

The Kaleckian Analysis and the New Millennium

by

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The Kaleckian analysis and the new millennium: Abstract

This paper commemorates the centenary of Kalecki's birth through a consideration of how Kalecki's macroeconomic analysis of capitalist economies should be adapted in light of changes in such economies over the fifty years since the major elements of Kalecki's analysis of capitalism were put into place. The main elements of Kalecki's analysis, in terms of the key assumptions which he made, are outlined, and how well these assumptions have survived is discussed. The next three sections consider globalisation, the growth in the importance of financial markets and the relationship between the real and the financial sectors, and the changing relationship between workers and business (and the associated changes in industrial relations practice and law) as areas where there have been major changes in the past three decades and where Kalecki's analysis may need to be modified to encapsulate those changes.

1. Introduction

This paper commemorates the centenary of Kalecki's birth through a consideration of how Kalecki's macroeconomic analysis of capitalist economies should be adapted in light of changes in such economies over the fifty years since the major elements of Kalecki's analysis of capitalism were put into place. The approach of Kalecki sought to identify the key relationships in a capitalist economy, based on a view of the crucial institutional and socio-political elements of such an economy. However, Kalecki did not set out his institutional assumptions as a listing of initial conditions (or anything similar), but the general nature of his assumptions are reasonably clear and will be further elaborated in the next section.

'High brow' theory can be seen as attempts to derive economic analysis which is institution free (or at least a-institutional) as is particularly exemplified in general equilibrium analysis and in the Sraffian approach¹, where the attempt is made to derive an analysis which does not depend on specific institutional arrangements, etc., and is axiomatic in its construction.² Kalecki could be described as a 'middle brow' theorist, and it is his theoretical contributions on which his world-wide reputation is based. But Kalecki undertook extensive applied work on capitalist economies in Poland in the period 1927-1936, in Britain at the Oxford University Institute of Statistics during the war, and then at the United Nations until 1954³), and he sought empirical confirmation for some of his propositions and was concerned to analyse real world phenomena.⁴ His theorising was, though, firmly based on his perceptions of the institutional, political and social realities of the economies which he sought to analyse, and his applied work was clearly informed by his economic analysis. This paper specifically deals with Kalecki's analysis of industrialised capitalism and does not deal at all with Kalecki's writings on socialist economies (notably growth and planning) and on developing economies.

It is virtually inevitable that the analysis and the assumptions relating to institutional and socio-political arrangements of any 'middle brow' theorist will be rendered to some degree obsolete by the passage of time (and 'high brow' theories face the opposite problem of not

yielding predictions which can be empirically evaluated). The hundredth anniversary of Kalecki's birth and the end of the present millennium provide an occasion for a consideration of Kalecki's analysis and assumptions. But a stronger reason is the changes in capitalist economies, national, regional and global, in the nearly thirty years since Kalecki's death in 1970. The major changes identified in sections 3 to 5 have been particularly marked during those 30 years. Similar changes were already under way before 1970 (1973 would be a better watershed), and indeed it could be argued that changes such as globalisation of production and of finance and the spread of capitalism into previously non-capitalist areas are intrinsic features of capitalism. These changes are now much more evident, and the capitalist economies (national and global) are now much further removed from those of the 1930s which Kalecki initially analysed.

The paper proceeds in two stages. In the next section the main elements of Kalecki's analysis in terms of the key assumptions which he made, are outlined. Space considerations preclude any discussion of his analysis, and I have discussed that extensively elsewhere (Sawyer, 1985, 1989, 1992a, 1998). At the end of that section how well these assumptions have survived is discussed. The next three sections consider globalisation, the growth in the importance of financial markets and the relationship between the real and the financial sectors, and the changing relationship between workers and business (and the associated changes in industrial relations practice and law) as areas where there have been major changes in the past three decades and where Kalecki's analysis may need to be modified to encapsulate those changes.

2. The key elements of Kalecki's analysis

Kalecki analysed market capitalist economies as a general type, and he did not distinguish in any major way between different capitalist economies in terms of their institutional structure. In more recent years, it has become common place to distinguish between say Japanese, Swedish and American styles of capitalism in terms of the role of the State and the scale and nature of its activities, relationships between labour and business and the extent of non-market economic activities. But, in contrast, Kalecki analysed the general features of market capitalism. His writings originated in Poland and were no doubt influenced by his perceptions of the Polish situation, but there can be little doubt that he saw his analysis applying to the

more industrialised economies of the United Kingdom, United States and Germany. His discussions of particular economies (for example, papers on France in the second half of the 1930s, Germany during the 1930s and the United States in the 1950s and 1960s can be found in his *Collected Works*, Kalecki, 1990, 1991 and 1996) necessarily drew on the specific economic circumstances and policies of the country concerned and, on occasion (notably in Kalecki, 1972), made specific reference to the power and class relations.

The basis of Kalecki's approach was put into place during the 1930s. His discovery of the principal of effective demand and the key role of investment within effective demand can be dated now as 1933 (e.g. Kalecki, 1933), his analysis of investment as 1933 (Kalecki, 1933) and of pricing and its relationship with the distribution of income in 1938 (Kalecki, 1938). However, although Kalecki's name is often associated with the phrase degree of monopoly, his initial formulation of the role of lack of effective demand in the creation of unemployment assumed atomistic competition in the product markets. The labour market was not perfectly competitive in the sense of obeying the Walrasian adjustment mechanism, and he postulated that (nominal) wage changes were a function of changes in unemployment (Kalecki, 1933, 1934). His theories of investment and of pricing underwent revisions throughout his life.⁵ Steindl (1981) identified three distinct versions of his analysis of investment and the closely related subject of the trade cycle (see also, Sawyer, 1997). Kriesler (1987) divides Kalecki's approach to pricing and micro theories of distribution into three periods (1938-39, 1939-42 and 1943-71), and the middle period could be seen as his 'orthodox period' in which his approach was based on short-run profit-maximising models. In contrast, in his writings from 1943 onwards, he adopted a much less formalistic and more behavioural approach, though the analyses retained the basic feature that price is viewed as a mark-up over unit costs with the mark-up influenced by the degree of monopoly. However, I would see these successive analyses as refinements (if sometimes substantial) when considered in terms of the broad sweep of Kalecki's approach, as I think Kalecki did. In the case of investment, the common features were the influence of changes in economic activity and profitability on investment (where decisions are distinguished from implementation) and

the view of price as a mark-up over unit costs for cost-determined prices which were distinguished from demand-determined prices (Kalecki, 1954).

Kalecki wrote relatively little on the economics of capitalism after circa 1947, as his attention focused on the economics of socialism and on third world economies.⁶ His writings from 1943 onwards were largely directly policy oriented (but did include his important ‘Political aspects of full employment’, Kalecki, 1943b). His *Last Phase of the Transformation of Capitalism* (Kalecki, 1972) included four papers on the political economy of the post-war United States.⁷ In his *Kyklos* paper (Kalecki, 1971b) he incorporated the influence of trade unions on the mark-up of prices over costs (and this develop a point made in Kalecki, 1954). This paper is, in my view, significant for three reasons. It contains one of the few discussions of labour market issues by Kalecki, it represents a substantial change regarding the determinants of the mark-up (which hitherto had been limited to what may be regarded as characteristics of industrial organisation) and this approach merges product and labour market characteristics and does not impose any form of non-accelerating inflation rate of unemployment (NAIRU). The mark-up of price over costs serves to determine the real wage (for a given ratio between material costs and costs), and in Kalecki’s approach the mark-up (and hence the real product wage) is influenced by product and labour market considerations. In the more usual formulations, real wages are influenced by labour market factors and the price-cost margin by product market characteristics. Consistency between the two is brought about through a particular level of unemployment which is the NAIRU.

It is hardly surprising that Kalecki’s institutional assumptions reflect his perceptions of industrialised economies of the 1930s, initially Poland (cf. comments in Sawyer, 1985, pp.3-7 on Poland), but Kalecki did write about and study other capitalist economies, notably Germany, the United Kingdom and United States of America. But, following from what has just been said his assumptions were not updated to any significant degree thereafter. In so far as Kalecki did amend his analyses of investment and pricing, this did not bear any marks of being a response to changes in the economic or institutional environment (and indeed some of his writings on investment seems more in the nature of ‘puzzle solving’).

Turning to the key economic and institutional assumptions (some implicit and some explicit) which Kalecki made, these would include⁸:

(i) Most product markets within industrialised economies were oligopolised, with the mark-up of price over unit costs influenced by the degree of monopoly (a term which does not rule out competition and rivalry but does play it down)⁹;

(ii) Unit costs can be treated as constant with respect to output as a reasonable first approximation, up to full capacity utilisation;

(iii) Capitalist economies are characterised as based on class division (workers and capitalists with the former divided into wage earners and salary earners and the latter into entrepreneurs and rentiers), with the relationship between the classes essentially antagonistic¹⁰;

(iv) Workers are largely 'passive', in the sense that they have little influence over real wages (though perhaps over nominal wages and subject to revision in the light of Kalecki, 1971b as discussed above), have to accept factory discipline and the imposed techniques of production and do not save to any significant degree and hence do not own or accumulate wealth;

(v) The financial system has a largely passive relationship with the real sector, and the 'main action' arises from the real sector (e.g. fluctuations in investment) rather than from the financial system. It is recognized that the financial system has to provide credit if the real sector is to expand, but is generally assumed to do so. The financial system does, however, place constraints on the expansion of individual enterprises, through its interest rate policies reflecting the principle of increasing risk (Kalecki, 1937). These issues are further discussed in section 4.

(vi) Whilst in some papers Kalecki assumed a closed economy for the convenience of the specific analysis (e.g. Kalecki, 1968), he also saw international trade as important.¹¹ The international trade position entered into the overall equality between leakages and injections. I think it is reasonable to portray Kalecki's approach as involving an industrialised economy in which exports are largely industrial products and imports mainly primary products which approximates the conditions in the United Kingdom until circa 1970. In this case, for an industrialised economy, the degree of monopoly within the domestic economy is not greatly influenced by international competition, and the prices of imported products influence costs

and the real wage (though his pricing formula can readily be extended to include the role of foreign competition). Primary product prices were viewed as largely demand determined.¹² There is little explicit discussion by Kalecki of exchange rates, and it would appear that, at least for industrialised economies in the 1930s, fixed exchange rates or stable floating exchange rates were assumed.

(vii) Kalecki did not explicitly discuss the nature of the firm, but he viewed it as a capitalist institution whose controllers pursued profits as their major objective and within which managers and owners exercised power over the workers. The former is reflected in his approach to pricing and investment.¹³ The latter was reflected when he wrote that ‘under a regime of permanent full employment, the “sack” would cease to play its role as a disciplinary measure’ (Kalecki, 1943b).

Kalecki did not revise his basic ‘vision’ of a industrialised capitalist economy, and this may have reflected his pre-occupation in the 1950s and 1960s with the economics of planning under socialism and of developing countries. It may have reflected though a view that his analysis remained essentially in tact. His death in 1970 occurred just before the end of the post-war boom and the beginning of an era generally characterised by much higher levels of unemployment, slower growth, and initially higher inflation (and throughout a concern over inflation). It could be argued that the onset of stagflation and the collapse of the post-war boom stimulated interest in the work of Kalecki, especially in his analysis of full employment (Kalecki, 1943b).¹⁴ Kalecki’s analysis did not extend to the creeping (and sometimes rather more than that) inflation, which has characterised the post war period but which did not occur prior to that. Further, he did not encounter the world of volatile floating exchange rates nor rapid globalisation (discussed further below). Although economic performance in most industrialised economies was very substantially better in the post-war period than in the inter-war period, some key elements of that period (e.g. stable exchange rates, relatively low internationalisation, low inflation) remained.

Of the assumptions listed above, we would argue that the first three are still largely relevant¹⁵. In the following sections, the focus of attention falls on the remaining four assumptions. There are obviously numerous changes which could be discussed, and space

considerations limit our discussion to three areas which reflect on the last four assumptions listed above, and we view these as of importance both in their own right and in relation to Kalecki's analysis. The three broad areas are the globalisation of productive activity, the associated global nature and role of financial markets and the evolving position of workers vis-à-vis capital. The discussion begins with the nature of the changes in the nature of competition at the national and global levels and the openness of economies (reflected in the next section on globalisation), on the changing role of the financial sector (section 4), and on the evolving relationships between workers and business (section 5). It may be useful to state one part of the argument, namely that the substantial changes with respect to globalisation and the role of financial markets occurred after 1970. Though with hindsight it is possible to see these changes emerging during the 1960s, they did not represent basic changes with what had been the case before and so did not appear to warrant incorporation into Kalecki's analysis.

3. Globalisation

Globalisation includes a relatively large role for international trade, for cross-border foreign direct investment and for the co-ordination of production across national boundaries. It has been much debated whether there has been a general trend towards globalisation (e.g. Hirst and Thompson, 1996) in terms of the relative scale of international trade and of overseas investment. It is generally agreed that internationalisation (globalisation) declined in the inter-war years. The figures in Maddison (1995) suggest that, for the world as a whole, merchandise exports as a percentage of GDP reached 8.7 per cent in 1913, rising to 9.0 per cent by 1929, falling back to 7.0 per cent in 1950 but reaching 11.2 per cent in 1973 and 13.5 per cent in 1992. Kozul-Wright (1995) provides figures which put the stock of foreign direct investment at 9.0 per cent of world output in 1913, falling to 4.4 per cent in 1960 to rise back to 9.7 per cent in 1994. Foreign direct investment expanded rapidly but gradually changed its character: to the extent to which a company produces similar products in two countries it is not a great deal different from a company producing in one country and exporting to the other (and indeed the two cases can be compared in terms of the costs, including transactions costs, involved). The particularly significant changes come when different stages of production are

located in different countries and production is co-ordinated across countries. For then the ‘invisible hand’ of comparative advantage is not determining the international division of labour, but rather the ‘visible hand’ of the multinational corporations is performing that function. Further, from the perspective of the industrialised economies of the OECD area, the shift of production from those countries to the newly industrialised countries (NICs) is also significant. It is also, of course, the case that the Bretton Woods regime with fixed exchange rates and exchange controls (limiting the mobility of financial capital) was largely in place until 1971. It is also generally accepted that globalisation has proceeded apace since circa 1970.

The significant feature of this is that Kalecki was undertaking his major work at the nadir of globalisation, and the 1930s were also characterised by a general trend towards cartelisation (though not limited to the 1930s). International trade pre-World War 1 tended to be dominated by comparative advantage in the sense of involving inter-industry trade (and as noted above often the exchange of industrial products for primary products), whereas post-World War 2 trade has become increasing intra-industry. Whereas pre-World War 1, overseas investment was generally portfolio investment, post-World War 2 it has mainly taken the form of direct investment and the co-ordination of production across countries. A European Commission study suggests that ‘at least 40% of world trade is intra firm trade’ (European Commission, 1995). Even in 1983, around 60 per cent of trade of the USA and the European Community involved intermediate goods (Jones and Kierzkowski, 1990, p.38)

Kalecki did not write directly on transnational corporations (TNCs), or even mention them¹⁶, though in his applied writings of the 1930s he did deal with international cartels and trusts in some specific industries (see Kalecki, 1996, part 1). This may reflect a view that TNCs were little more than large companies who happen to operate internationally, which underplays the co-ordination of production across national boundaries and the footloose nature of (new) investment.

Kalecki is often associated with the monopoly capitalism school¹⁷, and the general presumption within that school has been that concentration will tend to rise over time (with periods of rising concentration perhaps interspersed with periods of constant levels of

concentration).¹⁸ Alongside rising industrial concentration there would be a rising degree of monopoly and profit share and from the latter a tendency towards stagnation through aggregate demand effects (cf. Steindl, 1952 and Cowling, 1982). Although there are few explicit statements, Kalecki would seem to have assumed that industrial concentration would tend to rise (e.g. he refers to 'the increasingly monopolistic character of capitalism', Kalecki, 1991, p.335), leading to a rising profit share and the stagnationist tendencies and some impediment to growth (cf. Kalecki, 1991, p.595).¹⁹ But he also argued that 'the tendency is much stronger in some periods than in others. It is difficult, however, to generalize about the relation of raw material prices to unit wage costs ... or about industrial composition. No *a priori* statement is therefore possible as to the long-run trend of the relative share of wages in income' (Kalecki, 1971a, p. 65). In any event, Kalecki did not make rising concentration and the degree of monopoly a central part of his analysis and his macro-economic analysis in no way relies on any specific tendency of the degree of monopoly.

The details of Kalecki's analysis would need to be changed in response to globalisation and the growth of transnational enterprises: for example, the degree of monopoly has to be interpreted in the context of domestic and foreign competitors, and the investment function for a particular country needs to allow for the international mobility of capital. But the question is whether the broad thrust of the analysis needs to be changed. On the overall degree of monopoly, globalisation appears to have contradictory effects. At the national level (along with the easing of trade barriers) competition and rivalry appear to intensify (and concentration statistics computed at the domestic level become more problematic if they pay no regard to imports), though this depends on the responses of the domestic firms and the nature of the relationship between the domestic firms and the 'newcomers'.²⁰ At the international level, concentration may well have risen, as businesses previously largely operating within a national economy expand to the international level. The significance of Kalecki (1971b) was to view the average degree of monopoly in terms of the overall balance of economic power between business and workers and not as a product market phenomenon alone. The process of globalisation has enhanced the power of business vis-à-vis government and workers and has gone alongside policies designed to reduce the power of trade unions.

From that perspective, the revival of profitability over the past decade or so, which had fallen in the 1970s, is not so surprising (cf. Table 1, see also Glyn, 1997). But whatever has happened to the overall degree of monopoly, we would argue that it remains a useful tool for short-term macroeconomic analysis in the determination of real wages and profit margins.

Table 1 near here

The extent of capital mobility in an era of globalisation raises the subject of the extent and speed of the equalisation of the rate of profit across sectors and across countries. There are well-known differences of analysis between the Kaleckian (monopoly capitalism) approach and the classical-Marxian one relating to the degree of capital mobility between industries and sectors (the other side of which is the height of barriers to entry) and hence the pressures towards equalisation of the rates of profit. The Kaleckian analysis clearly accepts that capacity utilisation fluctuates in the face of aggregate demand movements and in particular often falls short of that desired by enterprises (and even more so of what would be seen as full capacity utilisation). There is the suggestion in Kalecki's writing (Kalecki, 1942) that entry into an industry could affect the rate of profit through the impact on capacity utilisation. Recent debates have surrounded the portrayal of the long period, where some Kaleckian analysis has involved excess capacity with equalised rate of profit (e.g. Dutt, 1987, 1994, 1996). In response, those working in the classical-Marxian tradition have argued that enterprises will not invest in the face of excess capacity (above some 'desired' level which is based on factors such as the ability to meet fluctuations in demand, to deter new entrants), and hence in the long term capacity utilisation moves towards the 'desired' level (e.g. Glick and Campbell, 1994, 1995, Duménil and Lévy, 1995). Others have followed Kalecki's remark that 'the long-run trend is a only changing component of a chain of short-period situations; it has no independent entity' (Kalecki, 1968) to forgo long-period analysis (if that is taken to involve an equilibrium which is path-independent and characterised by capacity utilisation at a 'desired' level). The view expressed here is that, whilst the process of globalisation may change one's perception of the strength of the forces making for a uniform rate of profit and of the height of barriers to entry, it does not directly impact on the debate just referred to.

4. Financial markets

The focus of Kalecki's macroeconomic analysis is on the real side of the economy: his major concerns are with real variables (employment, investment, distribution of income etc.) and he says relatively little about financial variables (rate of interest etc.). However, scrutiny of his writings, particularly in the 1930s, reveals that he did discuss the determinants of the structure of interest rates (e.g. Kalecki, 1943a) and he was acutely aware of the role of the banking system in the expansion of demand.²¹ The ways in which his ideas have been discussed and incorporated into economic analysis has led to further down-playing of the financial factors in his analysis. There are a number of models to which the authors have applied the label of Kaleckian, or with the name of Kalecki linked with that of Steindl, which have been analyses of 'reals' without money or finance involved in any essential way.²² These Kaleckian models are equilibrium ones (despite Kalecki's general mistrust of equilibrium notions) and hence do not engage with questions of how the expansion of an economy is financed. The investment equations in such models include the influence of profits, which could be seen to reflect views about the roles of internal versus external finance.

The assertion above that Kalecki viewed the financial system as largely passive in its relations with the real sector should be subject to two significant caveats. First, Kalecki recognised that inappropriate responses by the banking system could abort any recovery. In his models of business cycles he used the working assumption that 'the financing of additional investment is effected by the so-called creation of purchasing power. The demand for bank credits increases, and these are granted by the banks' (Kalecki, 1990, p.190). But he saw that banks could respond by raising interest rates and that 'the precondition for the upswing is that the rate of interest should not increase too much in response to an increased demand for credit' (Kalecki, 1990, p.191).²³ The second caveat is that lending to individual enterprises is limited by the 'principle of increasing risk' (Kalecki, 1937), which means that finance is not readily available to all enterprises at the single prevailing price (and the consistency of these two aspects are further considered in Sawyer, 1996). This stands in contrast to the assumptions of the neo-classical models, for example Modigliani and Miller (1958). The 'principle of increasing risk' has some common features with credit rationing,

popularised by the New Keynesians especially Stiglitz (e.g. Stiglitz and Weiss, 1981). Indeed, in some writings, Kalecki went much further and argued that it was the availability of finance which was the limiting factor on the growth of a firm rather than diseconomies of scale in production or limitations of the market. He argued that there was ‘another factor ... of decisive importance in limiting the size of a firm: the amount of entrepreneurial capital, i.e. the amount of capital owned by the firm. The access of a firm to the capital market ... is determined to a large extent by the amount of the entrepreneurial capital. It would be impossible for a firm to borrow capital above a certain amount determined by the amount of its entrepreneurial capital.’ (Kalecki, 1954)

The role of banks appears somewhat contradictory in the analysis of Kalecki as reflected in the two caveats made above. However, I would argue that Kalecki’s approach should be viewed as saying that the full impact of increased investment demand will only be realised if banks provide the required credit at unchanging interest rates. Much of the impact can still come through even if the banks raise interest rates or otherwise restrict credit, provided that the increase in rates is not substantial. The response of the banks can depend on the size and composition of the increase in investment demand (for example, the rise in interest rates would be greater if the investment demand were concentrated amongst highly geared firms), on their initial liquidity positions and on the general ‘state of confidence’.

The view that money is largely or wholly endogenous within the private sector in an industrialised economy (and perhaps more broadly), and that the creation of money through the credit process is a key element for the expansion of aggregate demand (whether real or nominal) has become closely associated with the post-Keynesian approach to macroeconomics. However, there are a number of different views within the broad post-Keynesian approach.²⁴ One dichotomy, identified by Pollin (1991), is between what he terms the accommodationists and the structuralists. The former would see the Central Bank as a lender of last resort which accommodates in terms of supplying any reserves (at the Central Bank discount rate) which the banking system requires to underpin expansion of loans and deposits. The structuralists would focus on the role of financial innovation in the adjustment of the financial system to the demands placed upon it. Another related dichotomy is between

those who view the supply of money as infinitely elastic with respect to the rate of interest (exemplified by Moore, 1988)²⁵, and others who would see the supply of credit as (at least some of the time) less than infinitely elastic and dependent on, *inter alia*, the balance sheet position of the banks, and the amount of money which remains in existence following an expansion based on the extension of credit as dependent on the 'liquidity preference' of households, firms and banks (e.g. Dow, 1995, Arestis and Howells, 1996). Kalecki did not provide any substantive analysis of the relationship between the Central Bank and the financial system, but he did acknowledge the role of the Central Bank in the accommodation of increases in the money supply.²⁶ Further, his approach would seem to be closer to the view that the supply of credit is not always infinitely elastic and closer to the view that the expansion of credit depends on the decisions of the banks.

Kalecki envisaged some constraints on the actions of the real sector coming from the decisions of the financial sector, but there is a sense in which the initiative lies with the real sector. Whilst it may have always been questionable how far this ever was a realistic starting point (and the degree of unreality would vary from country to country and over time), the growth of the financial sector over the past three decades or more brings the issue to the fore. Specifically, for macroeconomic analysis, the question is whether actions and disturbances within the financial sector spill over into the real sector which would be a significant source of breakdown of the classical dichotomy. In the discussion here, we focus on two aspects of this. First, the rapid growth of the flow of funds between national currencies has made national macroeconomic policies more difficult to implement and less potent in their impact. This may have generated volatility in foreign exchange rates, which spills over into effects on international trade and investment flows.²⁷ Many have remarked on the volatility of exchange rates since the breakdown of the Bretton Woods system in the early 1970s and the possible ramifications for international trade and investment (for a brief discussion see Arestis and Sawyer, 1997 and references cited there). Similar considerations apply for stock market prices which Shiller and others have argued display 'excessive' volatility.²⁸ Financial prices will generally be strongly influenced by expectations rather than by costs as is the case for many products, and as such it is relatively easy to find explanations for the volatility whether

by drawing on Keynes's beauty contest analogy or by the more formal modelling of fads and bubbles.²⁹ The relevant considerations here are the consequences of this volatility for the real sector and the degree to which the volatility of the financial sector is transmitted through to the real sector. Prices such as exchange rates and interest rates which may be largely set by the financial sector are clearly relevant for decision making in the real sector, and volatile prices make effective decision making more difficult. Stock market and house prices can have significant perceived wealth effects on demand.

The second feature is the fragility of the financial system, often associated with the work of Minsky (e.g. Minsky, 1978, 1986; see also Dymski and Pollin, 1993), which raises a similar question. The compatibility of the approach of Minsky with that of Kalecki is suggested by Epstein when he refers to the Kaleckian/Minskian closure (amongst a range of others for an otherwise underdetermined model) whereby the real rate of interest is 'determined in the financial markets through animal spirits and assessment of risk by lenders and borrowers' (Epstein, 1994, p.246). Essentially, the potential instability of the financial system arising from its fragility can spill over into the real sector through its impact on the availability of credit and on the perceived wealth of the private sector (e.g. the effects which stock market and housing prices have on people's perception of their wealth and, thereby, on their spending decisions).

The argument here is that Kalecki saw the crucial (if passive) role played by the banking system in the expansion of aggregate expenditure. The Kaleckian analysis can then be readily extended to a consideration of the conditions under (and the terms on) which the banking system will extend credit.

5. Wages, productivity and inflation

In macroeconomic analysis it is generally necessary to use simple representations of complex decision-making (e.g. prices represented as a constant mark-up over unit costs). But it is also necessary to homogenise, that is to use a single representation of a diverse reality, and again pricing may be an example. It could readily be acknowledged that different firms use different pricing strategies, but economists seek to find a simple general representation for macroeconomic modelling purposes. These considerations also apply for wage determination

and for the relationships between productivity, wages and unemployment. In Kaleckian models, money wages are generally taken as given and productivity constant and in so far as it is assumed to vary with the level of output it does so for essentially technological reasons. To take money wages as given is not to assume that money wages are rigid but rather to treat money wages as the *numeraire* of the economic system. Kalecki could treat money wages in this manner for two types of reason. First, little hinges on the *level* of money wages: a hypothetical doubling of money wages would lead to a doubling of prices and a corresponding change in the stock of money. Second, rises in money wages (at least at levels of employment short of full employment) were not seen as a significant matter.

There are two important elements in Kalecki's analysis of inflation. The first element arises when he is concerned with the impact of the level of demand (for output) relative to capacity on price inflation. Kalecki argued that when enterprises are typically operating at high levels of capacity where unit costs are rising, then not only will prices rise but real wages would fall. The second dimension is the effects of the maintenance of the level of demand (for labour) at a high level generating full employment which, in the absence of institutional changes to accommodate the enhanced power of workers, would tend to generate wage inflation.

Kalecki's writing on inflation would suggest that he viewed a level of aggregate demand which led to demand in some sectors being ahead of supply capacity in those sectors as a major source of inflationary pressures. The shortage of supply capacity would lead to increasing unit costs, rising prices and declining real wages, which could generate a money wage response but one which cannot restore real wages (cf. Kalecki, 1997, pp.83-88). 'The "vicious spiral" arises because, after a fall in real wage-rates, money wages cannot "catch up" with prices and restore the real wage-rates to the previous level. This is caused by the fact that in the periods in question the supply of consumption goods is for one reason or another inelastic' (Kalecki, 1997, p.85). A clear implication of this view is that a plentiful capital stock (meaning one that could employ the available workforce under conditions of constant or declining real unit costs) is an antidote to inflationary pressures. However, 'it should be noted that the increases in prices and wages referred to above are not the result of the

maintenance of a high level of effective demand but rather a phenomenon connected with the *rapid rise* in this level' (Kalecki, 1997, p.573).

In his discussion of issues of full employment in the mid-1940s, Kalecki argued that under sustained full employment 'the social position of the boss would be undermined, and the self-assurance and class consciousness of the working class would grow. Strikes for wage increases and improvements in conditions of work would create political tensions' (Kalecki, 1943b, p.327). He suggested that 'discipline in the factories' and 'political stability' would also be undermined. Much may be read into these words, but I think it is reasonable to suggest that full employment may involve significant wage inflation and a fall in work intensity along with a decline of 'discipline in the factories'. The volume of profits would be higher under full employment (and hence the rate of profit, though perhaps not the share), with money wage rises leading to rising prices (to protect profits) and a squeeze on rentier income. As the threat of dismissal ceases to play its threatening role, work intensity may be lower at full employment, and labour productivity thereby lower than otherwise. This latter idea has been incorporated into a range of macroeconomic models in the past 15 years, notably Shapiro and Stiglitz (1984) and Bowles (1985) under the general heading of 'shirking' models. Kalecki used rather different terminology and as the quote above indicates saw full employment in terms of raising the self-assurance of the working class, which was held back by unemployment. But, whatever the terminology, Kalecki saw *laissez-faire* capitalism as incapable of sustaining full employment. Kalecki (1943b) in rather typical laconic style concluded by saying that "“full employment capitalism” will, of course, have to develop new social and political institutions which will reflect the increased power of the working class. If capitalism can adjust itself to full employment, a fundamental reform will have been incorporated in it' (p. 331). Singh (1996) raises the 'important question of an institutional framework which maintains labour discipline and does not blunt incentives, even when the economy sustains full employment ... The problem is not insoluble in principle or in practice, as indicated by the experience of large Japanese firms offering lifetime employment to their workers and a remuneration package based largely on seniority' (Singh, 1994, p.489). An important extension to the Kaleckian analysis would be the development of an analysis of

the relationship between productivity, work intensity and employment for given institutional arrangements, and the recognition that different institutional arrangements would lead to different relationships.

If, as full employment is approached, 'discipline in the factories' declines with the effect that work intensity and labour productivity decline, then again real unit costs rise as aggregate demand increases. Here again higher demand (in the region of full employment) can bring inflationary pressures. But in this case it may take some time before the effects are fully felt: for example, it may take some time before the experience of full employment builds up 'the self-confidence' of the workers and a decline of 'discipline in the factories' sets in.

Kalecki's approach suggests that the achievement of full employment without inflationary pressures would require sufficient aggregate demand, adequate capacity and appropriate institutional arrangements to maintain productivity. We would, though, suggest that Kalecki's own analysis needs to be expanded to incorporate the factors, notably the macroeconomic ones, influencing work intensity and labour productivity, and the institutional arrangements necessary to underpin full employment.

6. Concluding comments

Whilst the analysis of Kalecki (as with that of Keynes) is usually interpreted as relating to a single national economy perhaps because of the assumption of a single currency and the discussion of government policy, there is little reason to limit the application of the analysis in this way. The principle of effective demand is applicable to many other levels than the national one, including the world level, though, of course, the precise formulation varies (including, for example, issues of money creation and government policy). The OECD area (and even the European Union) form relatively closed economies, and much of their trade takes the form of the export of manufactures and the import of primary commodities. The relevance of the level of aggregate demand for the level of economic activity remains intact, and does so for national, regional and global levels. What has changed is the impact which a national government can have on the domestic level of aggregate demand and the degree to which the international financial system is supportive of high levels of aggregate demand across the world.

Endnotes

* I am grateful to Philip Arestis, Julio Lopez and two anonymous referees for comments on drafts of this paper: the usual caveat applies

1 'It is my purpose ... to develop first of all a theory which remains neutral with respect to the institutional organisation of society. My preoccupation will be that of singling out, to resume Ricardo's terminology, the 'primary and natural' features of a pure production system' (Pasinetti, 1981, p.25).

2 Backhouse (1995) sees Sraffian economics and general equilibrium theory as having a 'level of abstraction ... so high as to restrict, very severely, any direct relevance to real-world problems' and the 'theories appear to be based on strong *a priori* convictions about the assumptions that should be made' with 'a reluctance to develop models that can be tested empirically' (p.37).

3 See Kalecki (1996) for a collection of his papers on applied economics from the earlier period, Kalecki (1997) for papers written at Oxford, and Annexe 6 of that volume for a description of his work at the United Nations.

4 Perhaps all economists would say that they were themselves concerned to analyse real world phenomena, and it is easy to accuse others (especially those operating within a different paradigm) of having only concerns for theoretical puzzles or the display of technical expertise.

5 Kalecki (1968) attempted 'to attack the problem of the determination of investment decisions in a somewhat novel way', and indicated that his previous analysis had sought an unwarranted separation of 'short and long-run influences [which] missed certain repercussions of technical progress which affect the dynamic process as a whole' (p.263).

6 This can be judged from the contents of *Collected Works* which deal with capitalism (Kalecki, 1990, 1991, 1996, 1997), the bulk of which were initially written prior to 1950 (though in some cases subject to subsequent revision). His work at the United Nations covered capitalist economies but was not published under his name (see Kalecki, 1997, Annexe 6)

7 It also included a paper on the business upswing in Nazi Germany and an important paper on the notion of 'intermediate regimes' as applied to non-industrialised economies.

8 Like most (perhaps all) authors Kalecki did not spell out his institutional assumptions and (again like everyone else) Kalecki left many of the assumptions implicit. In the text, I hope to have identified the key assumptions which Kalecki made.

9 See also Sawyer (1994a), Sawyer (1995), pp.155-8.

10 However, in a number of models which would be described by their authors as Kaleckian the relationship between real wages and rate of profit is positive for changes in the level of effective demand (with both in effect benefiting from higher levels of capacity utilisation).

11 He argued that 'the problems of foreign trade ... present perhaps the greatest *practical* difficulties' for the achievement of full employment (Kalecki, 1944, p.39). His *Collected Works*, vol. 1 (Kalecki, 1990) part 4 also shows his concern with the effects of foreign trade.

12 'Generally speaking, changes in the prices of finished goods are 'cost-determined', while changes in the prices of raw materials inclusive of primary foodstuffs are 'demand-determined'. The prices of finished goods are affected, of course, by any 'demand-determined' change in the prices of raw materials, but it is through the channel of *costs* that this influenced is transmitted' (Kalecki, 1954, p.1, emphasis in original)

13 However, Kalecki argued that 'in view of the uncertainties faced in the process of price fixing it will not be assumed that the firm attempts to maximise its profits in any precise sort of manner' (Kalecki, 1991, p.210), and he moved away from portraying pricing in terms of the pursuit of the profit objective (cf. Kriesler, 1987).

14 '... there is no question that the theory of capitalism developed by Michal Kalecki is an extremely pessimistic one. It is based on the hypothesis of the strong tendency of developed capitalism toward stagnation, on the theory of the political business cycle, emphasizes the limited effectiveness of the interventionary policy of the bourgeois state etc. To the end of his life, Kalecki liked to stress that his criticism went even further than Marx's theory. It is not by chance that the popularity of Kalecki's theory and his publications are in inverse relationship to the economic performance of modern capitalism.' (Kowalik in Kalecki, 1991, pp.613-4)

15 Some would point to the move from a Fordist to a post Fordist era with an emphasis on flexible specialisation rather than on mass production. The relevant point here though would be as to whether unit costs are approximately constant with respect to output.

16 A paper entitled 'control over German industry by foreign capital' written in 1929 (Kalecki, 1996, pp. 151-2) discusses concern in Germany over inward investment by American companies.

17 See Sawyer (1988) for a survey of that school, including Kalecki's contribution.

18 Whilst industrial concentration rose through much of the 'golden age' in a number of countries (e.g. in UK, see Aaronovitch and Sawyer, 1975), it appears not to have done so to any marked degree since circa 1970 (for UK see Henley, 1994, Davies and Geroski, 1997; Japan shows a slight increase for the decade 1983 to 1992, Cortes, 1998).

19 For discussion of the development of Kalecki's stagnationist hypothesis see Kalecki (1991, pp.562-6).

20 Companies in countries such as the USA and the UK may feel under more competitive pressure with the rise of the Japanese companies and those of the Newly Industrialised Countries. It could be debated whether the degree of competition has risen, rather than the identity of the strong and the weak changing.

21 He argued that the 'short-term rate of interest is closely linked with the marginal convenience of holding cash', (Kalecki, 1991, p.138) and the 'long-term rate is a linear function of the expected short-term rate' (p.145).

22 For example, Dutt (1987) and some of my own work (Sawyer, 1992b, 1994b).

23 In a similar vein he wrote that 'obviously, however, the possibility of stimulating the business upswing is based on the assumption that the banking system, especially the central bank, will be able to expand credits without such a considerable increase in the rate of interest. If the banking system reacted so inflexibly to every increase in the demand for credit [as raising interest rates] then no boom would be possible on account of a new invention, nor any automatic upswing in the business cycle.' (Kalecki, 1990, p.489)

24 See also Arestis (1996, pp.22-3).

25 Which rate of interest is generally not specified, but in a sense that does not matter since the elasticity is infinite and the structure of interest rates on loans and deposits with banks is set by the banks as mark-ups above or below the discount rate set by the Central Bank

26 For example, he wrote that 'the increase in output will result in an increased demand for money in circulation, and this will call for a rise in credits from the central bank. Should the bank respond to it by raising the rate of interest to a level at which total investment would decline by the amount equal to the additional investment caused by the new invention, no increase in investment would ensue, and the economic situation will not improve. Therefore

the precondition for the upswing is that the rate of interest should not increase too much in response to an increased demand for credit' (Kalecki, 1990, p.191).

27 Foreign exchange flows (in 1995) were estimated at the equivalent of 60 times international trade (cf. Arestis and Sawyer, 1997).

28 For example, Shiller (1981, 1989, 1990). Excessive volatility refers to the movement of prices relative to some bench mark such as discounted expected future earnings. Much of this work has focused on price movements on an annual basis. Volatility on a more frequent basis may also be relevant in so far as it introduces 'noise' into prices, which makes decision making more difficult and may undermine the role of price as a signalling mechanism.

29 Keynes (1936) argues 'we devote our intelligences to anticipating what average opinion expects the average opinion to be' (p.156), the aim being 'to guess better than the crowd how the crowd will behave' (p.157). He emphasises the instability which arises from speculation and muses on the suggestion that long term commitment should be encouraged. There are significant differences between Keynes's analysis and that of fads and fashions (cf. Glickman, 1994).

Table 1

(a) Rates of profits (percent) in the business sector: annual averages

	USA	Japan	Germany	France	Italy	UK	Canada
1970-79	14.0	17.9	11.8	12.6	11.4	10.1	15.0
1980-84	14.0	13.6	10.5	10.5	11.9	9.1	17.9
1985-89	16.3	15.0	11.9	13.2	14.0	10.0	19.4
1990-95	17.6	14.6	12.8	14.6	14.5	10.6	17.9

(b) Percentage share of capital income in national income : annual averages

	USA	Japan	Germany	France	Italy	UK	Canada
1970-79	32.3	33.7	29.7	31	31.4	30.1	34.9
1980-84	32.7	30.2	29.6	29.0	35.0	30.6	37.5
1985-89	33.8	32.8	33.3	35.5	37.9	31.0	37.5
1990-95	33.6	33.4	34.5	38.5	38.4	29.2	34.0

Note: Capital income includes imputation for the capital income of the self-employed.

Source: Calculated from OECD (1996) Annex Tables 25 and 24

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