7 The origin of the doctrine of mark up prices: Michal Kalecki's microanalysis

The origins of the mark up prices doctrine is found in a bundle of ideas and theoretical arguments that Michal Kalecki put together between 1929 and 1945 to provide a foundation for his macroeconomic work on the business cycle and income distribution. The development of this foundation came in two stages – the Polish stage in which Kalecki developed a broad non-marginalist disaggregated framework and the English stage in which he inserted into the center of the framework a marginalist pricing theory. Kalecki set out his disaggregated framework with its marginalist pricing core, or his microanalysis, in articles and books, only some of which were available to the non-Polish reading economists in England; thus personal communication with his colleagues at Cambridge and Oxford was an important route through which his ideas and arguments became known. Whether through the written word or conversations over coffee, Kalecki’s microanalysis became recognized as the original core of the mark up prices doctrine. Although he did not present his microanalysis in a schematic manner, it is possible to create one by starting with Kalecki’s characterization of a capitalist economy and society, of industry, and of the business enterprise, then delineating his pricing theory and his analysis of the investment decision, and ending by indicating how Kalecki used his microanalysis to examine income distribution, aggregate economic activity, aggregate employment, and, in the end, cyclical growth.

A disaggregated framework: the capitalist economy

As a consequence of being introduced to Marx’s economics and his two-department and three-department models at an early age, Kalecki characterized a capitalist economy in terms of categories of goods produced and social-economic classes. The productive side of the economy, Kalecki argued, could be summarized in terms of three
departments, one representing the production of investment goods, the second capitalist consumption goods, and the third workers' consumption goods. Moreover, each department was a self-contained productive unit in that, with a given stock of reproducible capital equipment, raw materials such as agricultural and mining products, and labor, a final good could be produced without directly requiring the goods of the other departments as inputs. Consequently, the only flow of goods between the departments which contributed to production was the flow of investment goods to the departments producing consumption goods.\(^1\) Kalecki complemented his tripartite view of the productive structure of the economy with a class view of society. He saw capitalist society as divided into capitalists and workers, where the capitalists, who consisted of rentiers and entrepreneurs, owned and controlled the means of production and had access to finance, and the workers owned nothing but their own labor power. An important consequence of this, Kalecki argued, was that capitalists and workers had different spending patterns: workers, on the one hand, spent all their income on workers' consumption goods, thereby reproducing themselves,\(^2\) while capitalists, on the other hand, spent only a portion of their income on capitalists' consumption goods and saved the rest to spend on investment goods. However, given the special nature of capitalist spending, what the capitalists spent from their income they received back in the form of profits, thereby reproducing the conditions which maintained them as capitalists (Kalecki, 1934a, 1934b, 1936, 1937a, 1938a, 1939a, 1939b, 1943a; Sawyer, 1985; Osiatynski, 1990, pp. 425, 439–40).\(^3\)

\(^1\) To describe production in this manner, Kalecki was clearly thinking in terms of a production model more explicitly developed by Fritz Burchardt (1931, 1932). Moreover, Kalecki assumed that the raw materials were, in some instances, produced outside the economy, but at other times were produced within the department in which they were used. In either case, and given Kalecki's view of the structure of production, raw materials, like labor, were primary inputs to the economy. Consequently, Kalecki nearly always included the role of raw materials (or simply materials in some cases) in the production of any good (Kalecki, 1936, 1937a, 1937b, 1938b, 1939a, 1939b, 1940, 1941a, 1941b, 1942a, 1943a; Burchardt, 1931, 1932).

\(^2\) Kalecki did acknowledge that some workers might save some of their income, but the number of workers who saved were so few compared with the masses of workers, and the amount they saved was so insignificant compared to the savings of capitalists, he felt that workers' savings could be ignored.

\(^3\) The assumption that workers spent what they earned, that is they did not save, was first mentioned by Kalecki in 1930. In 1932 he began an article with the assumption that society was made up of capitalists and workers only. In the same article, his capitalists spent part of their income on consumption goods and saved the rest. The following year he explicitly utilized both of these behavioral-social assumptions in Essay on the Business Cycle Theory (Kalecki, 1933a). The assumptions were retained in all his subsequent work.
Kalecki assumed that each of the three departments of the economy contained numerous industries, each industry being a self-contained productive unit associated with a distinct final good. He further noted that there was more than one business enterprise in each industry. Finally, Kalecki argued that each industry in the economy could be described as imperfectly competitive due to the existence of market imperfections and oligopoly. Using the marginalist terminology that he adopted when coming to England, he argued that market imperfections were due to positive transportation costs, sensitivity of consumers to price differences, and the lack of organized commodity exchanges which meant that each enterprise in the industry manufactured a slightly differentiated good. This by itself produced some market power for the enterprises, by which they could set their own prices even though the number of enterprises in the industry was very large. Thus, Kalecki concluded, each enterprise in an industry characterized solely by market imperfections faced its own well defined demand curve with a determinant price elasticity of demand at each point. Oligopoly existed when the

on business cycles and income distribution. In the Essay he also established that, in a closed system, capitalists as a class gain in profits exactly as much as they invest or consume, again a point reiterated in his later work. Finally, in a 1934 essay, he made it clear that capitalist consumption out of profits was assumed to be constant for the analysis. Later, after reading Keynes' General Theory, the assumption transformed into a given propensity to consume out of profits. The last transformation was specifying capitalist consumption as consisting of an autonomous component based on past economic and social developments (and therefore given in the short term but changed slowly and proportionally with respect to profits in the long term), and a given marginal propensity to consume out of profits (Kalecki, 1930, 1932a, 1933a, 1934a, 1936, 1937a, 1937b, 1938a, 1943a, 1954, 1968a).

Kalecki's dissatisfaction with the marginalist concept of free competition or perfect competition was based on the simple empirical observation that cartels and monopolies existed, on his work on cartels at the Institute for the Study of Business Cycles and Prices in Poland, and on the fact that nearly all enterprises operated at less than full capacity utilization, which (he felt) demonstrated the widespread existence of market imperfections and monopoly. Thus, in 1932 Kalecki discussed the influence of cartelization of industry on the business cycle; and as early as 1936 he implicitly assumed that the entire economy was imperfectly competitive. In 1939, he explicitly stated the assumption. This meant that raw materials which were produced and sold under conditions of free competition had to be produced outside the economy (Kalecki, 1932b, 1936, 1937a, 1938b, 1939a, 1939b; Osietynski, 1990, pp. 426 and 433-4).

Kalecki's specification of the industry is not very different from Edward Chamberlin's characterization of what he called a large group of monopolistic competitive enterprises in his The Theory of Monopolistic Competition (1932). Moreover, Kalecki's most detailed analysis of market imperfections occurred in an article in which he attempted to establish the conditions, using mathematical formalization (as opposed to words), under which a group supply curve existed for Chamberlin's large group of monopolistic competitive enterprises with product differentiation. Finally, it could be supposed that Kalecki
number of enterprises in the industry declined to the point where the remaining enterprises had significant control over setting and raising their own prices, and faced the problem of how their competitors would react to the price they set. Kalecki overcame this problem of interdependency, and hence the indeterminacy of the enterprise's demand curve, by positing a given degree of oligopoly for the enterprise, which took into account both the power to raise prices and the problem of interdependency. Thus, in an industry characterized by both market imperfections and a given degree of oligopoly, the enterprise faced its own well defined demand curve specified in terms of the specific nature of the market imperfections it faced and its own degree of oligopoly. Of the two demand curves, Kalecki felt that the latter was most appropriate for his work because not only was oligopoly pervasive in the economy, it was also the most dominant of the two factors determining the enterprise's demand curve (Kalecki, 1932b, 1933a, 1939a, 1940, 1942a, 1943a; Osiatynski, 1990, p. 467; Sawyer, 1985; Carson, 1993b).

Business enterprise, prices, and investment

Kalecki characterized the business enterprise as a self-contained productive unit consisting of a single plant producing a homogeneous good, whose capitalist owners and managers, that is the rentiers and entrepreneurs, received the profits when the output was sold. Furthermore, he classified the costs incurred in the production of the good as prime or direct costs and overhead costs. Direct costs were based on the primary

implicitly attempted to generalize Chamberlin's heroic assumption "that both demand and cost curves for all the 'products' are uniform throughout the group," (see pp. 158-60 for further discussion) (Chamberlin, 1962, pp. 81-100; Kalecki, 1940; Carson, 1993b).

6 Kalecki "defined" the degree of oligopoly in the Cambridge way, through implicit or indirect theorizing. That is, denoting the determinant marginal revenue curve of a determinant market imperfections demand curve for a specific enterprise as $MR_1$, the enterprise's determinant marginal cost curve as $MC$, and the enterprise's degree of oligopoly as $DO = MR_1/MC > 1$. Thus two determinant variables were used to define a third variable whose purpose was to convert indeterminacy into determinacy. Consequently, the marginal revenue curve of the oligopolistic enterprise can be "determinantly" denoted as $MR_1/DO$, thereby implying that its demand curve is determinant as well. For a more detailed comment on Kalecki's rather subtle and slippery analysis, see Carson (1991b) (Kalecki, 1940, 1942a; Leontief, 1937).

7 Kalecki's analysis of the degree of oligopoly and the enterprise demand curve was one of the outcomes of attempting to construct the conditions a supply curve would exist for Chamberlin's small group of enterprises under the conditions of oligopoly and product differentiation (Chamberlin, 1962, pp. 100-4).

8 Kalecki began using the term "prime costs" in 1936 after his exposure to economics in
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direct inputs used in the production and selling of the good and therefore consisted of raw material costs and labor costs, while overhead costs consisted of salaries, selling costs, depreciation, and interest charges. Finally, given the existing capital equipment, Kalecki argued that average direct costs (and hence marginal costs) were constant with respect to variations in the degree of capacity utilization up to full capacity. On the other hand, since overhead costs were fixed with regard to variations in the degree of capacity utilization, average overhead costs declined as the degree of capacity utilization increased. Average total costs consequently declined as the degree of capacity utilization increased.

Given the enterprise's cost structure and its own demand curve, Kalecki proceeded to argue that the entrepreneur fixed the price for his good such that marginal cost equaled marginal revenue. The difference

England. The term was introduced to British economists by Marshall in his Principles of Economics (1920, p. 359). However, Marshall did note that the term was equivalent to the term direct costs; and, moreover, both terms were part of the terminology used by accountants from at least the 1880s to the 1950s. Since both terms are definitionally the same, combined with the need to maintain a common terminology throughout the book, I have substituted "direct costs" for Kalecki's "prime costs."

Kalecki's first arguments regarding the constancy of the average direct cost curve came in the early 1930s when he was working for the Institute for the Study of Business Cycles and Prices. Later, Piero Sraffa's observations on the lack of changes in the ratio of prices to costs with changes in output below full capacity utilization and Joel Dean's research on costs convinced him that his arguments were sound. Thus from 1938 onward Kalecki generally assumed the constancy of average direct costs for all business enterprises in the economy when their degree of capacity utilization was less than 100 percent (Osiatynski, 1991, pp. 483-4; Kalecki, 1939a, 1941b, 1942a, 1943a).

Although Kalecki wrote about costs, prices, and profits in the early 1930s, he did not explicitly utilize the marginalist pricing mechanism (i.e. equating marginal cost to marginal revenue) in his discussion of prices and output until his review of Keynes' General Theory in 1936. When he wrote the review he had been in England a few months and had attended seminars at the London School of Economics run by Friedrich Hayek and Lionel Robbins. He utilized the marginalist pricing mechanism again in 1937 in articles on the business cycle and on commodity taxation (Kalecki, 1937a, 1937b). Finally, with his 1938 article on income distribution (Kalecki, 1938b), the marginalist pricing mechanism became the explicit cornerstone of all his subsequent discussions of prices, output, and profit through to 1945. What Kalecki did not utilize in his writings was mark up pricing procedures, although numerous contemporary economists used them to improve the logic and presentation of his microanalysis – see chapter 8 (pp. 153-64). Except for a short piece in 1942 on the excess profits tax and government contracts (Kalecki, 1942b), where he noted that contracts were given on the basis of costs plus percentage profit margin, Kalecki made no reference to enterprises setting prices using mark up pricing procedures until 1943 when he noted the pricing procedures described by Hall and Hitch. But, even then, he dismissed them with the remark that "it is not unlikely that the procedure described by them is not the actual process of fixing prices
between the price and average direct costs (including direct selling costs), Kalecki denoted as the gross profit margin (GPM), which consisted of overhead costs and profits. He then argued that, for given average direct costs (including direct selling costs), the magnitude of the gross profit margin was determined by market imperfections and the degree of oligopoly – or, for shorthand, the degree of monopoly.\textsuperscript{11} However, he also noted that the degree of monopoly, and hence also the magnitude of the GPM, could be affected if the enterprise decided to spend more of its income on direct selling costs. Turning to the relationship between the degree of monopoly, GPM, and the price, Kalecki argued that in the short term variations in the degree of capacity utilization due to price iso-elastic shifts in the enterprise’s demand curve would not affect the price, the degree of monopoly, or the GPM.\textsuperscript{12} On the other hand, because of the existence of sticky prices over the business cycle, the degree of monopoly would vary counter-cyclically. That is, when the economy entered into a slump, wage rates and raw material prices would decline, yet entrepreneurs would attempt to avoid passing on the fall in average direct costs in the form of price cuts so as to avoid destructive price wars. In addition, cartels would become stronger because of the decline of possible new entrants, while tacit agreements to maintain prices would proliferate. Thus the overall result would be that the degree of monopoly for most business enterprises increased, thus preventing prices from declining. Conversely, during the boom the demand for higher wages, combined with higher prices for raw materials, would increase average direct costs which entrepreneurs would not be able to pass on; this would result in a decline in the degree of monopoly, thus

but only a check applied to prices fixed in another way to see whether they make any net profit” (Kalecki, 1943, p. 134) (Kalecki, 1930, 1932b, 1933a, 1933b, 1936, 1942b; Carson, 1933c).

\textsuperscript{11} Kalecki first used the term “gross profits” in 1930, and “profit margin” in 1932. He continually used gross profits in his work, but profit margin had a more shadowy existence. In 1937 he stated that gross profits were maximized when marginal cost was equal to marginal revenue. Then, in the 1938 article on income distribution (Kalecki, 1938b), he introduced the term “degree of monopoly” but did not mention the profit margin. While the connection between the three terms appears obvious, Kalecki did not explicitly state it until 1942 when he introduced the term “gross profit margin,” identified its place within the degree of monopoly formula, and argued that it was determined by market imperfections and oligopoly which constituted the degree of monopoly. Finally, in 1943 he altered the term “gross profit margin” to “gross margin” while still maintaining that it was determined by market imperfections and oligopoly (Kalecki, 1930, 1932b, 1933b, 1938b, 1942a, 1943a).

\textsuperscript{12} This marginalist interpretation of the relationship between Kalecki’s degree of monopoly, GPM, and the price was first made by Joan Robinson in a 1939 memo with which, one can assume, Kalecki was familiar (see pp. 158-60).
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preventing prices from increasing. Lastly, Kalecki argued that the degree of monopoly had a tendency to increase in the long run because the secular increase in industrial concentration increased the degree of oligopoly far more than economic development reduced market imperfections (Kalecki, 1936, 1938b, 1939a, 1939b, 1939c, 1940, 1941a, 1942a, 1943a; Sawyer, 1985).\footnote{Kalecki’s discussion of the stability, variability, and long-term movement of the degree of monopoly was derivative of what he considered to be the stylized facts of capitalism. In 1932, he noted that, in non-cartelized industries, profit margins fluctuated over the business cycle, whereas in cartelized industries they were constant (Kalecki, 1932b). The next year he extended the idea of constant profit margins to constant or sticky prices in monopolistic and cartelized industries. Finally, in 1935 Kalecki hinted that cartelized industries could be associated with rising profit margins, and later argued that the degree of monopoly has undoubtedly a tendency to increase in the long run because of the progress of concentration. Many branches of industries become oligopolistic; and oligopolies are often transformed into cartels. (Kalecki, 1938b, p. 17) Thus Kalecki did not really explain sticky prices and stable or increasing GPM; rather, he simply took them as stylized facts and “marginalized” them (Kalecki, 1933a, 1933b, 1935).}

In addition to fixing prices, Kalecki’s entrepreneur also made investment decisions which led, at a later date, to the enterprise purchasing investment goods. Complementing the goal of maximizing profits when fixing prices, the motive for an entrepreneur to consider undertaking any investment project was its expected profitability. Kalecki argued that the entrepreneur would invest in, and hence enter, another industry if the expected rate of profit upon entry was greater than the normal rate of profit. Moreover, the factors which determined whether an investment plan was acceptable for implementation was whether its expected rate of profit was greater than the interest rate plus the risk premium. Finally, Kalecki argued that the entrepreneur accepted investment plans up to the point where the expected rate of profit of the last plan equaled the interest rate plus the risk premium. More specifically, he argued that the entrepreneur ranked the prospective investment plans in order of their diminishing expected rate of profit, although the rate at which it declined would be gradual as long as the investment plans were spread across many products. Thus with a given long-term interest rate and a gradually declining marginal expected rate of profit, there would not be a significant restriction on the number of investment plans the entrepreneur would accept and hence no reasonable limit to the size of the business enterprise. Finding this conclusion unacceptable, Kalecki introduced the “principle of increasing risk,” which stated that the larger the investment in fixed plant and equipment undertaken by the entrepreneur with
borrowed capital relative to his own capital, the greater his risk of making severe losses if the rate of profit on investment fell below the rate of interest. Thus, given the gradually declining marginal expected rate of profit and the sharply increasing degree of risk with each additional investment plan financed by borrowed capital, the total number of investment plans accepted by the entrepreneur and hence the total amount of investment undertaken would have a well defined limit, implying also a limit to the size of the individual enterprise.\textsuperscript{14}

Since the expected rate of profit was the crucial factor determining investment decisions and the volume of investment undertaken by an enterprise at any point in time, Kalecki went on to note that it was a function of national income and the capital stock.\textsuperscript{15} Thus, if past investment decisions were such that current national income was high then, Kalecki argued, entrepreneurs would increase their expectations about the future rate of profit for any investment plan, thus increasing the number of investment projects they found acceptable for execution. On the other hand, if the capital stock increased while national income remained fixed, then the degree of capacity utilization would decline and this would reduce entrepreneurs' expectations about the future rate of profit and the number of projects they found acceptable for execution (Kalecki, 1936, 1937a, 1939a, 1943a; Sawyer, 1985; Feiwel, 1989).\textsuperscript{16}

Microanalysis and macroeconomics

Kalecki used his microanalysis as a prop on which to build his macroeconomic theory of economic dynamics. In particular, he used it to examine the impact of changes in the degree of monopoly on the

\textsuperscript{14} Kalecki also argued that the principle of increasing risk would apply to corporate enterprises as well where entrepreneurial capital was not relevant.

\textsuperscript{15} Kalecki believed that the long-term interest rate was the relevant interest rate for affecting investment decisions. Since it varied so little over time, Kalecki argued that it could be taken as fixed and therefore could be ignored as a factor producing cyclical variations in investment decisions. Moreover, if a significant reduction in the long-term rate did occur quickly, there would be numerous undesirable consequences, one being that many financial institutions would suffer severe losses and another being that stocks, shares, bonds, land, and houses would greatly increase in value (Kalecki, 1944b; Schumacher, 1944a; Sawyer, 1985).

\textsuperscript{16} In 1932, Kalecki stated that the incentive to invest was expected profitability, and he repeated the argument in 1933 (Kalecki, 1932a, 1933b). In 1936, he complained that Keynes did not take sufficient account of the influence of current profitability on investment. And finally in 1937 he argued that investment decisions were a function of the expected rate of profit, risk, and the interest rate. Thus, expected profitability always played the dominant role in Kalecki's views on the decision to invest (Kalecki, 1936, 1937a).
distribution of income, aggregate economic activity, and aggregate employment. As a comparative basis for his other arguments, he repeatedly noted that, given the volume of investment, economy-wide increases (or decreases) in money-wage rates would not alter the distribution of income between workers and capitalists, the workers' real wage, or the level of aggregate economic activity if the degree of monopoly for all enterprises remained fixed; all that would happen would be an increase (or decrease) in money prices sufficient to offset the increase in the money wage rate and hence any demand impact on economic activity.\footnote{On the other hand, as Kalecki also noted, if raw material prices increased economy-wide, while money-wage rates and the degree of monopoly remained constant, the wage share in national income and the workers' real wages would decline and with it the level of aggregate economic activity. Kalecki saw the external raw materials sector as being competitive and hence governed by the Marshallian laws of supply and demand. The interaction between the competitive raw materials sector and the imperfectly competitive manufacturing economy, and the resulting impact on prices, employment and aggregate economic activity, Kalecki described in a manner quite similar to Gardiner Means, as delineated in chapter 2 (pp. 58–61) (Kalecki, 1932b, 1933a, 1935).} This argument became known as the "iron law of wages." In contrast, Kalecki argued, for a given volume of investment, changes in the degree of monopoly would have an impact on the distribution of income, the workers' real wage, and aggregate economic activity. For example, if money-wage rates increased and the degree of monopoly declined so that prices did not change, then workers' real wages would increase (along with the wage share in national income), which in turn would increase the demand for workers' consumption goods, thereby increasing aggregate economic activity. In the case where technical change increased the size of the business enterprise and hence increased the degree of industrial concentration, Kalecki noted that this would increase the degree of monopoly and therefore also have a negative impact on income distribution, workers' real wages, and aggregate economic activity.

Kalecki argued that when the historical development of capitalism reached an advanced stage, there would be a significant increase in enterprise size and hence in industrial concentration. This in turn would produce a long-term permanent progressive increase in the degree of monopoly and a fall in the growth of workers' real wages and in the wage share of national income. The immediate impact would be a reduction in the rate of growth of national income, and with it a reduction in the entrepreneurs' profit expectations and hence in their investment decisions. The decline in investment would reinforce the depressive effects of the rise of the degree of monopoly on aggregate economic activity, with
the consequence that the economic system would tend towards economic stagnation and its corollary of rising unemployment. In this context, Kalecki argued, the capitalist state, under political pressure to do something, would engage in deficit spending in order to directly reduce unemployment as well as to stimulate private investment. But attaining and maintaining full employment would generate a political backlash from the capitalists, in part because they would lose the power of the "sack." Thus the capitalist state would be subject to "stop-go" political pressure which would ultimately prevent it from stopping the drift towards economic stagnation and the corresponding secular increase in unemployment. Kalecki concluded that either capitalism must be fundamentally reformed if it was to be made able to sustain full employment or, if it proved incapable of adjusting to such reforms, it must be replaced (Kalecki, 1935, 1938a, 1938b, 1939a, 1939b, 1941a, 1941b, 1943a, 1943b, 1944b; Barna, 1945; Dobb, 1973; Bellamy, 1981p; Sawyer, 1985; Henley, 1988; Feiwel, 1989).

By the early 1940s, Kalecki had developed his microanalysis to the point where other economists could draw upon it for their own work, and thereby intentionally or unintentionally extend and develop it. As delineated in chapter 8, during the war years, economists linked with both Oxford and Cambridge made some significant contributions to the microanalysis and, more importantly, set the stage for the subsequent post-war developments. These post-war developments took two different but complementary paths. One involved piecemeal developments and transformation of Kalecki's microanalysis, which began in 1952 and ended in the early 1980s, by various economists, including Piero Sraffa, Geoffrey Harcourt, Peter Riach, Joan Robinson, Nicholas Kaldor, Athanasios Asimakopulos, Adrian Wood, Alfred Eichner, and Kalecki himself, and is delineated in chapter 9. The second involved the development of the microanalysis from 1945 to the early 1980s to explain why capitalist economies were prone to economic stagnation. The stagnation thesis was pursued by Josef Steindl while he was at Oxford in the 1940s and later by Sylos-Labini, Paul Baran, Paul Sweezy, Harry Braverman, and David Levine and is delineated in chapter 10.