

ISSN 0819-2642  
ISBN 0 7340 2648 X



**THE UNIVERSITY OF MELBOURNE**  
**DEPARTMENT OF ECONOMICS**

RESEARCH PAPER NUMBER 990

MARCH 2007

**Investment, Profits and Employment  
in Kalecki & Keynes**

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### **ABSTRACT**

This paper sets out my response to the articles by Paul Davidson in the Journal of Post Keynesian Economics in 2000 and 2002 dealing with the (supposed) superiority of Keynes's explanation of the "ultimate cause" of unemployment over that of Kalecki. I show that there are a number of serious errors in Davidson's explanation of Kalecki's theories. I also argue that we would have less of this sort of nonsense if 'post keynesians' like Davidson were to recognize that, for Keynes as for Kalecki, aggregate demand shocks are profit shocks. In the final section of the paper I explain why it is that I none-the-less agree most emphatically with Davidson when he says that Kalecki and Keynes had quite different ideas on the 'causes' or 'origins' of (involuntary) unemployment in a capitalist economy.

*The author is a Reader in Economics at The University of Melbourne, Australia. He thanks Geoff Harcourt, John King, Peter Kriesler, Bill Mitchell and an anonymous referee for helpful comments. The usual disclaimer most definitely applies.*

ROBERT DIXON

## **Investment, profits and employment in Kalecki and Keynes**

I set out below some thoughts prompted by reading the very interesting and also very challenging articles by S Jay Levy (2001) and Paul Davidson (2000; 2002) in this journal. The common thread running through the first four sections of this paper is the important role of aggregate profits in the theories of both Kalecki and Keynes. Except in my final section I do not directly address the notion that Kalecki and Keynes had differing explanations for the presence of involuntary unemployment in a capitalist economy. In part this is because I believe we would do well to see the writings of both as foundation stones upon which we may build and, in part, because I want to focus on what Kalecki and Keynes have to say about the nexus between investment on the one hand and profits and employment on the other. I put my focus in this area because I believe it is there that I have something worthwhile and new to add to the discussion. I have tried to avoid duplicating ideas which are to be found in Kriesler (2002) and Lopez (2002) but I would urge anyone with an interest in this area to read those articles and Paul Davidson's (2002) response to them. In my final section I explain to the reader the sense in which I agree most emphatically with Paul Davidson when he says that Kalecki and Keynes had quite different ideas on the 'causes' or 'origins' of (involuntary) unemployment. Like him, I do not see this as "merely an exercise in the history of economic thought" (Davidson, 2000, p 3). I begin with the notion, put in S. Jay Levy's article, that the macro theory of profits is an identity.

### **Kalecki's macro theory of profits is not an identity**

In his recent article in this journal on aggregate profits S. Jay Levy (2001) repeatedly describes the (aggregate) profits equations of Jerome Levy and Michal Kalecki as an "identity". This notion that the macro theory of profits is an identity is so widespread that it clearly has attractions to many people, indeed, for some (but not, I suspect, for many academics) it may be a desirable property. However it is my contention that it is a mistake to regard Kalecki's macro theory of profits as an identity (I make no assertion either way in relation to Jerome Levy). It was not intended to be and is not an identity and I think we lose a good deal by seeing it that way. Kalecki repeatedly explained to his readers the causal mechanisms and the processes involved and in his (2000) paper Paul Davidson has reminded us that these are *equivalent* to those to be found in Keynes's multiplier analysis. It is in the inter-sectoral and income-expenditure relations and the forces which lie behind the degree of monopoly that the causal mechanisms are to be found. Unfortunately, however, there is a small slip in Davidson's discussion of Kalecki's equation for the change in output consequent upon a change in investment, to which I now turn.

### **Kalecki's equation for $dY$**

Davidson (2000, p. 4) writes Kalecki's equation for the change in output consequent upon a change in investment as:

$$dY = [dI] / [(1-a)(1-q)]$$

and the reader is told that " $q$  is the marginal propensity to consume out of profits and  $a$  is the marginal consumption propensity of workers" (Davidson, 2000, p. 4). This is not a correct

rendering of Kalecki's model. To begin with, Kalecki makes it quite explicit (1971, p. 96) that in this particular discussion he is assuming that the workers propensity to consume is unity and surely it would be odd to have a term in an equation which involved unity being subtracted from unity. Clearly then, the coefficient  $a$  in Davidson's formulation (Kalecki uses the symbol  $\alpha$ ) cannot be the propensity to consume out of wages. As Kalecki makes clear, it is instead "the coefficient indicating that part of  $\Delta Y$ , an increment in gross income, which goes to wages and salaries" (Kalecki, 1971, p. 96).<sup>1</sup> My reason for drawing attention to this is not simply that Davidson's exposition is in error, but to note that the slip unfortunately acts to obscure for the casual reader the role of the (possibly time-varying) mark-up, and thus class-relations, in determining the relationship between investment and employment. Kalecki's use of the word "increment" in the passage I have quoted above should serve to remind all of us that the degree of monopoly pertains to a particular moment in history and be taken to be constant and invariant.

Nor is it the case that Kalecki's studies of the change in income and employment consequent upon a change in investment relies on "the fixity of the wage-price mark-up" (Davidson, 2000, p. 5, my emphasis).<sup>2</sup> To begin with, Kalecki often discusses variations in the mark-up. One example appears on the page immediately prior to the one containing his equation for  $\Delta Y$ , where Kalecki discusses the consequences of changes in the 'degree of monopoly' and he points out that "in our equations ... an increase in the degree of monopoly will cause a fall in the coefficient  $\alpha$ " (Kalecki, 1971, p. 95). This is but one of many references made by Kalecki to the possibility that the mark-up will vary. In his writings on investment and the business cycle (to be found in his 1971 book as well as other places) Kalecki talks time and time again about the possibility that the degree of monopoly (the wage-price relationship) is not in practice likely to be a constant, although it is often

convenient (for Keynes as well as Kalecki) to assume it is so. At the end of the day what matters to Kalecki, as for Keynes, at least in this context, is that the fall in employment resulting from a collapse in investment “is larger than that arising directly from the curtailment of investment activity” (p. 96). Furthermore, he goes on to explicitly discuss the case where (because of the presence of an autonomous component of capitalists consumption and of salaries (overheads)) profits will “change proportionately less over the course of the business cycle than investment” (Kalecki, 1971, p. 97).

These remarks lead naturally to a discussion of Davidson’s exposition of the relationships between (full) employment and price flexibility in Kalecki.

### **Price flexibility and employment in Kalecki**

Paul Davidson writes that: “Kalecki’s analysis suggests that a full employment outcome could be automatically maintained by sufficient competition in the product market” (Davidson, 2000, p. 5). I want to make three comments on this remark.

First, I think that in relation to the ‘automatic’ attainment of full employment in a capitalist economy there is a sense in which discussions about market structure and price flexibility miss the point of the exercise. As Pasinetti has put it: “[T]he really important point to make is a more basic one: In the real world we are bound to experience many different market structures (quasiperfect, imperfect, oligopolistic, or whatever). The existence of one or the other of these market structures affects the actual behavioral relations and thus the particular point of effective demand that is going to be achieved. But Keynes's principle of effective demand lies behind them all” (Pasinetti, 2001, p 385). (I mention this in the context because, like Keynes, Kalecki rejected Say’s Law and believed that deficient demand was the ‘proximate’ cause of unemployment in a capitalist economy.)

Secondly, Kalecki quite explicitly criticizes the notion that price flexibility will suffice to maintain full employment and, as we shall see, one of these cases is to be found where Kalecki is defending Keynes from Pigou(!). There are a number of places in his writings where we find Kalecki attacking the notion that price flexibility will suffice to maintain full employment but to save space I will mention only three: (a) To begin with, in many of his early works Kalecki actually assumed ‘free competition’ whilst presenting his model of the business cycle. This is most evident in his 1933 *Essay on the Business Cycle Theory* where he assumes in the main that free competition prevails and only “on the last pages of the *Essay* Kalecki relaxed the assumption about free competition and showed that his conclusions on cyclical changes in production, employment, investments and profits still remained valid” (Osiatynski, 1990, p 467). (b) We should also note that, like Keynes, Kalecki often argued against those who pressed for money wage reductions in times of crisis that a reduction in money wages in conditions of perfect competition would result in a reduction in prices so that real wages would remain unaffected (Osiatynski, 1990, *passim*). (c) Finally and to my mind most importantly, Kalecki published a paper in the *Economic Journal* in 1944 attacking Pigou’s (1943) contention that price flexibility would ensure full-employment (Kalecki, 1944).<sup>3</sup> In the light of the references given in Kriesler (2002) and those given here, and especially Kalecki’s denial of the ‘Pigou effect’, surely we can agree that, like Keynes, Kalecki did not believe that price flexibility would guarantee full-employment.

A third reason why I object to Davidson’s characterization of Kalecki is that his account of Kalecki’s ideas does not acknowledge one of the most important – and oft repeated – elements in Kalecki’s (and, I will contend later, Keynes’s) economic dynamics, namely that in a capitalist economy the evolution of investment and employment in the future is affected by what is happening to aggregate profits now. Kalecki is always at great pains to show that macroeconomic phenomena evolve through time and he goes out of his way to try to identify

the time lags involved. Kalecki argues time and time again that investment in any period will be influenced by past profits (or changes in profits, as he has in mind a profits accelerator when he comes to formalize his theory). The relevance of this in the present context is that in a capitalist economy experiencing a collapse in private investment expenditure it may well be that falling prices for consumption goods can soften the blow (in that sector) temporarily but the fall in aggregate profits (and thus, returns) will (cet. par.) lead to even lower investment and employment in future. Of course, Kalecki was not the only one to see profits as a driving force in a capitalist system and to see profit shocks as likely having ‘echo’ effects into the future. Keynes also saw things this way.

### **Profits as “the mainspring of change” in Keynes**

I begin this section with some remarks about one of the similarities (others have stressed the differences) between Keynes’s *Treatise on Money* and *The General Theory*.

The *Treatise on Money* (especially the first volume) is concerned primarily with the connection between the money supply, banking policy and interest rates on the one hand and the level of output as a whole and the price level of consumer goods, on the other. The nexus between profits and investment (relative to saving) and output is at the core of the *Treatise* and offers the possibility of a dynamic analysis because “profits (or losses) having once come into existence become ... a cause of what subsequently ensues; indeed, [they are] the mainspring of change in the existing economic system” (Keynes, 1971, p. 126). In the *Treatise on Money* he presents a summary of his argument about the dynamics of the business cycle and the role of monetary policy which runs: “As a rule, the existence of profit will provoke a tendency towards a higher rate of employment and of remuneration for the factors of production; and vice versa.” “By varying the price and quantity of bank credit the banking



system governs the value of investment; upon the value of investment relatively to the volume of savings depend the profits or losses of the producers” (ibid, p. 163 and p 164).

Keynes presents essentially the same ideas in his *Harris Foundation Lectures* given in Chicago in 1931 (Keynes, 1973b, pp. 352-8) where the analysis of the slump, its causes and possible cures, are set out in terms of the Macro Theory of Profits to be found in the *Treatise on Money*. In Lecture 2 he summarises his approach as follows:<sup>4</sup> “when the value of current investment is greater than the savings of the public, the receipts of the entrepreneurs are greater than their costs, so that they make a profit; and when, on the other hand, the value of current investment is less than the savings of the public, the receipts of the entrepreneurs will be less than their costs, so that they make a loss. That is my secret, the clue to the scientific explanation of booms and slumps (and of much else as I should claim) which I offer you” (ibid, p. 353f). These ideas are also to be found in one of Keynes’s *Essays in Persuasion* first published in December 1930 titled ‘The Great Slump of 1930’ (Keynes, 1972, pp. 126-134) and again in a series of articles published in *The Times* in 1933 entitled ‘The Means to Prosperity’. There he argues that in order for the level of activity to expand business investment will have to increase, but “business enterprise will not seek to expand until after profits have begun to recover” ((Keynes, 1972, p 354, emphasis in original). Importantly, he goes on to say: “[t]hus the first step in dealing with then slump must be increased “governmental loan-expenditure” (ibid).

Commentators on Keynes have, for all intents and purposes, almost completely neglected the role of the Macro theory of profits in *The General Theory of Employment Interest and Money*. This is odd because *The General Theory* contains a number of explicit references to the Macro theory of profits. Indeed, Keynes himself makes the link between the discussion of aggregate profits and output dynamics in the *Treatise on Money* and in the

*General Theory* quite clear. For example, near the beginning of *The General Theory* he offers a brief summary of the theory of employment to be worked out in the following chapters: “The outline of our theory can be expressed as follows . . . to justify any given amount of employment there must be an amount of current investment sufficient to absorb the excess of total output over what the community chooses to consume when employment is at the given level. For unless there is this amount of investment, the receipts of the entrepreneurs will be less than is required to induce them to offer the given amount of employment” (Keynes, 1973a, p. 27). Later, he writes, “the new argument [to be found in *The General Theory*], though (as I now think) much more accurate and instructive, is essentially a development of the old. Expressed in the language of my *Treatise on Money*, it would run: the expectation of an increased excess of investment over saving, given the former volume of employment and output, will induce entrepreneurs to increase the volume of employment and output” (ibid, 1973a, p. 78). In a draft of *The General Theory* he added: “Both arguments depend on the discovery, if it can be called such, that an increase in the sum of consumption and investment will be associated with an increase in entrepreneurs’ profit and that the expectation of an increase in entrepreneurs’ profit will be associated with a higher level of employment and output. The significance of both [my present and my former arguments] lies in their attempt to show that the volume of employment is determined by the efforts of the entrepreneurs to maximize the excess of investment over saving as defined in my *Treatise on Money*” (Keynes, 1973b, p. 437).<sup>5</sup> These ideas (the Macro theory of profits coupled with the notion of profits as a ‘mainspring of change’) persist beyond the publication of *The General Theory of Employment, Interest and Money* in 1936. For example, in an article in *The Times* in 1937 titled ‘How to Avoid a Slump’, (obviously) written after *The General Theory* was published, Keynes says “the production of investment goods tends to fluctuate widely, and it is these

fluctuations which cause the fluctuations, *first of profits, then of general business activity*, and hence of national and world prosperity” (Keynes, 1982, p 386, my emphasis).<sup>6</sup>

It is easy to show that, if we begin from a position of ‘equilibrium’ (in *The General Theory* sense of a balance between aggregate demand and supply) and allow for an autonomous increase in aggregate demand measured in wage-units<sup>7</sup> given the level of aggregate supply, this automatically implies an equivalent increase in current (and expected) profits. Consider the following simple model.<sup>8</sup> We assume that we are dealing with a closed economy with no government. We further assume that the propensity to save out of profits is unity and the propensity to save out of wages is zero. Given these assumptions aggregate profits receipts in money terms in any period will equal the money value of investment expenditure in that period:

$$P = I$$

Let aggregate demand in money terms equal:

$$AD = C + I = w_m L + I$$

Where  $L$  is the number employed and  $w_m$  is the money wage rate.

Measured in wage-units aggregate demand may be expressed as:

$$AD/w_m = (C/w_m) + (I/w_m) = L + (I/w_m)$$

Likewise, the value of profits in wage-units will equal:

$$P/w_m = I/w_m$$

It follows that, given the wage-unit and the level of employment, any autonomous increase in aggregate demand measured in wage-units (and in this model that amounts to any increase in the value of investment measured in wage units) must be accompanied by an equivalent

increase in profits, as, given our assumptions, if the increased demand is realized, it will generate revenues to firms in excess of their current Wages Bills. What happens consequent upon this initial stimulus to variables such as output and employment is dependent upon a number of things, not the least of which is what happens to the wage-unit (and to price-cost margins). The main point to be understood though is that for Keynes an autonomous demand (expenditure) shock is a profits shock.<sup>9, 10</sup>

### **Concluding remarks**

I turn now to directly address Paul Davidson's conclusion that Kalecki and Keynes did not have "an identical explanation of why there was not an automatic market mechanism to assure full employment whenever a decline in investment spending occurred in an entrepreneurial economy" (Davidson, 2000, p 3).

To begin with, I think it is important that we acknowledge that both Keynes and Kalecki saw the deficiency of effective demand as consistent with the 'normal' functioning of a capitalist economy and both saw Investment as volatile and 'autonomous' and that fluctuations of activity in that sector have an 'amplified' effect upon aggregate output and employment. These insights are important and unite them both. Further, as I hope I have demonstrated above Kalecki, like Keynes, did not place the ultimate cause of unemployment in the absence of competition in product markets (c.f. Davidson, 2000, p 5). In these and in many other respects I am very much of the view that the ideas of Kalecki and Keynes are complementary and that we would do well to strive to build a coherent body of thought and policy based upon both Kalecki and Keynes and not one or the other alone (and definitely not Kalecki alone). But, having said that, I should state clearly and emphatically that I am in complete agreement with Davidson when he says that Kalecki and Keynes offer different explanations for the "ultimate cause" of unemployment.<sup>11</sup>

Paul Davidson has often argued, and correctly in my view, that Keynes's explanation of the ultimate cause of unemployment is that it is to do with the "nature of money" (Davidson, 2002, p. 641) and the "desire of savers to have a speculative demand for money to lull their disquietude" (Davidson, 2002, p. 638). This is an explanation which amounts to saying that unemployment arises in a capitalist economy because it is a money-using economic system.<sup>12</sup> Now I think there is a little more to this than Paul explicitly allows for in his presentation because Keynes is referring to money in the context of what he termed a "*money-wage or entrepreneur economy*" (Keynes, 1979, p 78) as distinct from a *barter economy* or a (*real-wage or*) *co-operative economy*, sure enough, but also as distinct from what he called a *neutral entrepreneur economy*. In other words Keynes is talking about an economic system which not only uses money but where social and institutional arrangements are such that either Say's Law does not 'automatically' apply or where departures from Say's Law are not compensated for by (say) a socialist planner. In other words Keynes is not merely describing an economy in which money is used but, more than that, he is referring to a capitalist (fiat) money-using economy. So to state the "ultimate cause" of unemployment we have to point not only to the use of money in its most vital sense but also to the fact that it is a capitalist economy. Not one or the other, but both.

I draw attention to this because there are other money-using systems in which chronic unemployment need not be a permanent feature of life, eg in Kalecki's Socialist world, and so unemployment cannot be explained solely in terms of the presence of money. The explanation must go beyond that to encompass property arrangements and institutional structures and policy - political 'will'. In relation to differences between the ideas of Kalecki and Keynes this line of reasoning can be taken a little further. In Marxian language Keynes is saying unemployment arises in a capitalist economy because it is a system of 'commodity production' and the use of money is widespread. This is definitely not Kalecki's view.

Kalecki, a socialist, influenced by Marx,<sup>13</sup> was keen to go beyond this and to elucidate the contradictions of capitalism.<sup>14</sup> If we take Kalecki's work as a whole it is clear that he gives another reason, beyond that which he has in common with Keynes (demand deficiency) why (involuntary) unemployment exists and persists in a capitalist economy.<sup>15</sup> This reason goes to the nature of capitalism and to the interests and power of the (monopoly) capitalists. It is a reason goes beyond the fact (as Keynes in distinguishing between co-operative, neutral and entrepreneur economies also went beyond the fact) that we live in an economy in which money is used. Kalecki's reason is particularly appropriate to the world in which we now live, a world of mixed capitalism where the possibility of government intervention by monetary or fiscal (or wage-tax tradeoffs or some other) policy to maintain full employment exists. The reason is, as Kalecki pointed out very early in the piece, that whether full employment is in fact achieved or not depends on class interests, the 'political economy' of society and the 'will' of the government (Kalecki, 1943).<sup>16</sup>

In short, for Keynes the ultimate cause of unemployment is that *we live in an entrepreneur economy* where money is used. For Kalecki the ultimate cause goes beyond this to include explicit reference to the nature of capitalism itself and, given the possibility of using fiscal or monetary policy to combat unemployment, to the power and will of the ruling class, a power derived ultimately from their monopoly of the means of production. However, because these are different explanations ("different" in that in my view one goes beyond the other) does not mean they are incompatible, far from it. I believe we would do well to see the writings of both as foundation stones upon which we may build a richer and more insightful understanding of the world in which we live than are foreshadowed by Paul Davidson's polemics.

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## Notes

1. In other words it is the (incremental) wage share. It is easy to demonstrate that it must be so. We know that the denominator in an expression for the investment multiplier must be the aggregate (marginal) propensity to save, defined as the increment to saving relative to the increment to national income ( $Y$ ). In Kalecki's model at this point the propensity to save out of wage income is assumed to be zero while the propensity to save out of profit income is assumed to be less than unity. So the ratio of the increment to (total) saving relative to the increment to national income will be equal to the marginal propensity to save out of profits (which will equal unity minus the marginal propensity to consume out of profits (this being  $(1 - q)$ ) multiplied by the (incremental) profits share (this being  $1 - \alpha$ ). Using Kalecki's notation, the aggregate marginal propensity to save is thus  $(1 - \alpha)(1 - q)$ . That is why in Kalecki's theories the denominator in the equation for output (the multiplier) must include reference to distribution and the degree of monopoly.

2. I'm not sure that I understand exactly what the problem is here. First, I'd have thought any exposition of the multiplier which recognizes that the aggregate propensity to save varies with income distribution but none-the-less takes it (and income distribution) as given for the purpose of elucidation, may be accused of relying on a given wage-price mark-up. Yet, as a first approximation (for that is all it is in Kalecki), as part of the heuristics, what is wrong with this? People take things as given for the sake of exposition, that doesn't mean they really do believe they are fixed. Kalecki in his 'chat' surrounding his equations goes to unusual lengths, I'd have thought, to qualify things and discuss the effect of movements in things previously taken as given. But, at the same time, there is no doubt that Kalecki is more likely to reach for a difference equation than Keynes (but then that might be a good thing in that going by his criticisms of Tinbergen its not obvious that Keynes understood difference

equations!). Second, any argument that prices will change in the same proportion as wages (an argument often found in Keynes's writings and also in Kalecki's) seems to me to be premised on the degree of monopoly being constant (even if it is zero).

3. I am grateful to John King for drawing my attention to this article.

4. Keynes's argument here may be demonstrated as follows: Assume a classical two-sector model with no consumption out of profits but with some savings out of wages. Given this, the two sectors which make up the model are a wage-goods producing sector (denoted by the subscript wgs) which produces goods and services for workers and their families to consume and a capital-goods producing sector (denoted by the subscript cgs). We will assume that the only (operating) costs of production in each sector are its own labour costs. Profits in the wage-goods sector will be equal to the revenue of that sector (given the assumption that there is no consumption out of profits, this will be equal to current expenditure on wage goods (C)) less the value of wages paid out in that sector as a cost of production. So that  $P_{wgs} = C - W_{wgs}$  with  $C = (1 - s_w)(W_{cgs} + W_{wgs})$ , where  $s_w$  is the propensity to save out of wages. Substitution of the second expression into the first yields  $P_{wgs} = (1 - s_w)(W_{cgs} + W_{wgs}) - W_{wgs}$  which may be written as  $P_{wgs} = W_{cgs} - s_w(W)$ , where  $W = W_{cgs} + W_{wgs}$ . Which is to say that the level of profits received by firms in the wage-goods sector depends upon the balance between the size of wage outlays by firms in the other sector, the capital goods sector ( $W_{cgs}$ ), and the savings of the public ( $s_w(W)$ ) or, as Keynes puts it in the *Treatise*, "profits on the production and sales of consumption goods are equal to the difference between the cost of new investment and savings" (Keynes, 1971, p 124). Since the amount spent on new capital goods  $I = P_{cgs} + W_{cgs}$  and  $P = P_{cgs} + P_{wgs}$ , it is easily seen that  $P = I - s_w(W)$  and so we may say that the total profits on output as a whole are equal to the difference between the value of new investment and the savings 'of the public'.

5. In the *General Theory* itself Keynes also talks about equilibrium between aggregate demand and supply being a point where “the entrepreneurs’ expectation of profits will be maximized” (Keynes, 1973a, p 25). Patinkin (1976, p 93) has suggested that “these words should simply be deleted from the *General Theory*” but to a certain extent they make sense in the light of the Macro Theory of profits and especially in light of Keynes ideas on monetary policy in the *Treatise*. There, Keynes supposes that entrepreneurs forecast changes in the level of their profits by attempting to form expectations of the future balance between aggregate saving and aggregate investment and the consequences of this for the demand for their particular products. This view is most clearly stated in chapter 11 of the *Treatise on Money* where Keynes writes: “production takes time and in so far as entrepreneurs are able to forecast the relation between saving and investment [it is this] which influences them in deciding the scale on which to produce and the offers it is worthwhile to make to the factors of production.” (Keynes seems to be a proponent of ‘rational’ expectations in this context because entrepreneurs are assumed to be behaving as if they are familiar with the fundamental equations of the *Treatise*.) Instead of following Patinkin and deleting the words “the entrepreneurs’ expectation of profits will be maximized” from the *General Theory* I think we would be better off to do what Keynes suggested in an early draft of the *General Theory*. There (and in connection with the language used in the *Treatise*) he proposed drawing a distinction between (neutral) equilibrium and “optimum equilibrium” where by this term he means not only that savings and investment or aggregate demand and supply are equal but also that “the marginal utility of the quantity of output produced is equal to the marginal disutility of the effort required to produce it” (Keynes, 1979, p 91f).

6. Kalecki puts the matter this way: “[T]he incomes of the capitalists is equal to the amount they spend. In this way the level of the spending of the capitalists (expressed in wage units) is

the chief determinant of the short-period equilibrium and particularly of employment and income” (Kalecki, 1937, p 79). See also Kalecki (1982, p 248f).

7. Wage units seem to inhabit a strange world in which they can be disregarded or called upon depending upon the whim of the writer. King’s (otherwise comprehensive) survey of aggregate demand and supply analysis (King, 1994) makes no mention of them while Davidson (2001) clearly sees Keynes’s use of wage-units as an important feature of his analysis of supply and demand. I believe that the exposition which follows helps to explain the reason for the use of wage units in *The General Theory* and demonstrates the importance of the device.

8. The following draws heavily on Dixon (1988) and (1997).

9. Kalecki also explains Keynes’s model in terms of profits shocks, see his ‘review’ of *The General Theory* (Kalecki, 1982) and also his early paper on the business cycle (Kalecki, 1937).

10. Note also that we have not had to specify anything about the level of output (eg we have not had to say that it is constant) to get our result that aggregate profits move up and down with the level of investment. I mention this because of the (mistaken, in my view) criticisms by Joan Robinson (1993a and b) of Keynes’s use of the ‘Widow’s Cruse’ in the *Treatise*. Kahn (1984) and Amadeo (1994), amongst others, oppose the ‘constant’ output interpretation of the *Treatise* and also reject Robinson’s argument that the Widow’s Cruse relies on constant output.

11. Both authors see the ‘proximate’ or ‘superficial’ cause as a lack of effective demand. Here we are talking about the ‘ultimate’ cause. What is it about a capitalist economy like the USA or the UK or my own country (Australia) which makes it prone to crises and persistent involuntary unemployment?

12. I notice that Davidson (2001, p 396f) cites Hahn (1977) in support of this contention. But I'd have thought if anyone deserved the credit for propounding this view loudly and forcefully, it was one of the true interpreters of Keynes, George Shackle. See for example his exposition of Keynes 'message' in the *Years of High Theory* (Shackle, 1967, especially Chs 9 - titled 'Monetary equilibrium' - and 11 ). The same ideas are to be found in Shackle 1965, Ch IV; 1972, Ch 22 and 1974, Ch 1.

13. Sebastiani (1994) provides an excellent account of Kalecki's political economy and its relation to Marx and Luxemburg. I notice that in Kalecki's 'review' of the *General Theory* he refers to the 'unemployed' as the "reserve army of unemployed labour" (Kalecki, 1982, p 246 - my emphasis).

14. The essence of Marxism consists of elucidating ... the contradictions of monopoly capitalism. From 1933 to 1968 I worked on explaining them" (Kalecki, 1993, p. 259 – it should be noted that this was written in 1968).

15. I think it is arguable that Kalecki had a second (Marxian) reason, not unrelated to that which I draw attention to in the text, to explain unemployment in a laissez-faire economy. It could be argued that, to fully explain the existence (and persistence) of unemployment, we have to go beyond explaining why firms (employers) will not offer enough jobs to clear the labour market. We need instead to explain why the unemployed are dependent on others for their livelihood and why it is that they are unable or unwilling to employ themselves or to form viable co-operatives. At the end of the day this Marxian and Kaleckian explanation for unemployment is not simply that money is used but that the working class does not own the means of production and that they are unable to borrow to obtain the required means of production. (And that, even if they were able to do so, because of the presence of collusion and increasing returns to scale they are unable to compete in the market place with the

incumbents, with the capitalists.) “[M]any economists assume ... a state of business democracy where anybody endowed with entrepreneurial ability can obtain capital for starting a business venture. This picture ... is, to put it mildly, unrealistic. The most important prerequisite for becoming an entrepreneur is the ownership of capital” (Kalecki, 1971, p 109)

16. Keynes read this “exceedingly good and most acute” article “with much sympathy and interest” (letter from Keynes to Kalecki dated 20 December 1943, published in Osiatynski (ed), 1990, p. 573).