

# Michal Kalecki — More Biographical Notes<sup>1</sup>

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The role of Michal Kalecki as a pioneer of business cycle analysis is well established. Much better known since the 1980s have been his contributions to macro-dynamics generally, as a result of writings on him by Peter Kriesler, Joseph Halevi, Malcolm Sawyer and Jan Toporowski.<sup>2</sup> These authors have clarified the micro foundations of Kalecki's growth models,<sup>3</sup> explained the logic behind his policy recommendations;<sup>4</sup> and introduced undergraduate students to Kalecki's methods.<sup>5</sup> As well, the work of Kalecki the innovator in the field of the dynamics of the socialist economy has been clarified by Toporowski,<sup>6</sup> and Nuti<sup>7</sup> and Osiatynski.<sup>8</sup> The wider acceptance of his work internationally seems likely to be encouraged through the appearance of Kalecki's *Collected Works*, under the auspices of Oxford University Press (as assembled by Professor J. Osiatynski and Mrs Ada Kalecki for the Polish Academy of Sciences). This publisher produced Volume 1 in 1990 and Volume 2 in 1991.

Acknowledgement of the *originality* of Kalecki's work on effective demand and cycles (and of his temporal priority over J.M. Keynes) was first forthcoming in Austin Robinson's famous obituary of Keynes in the *Economic Journal* for March 1947. Austin Robinson spelled out this comment more fulsomely at Kalecki's lecture in 1955 at Cambridge.<sup>9</sup> On the same theme, Lawrence Klein in his *Keynesian Revolution* (1950) was the first of the American Keynesians to advocate the worth of studying Kalecki. Another to popularize Kalecki's writings to an American audience was H.Minsky, who developed an interest in Kalecki's ideas on the link between finance and investment and the decisions of the firm.<sup>10</sup>

Throughout the 1960s and 1970s, Joan Robinson<sup>11</sup> conducted a campaign to upgrade the status and significance of Kalecki's work,<sup>11</sup> both as such, in relation to the originality of his ideas and the comparison sometimes made between them and those of Maynard Keynes. This is not the place to canvass the psychological reasons for her intense interest in Kalecki's contribution. Clearly she was impressed by his originality and his methods, and sought a kind of intellectual justice for Kalecki. Most readers of this article will, however, be aware of her claim, repeated often by British, Italian and North American members of the "Post-Keynesian" School, that a combination of Kalecki and Sraffa provides — or is at least capable of providing — a *restructuring* of political economy. Something will, however, be said below

about Kalecki's contacts with the Cambridge "circus" in the 1930s and some hints given as to the nature of the effects of that contact.

### Early Life and Times of M. Kalecki

In what follows, a summary will be given of some more detailed aspects of Kalecki's career, gleaned from interviews in Warsaw and Cambridge and searches of personal documentation in Warsaw. I will also draw partly on my own contact with Kalecki when working at the Indian Planning Commission in 1960 and later as his student, in 1964. The focus of my discussion will be on the material conditions for the production of Kalecki's work, and the personal circumstances in which Kalecki came to write (and advise) what he did.

Michal Kalecki, the only son of a small textile manufacturer and of a brilliant, liberated mother was born in Lodz on 22 June 1899. His parent's separation, when he was 12 years of age, deeply affected him. (He once remarked in a rare moment, that had he been wealthy, he would have built a contraceptive factory). In 1916 Kalecki entered the Government Philological School in Lodz. When this was closed by the German occupation authorities, he transferred to a private school called the "Father Skorupa School II". Kalecki studied construction engineering at the Danzig Polytechnic (1921-23) after a year's study of mathematics in Warsaw.

Three changes in the material conditions of life interrupted his studies. One was military service, for he was called up in 1919, spending seven months with the VIIIth signals in Lwow. Later, in 1921, he was "demobbed" with the rank of senior private. The second was the collapse of his father's business in 1925, which forced the son to seek work. The third was the onset of the great Depression after 1928 and his marriage to Ada Sternfeld<sup>12</sup> on 18 June 1930. All of these events meant that he was unable to complete his degree. However, the period spent in Polytechnic engineering studies was not entirely wasted. He had received mathematical training sparking a deep interest in problems of applied mathematics which was life-long. A curious by-product of his training was his design for parts (ceilings) of an important building — the National Army Museum in Warsaw, applying his mathematical analysis for tensile strength of roofing of iron and concrete. Michal took out a patent on his analysis and design with the Warsaw Patents Office in 1930. (Ada Kalecki reports with satisfaction that the structures survived the Nazi onslaught). In 1927 he had met Norman Bay, an expert on the construction industry who later supplied Kalecki data on costs and prices in the building industry.

On 1 December 1929 (after a spell as freelance financial journalist) Kalecki was appointed as a researcher at the Warsaw Institute for the Study of Prices and Market cycles. Here he was able, not for the last time, to combine high theory and empirical research on the economics of capitalist dynamics.<sup>13</sup> Kalecki was lucky in his earliest academic colleagues — a luck that was to run out later. The senior man, Director E. Lipinski (of the old school of liberals) appreciated his new recruit's quality; Ludwig Landau was excited by Kalecki's interest in the material standard of life and employment opportunities of working people and the challenge of finding new ways to measure that condition. A close friend at this time was Marek Breit, a young neo-classical economist of Polish-German descent.

After completing a close study of the theories of Marx, Tugan-Baranovsky and Rosa Luxemburg (and of international data on costs, outputs, prices and employment), Kalecki made a major scientific breakthrough in 1933. He wrote and published his (Polish) version of *Essay on the Business Cycle*. A German version, says Ada Kalecki, was also prepared for a publishing house in Germany, but its Jewish owner was arrested by the Nazi's and the manuscript never appeared in that particular language. Another copy (according to Ada Kalecki) was sent to J.M. Keynes. She reports that it was returned by his office with the inscription: "Keynes does not read German".

Next, a version of this paper in the English language was delivered at the meeting of the Econometric Society in Leiden in 1933, attracting comment from Ragnar Frisch and Jan Tinbergen. [This is important: it establishes Kalecki's paper as having originated independently of Keynes and as having seen the light three years before *The General Theory*; as well, it corrects a widespread misconception that Kalecki was ignored for the simple reason that in 1936 his work was "only available in Polish"]. The paper, now in the version entitled "A Macrodynamic Theory of the Business Cycle", after the usual publishing delays appeared in 1935 in both *Econometrica* and *Revue d'Economie Politique*.

In 1934-5, with the writing of his most fundamental theoretical essay out of the way, Kalecki completed and published (with the co-author Landau) a "first" — a new sort of national income accounts for Poland which divided the national income total into distributive shares by social classes: wage-earners, capitalists, landowners and petty bourgeoisie (traders, self employed, etc.). Perhaps here were the first germs of Kalecki's celebrated dictum that "the workers spend what they get and the capitalists get what the spend".

This is not the place to explore Kalecki's epigram further. Here I am drawing attention once again to how Kalecki's projects reflected closely the material conditions and contradictions in the society which he was studying (and in this case, his own impecunious circumstances). For he was greatly interested in the social distribution of income and, in the 1930s, increasingly perturbed by the serious impact of business cycles on various layers of society — first and foremost on working people but also (with his father's experience there to remind him) on small scale manufacturers.

### **Kalecki Abroad 1936-45**

After winning a Rockefeller scholarship in 1936, Kalecki left Poland for a study period in Sweden and Britain. After six weeks at the Stockholm School of Economics, he was informed by letter from colleagues in the Warsaw Institute of the appearances of Keynes' *General Theory* and of the main themes in it. He became somewhat disappointed and alarmed at this development but was keen to learn more about it and hurried to London.

In the meantime, two colleagues, Landau and Breit of the Warsaw Institute for Research on Prices and Market Cycles were in trouble. A report they had prepared for a Ministry had been rejected and they were facing dismissal. In a gesture that was to become familiar, Kalecki resigned as a signal of his solidarity, publishing his

resignation in the *Warsaw Courier*, 26 November 1936. He then found himself on the Right-Wing government's blacklist.

On arrival at the London School of Economics, Kalecki soon absorbed the atmosphere of excitement and debate caused by the "Keynesian Revolution". He reacted in the manner of the great intellectual and scientist that he was. He told his wife that after all, he would have many new and original things to say and that they should not make an issue of the fact that the 1933 and 1935 versions of his *Essay* covered a great deal of the ground then being worked over by the Keynesians. However, it was Joan Robinson, who after one meeting with Kalecki saw what had happened. As she wrote (Joan Robinson to M.Kalecki, 16 July 1936): "Your *Econometrica* piece makes me ashamed and we should have welcomed you long ago as a kindred spirit".

The struggle between Lionel Robbins and the young Keynesians (a group which included, in London, A.P.Lerner, and N.Kaldor) fascinated Kalecki. When Hayek (whom Kalecki detested at first meeting) also joined in, Kalecki entered the fray and came home each night in high excitement. His interventions must have been devastating: he had the best grasp of all of the theoretical structure of Keynes, as Joan Robinson noted in 1936, and subsequently. As G.C.Harcourt remarked after close perusal of an English translation<sup>14</sup> of Kalecki's original review of the *General Theory*, "no-one could have written a review like that who had not worked out everything for himself already".

Still in London in 1937, Kalecki published in the LSE journal, *Economica*, parts of his earlier Warsaw theoretical analysis of business cycles, modified by the debates and discussions in London. He called the piece, "The Principle of Increasing Risk". In 1937 he also published (in the *Review of Economic Studies*) a new version of his business cycle model. In addition, the *Economic Journal* published his analysis of the influence of sales, capital and wealth taxes on the investment decisions of firms.

In May 1937, Kalecki went to Oslo, where he had discussions with Ragnar Frisch on a problem that the Polish economist was to work on for many years — the effect of random shocks on economic cycles. [Kalecki 1962a and 1964]. He also made contact with Tjalling Koopmans. In the middle of June 1937 Kalecki left Oslo for France where he stayed for two months studying the economic policies of the Leon Blum government. [*Collected Works*, Vol.1]. Blum headed a "Popular Front" government which, with mass support was expanding social controls in the context of a mixed economy. The notion of the Popular Front government and of how it can "plan" in a mixed economy remained another long-term interest of Kalecki. In 1965 he lectured at Ancono University in Italy on "The Minimum Conditions Necessary for Economic Policy in Advanced Capitalist Countries under a Popular Front". In 1970 he wrote his very last piece (jointly with T.Kowalick) on the same sort of issue under the title of "Observations on the Economic Reform". [*Collected Works*, Vol.2]. In France in June 1937, Kalecki met Jacques Roueff, R.Marjolin and François Perroux.

At the end of 1937, it was announced that Kalecki would be employed at Cambridge University from October 1938 to February 1940 to work with B.Tew and Y.N.Hsu on costs and prices in British manufacturing.<sup>15</sup> Up to that point (ie. from 1 January to 30 October 1938), Kalecki had existed on a special studentship (arranged through Keynes) to complete work on the theory of business cycles (which came out in 1939, see Kalecki; 1939). Data was collected on the costs, prices and outputs in

sectors such as cotton, building etc.<sup>16</sup> and formed the basis of new work on pricing and mark-ups that was synthesized with cycle theory in *Economic Dynamics* (published in 1954).

With no extension of his short-term studentship in the offing, Kalecki took off for Oxford a few weeks before his stipend ran out in January 1940. After some initial difficulties, Kalecki obtained a research post at the Oxford University Institute of Statistics. This attachment opened up for Kalecki one of his most prolific and satisfying periods of sustained research and publication. He was a natural team leader in research matters — as G. Worswick, Kurt Martin and others who were there have testified.<sup>17</sup> He soon became the live-wire organiser of such research into: prices and costs, war finances, the economics of rationing, full employment and problems of post-war reconstruction. Kalecki ensured that the *Bulletin of the Oxford Institute of Statistics* was turned into a relevant, widely-read journal, popular with the large number of academic economists that had been seconded to war work in the civil service. He became “Mr Kalecki of Oxford” in the pages of such leading financial journals as the *Financial News* and in the *London Observer*. In 1943, he published an illuminating short article in the *Political Quarterly*, on “Political Aspects of Full Employment” in which his celebrated notion of the “political trade cycle” was presented. In 1945 he published his chapter “Three Ways to Full Employment” in the collective work, *The Economics of Full Employment* produced by the Institute of Statistics.

One reason for the joy which Kalecki experienced during his years at Oxford in the 1940s was that he was able to see connections between theory and practice, and to partly fulfil his dream of being able to influence the course of events. The severe material conditions of life in Britain at this time were conducive to the production of all sorts of new ideas and problem-solving methods. It was in these areas that Kalecki excelled and it is no surprise that his ideas gripped the imagination of a wide circle: for example, after Kalecki published his plans on ways to finance the war, Low (the famous cartoonist) produced a sketch showing the wealthy being forced through a rather slim doughnut labelled “supertax on the rich”. As well, the need to design a rationing system that would both improve the diet of working-class children and produce frocks pleasing enough to satisfy female consumers took all of Kalecki’s ingenuity and he later recounted to me the satisfaction that he had experienced in playing a direct role both in the rationing and taxation reforms as well as in planning for financial stability (with fully employment for the post-war period).

It was at this time, too, that Kalecki adopted a clear stance on the “role of the government economic adviser”, on giving governments advice, a viewpoint he was to retain throughout his “official” career in Planning Commissions around the world (Poland, India, Yugoslavia, Cuba) and at the United Nations Secretariat for Economic and Social Affairs. He felt that an inescapable *datum* for the adviser was the existing framework of institutions, of political economy. This also implied that the political system in a country would be given. The task was, therefore, how to work within this framework to make life better for the lowly-paid in society and to prevent any crisis of the system becoming a crisis for them rather than for the ruling *stratum* or its wealthier backers.

As circumstance at Oxford changed, and the Second World War was drawing to a close, a serious personal crisis overtook the Kaleckis. A.L. Bowley, Director of the Oxford Institute of Statistics announced he was stepping down and drew up his ideas on the ideal replacement in a profile that ruled out Kalecki applying for the post. Bowley asked Kalecki to recommend a successor. Embarrassed, Michal nevertheless recommended D. Champernowne, a fine mathematical economist whose main drawback at that time was his lack of engagement with social issues. He got the job. Later, it became apparent that the new director had expected Kalecki to stay on as a major force.

However, once Kalecki sensed there had been no support organised to retain him in the leading position, he decided to leave. Inquiries from English friends got two broad lines of advice. Urging him *not* to leave the UK were Hubert Henderson (who had been a member of the Board of the Oxford Institute) and Maurice Dobb, the well-known Marxist economist at Cambridge. In his letter, Dobb made a strong plea that Kalecki remain in England. His letter was warm, as had been his review of Kalecki's *Essays in the Theory of Economic Fluctuations* in 1939 [Dobb, 1939]. The second sort of response came from the Keynesian circle containing no firm ideas about UK job opportunities or recognition of the extreme urgency with which the Kaleckis needed to find paid employment. Joan Robinson expressed the view that Kalecki would "solve his post-war problems" wherever he went. Hence Kalecki applied for a post with ILO, the International Labour Office, then centred in Montreal, and made enquiries also about a visit to Poland to assess possibilities there. In March 1946, he took up the ILO post; in July an invitation from Polish government sources arrived.

One wonders what life might have been like for Kalecki had he stayed in Britain in 1946 instead of returning to Poland via Montreal. After all, contemporary refugee economists, Balogh, Arndt, Schumacher, Kaldor and Mandelbaum all stayed and reached relatively influential academic positions. While it would be ludicrous to imagine a "Lord Kalecki" in the manner of Kaldor and Balogh, there seems little doubt that someone as well-known in financial and newspaper circles at that time would have played a leading role after 1946 in the major debates about British and international economic policy, to say nothing of matters of economic theory.

## **A Visit to Poland**

Kalecki visited Poland later in 1946 at the invitation of Michal Kaczotowski, the Minister for Construction. After a short period, however, he moved to the Ministry of Finance as an adviser to a top Party official, Hilary Minc, because of the pressing problems of inflationary shortages about which advice was needed.

The material conditions in Poland were those of utter physical devastation of capital stock, housing and human resources. As a socialist by conviction, Kalecki was anxious to take part in Poland's painful adjustment process which he hoped would achieve reconstruction within ten years and lead on to some sort of moderate programme for socialist construction, once sound foundations were laid. The problem was that the Communists were in an awful hurry and at the same time were faced with a population that was largely without housing and nursing a sentiment

demanding faithful reconstruction of old Warsaw (largely bombed and then dynamited by the Nazis). The latter was a gigantic project which was largely achieved by the early 1960s. Kalecki quickly realised he would be of more use at the Ministry of Finance, because monetary stability would have to go hand-in-hand with the creation of physical capacity through investment. He therefore prepared, for various sections, three memoranda to cope with Poland's potentially serious economic situation: "Rationing and the Price System"; "Savings Rates and the Circulation of Money"; "Draft Annual Plan for Industry for the Second Half of 1947 and the First Half of 1948".

It was during this period, too, that Kalecki developed further his ideas in three areas. The first of these was the need to give top priority to provision of wage-goods in a "Third-World" type of economy (a point that he had earlier implied in his review of Manolescu in the *Economic Journal*, December 1938). Next there was the need to monitor the causes and course of hyperinflation — a discussion later neatly set out in his "Model of Hyper-Inflation" [Kalecki, 1962b]. Finally, and the one most immediately important, was the need for price stability in an economy of shortage or an integument of post-war disequilibrium in international trade and payments. His thoughts here were to re-appear in various UN Reports, including *World Economic Report* in the period 1946-48, when he had moved to UN employment in New York in 1945.

## Kalecki in North America

After three months in Poland, Kalecki decided that there were circumstances justifying withdrawal from the immediate scene. Polish Communists were manipulating events in order to assume full political power. A "bourgeois economist" who had been abroad for ten years might well fall under official suspicion, even if he had been helpful in reconstruction, and had been on the blacklist of the pre-War government. Kalecki therefore returned to his Montreal appointment. In Montreal he seems to have represented the ILO on a number of those official and semi-official committees of the Bretton Woods and UN frameworks looking into post-war international stability, payments and trading arrangements. It was about this time that he worked on a committee with Australian L.G. Melville, and clashed swords at a conference in Washington with Jacques Roueff over the issue of the desirable degree of World Bank and IMF interference in the internal economic policies of recipient countries. Kalecki did not remain in Montreal long. Only a few more weeks after returning from Warsaw he joined the staff of the UNO on 16 December 1946.

With official Polish support, he became Deputy-Director of a division (Stability and Prices) of the UN Department of Economic and Social Affairs in New York. He was heavily involved in the collection of data for the annual *World Economic Reports* and for writing crucial paragraphs in these documents published by UNO. He himself wrote a series of Reports including a significant one published by the section in 1949 entitled "Inflationary and Deflationary Tendencies, 1946-7" in which Chapter 1 is quintessential Kalecki. The UN job 1946-55 proved to be not only exacting but politically wearing due to conditions *within* and especially *without* the New York UN building. Internally, each member country was keen to "vet" what was said about

them in the economic reports. This created tension and delays. These were difficulties in extracting data of sufficient quality from particular countries, although anyone reading those reports today will still get a very good idea of the economic conditions in the world in the eight or nine years after World War II.

Being a realist, Kalecki included a study of Mainland China's economic performance. At that time this was anathema to the Taiwan lobby, American reactionaries and FBI leaders. Kalecki attracted their deep enmity. At any rate, in and outside New York black clouds were gathering — a political storm called McCarthyism was about to burst. The American FBI were arrogantly involving themselves in internal UNO matters, harassing staff members and spreading fear and suspicion. Kalecki, as a socialist and an outspoken person came in for his share of the "treatment".

The first Secretary-General of the UNO, Trygve Lie, though a man of the trade union movement, proved in practice to be rather weak in standing up to the havoc American security were wreaking. His replacement, Dag Hammerskold proved to be no different. His murder in the Congo in 1960 has obscured Hammerskold's real political stance, that of the extreme Right. When, after a successful Kalecki lecturing tour of Mexico in 1953, an official request was received from the Mexican government for him to be seconded there under UN arrangements and funding, Hammerskold blocked it. Nevertheless, Kalecki battled on for nearly a decade, and played a very big role in producing, for his section, some really outstanding pieces of applied economic analysis. As Joan Robinson [1976, pp.28-30] has pointed out one can find in them rare gems of development economics, monetary analysis and recommendations on fiscal policy.

Although some fellow economists in the section (Canadians in particular) were helpful to Kalecki, others in Kalecki's section were feeling insecure working under someone who was being seen as "controversial". Some were apparently told they could be assisting "the Marxist conspiracy against freedom". One staff member, Jacob Mozak, asked for a transfer — he told the Secretary-General he no longer wished to work with Kalecki. Dag Hammerskold reacted to this request by ordering, in May 1954, a re-organisation of Kalecki's section. Fleming was brought in to check Kalecki's draft reports (he made few criticisms and refused to do it a second time). Next, and uniquely among the departmental divisions, it was decided to appoint a Supervisory Board which could check Kalecki's writings. Naturally, Kalecki resigned. With his withdrawal, the re-organisation proposal also disappeared. (A sour note in the aftermath of Kalecki's departure from the UN included the decision that since he had resigned, and not been laid off, he was not entitled to various compensation payments).

## Return to Poland

With the assistance of Kutz, leader of the Polish UN delegation, Kalecki returned in 1955 to Poland to new employment. One of his new tasks was to recommend an appropriate government response to the serious material conditions of life being experienced by Polish workers. Kalecki embarked on a re-study of the household incomes and real wages. He found new explanation as well as the fact that actuality was rather different than that picture drawn in government reports. This study was



done in his capacity as adviser to top economic official Hilary Minc. On the academic front, Kalecki, in a lecture to the Polish Economics Society on "The Growth of Investment and National Income in the Socialist Economy" was one of the first economists in Eastern Europe to state publicly that there was no such thing as an economic "law" which required that the capital goods sector should always grow faster than the consumer-goods sector. For the medium-term it was perfectly possible for a socialist government to give priority to consumer-goods production. Bronisław Minc, a leading economic authority supported Kalecki's view.

From the start of 1956 Kalecki participated in drafting proposals for changes in the Polish system of economic planning which was being blamed by workers for shortages and declining real wages. He also participated in the work of a government commission set up to examine "The System of Financing of Enterprises". Once again, material conditions in Poland were demanding new ideas on how the economic system actually worked and ways to improve its effectiveness.

In 1956 Kalecki, Lange, Brus and some leading economic reformers were designing a new Polish Economic Model. This can be seen most clearly in an article prepared by the team, whose message was heavily influenced by Kalecki, though the final draft bears Lange's signature [O.Lange, 1956]. After Kalecki's return in 1955, it was imbalances in the economy and physical bottle-necks in some productive sectors which pre-occupied him. Lange was interested in the role of (the still private) agricultural sector in a five-year plan of economic growth. However, as 1956 unfolded, things began to develop in a direction that was a little difficult. Especially was this the case in the late months of 1956, after Khrushchev's "Secret Speech" attacking Stalinism at the 20th Congress of the Communist Party of the Soviet Union, and the invasion of Hungary by Soviet tanks. Poland, by a mixture of luck and negotiations, avoided the fate of Hungary and attained a measure of freedom from day-to-day Soviet supervision. Ideas about workers' councils in factories and decentralisation of the planning system were very much the subject of public discussion after the team of W.Gomulka replaced that of Beirut in the Communist leadership.

Kalecki had already supported the Workers' Control concept in an address to Left-leaning Labourites in Britain in the 1940s and his interventions in the Polish debates about a "New Economic Model" was keenly anticipated. What eventually transpired was that a Charter for reform was drawn up (largely by Kalecki, Brus and Lange), circulated and discussed by economists. It received majority support among them. While recommending more enterprise freedom and the participation of Workers' Councils in production and investment planning, the Charter also insisted on the inviolability of the Full Employment objective and the need for considerable central controls over the rate and structure of national investment.

Kalecki's position on these matters, while they may be regarded in retrospect as correct, disappointed some of his younger "reformist" colleagues. Then, as now, their response to the task of reforming Stalinism, was to embrace a thorough-going market economy. Kalecki, while supporting increased scope for the Workers' Councils, and less rigid controls over the economy, defended a strong role for economic planning as well. This attitude to formulating a "new economic model" probably reflected good political "nous". I would also suggest that Kalecki's position once again represented his philosophy that the adviser to government (no matter how bad that government might be) inevitably starts from the given social framework

and political system and must therefore just try to get the best possible outcome for the working people and poorer peasants out of the economic policy (or economic plan) that the government can be persuaded to adopt. A close examination of the New Economic Model that Kalecki constructed with Lange and Brus [Lange, 1956] will show that it is a most far-reaching document that would not be out of place in the programme of current reform movements in Eastern Europe, USSR or China.

From the analytical point of view, there was something else present in Kalecki's stand in 1956. This was his long-time search for more scientific-technical methods for improving investment planning, a search that went on, not only in planning seminars, but in the (rather noisy) study he occupied at home and in the pages of mathematical journals. His desire to get adoption in official circles of improved methods of investment planning was not confined to Polish affairs. In October 1957, Kalecki was appointed Chairman of the Permanent Polish delegation to the Council for Mutual Economic Aid (CMEA). Here he sought to establish throughout Eastern Europe (with some support from the Czechs and Hungarians) a common system of national income accounting, and a common method of measuring the investment effectiveness of projects. Kalecki also proposed various ways to bring about a more mature division of labour within CMEA, so that each member country could specialise in production of certain product-types within a wider industry classification (e.g. within "machine-tools" each country would make some under this category).

In 1958, Kalecki was a member of the Polish delegation to make an official tour of Britain after receiving an invitation from the Establishment there. The Poles met businessmen and economists as well as government officials. The British Press gave Kalecki a good welcome, a notable example being *The Observer* (2 March, 1958) which described him as the "Super planner", and gave an account of his experience in Britain in the 1940s. *Significantly, the report referred also to his having discovered Keynesian ideas before Keynes.* Kalecki himself recalled a highlight of this trip as when an irate businessman came up to him at a reception to say, "Back in 1945, you saddled our industry with Full Employment and then left us".

## The Problem of Perspective Planning

The next important part of M.Kalecki's scientific work was his pre-occupation with something that was rather new, even for so-called planned economies. This effort was the construction of a complete long-term or "perspective" plan for Poland, to cover the years 1961 to 1975 — an exercise which was featured by very sophisticated analytical techniques and creative use of available data. In his draft Perspective Plan Kalecki proposed a moderate target of annual growth rate of national income amounting to 6.6% per annum for the 15 year period. Behind this target were three bits of clear thinking. The first was the application of a series of first principles, such as the search for bottle-necks; next an insistence of plan feasibility and, third, a concern for efficiency in investment planning by both project-makers and enterprise chiefs.

As well, Kalecki re-capitulated some ideas on the theory of economic growth under conditions of a socialist economy which was published in Polish in a book

edited by Oscar Lange.<sup>20</sup> This long essay later appeared in a much expanded cyclostyled form in 1963 for we students at the Higher School of Planning and Statistics (Warsaw), until finally published by Basil Blackwell at Oxford in 1969. Kalecki's Perspective Plan was to map out in superb theoretical form some key elements concerning the impact of bottle-necks and reductions in gestation periods of investment projects on both sectoral and national growth prospects.<sup>21</sup>

Kalecki rarely spoke about what he considered to be his achievements, but Ada Kalecki records that he considered the production of this 1961-75 Perspective Plan to be the best piece of work he had done.<sup>22</sup> Certainly Eastern Europe had never seen anything like it. The whole scaffolding, in conception and in execution, was streets ahead of than anything in the planning field that had gone before. The Party, however, did not agree. In the view of Gomulka and his Party economists, Kalecki's ideas in January 1960 were wrong-headed. His goals for production and investment were "too pessimistic". They thought that increases Kalecki proposed in living standard could be moderated; they believed that increased supplies of energy could be obtained cheaply from the USSR; that savings, even bigger than those envisaged by Kalecki could be made in the use of raw materials.

Perhaps unfortunately for Kalecki, the pro-marketeters also considered that he had under-estimated the potential inherent in economic reforms promoting decentralisation. With this reception, it was inevitable that those who treated the economy as a jetplane would win out. The officially approved growth rate for the Perspective Plan (though never subsequently sustained) was raised to 6.9% per annum, while in 1961 any decisive influence over the whole area of long-term planning was taken out of Kalecki's hands. He thus joined Bazarov and Groman, who had been removed from USSR Gosplan in the 1920s for drawing attention to objective limits in accelerating growth rates.<sup>23</sup> The two Russian had been criticised by Party economists who had imbibed both voluntarism and the thinking of G.A. Feldman, an eminent growth theorist of Soviet Russia who consistently under-estimated the degree and the severity of the trade-off between higher investment rates and consumption.<sup>24</sup> From one point of view, Kalecki fell victim to a Party leadership that did not accept that it was better to err on the side of caution than to over-estimate possibilities. Kalecki said that experience showed a wrong decision about consumption sacrifice led to really serious repercussion for productivity, morale and the reputation/legitimacy of the government. In a sense, Kalecki's work around the Perspective Plan can be seen a part of a long struggle against "Feldmanist" thinking in the ranks of socialist economists.

### **Economic Adviser to Third-World Countries<sup>25</sup>**

After 1960, Kalecki worked a great deal on the economic problems of Third World Countries. (He had been an adviser to Israel, briefly, in the 1950s). While continuing his lectures on planning and economic growth at the Higher School of Planning and Statistics, he assisted Ignacy Sachs in the building up of a new Centre for Research on Developing Economies — also located at 162 Niepodlogosci Street.

In December 1959 Kalecki visited India for a prolonged stay, advising on the new Third Year Plan draft. He concentrated on exposing the major bottle-necks to an

acceleration of economic growth *and* on finding non-inflationary methods of raising the national savings rate without introducing new tax imposts on the poor. Lists of "essential goods" to be spared indirect taxation were compiled along with another list of inessential or non-essential goods for which suitable rates of tax were suggested. Hence his main recommendation was to raise the percentage of savings and indirect taxation in augmenting the savings fund, and to overcome stagnation in collections of personal income tax and taxes on the agricultural producers and their land.

Kalecki also looked for non-inflationary ways to expand output. In agriculture he suggested grain production could rise from 80 up to 100 metric tons per annum with reform of land tenure and an activist role for government food trading corporations which would undercut village users. For industry he took an interest in the need to define and measure the degree of excess capacity prevailing under Indian conditions (in which it was rare for a factory to operate more than one or two shifts a day and women were not permitted to work night shifts). From an understanding of ways to use capacity more fully could come extra output without inflationary expansion of subsidies to the State sector or the need for new investments.

News from Poland interrupted Kalecki's peace of mind. Letters were received in New Delhi from Warsaw colleagues concerning the change of arrangements for personnel at the Planning Commission. This led Kalecki to remark: "my influence on Polish events is waning". On his return to Warsaw, later in 1960, the Council of Ministers removed him from membership of the Planning Commission on 10 May. Then on 23 May, he was "transferred" to a new post as "scientific adviser to the Chairman of the Planning Commission" (who then was Stefan Tedrychowski).

After India, Kalecki was scheduled to visit Cuba, so after a few months in Warsaw he proceeded to Havana on 6 October 1960. There were to be more tribulations there in what became a very demanding year. The Cuban venture produced a classic Report of the Kaleckian mode but was otherwise rather unrewarding. From the beginning of his assignment, Kalecki took the view that he should not join the queue beating a path to Castro's doors. He held that if the head of the Cuban political system wanted to summon him for discussion on the Cuban economy, then he would immediately make himself available. The call never came. Castro was too busy applying a Maoist-style "mass line" in politics and was actively courting popularity with the Youth. When he finally considered Kalecki's written Report months later, Castro rejected it and ordered an upgrading of the estimates of current and potential production. This involved a change in all the economic indices set out by Kalecki in the report, despite Kalecki's clear statement that he had dealt with the actual conditions and the contradictions within the production and investment structures. The result of Castro's actions was that planning and the labour mobilisations that constituted Cuban plan-execution were put on an unrealistic basis. The inevitable result was chaos and devastation. Significantly, some years later, the Kalecki documentation in its original form was re-issued by Cuban economic officials and studied by the cadres and younger economists, rather as a textbook could be studied.

Kalecki and his wife often mentioned (for example in discussion with British economist and expert on Cuba, Mr B.H. Pollitt, during Kalecki's last visit to Cambridge in 1969) that the report on the Cuban economy had been written in a political hot-house atmosphere and under the most unfavourable conditions. Many of the

top Cuban leaders and economic officials were away in China admiring achievements there and studying the social policies engendered by the Chinese left turn. There was little in the way of systematic, reliable and relevant data that the Planning Commission's Mr Noyala could make available. Such data as existed in the country on certain sectors had to be borrowed (sometimes surreptitiously) from the US Embassy library. People were being called up for military service as US-Cuban relations deteriorated. In practice there was very little interaction between the Polish adviser and his hosts on the issues he had come to research and evaluate.

What he left them was a type-written report of some 50 pages. But it really was a good document; a model of conciseness and clarity, fully in conformity with Kalecki's advice to his students on the length of their economic writing: "imagine you are sending your piece as a telegram to Australia and that you are paying!". Kalecki starts with Cuban macroeconomic trends such as the national rates of consumption and investment. He then moves directly to consider the wages-goods sector, the productivity of agriculture and various possible methods of financing accelerated economic development. The whole discussion is well-integrated, with a few bold conclusions and recommendations about the need to change the structure of investments and to keep industrial production in line with the balance of payments results and with actual agrarian achievement.

It is probable that Kalecki was disappointed with his journey to Cuba, one reason being that the carry-on there was symptomatic of the irrationalities in decision-making and resource allocation that had been a feature of the "heroic" post-revolutionary period of a number of socialist states. He would have seen that the Cuban leaders, in a state that was at that time not yet run by Communists, had failed to learn the lessons of Poland, Hungary etc. in attempting to push too hard beyond objective economic limits. He would only be human if he had regretted Castro's hostility to his ideas and his advice.<sup>26</sup>

On his way back from Cuba in the early months of 1961, Kalecki stopped at Oxford and stayed two months at Nuffield College, giving talks and seminars. He seems to have used the time there to work on the theoretical issues of socialist economic growth policy and the measurement of investment efficiency in a socialist economy. No doubt the investment practices in Cuba had made him realise the need to make sure hard-won investment funds should be allocated efficiently. Just over a year later, he took leave from Warsaw to again visit a British university. This time it was Manchester where, from 4 May to 4 June he worked in the Department of Economics on his theory of growth in a socialist economy and tried out his ideas on the English economists. In January 1963 he made another Third World visit where he gave a paper that he had possibly worked on as a result of experience in India and Cuba. This was "The Problem of Financing Economic Development" (republished in *Essays on Developing Economies*, 1976) and was given in Sao Paulo, Brazil to young Latin American planners.

## Back in Poland: The Last Decade

Back in Poland in 1961 things began to change again for Kalecki. The continuing monitoring of living standards that he had started in conjunction with the Research Committee for Social Problems of People's Poland was languishing. Attacks on

Kalecki's views about *plan-methodology* were in full swing. These continued in 1961 and 1962. At first Kalecki worked mainly at the Institute of Economics of the Polish Academy of Sciences. Subsequently he worked mainly at the Planning Commission and lectured regularly at the Higher School of Planning and Statistics. However, by 1963 Kalecki had concluded that his immediate superior, Jedrctchowski was unwilling to stand up to Party pressure to alter Kalecki's drafts of both long-term and shorter term plans. He now resigned from the Planning Commission to take up work as a Professor of Economics (his first academic title, now conferred by the Academy of Sciences) at the Higher School of Planning and Statistics and the Centre for Research on Less Developed Countries. This kept him in touch with current planning issues but he was now in a position to express independent views, no longer being a public servant in government employ.

On the second matter of social conditions, Kalecki revived the work of the Research Committee on Social Issues (which was under the auspices of the Academy of Sciences). New investigations into the social life of workers were undertaken by J. Mareki under his supervision. Kalecki unsuccessfully proposed the setting up of a Special Institute to study the social life and material standard of Polish households. However, he did manage, with Lidia Belkia, to organise a comprehensive survey of the volume and distribution of workers' incomes in pre-war and post-war Poland. On 6 December 1963 at a Presidium of the Planning Commission he attacked the draft of the 5-Year Plan for 1966-69 because it would hurt workers. We see here once again Kalecki's worry that the workers' problems were serious enough without them being made worse by an idiotic version of socialist planning which accelerated capital construction and pressed on the living standards of those at the bottom of the income pyramid.

His "government decision function" a key feature of his 1963 book (in Polish), *Outline of a Theory of Growth in the Socialist Economy* (later 1969, 1971 published in the UK) is an analytical device tracing out the loci of points of trade-off between higher rates of investment and restriction on consumption and perfectly encapsulates his ideas on the connection of planning and the position of low income workers. His hope was, that in future, economic planners in socialist-oriented economies would come to *automatically* incorporate the "government decision function" into their thinking about planning and into their initial formulations for forward planning.

The years 1963-66 were relatively happy for Kalecki. He was appointed on 31 January for a new term (1963-65) as Chairman of the Committee for Research on Social Issues in People's Poland. In 1964 he contributed to *Essays in Honour of Oscar Lange* a controversial piece with Marxist overtones: "Econometric Model and Historical Materialism", which combines his theory of random shocks in a capitalist economy with his adherence to the role of the economic factor in development. He also sent to Feinstein in Cambridge a new paper for a proposed *Festschrift* for Maurice Dobb. This was an extension of his thinking about the relationship between investment and accelerated national income, entitled "The Curve of Production and the Evaluation of the Efficiency of Investment in a Socialist Economy". The piece contains the results of Kalecki's theoretical work — in both Poland and England — after his Cuban venture, and which seem to have been polished during 1963. His theoretical work was going well. Moreover, the strain of defending his Perspective Plan was lessened and young people were beginning earnestly to discuss his ideas.

These local colleagues include W. Brus, J. Tepicht, K. Laski, M. Rakowski, K. Porwit, I. Sachs, Z. Dobrska, W. Lisovski, J. Osiatynski. Having such a support group must have been a source of satisfaction. Scholars also came from foreign countries to see him<sup>27</sup> and *Le Monde* wrote of the two Warsaw Schools to which Kalecki was attached as constituting a "Cambridge of the East". We know from Ada Kalecki<sup>28</sup> that this was a tranquil period for him, capped by the award, on 22 July 1964, of the "Order of the Banner of Labour, First Class", conferred by government and Academy.

However, his truly prolific writing spurt 1961-65<sup>29</sup> was slowed by a heart attack on 3 December, 1965. Recovering slowly from this, Kalecki in 1967-68 was caught in the vortex of one of those tides of ideological oppression that overtook East European intellectuals from time to time and led to the breaking up of the "Kalecki circle" as well. After a series of attacks on his views were circulated, an academic "show trial" took place in May 1968, implicating many of Kalecki's younger colleagues. Characteristically, Kalecki<sup>30</sup> did not let them answer one by one, but made a "defence" on behalf of the group<sup>30</sup> at a Special Conference (organised by the State Planning Commission and the "Education Committee" of the Polish United Workers' Party) under the title "The Main Problems of Political Economy and its Teaching".

At this specially-staged conference, against a general background of Party-inspired "anti-revisionist" and anti-Semitic campaigns conducted against Warsaw intellectuals, Kalecki's theories were denounced as non-Marxist and rejected. Most of the attacks (apart from those on Tepicht's views on agriculture and Brus' views on the economic mechanisms in the Polish economy) centred on Kalecki's theories of economic growth. Kalecki considered the theory of economic growth to be the most important part of any "political economy". His own was sophisticated, analytical and relevant — far from the Party School "pop sociology" courses given under that name, and closer to the spirit of the British and French founders of political economy: Quesnay, Marx, Ricardo, Smith. This, however, was not seen by those who condemned his work as "anti-Marx".

The familiar Kaleckian equation (as expounded in *Outline of a Theory of Growth in a Socialist Economy*), links changes in the economy's growth rate to four main variables: the rate of investment; the marginal output to capital ratio; the depreciation of the stock of real capital; the increased growth of output from careful recycling and saving resources and from people responding to "moral" and revolutionary impulses/incentives (such as working back in the factory without extra pay). The equation is super-imposed on an analysis linking growth to both expanded employment and a rise in labour productivity induced by technological progress. The model is then enriched by incorporating the "government decision function" referred to earlier; re-tooling and its effects, and much more on the "effectiveness of investment" issue.

Critics at the Special Conference mentioned Kalecki's wide influence. They then made two concrete points about Kalecki himself. First that he had elided the different law of motion of capitalism and socialism [Osiatynski, 1989, pp.110-113] to which Kalecki was able to reply that his work covered both capitalism and socialist economy comprehensively and he had used quite a different analysis for each.<sup>31</sup> Second, W. Iskra and "Comrade" Gorski, a former disciple, accused Kalecki of having hidden the origins of his equation (notably its supposed derivation from the work

of Keynesians like Harrod and Domar). In his reply, Kalecki noted that his model was part of the general family of Marxian reproduction models, that Harrod-Domar analysis was demand side mainly with some account of the supply side, while his approach concerned the planning of only the supply side. In refutation of accusations of lack of originality, Kalecki said refutations were superfluous: "I would not need to cite them for the reasons put forward by Professor Austin Robinson in an article in *The Economic Journal* in March 1947". This forensic flourish reveals a lot about the atmosphere in which the trial of Kalecki was conducted and a great deal about his own modesty, about Kalecki the man. A perusal of Robinson's article reveals that the Cambridge academic wrote this: "I do not think it is necessary if one were to advance Keynes' claim to greatness, to argue that we might not have reached the same destination by other routes at a later date. To name only one other, Michal Kalecki was independently approaching the same goal".<sup>32</sup>

As a result of the anti-Semitic campaign, a number of leading Jewish intellectuals or independent thinkers were dismissed from their posts at Universities, Institutes and parts of the Academy of Sciences. Kalecki's academic milieu was torn apart. Sachs and Laski were forced to emigrate. Sometime later, W.Brus followed. In typical fashion, Kalecki publicly announced his premature retirement in protest at the treatment of these young men, whom he argued had actually improved the interpretation of Party policies. Kalecki's next move was to revisit Cambridge at the invitation of Churchill College. There he supervised students, worked and prepared an excellent paper, "Basic Problems in the Theory of Investment Efficiency" [*Collected Works*, Volume 4]. But during his extended stay in 1969, his despair was obvious to all. Even the more-than-enthusiastic response to his Cambridge lectures failed to revive his spirits. He returned to Warsaw early in 1970, a virtual exile in his own country. Kalecki's last article<sup>33</sup> was then prepared (jointly with T.Kowalik), "Observations on the Crucial Reform" and sent for publication in an Italian Socialist Journal *Politica ed Economia*. (See also Kalecki, *Collected Works*, Volume 2). He tried to take a new look at the state of the modern capitalist economy, taking into account shifts in political power influenced by labour and capital and re-assessed Rosa Luxemburg's views. Kalecki died in Warsaw, 17th July 1970.

## Kalecki's Contribution in Retrospect

Kalecki's mark, as far as Western academic economists are concerned would probably be seen as his work on capitalist dynamics — business cycle theory and growth theory [McFarlane and Kriesler, 1991]. His 1954 book *Economic Dynamics* and his articles on growth theory in the *Economic Journal* in 1962 and 1968 are deservedly well-known and often used. Affectionados will point to his prescient "Political Aspects of Full Employment";<sup>34</sup> Kalecki is linked with Keynes as a pioneer of macroeconomics, as in the comments of Lawrence Klein, Austin Robinson, Joan Robinson, R.E.Rowthorn and P.M.Sweezy.

This is not, of course, to claim his work in these areas is complete. Among areas not fully "tied up" are the effects of external shocks, of random stocks on trend lines of growth, the nature of cycle and growth, the impact of the modern financial system on the real economy and the economic role of the State [McFarlane and Kriesler,



1991]. As well, the capitalist countries have undergone significant changes since Kalecki's death, and "Kaleckians" or "post-Keynesians" need to continue to apply and develop Kalecki's insights. In particular one could point to the growth in the internationalisation of capital associated with the role of transnational corporations; the greater mobility of capital internationally; the inter-dependence of economic policies as between nations.

As far as the Third World is concerned, Kalecki has left behind an impressive collection of memos, draft plans, reports and analytical exercises, *Essays on Developing Economies* [Kalecki, 1976]. Mexico, Brazil, Cuba, India and Israel were all visited, some under UN auspices (Mexico, Sao Paulo). The three areas where Kalecki's analysis can still be useful today are (a) problems of long-term planning of economic development in underdeveloped economies; (b) ways of financing development in mixed economies; (c) isolation of main physical bottle-necks in the economy and ways to overcome their persistence. In the case of India his highly original idea of altering the proportion between savings and tax collections by taxing non-essentials has proved of lasting value. His Cuban plan was ignored at first, then the principles in it were belatedly conceded to be correct. Now Cuban economists have some guide, they do not necessarily *have* to grope in the dark, even if politically they choose to do so. In Mexico he gave good advice on the problem of financing accelerated economic growth under the conditions prevailing in most Latin American countries.

Michał Kalecki had a deep concern about Third World poverty. He supported the efforts of Vietnam and Mongolia to improve living standards, although he did not visit those countries. He supported Vietnam throughout the bomb damage inflicted on it (see also his article on the Vietnam War in Kalecki, *The Last Phase in the Transformation of Capitalism*). In India, he remarked that the system was so devastating socially because "the poor are exploiting the very poor". Given the political constraints in Third World countries, he sought a way out of the "vicious circle of poverty" which afflicted them. Sometimes, the "given political situation" defeated him, as in his Israeli and Cuban ventures. He told me that in 1960 when he advised Nehru to break the influence of large landowners and town users who were resisting a change in the social relations in agriculture, the reply came: "But you are asking me to get rid of a lot of people who put me here!". Nevertheless, acknowledging the limits, Kalecki tried to work within them to at least improve the quality of life for low income groups and to strategically mitigate the harshest effect of "growth policy" on the under-privileged.

When it comes to the socialist bloc, there is so much to say, and much of this essay has tried to explain Kalecki's attempts to improve socialism's workings. We should, however, start with his socialist outlook; to see what kind of "socialist" he was.<sup>35</sup> From 1931, Kalecki mixed in left-wing circles. He became closely associated with *Przegląd Socjalistyczny* (Socialist Review) and wrote in all of its issues before it was closed. Though refusing to join any political party, Kalecki retained a life-long sympathy for the ideals of a more collectivist society for the future, and protection for under-privileged people in the present.

Some observers who did not know him have mistaken Kalecki's interest in central planning for a sympathy for the Stalinist economic model. As explained above, this was not so, M.Kalecki retained a syndicalist, workers' control strand in his thinking. Anyone who doubts his opposition to many features of the old

"command economy" should read his "Minimal Essentials of Democratic Centralism" [*Collected Works*, Volume 4] and his "Planning and Workers Control" [Toporowski, 1986; *Collected Works*, Volume 4]. What he also insisted on was the portrayal of the actual conditions prevailing in Eastern Europe — failures as well as successes, the avoidance of utopian planning and "cover-up" of serious social ills, both errors being notably promoted by Party Secretary W.Gomulka. And, as stressed throughout this paper, Kalecki's work on investment and growth in a socialist economy is an implicit critique of G.A.Feldman's influence in seriously under-estimating what high rates of capital construction can do to suppress mass living standards. This contribution was very far from the Stalin nostrums about voluntarism in planning and the "law" of priority growth for the capital-goods sector.

Before closing these notes, it is useful to take up, in a retrospective view of Kalecki, a theme that has been suggested by another biographer, Jan Toporowski.<sup>36</sup> This involves the lack of a "permanent constituency" for the Kaleckian "vision" and "line"; or any organisational link that could be brought into play to defend him. Toporowski has said that Michal Kalecki, in his role as official adviser was bound to follow the fate of Machiavelli and be driven into (intellectual) exile. Kalecki found in all of his major posts, the Warsaw Institute of Prices and Market Research; the Oxford Institute of Statistics, the UN Department of Economic and Social Affairs; the CMEA; and the State Planning Commission of People's Poland, that integrity was not enough. Such institutions imposed ideological restrictions. Consequently, Kalecki was always leaving posts, moving on. As Toporowski aptly put it, *pace* Ada Kalecki, "he was a resigning man". But his resignations were not taken in fits of pique, nor were they the reflection of an irascible temperament. They were all considered political protests at an injustice or the imposition by force of ideological stupidity. They were recognitions too that the sort of analysis and research that he considered most valuable was simply being shut out.

Finally, and connected closely with the previous point, is the existence in Kalecki's work and life a consistent thread along with all the changes of pace, direction, location and analytical technique. Austin Robinson<sup>37</sup> could easily have been describing Kalecki when he wrote in his *Obituary of Keynes* that: "*the change of inconsistency has been levelled .... at frequent intervals. A careful study will, I believe, show him to have been remarkably consistent in his strategic objectives but extraordinarily fertile in tactical proposals for achieving them*".

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## Notes

1. This article is a revised version of a paper given to the HETSA Conference in Canberra in 1989 and is part of a wider study being written with P.Kriesler (University of NSW) and Jan Toporowski (Department of Business Studies, London South Bank Polytechnic). Many thanks are due to both of these colleagues for discussion of points in my earlier version and to Ada Kalecki for interviews in Warsaw (and, earlier in New Delhi) and for supplying documents and biographical information.
2. See in particular Toporowski [1991]; Kriesler [1987, 1991]; Halevi [1975, 1981 and 1991]; McFarlane and Kriesler, 1991 and Sawyer [1985]. George Feiwel has written a most useful introduction, with biographical notes, to M.Kalecki, *The Last Stage in the Transformation of Capitalism* (Monthly Review Press, 1968), and an earlier biography [G.Feiwel, 1975].
3. Kriesler, 1987.
4. Halevi, 1975.
5. Sawyer, 1985.
6. Toporowski, 1988.
7. Nuti, 1986.
8. Osiatynski, 1989.
9. As recounted by Ada Kalecki, who was present. (Interview with B.McFarlane, Warsaw, 16 May 1989)
10. Minsky, 1982.
11. J. Robinson, 1971, 1976.
12. She was born on 14 October 1903 and came from a bourgeois family. She studied in Cracow 1921-26 and became active in an international organisation to help the families of revolutionaries held in overseas prisons. Her brother, Ari Sternfeld, was well-known as an early expert on space missiles and rocket thrust. He published a number of articles in the major international journals before going to the USSR in 1934. He lost his job there during the purges, and seems to have become a worker in the building industry. In 1958 the Americans published a series of articles in book form on Soviet astronautical science, including a reprint of one of Sternfeld's articles.
13. A physicist who read his 1939 collection of economic essays on cycles was reported to have commented "he does it just like a scientist would". [Sources: Steindl, JPKE 1981; Ada Kalecki, Letters to Professor W.Beckerman, March 1989]. The latter draws attention to Kalecki's twelve articles in mathematics, mainly on the theory of numbers, and to the very favourable comments on them by two leading Polish mathematicians, Oderfeld and Schneal.
14. F. Targetti and B.Kinda-Hass translated Kalecki's review for *Australian Economic Papers*, December 1982: pp.244-260. These was already a translation in English done in Poland, but this was not known overseas
15. Some of the results of this study were published in Kalecki's article "The Supply Curve for Industry Under Imperfect Competition", which, however, used a too restrictive Marshallian framework. In *Econometrica* (1938), Kalecki abandoned this framework for one based on the influence of the "degree of monopoly" on costs, outputs and income distribution.
16. Advised in the late 1920s by Bay concerning building costs, one of Kalecki's earliest studies on costs and prices done in Warsaw concluded with the cautious statement that the study was unable to provide support for traditional textbook accounts of the behaviour of costs and prices in particular industries. Later, when both Cambridge research and the Oxford studies by Hall and Hitch confirmed the prevalence of cost plus mark-up pricing, Kalecki must have firmed in his view that the reverse "L"-shaped cost curve as well as a mark-up pricing provided a sound "micro" foundation for a theory of the business cycle. [For further discussion on this point, see Kriesler, 1987].
17. Worswick, 1977: Oxford Institute of Statistics, 1977.
18. See also Joan Robinson, 1976: pp25-30.
19. See Kalecki, 1959. While the original ideas were published in the source, for later publication Kalecki put the *Review of the Academy of Sciences* piece together with an article prepared for a volume edited by Lange. See Toporowski, 1986: p.70n.

20. He added as a "third leg" of a very comprehensive piece, his article, previously published in *Ekonomista* in 1957 on the influence of reduction in gestation periods on national income growth prospects.
21. For a summary of the contents of this article see Toporowski, 1986: p.70 and Ch.9, *passim*.
22. Ada Kalecki, Interview with B.McFarlane, Warsaw, 18 May 1989.
23. For the fate of these early pioneers of socialist planning, see Naum Jasny, *Soviet Economists of the 1920s*.
24. An English-language version of Feldman's model, with analytical commentary can be found in Domar, 1959: Ch.9.
25. All of Kalecki's writings on Third World Issues (with the possible exception of his book review of Manliouso in the *Economic Journal* for December, 1935) have been collected in Kalecki, 1976. The collection was compiled with editorial advice by J. Osiatynski.
26. Kalecki later remarked that the only country that carefully considered his advice was Israel and they had proceeded to implement the exact opposite of what he had recommended! He also remarked later [*Collected Works*, Polish edition, pp.471-472] that "In a socialist economy, the role of the advisor, is, for the time being limited. But in spite of this it is necessary to advise. At least such advice has one benefit, and that is, that (as in Cuba) the next generation of planners and managers can learn from it". As stated above, Kalecki's Cuban Plan became a textbook for young planners.
27. Among his overseas students (in their late 20s or early 30s) were D.M.Nuti, A.Chilosi and myself.
28. Ada Kalecki, Interview with B.McFarlane, Warsaw, 16 May 1989.
29. This rapid output included the article "Observations on the Theory of Economic Growth" for the *Economic Journal*, the English edition (translated by Ada Kalecki) of *Studies in the Theory of Business Cycles*, and *Theory of Economic Growth in a Socialist Economy*.
30. Jerezy Osiatynski, (Interview with B. McFarlane, 18 May 1989, Warsaw) recalls that an hour before making his speech, Kalecki was spotted, sitting alone, in an adjacent room going over his written pencil notes with a heavier pencil so that he could "read it better".
31. See Osiatynski, 1989: pp.110-113.
32. Austin Robinson, 1947: p.45.
33. Kalecki and Kowalik's 1970 piece is republished in Kalecki, *Collected Works*, Volume 2.
34. McFarlane and Beresford, 1981; Joan Robinson, 1976.
35. J.Toporowski, (1991), *Michal Kalecki and the Economics and Politics of Socialism*, Mimeo.
36. Toporowski, *ibid*.
37. Austin Robinson, 1947: pp45-136.

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