CHAPTER 7
PROFITS AND STOCK APPRECIATION

by Wynne Godley and Adrian Wood

The first of the two pieces printed below was circulated informally as a discussion paper in October 1974. It attracted a certain amount of attention, but was nowhere published in full. It is therefore printed here in its original form. A second paper (responding to comments on the first), which subsequently appeared in the Times, *is also included here.*

Introduction

In recent weeks there has been a great deal of discussion about the liquidity and profitability of British industry. In the very influential article which appeared in the Financial Times on September 30th, Merrett & Sykes make the following statement:

> "It has at last, however, become commonly accepted that under inflationary conditions profits must be considered net of both depreciation at replacement cost and of stock appreciation (the difference between the historic and the replacement cost of stocks). Anyone naive enough to suppose that inflation in the cost of assets necessary for the continuation of a business in any sense represents a part of profitability rather than a deduction from it should reflect on the extent to which he himself has really profited by the increase in the replacement cost of his stock of consumer durables.
>
> Using the official CSO data and taking out their estimates of replacement depreciation and stock appreciation reduces the 1973 profit rise to 11 per cent. But two further critical factors must now be considered.
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> These are first, the fact that companies are taxed on their stock appreciation as if it was a genuine betterment of the company's position – companies are in the fantastic position of, in effect, being taxed *more* because they now have to pay *more* to replace their stocks. (In fact nearly half corporate pre-tax profits after interest in 1973 were accounted for by these wholly fictitious profits from stock appreciation). The second factor is the immense (nearly £900m.) increase in interest charges resulting from higher interest rates and additional interest on the extra moneys required to finance working capital and fixed investment under inflation."

Merrett & Sykes provide a table which shows that while gross profits rose 29% between 1972 and 1973, profits after deduction of stock appreciation, replacement cost depreciation, interest payments and tax fell by 43%.

Several commentators have reiterated these points [1] and attempted to bring the figures up to date. For instance Sam Brittan in support of the same essential point in the Financial Times of October 24th shows that between the first half of 1973 and the first half of 1974 profits, net of stock appreciation and capital consumption but gross of taxation, fell by 88%. He argues that if taxation is brought into the picture profits in the first half of 1974 were negative.

In this note we shall demonstrate that one of the central contentions of Merrett & Sykes – that concerning stock appreciation – is entirely incorrect, at least in the terms in which it is made. (This is a matter of some importance, not least because one might conclude from Merrett & Sykes that the stock appreciation point taken by itself warrants the remission of perhaps £2½ billion from company taxation in 1974.) Companies are undoubtedly facing real problems but it is essential, from the point of view of policy-making, that the nature of these problems be accurately analysed.

A numerical example

The following arithmetical example sets out the nature of the problem in a particular hypothetical instance in order to provide a precise framework within which discussion can proceed. *Of course* no conclusions about what should now be done can be simply and immediately drawn from this example, which is highly artificial, but we offer a few tentative speculations in the final section.

The authors gratefully acknowledge important contributions by Roger Leech, Francis Cripps and Robert Neild.

(1) One of us (wrongly) wrote a paragraph in this sense, 'The real state of the economy', W. Godley in the Sunday Times, October 6th, 1974.

In our example (which is set out in Table 7.1 below) we make the following definitions and assumptions to keep the exposition as simple as possible:

(i) The corporate sector is treated as though it were one firm.

(ii) Stocks are valued at cost and profits are defined according to the standard FIFO convention as sales less purchases plus the change in the value of stocks.

(iii) Labour productivity, total real output and the volume of stocks are all constant (which implies that the whole of any change in the value of stocks is stock appreciation). It is assumed that stocks are 100% financed by bank overdrafts.

(iv) 'Periods' are defined as (constant) production periods – the time between the beginning of the manufacture (of an object) and its final sale. Goods manufactured in one period are all sold in the subsequent period; this implies (in combination with (ii)) that the value of stocks at the end of each period is equal to purchases of raw materials and labour in that period.

(v) Prices are determined on the basis of a mark-up of 30% on historical costs; i.e. sales in each period are equal to 1.3 times purchases in the previous period.

(vi) Corporation tax is levied at 33% of profit (conventionally defined as in assumption (ii)).

(vii) In order to isolate the problem of profits and stock appreciation, the whole (very real) problem of the depreciation of fixed capital is sidestepped by assuming that there is no fixed capital (and hence no fixed investment).

(viii) It is also assumed initially that the rate of interest on bank borrowing is zero; this assumption is removed later, although it in no way affects the point we are making. Merrett & Sykes in the quotation above clearly state that the problem of interest is *additional* to the problem of stock appreciation.

Table 7.1

		1	2	3
(a)	Purchases by companies	100	130	130
(b)	Sales by companies	130	130	169
(c)	Change in value of stocks and work in progress (= change in (a) between one period and the next) = stock appreciation = change in bank overdraft	0	+30	0
(d)	Level of stocks & work in progress (at cost) end period = bank overdraft	100	130	130
(e)	Accounting profit on FIFO basis (= (b)–(a)+(c))	30	30	39
(f)	Company tax = one third of accounting profit	10	10	13
(g)	Dividends (= remainder of accounting profit)	20	20	26

Column 1 shows how things would look period by period if there were no inflation; the company sector earns £30 accounting profit and nobody would dispute that this is a fair representation of what is its 'true' pre-tax income. This is because (i) having paid £10 in corporation tax it has £20 to spend on dividends and (ii) the net worth of the company sector is unchanged.

The second column shows the first production period in a new era of suddenly accelerated inflation. At the beginning of this period (it is assumed) the price of purchases is jacked up by 30%, making current outlays £130 in the period as a whole. The other lines all now follow by assumption or definition. Prices are a constant mark up on historical costs and therefore do not change (until after the end of the period) while the value of sales at £130 equals the value of purchases. The value of stocks and work in progress has gone up by £30 although (by assumption) there is no volume change in stocks, and accounting profits equal £30 once again, all of this being stock appreciation.

But the accounting profit of £30 in this period of inflation is as true a measure of profit and as proper a basis for taxation *notwithstanding that it is all stock appreciation* as it was in the previous period when there was no inflation. £10 is paid in tax, £20 is spent on dividends (without prices having changed) just as in the previous period; moreover this has been achieved (as before) without changing the net worth of the company, because the rise in liquid assets (the value of stocks) is exactly matched by the increase in liquid liabilities (the value of bank overdrafts). At the end of the period, exactly as at the end of each non inflationary period, the 'company' could cease trading having made a surplus of £30 (prices being the same as before) and precisely eliminate its bank overdraft by selling off all its stocks at cost.

At this juncture the reader may be inclined to comment that since in period 2 cash received (line (b)) is all used up on current purchases, the payment of tax and dividends can only be made out of increased borrowing. It would be more natural, and logically equivalent, to say that the increase in the value of stocks is entirely financed by increased borrowing while tax and dividends are paid for out of profits. It is true that increased borrowing is necessary for matters to proceed as in column 2, but that is to say that the problem of stock appreciation is simply one of liquidity not of profitability.

To put the point in yet another way; if (as Merrett & Sykes have advocated) taxes were to be remitted on stock appreciation, this part of profits being treated as 'unreal', the company could liquidate at the end of the inflationary period in a net worth condition better (to the tune of £10) than in the non inflationary situation.

(Column 3 continues the story showing how things would look in a subsequent period on the assumption that costs do not change further after the end of period 2. In this case also, given our general framework of assumptions, it is clear that accounting profit is a good measure of true profits and a proper basis for taxation.)

Interest Payments

Many people who have read this note in draft have been worried that the position would be quite different if interest on bank overdrafts were included. For this reason we next give a table which demonstrates that the presence or absence of interest is irrelevant to the question of whether or not one should tax that part of accounting profit which is stock appreciation. In Table 7.2 it has been assumed that interest rates are equal to the rate of cost inflation and that interest is charged on the total value of stocks at the end of the period (though any other assumption would give essentially the same results). To isolate the point at issue we shall assume

that firms set their gross mark-ups in such a way that profits net of interest are 30% of (historical) costs. Thus in Column 2 of our example, the gross mark-up must become 69%, which causes profits net of interest to be £30, all of which, as before, is stock appreciation. And for the reasons given earlier, it is evident that in this situation, once again, accounting profits (net of interest) are a 'true' measure of profitability. Having made this point, we now revert to our initial assumption that the rate of interest is zero.

Table 7.2

		1	2
(a)	Purchases	100	130
(b)	Value of stocks	100	130
(c)	Interest	0	39
(d)	Sales	130	169
(e)	Change in value of stocks	0	30
(f)	Profit	30	30
(g)	Company tax	10	10
(h)	Dividends	20	20

Macro-economic Balance

We do not deny that accelerated inflation gives rise to important and difficult problems concerning liquidity, the distribution of income and macro-economic balance. For example, the above argument about the correct definition of profits for tax purposes takes for granted both the availability of bank finance and the willingness of companies to incur additional debt. Furthermore, correct policy conclusions can only be drawn if the implications of inflation for the economy as a whole are taken into account. And, of course, the appropriate policy to adopt will depend on what precisely has caused the inflation; for instance, if the agent of inflation is higher import prices (which tend to squeeze real wages) the government should not respond in the same way as it would if the agent were wage increases (which, if there is any lag between cost and price changes, would tend to increase real wages).

The nature of the macroeconomic policy problem can be expounded by extending Table 7.1 to include hypothetical values for other variables which make up a whole economy. It cannot be too strongly emphasized that the purpose of these examples is to show how the problem of corporate profitability and liquidity fits into a wider framework. They do *not* directly or immediately lead to any conclusion about what policy should now be[1].

In both the numerical examples below we shall assume that:

(ix) Persons do not pay taxes and do not save.

(x) Government expenditure equals tax receipts.

Example One : Wage Inflation in a Closed Economy

In this first example we extend Table 1 by assuming that the economy is a closed one so that labour is the only purchase and stocks consist entirely of work in progress. (It should be emphasised that the results produced by this example are quite inapplicable to a case in which inflation is generated by higher import prices because of external factors such as the oil price increase.) Then we can fill in the remaining pieces:

Table 7.1 continued

		1	2
(h)	Company fixed investment (which is zero by virtue of the assumption that there are no fixed capital goods)	0	0
(i)	Government expenditure = Tax receipts (f)	10	10
(j)	Personal consumption ((a)+(g)) since (a) now represents total income from employment)	120	150
(k)	Total sales ((h)+(i) +(j))	130	160
(l)	"GDP" = Factor income excluding stock appreciation	130	130

In the non inflationary period total expenditures (by persons, Government and companies) come out, as well they should, exactly equal to sales by companies and both are equal by definition to factor incomes excluding stock appreciation – the conventional measure of G.D.P.

But in the inflationary period shown in column 2, labour incomes have risen by 30% in value and also in volume so that total consumption *ex ante* is £150 and other expenditure is £10 making total final expenditure £160 which exceeds total sales by £30! (A similar *ex ante* imbalance would persist in each succeeding period if the rate of cost inflation were sustained.) Clearly something has to give; either prices have to increase relative to costs or the Government has to increase its taxation relative to its expenditure.

To take a specific instance, let us investigate what would have to happen if macro-economic balance were to be restored in period 2 *and* the real position of employees and companies (and therefore their relative position with regard to one another) were to be the same as it was in the non-inflationary situation.

(1) The rise in the real income of employees shown in column 2 of our example (which is a result of our assumption about historical cost pricing), corresponds to something which is sometimes real and important – namely that such a rise will necessarily occur if there is a significant lag in the passing on of increased costs into prices. In consequence, if the status quo is to be maintained in the new inflationary world, the disposable income of employees must be reduced (under our assumptions) by an amount equal to the increase in stock appreciation.

(2) The other condition that has to be met (if expenditure is to equal sales and no redistribution is to occur) is that additional liquid funds equal to the increase in stock appreciation must be made available on terms such that companies want to borrow them.

In short, with historical cost pricing and a closed economy, the macroeconomic gesture necessary to balance the simple economy of our example during a period of inflation without altering the distribution of income between employees and companies is for the government to raise taxes on labour incomes and *lend* the proceeds back to the company sector (in the form of secure interest-free loans). To *give* the proceeds back to the company sector (in the form of tax rebates) or to encourage the company sector to 'tax' employees directly by raising the profit margin, while it would solve

(1) Note in particular that we neglect altogether the expenditure behaviour of the owners of debt (who are also the recipients of interest payments, which we have excluded by assumption). This would have to be remedied in any full analysis of the working of an inflationary economy.

the liquidity problem of the company sector, would not in itself balance the economy(1)and would certainly cause a redistribution of income from employees to companies.

Example two: import price inflation in an open economy

The position is entirely different to the extent that the acceleration of costs is caused by a rise in import prices for external reasons. In the following alternative extension of Table 7.1, it is assumed that purchases by companies are (in volume terms) half imports, half labour. It is further assumed that in the initial period the value of exports exactly balances that of imports. In all other respects the assumptions made are the same as before.

Columns (2) and (3) show the implications of a 30% rise in the price of purchases, all of it due to a rise in import prices. In period 2, notwithstanding the fall (to zero) in the share of profits after deduction of stock appreciation, there is no change in any item of domestic expenditure though the balance of trade deteriorates by the full amount of the rise in the value of imports. (In this instance also companies must obtain additional credit to finance the increase in the value of their stocks.)

In period 3 import prices do not change; final prices rise 30% and the balance of trade is restored by a shift of resources away from domestic use, which is accomplished, given our assumptions, entirely by a reduction of real wages. Therefore if (to pursue the line taken in the previous example) the distributive status quo were to be restored while maintaining external and internal balance there would have to be a change in the incidence of taxation; specifically, in order to keep constant the ratio of disposable dividend income to disposable wage income, a tax on dividends would have to be imposed (in our example to the extent of about £4) and the proceeds handed out in the form of grants to wage earners.

Alternative extension of Table 7.1 to show what happens if import prices rise for external reasons

		1	2	3
(a)	Total purchases (as above) of which	100	130	130
	(a_1) Imports	50	80	80
	(a_2) Wages	50	50	50
(b)	Sales by companies	130	130	169
(c)	Change in value of stocks and work in progress	0	+30	0
(d)	Level of stocks & work in progress (at cost) end period	100	130	130
(e)	Accounting profit on FIFO basis	30	30	39
(f)	Company tax	10	10	13
(g)	Dividends	20	20	26
(h)	Company fixed investment	0	0	0
(i)	Government expenditure	10	10	13
(j)	Personal consumption	70	70	76
(k)	Exports	50	50	80
(l)	Total sales ((h)+(i)+(j)+(k))	130	130	169
(m)	Total sales less imports = "GDP" = factor income less stock appreciation ((1)−(a_1))	80	50	89

(1) Given our assumptions about the dividend behaviour of companies and the expenditure behaviour of dividend recipients.

STOCK APPRECIATION AND THE CRISIS OF BRITISH INDUSTRY FURTHER CONSIDERED (2)

The main purpose of our first article was to bring precision to the discussion of profits and stock appreciation. For the most part we seem to have succeeded. Specifically, nearly everyone now agrees that the original assertions of Merrett & Sykes *(Financial Times* 30th September) are incorrect. It will be recalled that they stated, emphatically and unconditionally, that what they call "profits from stock appreciation" are "wholly fictitious" and not "in any sense" a part of profitability. Among other things, the table in their article treats stock appreciation as something which should be deducted before arriving at "net profits", exactly on a par with interest payments. Since we published our article neither Merrett & Sykes nor anyone else has defended this point of view, which seems to us to stem from a complete misapprehension of the nature of stock appreciation.

Indeed, the very words "stock appreciation" are profoundly misleading, since they suggest the existence of a capital gain where there is none; as long as stocks are valued for tax and accounting purposes at cost or realisable value, whichever is lower, no capital gain of the kind implied can possibly arise. The words were invented by the British national income accountants. A much better phrase, because it contains no suggestion of this kind, is that used by the U.S. national income accountants, namely "inventory valuation adjustment".

In reality there is no such thing as "profit from stock appreciation". The profit from the sale of goods in a period is the excess of receipts over what it cost to produce those same goods. The procedure adopted by accountants for measuring this is to add to the expenditures made in the period the opening value of stocks, which in effect measures those costs incurred in previous periods with respect to goods sold in the period in question. At the same time, they subtract the closing value of stocks, because this in effect measures those costs incurred in the current period with respect to goods which will be sold in future periods. In this way, the profit realised on the sales of the period is correctly isolated, irrespective of whether the stock is replaced at the same or higher prices. All of which is simply to restate our original argument in somewhat different

(2) This article is reproduced by kind permission of the Times, where it originally appeared on 12 November 1974 as an appendix to Peter Jay's article, "Simple arithmetic challenges the £3,000m Doomsday machine", on 1 November 1974.

terms. However, a number of additional issues have been raised on which we would like to comment here.

Perhaps the most important concerns the fact that we ruled equity capital out of our model by excluding fixed capital and assuming that stocks were 100% financed by borrowing. It has been suggested by Professor Day *(Observer,* 3rd November – see also the letters by Messrs. Wiles and Geoffrey Wood in the *Times* of 11th November) that this vitiates our argument. He points out correctly that in reality stocks are partly financed by equity capital. Thus in the context of our example, where all increases in stocks are 100% financed by borrowing, the *money* value of the company's equity capital remains constant in the face of inflation (regardless of the size of the intitial gearing ratio), which implies a decline in its *real* value.

This, he argues, proves that we were wrong in asserting that stock appreciation is true profit. But Professor Day's conclusion does not rest (as readers of his article might be led to believe) on any matter of logic or of fact. It rests instead on a value judgement, namely that profits ought to be defined as the surplus over and above any expenditure necessary to maintain the *real* book value of equity capital constant. There is something to be said for this as an ethical proposition (although, as Mr Martin Gibbs rightly notes in his letter in the *Times* of 7th November, there is more than one possible meaning of 'real' in this context). But it would be highly unjust if this principle were to become the basis of company taxation without a corresponding change being made in the basis of taxation of every sort of income from wealth. For at present companies are taxed on exactly the same basis as, for example, widows and pensioners who own fixed interest securities; their (i.e. companies') income is defined for tax purposes as the surplus over and above any expenditure necessary to maintain the *money* book value of their capital constant. (Merrett & Sykes, incidentally, appear in their most recent contribution – *Times,* 7th November, especially paragraphs 7 & 9 – to be advocating an exceedingly novel criterion for measuring profits, namely that profits should be defined for company tax purposes as the surplus over and above any expenditure necessary to maintain the *stock market* value of the equity capital constant).

In the above discussion of Professor Day's point we have retained our original assumption that *increases* in stocks are 100% financed by borrowing. We have been criticised by many people (e.g. Merrett & Sykes, *Times,* 7th November, and Messrs. Artus and Perry, *Times,* 11th November) for making this assumption, on the grounds that in practice the risks and disadvantages of lending and borrowing are such that both banks and companies will be unwilling to increase overdrafts by the full amount of the increase in the value of their stocks. But our critics have missed the point. The explicitly stated conclusion of our original article was that stock appreciation, insofar as it causes problems, does so precisely because for one reason or another companies are unable or unwilling to borrow enough from banks or similar institutions to finance the whole of any increase in the value of their stocks. And for this very reason we suggested that the solution to the liquidity problems caused by stock appreciation might lie in the government providing some alternative type of loan. This, as Sir Donald MacDougall pointed out in his letter in the *Times* of 6th November, could be accomplished in part by the postponement (as distinct from the remission) of company tax liability on that part of profits which corresponds to stock appreciation.

We would like to conclude by emphasising that, in the context of political economy as a whole, the parts of our first article which dealt with the proper definition of profit made no more than a minor logical point. But the ensuing discussion has inevitably touched on a number of fundamental issues. For example, Merrett & Sykes (7th November) seem to doubt that, in the absence of price control, the company sector as a whole could pass on increased interest charges in the form of higher prices without suffering a reduction in sales volume. For reasons which are beyond the scope of the present article, we are of the contrary opinion, although we recognise that a great deal turns on the nature of the government's macroeconomic objectives and policies. More important, we are also inclined to believe for similar reasons that, in the absence of price control, increases or decreases in taxes on profits are eventually more or less completely passed on in the form of higher or lower prices. For this reason the whole issue of what is the 'proper' basis for assessing taxable profits seems to us to be, *sub specie aeternitatis,* of little importance. Of much greater practical relevance at the present time is the question of whether price control is a desirable way of trying to contain inflation. For what it is worth, we believe (and perhaps Merrett & Sykes would join us in this) that it is not.