Profits and the expectation of profits as “the mainspring of change” in Keynes

Robert Dixon
Department of Economics
University of Melbourne

I begin with some remarks about one of the many similarities between Keynes’s Treatise on Money and The General Theory. My focus is on the Macro-theory of profits.

The Macro-theory of profits in Keynes’s economics

For the reader familiar with the writings of Robinson and Kalecki, the Macro theory of profits may be best developed as follows:¹ Assume a classical two-sector model with no consumption out of profits but with some savings out of wages. The two sectors which make up the model are a consumer-goods producing sector (denoted by the subscript C) and a capital-goods producing sector (denoted by the subscript I). We will assume that both sectors are fully vertically-integrated and that the only (operating) costs of production in each sector are its own labour costs. Profits³ in the C-sector will be equal to the revenue of that sector (this will be equal to current expenditure on consumer goods (C)) less the value of wages paid out in that sector as a cost of production WC. So that:

\[ P_C = C - W_C \]  

with \[ C = (1 - s_w)W \]  

where \( s_w \) is the propensity to save out of wages and W is the total wages bill.

Substitution of (2) into (1) yields:

\[ P_C = (1 - s_w)W - W_C \]

¹ There are many ways to explain the relationship between profits (and/or mark-ups), output and employment. See for example Kalecki (1937 and 1971) and Harcourt (1965 and 1972, pp 99-103).
² Under our assumptions this could also be called the wage-goods sector.
³ I am not following the Treatise definitions here. In the Treatise profits are defined as “the difference between the actual remuneration of entrepreneurs and their normal remuneration”, where ‘normal’ means “that rate of remuneration which... would leave them under no motive either to increase or to decrease their scale of operations” (Keynes, 1971, p 111f). My exposition is conducted in terms of our ‘common sense’ use of the word profits to simply mean the excess of value added over wage outlays.
⁴ We are assuming that stocks of C-goods either do not exist or are unchanging over time.
Since the total wages bill is the sum of the wages paid out in the two sectors (i.e., $W = W_C + W_I$), we may write the above as:

$$P_C = W_I - s_w W$$

(3)

Which is to say that the level of profits received by firms in the C-sector depends upon the balance between the size of wage outlays by firms in the capital goods sector ($W_I$), and the savings of the public ($s_w W$) so in this sense we can agree with Keynes that, “profits on the production and sale of consumption goods are equal to the difference between the cost of new investment and savings” (Keynes, 1971, p 124; a similar statement appears on p 162).\(^5\)

Since the amount spent on new capital goods $I = P_I + W_I$ and $P = P_C + P_I$, (and given (3)) it is easily seen that:

$$P = I - s_w W$$

(4)

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 savings” (Keynes, 1971, p 124).\(^6\,7\)

The *Treatise on Money* (and in particular 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.\(^8\)

The nexus between profits and investment (relative to saving) is at the core of the *Treatise on Money* 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).\(^9\) In the *Treatise on Money* he also presents a summary of his argument about the dynamics of the business cycle and the role of monetary policy which runs: “If producers

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\(^5\) Although I am using Keynes’s words here I am not following his exposition exactly as, strictly speaking, by the “cost of new investment” Keynes includes not only the wages outlaid by firms in the capital goods sector but also a normal return to entrepreneurs.

\(^6\) Walter Eltis sums up the Macro theory of profits as follows: “there can only be profits in the aggregate if money which has not already been entered in business accounts as a direct cost of production is spent on goods” (Eltis, 1973, p 73).

\(^7\) It is following this discussion that Keynes enters into the development of the ‘widow’s cruse’ model showing that profits will be higher, the higher is the level of consumption out of profits (1971, p 125).

\(^8\) I say “the level of output as a whole” because there is no reason why the Macro theory of profits (or Keynes’s widow’s cruse parable, for that matter) requires us to assume that output is constant. Indeed in my opinion it is most unfortunate that Keynes allowed himself to be persuaded that this was so.

\(^9\) In a 1933 draft of the *General Theory* he writes “it is the fluctuations of aggregate quasi-rent, such as the classical theory has not contemplated as possible, which lead to fluctuations in employment” (Keynes, 1979, p 71).
as a whole are making a profit, individual producers will seek to enlarge their output so as to make more profit. … [a]s 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” (Keynes, 1971, p 163). He argues that the exercise of monetary policy has to be understood in the light of the Macro theory of profits because “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 164).

Keynes presents essentially the same ideas in his *Harris Foundation Lectures* given in Chicago in 1931 (Keynes, 1973b, pp 352-8). The analysis of the slump, its causes and possible cures are set out there in terms of the Classical theory of profits to be found in the *Treatise on Money*. In Lectures 2 and 3 he summarises his approach as follows: “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). “Moreover, the affair is cumulative. For when business profits are high, the financial machine … stimulates investment still further; which means that business profits are greater; and so on. In short, a boom is in full progress. And contrariwise when investments falls off” (ibid, p 354). “The cure of unemployment involves improving business profits. The improvement of business profits can come about only by an improvement in new investment relative to saving” (ibid, p 362). He goes on to say that there are three ways to deal with the slump: One approach involves “the restoration of confidence to both the lender and the borrower” (effectively he means by this a reduction in risk premia) but he points out that for confidence to be restored the objective circumstances will have to change and so it is really the adoption of

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10 See also his lecture to the Royal Institution on 6 February 1931, titled ‘The Internal Mechanics of the Trade Slump’ (Keynes, 1981, pp 477-81).

11 Following the Harris Foundation lectures in Chicago in 1931, Keynes took part in a seminar discussion on the topic ‘Are Wage Cuts a Remedy for Unemployment?’ Keynes analyses their effect, by asking: How will wage cuts effect the investment-saving balance? He says the net effect will depend upon whether, on balance, the effect of the wage cut upon investment offsets its effect upon saving. (Keynes, 1973b, p 368ff). He also mentions that possibility that even if wage cuts could ‘do the job’ the required cut may be so great as to threaten social harmony (ibid, p 371f). This is a point he mentions time and time again whenever he discusses (and invariably rejects) wage cuts as a possible remedy for a slump.
one or both of his other two ways of dealing with the slump that will be necessary for success. The second line of approach “consists in new construction programmes under the direct auspices of the government or other public authorities. Theoretically, it seems to me [ie to Keynes], there is everything to be said for action along these lines.” “[A] government program is calculated to improve the level of business profits and hence to increase the likelihood of private enterprise again lifting up its head.” The third line of approach “consists in a reduction in the long-term rate of interest (ibid, p 363f).

The connection between the Macro theory of profits and his policy analysis is also to be seen in two of Keynes’s essays in persuasion. One, originally published in the Nation and Athenaeum in December 1930 titled ‘The Great Slump of 1930’ (Keynes, 1972, pp 126-134, see especially p 130f) and the second a collection of articles published in The Times in 1933 entitled ‘The Means to Prosperity’(ibid, pp 335-366). In the latter 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). “Thus the first step [in dealing with the slump] has to be taken on the initiative of public authority” and will involve increased “governmental loan-expenditure” (ibid).

Modern macroeconomists (including many post-Keynesian economists) 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 its use in the Treatise on Money and 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). Elsewhere 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, p 78). It is noteworthy, that 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, see also 1973c, p 427).

Another way to see the link between the Classical theory of profits to be found in the *Treatise on Money* and the analysis of the commodities market to be found in *The General Theory* is by remembering Keynes’s use of wage-units in *The General Theory* to deflate all variables, including aggregate demand and aggregate supply.

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 imposing the condition that expectations of sales are realised), an autonomous increase in aggregate demand *measured in wage-units* given the initial level of employment, necessarily implies an equivalent increase in current (and expected) profits, and it is this which acts as the “mainspring of change”.

Consider the following, highly simplified, model. We assume that we are dealing with a closed economy with no government. We further assume that all wages are spent on consumer goods and all profits are saved. 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:

\[ AD = C + I = \bar{w}_mL + I \]

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12 On the role of expectations see also the section on ‘The Behaviour of Entrepreneurs’ in the *Treatise* (Keynes, 1971, pp 143-5).

13 I am grateful to Mark Hayes for suggesting that I draw attention to the fact that Keynes talks about the “expectation of an increased excess of investment over saving”, not just the expectation of an excess.

14 See also Dixon (1997).
Where \( L \) is the number employed and \( w_m \) is the money wage rate.

Measured in wage-units\(^{15}\) 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 an 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’\(^{16}\).

As an aside I might point out that I think that the foregoing also explains the reason for the use of wage units in the *General Theory*, and demonstrates the importance of the device. The use of wage-units should not be neglected, and nor should we believe that we could just as easily use some other (eg. a price) deflator instead of wage-units. To do so would be to throw out a key part of Keynes’s analysis.

The connection between the Macro theory of profits, the notion of profits as a ‘mainspring of change’ and the analysis of the commodities market in Keynes’s post *Treatise* work persists well beyond the publication of the *General Theory of Employment, Interest and Money* in 1936. In an article published in *The Times* in January 1937 titled ‘How to Avoid a Slump’, (obviously) written after his *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

\(^{15}\) In the *Treatise* Keynes wrote: “the labour power of money and the purchasing power of money are fundamental in a sense in which price levels based on other types of expenditure are not. Human effort and human consumption are the ultimate matters from which alone economic transactions are capable of deriving any significance” (Keynes, 1971, p 120).

\(^{16}\) Kalecki also explains Keynes’s model in terms of profits shocks and using wage units. See especially his ‘review’ of *The General Theory* (Kalecki, 1982).
national and world prosperity”. (Keynes, 1982, p 386.) Even later, in the preface to the French edition of the General Theory, written in 1939, he writes (1973a, p xxxiii) “we can calculate . . . what level of output and employment is in profit-equilibrium with a given level of new investment”.17

Keynes and ‘expectations of aggregates’

In considering the implications (and especially the policy implications) of his macro theory of profits in the Treatise, 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.18 Keynes argues that in order to forecast the balance between savings and investment, it is necessary for entrepreneurs to form expectations of future monetary (banking) policy. This view, which is essentially an approach involving ‘rational expectations’,19 is most clearly stated in the section dealing with ‘The Behaviour of Entrepreneurs’ in chapter 11 of A Treatise on Money. There, 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.” He goes on to say, “All the same, accurate forecasting in these matters is so difficult and requires much more information than is usually available, that the average behaviour of entrepreneurs is in fact mainly governed by current experience supplemented by such broad generalisations as

17 Kalecki puts the matter this way: “The incomes of the capitalists is equal to the amount they spend. In this way the level of the spending of the capitalists (expressed in age 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).

18 At times, in both the Treatise and the General Theory, Keynes seems to confuse ‘individuals expectations of an aggregate’ with the ‘aggregate of their expectations or expected values’. Hawtrey, one of his most perceptive critics, objected to this notion of formulating expectations of an aggregate. He wrote to Keynes on 6/12/1930: “[you say] ‘that entrepreneurs forecast the relationship between saving and investment in its effect on the demand for their product’. But this does not represent what is in their minds. What each tries to forecast is the demand for his own product. Even if he is acquainted with your fundamental equations, he must still recognise that the demand for his product is affected by factors other than a difference between saving and investment” (Letter from Hawtrey to Keynes in Keynes, 1973b, p 168). I’m not sure this is an important criticism of Keynes’ text because it is easy to imagine sufficient assumptions to ensure that all markets expand and contract together as the aggregate level of activity expands and contracts. Indeed, this would simplify the modelling a good deal.

19 Following Muth (1961, p 316), rational expectations may be loosely defined as informed predictions of future events which are essentially the same as the predictions provided by relevant economic theory, given the information available to the agents. It is my contention that Keynes’s agents in the Treatise are rational in this, rather mild, Muthian sense.
those relating to the probable consequences of changes in bank rate, the supply of credit and the state of the foreign exchanges” (1971, p 143f, my emphasis).

**Concluding Remarks**

It seems to me that: the macro theory of profits plays an important role in both the *Treatise* and the *General Theory*; Keynes, at least in the *Treatise* was an early proponent of rational expectations (as defined by Muth), and; to put wage-units aside is to lose the insight that for Keynes, Macro demand shocks are profit shocks.

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20 Given the definition of rational expectations set out above, it is clear that Keynes is 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*. For this reason I think a case can be made for saying that that Keynes and not Wicksell can be regarded as the early precursor to the rational expectations idea (cf McCallum, 1980, p 717).

21 The view that individuals make rational forecasts of future macro balances based on their knowledge of relevant economic theory is not entirely absent from the *General Theory*. There we find Keynes telling us that individual entrepreneurs form “expectation(s) of the sum of the proceeds resulting from consumption and investment respectively on various hypotheses” (1973, p. 77) and we have already noted the passage in the *Treatise* where he writes that “the expectation of an increase 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, p 78). Not that this view went unchallenged by his contemporaries. One of Keynes’ most perceptive critics, Ralph Hawtrey objected to the idea of aggregating the plans of a number of individuals. In his book *Capital and Employment* Hawtrey writes “there are difficulties in the conception of an aggregate of plans or expectations . . . [they] are states of mind of individuals [and as such] are of varying degrees of incompleteness and uncertainty, and extend to varying future periods of time” (Hawtrey, 1952, p 161). In commenting on drafts of the *General Theory* Hawtrey repeatedly expressed his concern at Keynes’ desire to quantify expectations of aggregate demand (proceeds). There is a well known and often cited passage on expectations which appears in a footnote on page 24 of the *General Theory* where Keynes writes “By his expectations of proceeds I mean that expectation of proceeds which, if it were held with certainty, would lead to the same behaviour as does the bundle of vague and more various possibilities which actually makes up his state of expectation when he reaches his decision”. This passage was inserted as a result of Hawtrey’s criticisms of the drafts of the *General Theory* (Keynes, 1973b, p 596).

22 Thus it is not at all obvious to me that “Keynes’s analysis could have proceeded quite as well had he adopted the price index as his deflator instead of his wage unit” (Hansen, 1953, p 44).
References


