelled post-Keynesian economics as the true alternative to neoclassical economics. In her words, post Keynesian economics refers to "the classical tradition, revived by Sraffa, which flows from Ricardo through Marx, diluted by Marshall and enriched by the analysis of effective demand of Keynes and Kalecki" (Robinson 1973b: xii). For an introduction to post- Keynesian economics, see King (2003) and Lavoie (2009).

metaphysical concept, while the rate of exploitation is not" (Robinson, 1942, p. xi). In contrast, she would state that the rate of exploitation is a matter of fact, not of definition (Robinson and Eatwell, 1973, p. 29). Many Marxists at the time focused on her interpretation of the labor theory of value to argue that Robinson misread Marx and was not able to grasp the revolutionary character of Marxian economics and its critique of capitalism (Namboodiripad 1973; Jackson 1943). Robinson viewed the theory of value in the narrow sense of a theory of relative prices, which for her was not at the "the heart of Marx's system" (Robinson, 1950, p. 148). In her view, Marxians spent too much time on issues of prices, when a far more important issue was exploitation. However, her interpretation was taken an effort to decouple the theory of value from Marx's theory of class struggle, so as to translate Marx to mainstream economists.

Final Remarks

"I have Marx in my bones."
Robinson (1953)

Robinson never fully accepted Marx's argument that exploitation was a cause of increasing misery of the industrial working class and she did not follow the most revolutionary implications of Marxian economics. However, she found Marx's insights and ideas much more powerful for explaining reality than either the dominant Marshallian economics that she had been taught or the newly developing Keynesian economics of her time. She may have not adopted Marx's historical materialism ("dialectical") method where there is a continuous state of change resulting from interaction and conflicts, but Marx solidified in Robinson a path she saw starting with the Keynesian revolution regarding moving from the conception of equilibrium to the conception of history (Robinson 1973a).

Later in life, Robinson (1973b, p. x) would look back at her encounter with Marx in the 1930s and 1940s and say that for her, "the main message of Marx was the need to think in terms of history, not of equilibrium." Marx offers a long-run analysis with references to short-run declines in profit and investment, but he does not think in terms of equilibrium, neither a Walrasian nor an intertemporal one. Instead, Marx takes into account the dynamic character of the economy, not as a succession of static states, but rather as economic processes whose movements from period to period lead to ongoing changes and, thus, to an economic system that over time moves into disequilibrium. From Robinson's perspective, this way of thinking is much more than noting that economic concepts and relationships are influenced by their historical and social setting. It is also about differentiating historical from logical time. As Robinson (1977b, p. 57) later put it, "historical time moves from the dark past behind it into the unknown future in front" while "logical time can be traced from left to right on the surface of a blackboard." If we accept that the economy exists in time, our economic analysis must consider the difference between theories dealing with logical time and those dealing with historical time.

Although Robinson was still very much influenced by a tendency to moralize economics as a way of improving the world, which can be viewed as a legacy of the Marshallian economics she had been taught, she made very clear that Marx's condemnation of the existing economic system was not merely about its moral repugnance. For Marx, periodic crisis and trade cycles were symptoms of a "deep-seated and progressive malady in the vitals of the system," in contrast with the complacency of the orthodox academics who "preach the gloomy doctrine that all is for the best in the best of all *possible* worlds" (Robinson, 1966 [1942], p. 5). In this sense, for Robinson, Marx was ultimately encouraging, because he opens Pandora's box and releases terror but also hope.

That said, Robinson's radicalness seems to have roots before her encounter with Marx and even Keynes. Indeed, in her 1953 essay *On Re-reading Marx* she wrote an *Open Letter from a Keynesian to a Marxist* stating that she was a "Left-wing Keynesian" long before the *General Theory* was published, and therefore also before her investigation of Marx. Her "pre-Marx' frustrations and critique of economics and capitalism is what seems to have made her state that she had Marx in her bones, without the need "of Hegelian stuff and nonsense" (Robinson, 1953, p. 20).

I believe Robinson's critique and praise of Marx was part of a genuine attempt to both bring Marx to economics and to make Marxian concepts intelligible and relevant for macroeconomists and applied macro research. For Robinson (1942, p. xx), "[i]t surely should be possible to adopt a language in which the two parties could talk to each other." At a time when "the Keynesian pre-occupation with controlling economic fluctuations within the capitalist economy was one which Marxists in the 1930s were not likely to share" (Hobsbawm, 1967, p. 7), we can see how Robinson was never afraid of pushing the boundaries of our profession.

Some scholars like to highlight how Robinson tried to bring together macroeconomics and Marxian economic theory, stripping the ideological baggage of the latter. However, they often miss Robinson's urge to disentangle ideology from *any* economic theory, including not just Marx but also Marshall or Keynes. She was always alert to distinctions between the intentions and the implications of an author. Robinson (1955, p. 71) wrote:

> Marx's analysis of capitalism shows its strong points, although his purpose was to attack it. Marshall's argument inadvertently shows the wastefulness of capitalism, although he meant to recommend it. Keynes in showing the need for

> remedies to the defects of capitalism also shows how dangerous the remedies may be.

In my view, Robinson examined Marx as one would approach any object of study, pointing out weaknesses and coming up with constructive criticisms while also acknowledging its strengths. She was interested in the progress of economic theory not in the abstract sense, but rather in terms of whether that theory was able to account for actual economic phenomena. I would not call Robinson a Marxist more than I would call her a Keynesian, or a member of any other school of thought. She was an original thinker who craved a better economics and was willing to look everywhere for the tools to build one.

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Abbreviations

EAGR Edward Austin Gossage Robinson

JVR Joan Violet Robinson

JMK John Maynard Keynes

Archival Sources

Austin Robinson Papers (eagr), Marshall Library of Economics, Cambridge University, Cambridge, England.

Joan Violet Robinson Papers (jvr), Modern Archives, King's College, Cambridge University, Cambridge, England.

John Maynard Keynes (jmk), Modern Archives, King's College, Cambridge University, Cambridge, England.

Annex – Joan Robinson's interpretation of orthodoxy/Marshallian and Marxian economics[22]

	Supply price of capital (Orthodox economic theory)	**Subdivision of surplus (Marx's economic theory)**
Say's Law	Holds	Does not hold
Production conditions (Supply of labor and natural resources)	Taken as given – and full employment of the available labor is achieved in equilibrium whatever the stock of capital	Not taken as given – stock of capital in existence determines the amount of labor employed.
Production conditions (Knowledge of technical methods of production)	Taken as given – change in technical knowledge is an arbitrary shift in the position of equilibrium	Not taken as given – and there is a reaction of changes in the supplies of factors on technical knowledge itself (technological unemployment – the army of labor – is one of the central mechanisms regulating the relative earning of the factor of production)
Principle of substitution (producers substitute on factor for another given changes in their relative prices)	Key – different combination of factors (even when knowledge is assumed constant) so a given output is always produced at a minimum cost	Neglected – with technical knowledge, there is only one combination of capital with labor in each industry
Relative factors prices	Settle, in equilibrium, at the level at which all are fully employed	Not important
Consumer's demand	Taken as given – but consumers substitute one commodity for another (maximum satisfaction is obtained from a given outlay)	Not take as given – but there is not attention to substitution by consumers
Value	Utility	Labor
Surplus value	–	Ever-increasing difference between total output and total wages (unpaid labor) divided into profit, interest and rent
Wage rates	Disutility of work	Reserve army of labor and organic composition of capital (*k*) (i.e., technical changes)
Stock of capital	Change and is conceived to be used in the most efficient manner	Change and is conceived to be used to capacity, as in a given state of technique, there is only one amount of labor that a given amount of capital will employ
Supply price of capital	Rate of interest (reward of waiting) plus excess of profit over interest (reward of risk-bearing)	None. As long as any profit is obtainable, capitalists want to preserve wealth and accumulate (the desire to own capital does not need to be explained)
Marginal productivity of capital (Addition to output caused by making a small unit addition to capital)	Key – and it falls as capital increases relatively to other factors of production	There is a relationship between wage rates and productivity of labor, but it is related to the effects technical changes have on the ratio of constant to variable capital (*k)*
Profit	Profit is a necessary return to risk	Profit is part of the social product obtained above the value of wages due to unpaid labor (part of the surplus value)
Rate of profit	Equal to the supply price of capital of an existing stock of capital (when this stock is in equilibrium)	Defined as the ratio of surplus value to constant and variable capital (that is, to the value of capital), $r=s/c+v$ – and it is not an equilibrium rate
Rate of profit mechanism	Governed by stock of capital's marginal productivity – thus, it falls as the stock of capital increases (it depends upon the relative scarcity of capital)	Governed by technical changes and rate of exploitation – but increase in *k* should not lead the rate of profit to fall
Distribution	Determined in the market by utility/price	Net product is distributed as wages to workers and surplus value to capitalists and distribution is governed by the rate of exploitation and technology
Rate of Exploitation	–	Key – and defined as the ratio of surplus value to variable capital, $e=s/v$
System process	The stock of capital adjust itself establishing an equilibrium with the given conditions	The stock of capital changes either way and there is no long-run equilibrium
Equilibrium	Comparative Statics/short-run	Dynamics/long-run

[22] For Robinson, on one side, orthodox academics economists developed a "highly artificial method of analysis" to build a theory based on the notion of the supply price of capital. On the other side, Marx's theory was "too simple" (Robinson, 1966 [1942], pp. 52 and 55).