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# Unemployment and the real wage: the economic basis for contesting political ideologies

Amit Bhaduri\* and Stephen Marglin\*

## 1. Introduction

Variations in wages have their two-sided role in industrial capitalism. Higher wages mean higher costs of manufacturing, but by providing more purchasing power to the workers they also stimulate demand. In its contradictory roles as the main element of (variable) production cost and as a major source of demand, movement in the wage rate has a complex, even ambiguous, effect on the level of employment and output. This accounts for the existence of contesting points of view on the relationship between wages and unemployment and, at the same time, also provides an economic basis for sustaining different political ideologies regarding the management of the capitalist economy. The central objective of this paper is to develop a macroeconomic framework in terms of which the issue of the relationship between wages and unemployment can be analysed with reference to these contesting political ideologies.

Our analysis is conducted from a broad Keynesian perspective which recognises the central importance of effective demand. We reformulate Hicks' well known apparatus of the *IS*-curve (Hicks, 1937) to trace out the locus of aggregate demand through equality between investment and saving by postulating *exogenous* variations in the *real* wage rate. This differs from the models of the closed economy postulated by Keynes (1936) or by Kalecki (1939, 1971). In the model of *The General Theory*, the real wage rate is an *endogenous* variable: autonomous investment determines effective demand through the multiplier mechanism; effective demand determines the level of output and the level of output determines the real wage rate, in so far as the marginal product of labour at that particular level of output has to equal the real wage rate in order to satisfy profit maximising firms (Keynes, 1936, pp. 5, 17, 29, 23). Since the real wage rate is co-determined with, but is not a determinant of, the level of output and employment, it makes no sense to treat the real wage rate as an exogenous, policy variable in the model

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underlying *The General Theory* (e.g. Solow, 1987). Similarly, Kalecki's cost-determined prices leave little scope for exogenous variations in the real wage rate, in so far as the price level and the money wage level maintain a roughly proportional relationship, through the postulate of what Hicks (1974) called 'the wage theorem'.

In this paper, we depart from this tradition of treating the real wage rate as an endogenous variable for two reasons. First, in order to examine the connection between real wage and unemployment it is necessary to perform at least 'thought experiments' based on exogenous variations in the real wage rate. Second, as we shall later argue (in Section 3), in an open economy exogenous variations in the real wage rate may become feasible through such policies as adjustment in the exchange rate. Thus, in Section 2 of this paper, we set out the basic model of exogenous real wage variation in the context of a closed economy. Section 3 extends this model to the more plausible context of an open economy. The final Section 4 provides some concluding comments and observations on both the limitations and the potentialities of the present analysis in the course of summarising the main argument.

## 2. The closed economy

In an economy without significant foreign trade and economic activity by the government, private final expenditure on consumption and on investment are the two main components of aggregate demand. Consequently, there are two distinct ways to expand aggregate demand and output—through expanding private consumption and by stimulating private investment. The 'underconsumptionist' view, which predates even Marx, emphasised the need to maintain adequate private consumption expenditure through a policy of high (real) wages.<sup>1</sup>

Keynes (1936) distanced himself from the strictly underconsumptionist position in so far as he recognised that stimulating investment, especially public investment, could provide an alternative method of expanding aggregate demand and output. Contrasting his own views from those of the earlier underconsumptionists like Malthus and Sismondi, he writes:

Practically I only differ from these schools of thought in thinking that they may lay a little too much emphasis on increased consumption at a time when there is still much social advantage to be obtained from increased investment. Theoretically, however, they are open to the criticism of neglecting the fact that there are *two* ways to expand output (Keynes, 1936, p. 325; emphasis in original).

Our first analytical task in this paper is to show how these 'two ways to expand output' emerge quite naturally through a reconstruction of the *IS*-curve, if exogenous variations in the real wage are permitted. The algebraic argument is kept simple by assuming that a constant fraction ( $1 > s > 0$ ) of profit and no wage is saved. In this primitive model workers own no property and the entire property income goes to the capitalists in the form of

<sup>1</sup> We give one example, a resolution of 1817 by Leicester framework-knitters, predating the publication of Marx's first volume of *Capital* (1867) by fifty years: 'That in proportion as the Reduction of Wages makes the great Body of People poor and wretched, in the same proportion must the consumption of our manufacturers be lessened.'

That if liberal wages were given to the Mechanics in general throughout the Country, the Home Consumption of our Manufacturers would be immediately more than doubled and consequently every hand would soon find full employment.

That to Reduce the Wage of the Mechanic of the Country so low that he cannot live by his labour, in order to undersell Foreign Manufacturers in a Foreign Market, is to gain one customer abroad and lose two at home . . .' (quoted in Thompson, 1963, p. 206).

profit.<sup>1</sup> These assumptions permit us to capture the underconsumptionist argument in a simple manner; any redistribution of income from profit to wage through higher real wage increases consumption and decreases saving according to the formula

$$S = sR = s(R/Y)(Y/Y^*)Y^*$$

where,  $R$  = profit,  $Y$  = income (output) and,  $Y^*$  = full-capacity potential income (output). Since full-capacity output ( $Y^*$ ) can be treated as constant in each short period, we normalise saving as well as all other relevant variables as proportions of full-capacity output. Hence, setting  $Y^* = 1$ , the normalised value of saving becomes

$$S = shz, Y^* = 1 \quad (1)$$

where,  $H = R/Y$  = share of profit,  $1 > h > 0$  and  $z = Y/Y^*$  = degree of capacity utilisation,  $1 > z > 0$ .<sup>2</sup>

In the closed economy all purchases and sales of intermediate raw materials cancel out, and we can think of the representative firm as vertically integrated using directly and indirectly a constant amount of labour per unit of final output.<sup>3</sup> However, this assumption of *constant* labour input per unit of output has two implications. First, it rules out all complexities of the labour process at the level of the firm, e.g. considerations of 'efficiency wage' where labour productivity itself may be influenced by the level of real wage (see Bowles, 1985). It also ignores the problem of 'permanent' administrative staff in the labour force in so far as such permanent staff constitutes a part of the firm's overhead cost. Thus, average labour productivity rises as more output is produced through higher capacity utilisation with the same level of permanent staff (cf. Baran and Sweezy, 1966; Kalecki, 1971; Rowthorn, 1981). Instead, we assume that all workers are 'operatives', i.e. their number varies directly with the level of output. This means that both marginal and average (variable) cost are constant at any given money wage rate, so long as labour is the only variable input (directly and indirectly) required in production. Assuming firms set a given profit margin on their constant marginal and average (variable) cost, the mark-up price equation is written as

$$p = (1 + m)bw \quad (2)$$

<sup>1</sup> Although this model is cast in the framework of the 'classical' savings function, it could be extended to the case of 'corporate capitalism', e.g. 's' can be interpreted as the constant fraction of corporate profit retained, and all distributed profit and wages would be assumed to be consumed by households. However, such 'extensions' would be trivial unless the financial determinants of corporate investments, especially the influence of the stock exchange market on investment, are also introduced into the analysis. In the present paper, we deliberately abstract from all such financial complications, including the rate of interest, because this is not our immediate purpose.

<sup>2</sup> The measure of capacity utilisation—actual output as a fraction of potential output—is a problematic concept. For those accustomed to thinking in terms of the production function and factor substitution leading to rising marginal cost,  $z$  is well defined so long as the elasticity of substitution is less than unity. Although the simplest assumption is to postulate constant labour productivity up to full-capacity output, this requires us to abandon either the notion of a competitive product market or profit-maximising equilibrium (Kalecki, 1971). The time-intensity of use of the capital stock, measured by the fraction of hours per period over which the equipment is in use, could provide a practical index of capacity utilisation, as proposed by Marris (1964) and used by Lucas (1970).

<sup>3</sup> See Pasinetti (1981, ch. 6) on the link between inter-industry and vertically integrated analysis. The reader may be reminded here that the method works only so long as raw materials are also produced (processed) within the inter-industrial structure, but are not primary commodities or exhaustible natural resources with 'demand-determined' prices (Kalecki, 1971).

where,  $p$  = price level,  $w$  = money wage rate,  $b$  = labour (directly and indirectly) needed per unit of final output, i.e.  $1/b$  is labour productivity and  $m$  is profit margin as percentage mark-up on unit labour (prime) cost.

Equation (2) implies, on the one hand a positive functional relation between profit margin and profit share,<sup>1</sup> i.e.

$$h = m/(1 + m), dh/dm > 0 \quad (3)$$

On the other, it exhibits the distributional conflict between profit margin/share and real wage at given labour productivity, i.e.

$$(1 + m)(w/p) = (1 - h)^{-1}(w/p) = (1/b) \quad (4)$$

Any increase in real wage rate, depressing profit margin and profit share (equation 4), must decrease savings (equation 1) and increase consumption to validate the under-consumptionist thesis in our model. Nevertheless, aggregate demand ( $C + I$ ) may still rise or fall depending on what impact that lower profit margin/share has on investment. Since it is plausible to argue that, other things being equal, a lower profit margin/share would weaken the incentive to invest, the contradictory effects of any exogenous variation in the real wage on the level of aggregate demand become apparent. A higher real wage increases consumption but reduces investment, in so far as investment depends on the profit margin. More formally, assuming the level of investment (as a proportion of full-capacity output due to normalisation,  $Y^* = 1$ ) to be an increasing function of profit margin/share (see equation 3), i.e.

$$I = I(h), Y^* = 1 \quad (5)$$

the equality between saving and investment from (1) and (5) implies,

$$shz = I(h)$$

and the local slope of the  $IS$ -curve is given as

$$dz/dh = (I_h - sz)/sh, I_h = (dI/dh) > 0 \quad (6)$$

Since the denominator on the right hand side of (6) is positive, the slope of the  $IS$ -curve is negative or positive depending on whether  $sz$  is greater or less than  $I_h$  i.e. whether

<sup>1</sup> With permanent staff incorporated in the analysis and assuming a uniform wage rate for all workers, profit share can be derived (cf. Rowthorn, 1981) as  $h = (mz - f)/z(1 + m)$ , instead of (3) in the text where,  $f$  = the ratio of (a constant number of) permanent staff to operative workers at full capacity output. Hence, unlike in the simpler case of the text (equation 3), profit share increases with capacity utilisation, i.e.  $(\partial h/\partial z) > 0$ , but in conformity with equation (3), the profit share increases with the profit margin, i.e.  $(\partial h/\partial m) > 0$ , other things remaining the same.

savings responds more or less strongly than investment with respect to changes in the profit share (and margin).

Equation (6), describing the (local) properties of the  $IS$ -curve, explains why the under-consumptionist thesis may or may not be validated in a closed economy. When investment responds relatively weakly to changes in the profit margin/share (i.e.  $I_h < sz$ ), the decrease in consumption demand due to a lower real wage and higher profit share (see equation 4) is not compensated entirely by the increase in investment demand. Consequently, aggregate demand ( $C + I$ ) decreases as the real wage rate decreases (i.e. the profit share increases), resulting in an inverse relation between the profit share ( $h$ ) and the degree of capacity utilisation ( $z$ ). The under-consumptionist view that a lower real wage decreases the level of economic activity by reducing aggregate demand is valid in this case of mass consumption-based, wage-led expansion. However, exactly the opposite argument holds when investment responds relatively strongly to variations in the profit share (i.e.  $I_h > sz$ ). The fall in consumption due to a lower real wage (and higher profit share) is overcompensated by the increase in investment in this case of investment-based, profit-led expansion to invalidate the underconsumptionist thesis. The 'two ways to expand output' suggested by Keynes become analytically linked in our model through exogenous variation in the real wage and distribution of income between the classes.

Two observations are in order regarding the foregoing analysis. First, the conventional result of an inverse relation between the level of output (i.e. capacity utilisation,  $z$ ) and the real wage rate, propounded by Keynes in *The General Theory* (pp. 5, 17–18, 42, 289, 301) and also by neo-classical economists, is obtained only in the particular case of profit-led expansion. However, our result is obtained through a different route which does not depend on the assumption of profit maximisation, but recognises the centrality of effective demand. Output expands at a lower real wage in this profit-led case simply because aggregate demand is higher owing to the strong response of investment to the higher profit margin/share brought about by a lower real wage rate. This is also the reason why we can obtain precisely the opposite result which contradicts the neo-classical Keynesian case. This is the case of wage-led expansion where a lower real wage leads to a contraction in the level of output owing to the relatively weak response of investment to a higher profit margin/share.<sup>1</sup>

Second, the investment demand function in equation (5) may be considered (rightly) to be implausible in so far as the rate of profit, and not the profit margin, is normally assumed to be a crucial determinant of investment. Given the accountants' book value of capital in the short period, the average rate of profit ( $r$ ) depends definitionally, on both the profit margin/share and the degree of capacity utilisation, i.e.

$$r = R/K = (R/Y)(Y/Y^*)(Y^*/K) = hza \quad (7)$$

where,  $K$  = accountants' book value of capital, assumed given in the short period, and,  $(Y^*/K) = a$  = output capital ratio at full capacity, assumed given in the short period. Equation (7) shows how both profit share/margin and the degree of capacity utilisation (i.e. the 'acceleration' effect) enter jointly as arguments in the investment function through their influence on the rate of profit. However, although it has been a common

<sup>1</sup> While in the profit-led case, the real wage rate would behave contra-cyclically, in the wage-led case, the real wage would move pro-cyclically. This issue has been debated empirically for the last fifty years, since the publication of *The General Theory*. Schor (1985) provides an excellent survey with an analysis of recent (1955–1980) evidence.

practice to make the rate of investment depend simply on the rate of profit (e.g. Robinson, 1962; Marglin, 1984), this is theoretically unsatisfactory, because it does not go behind the rate of profit to its individual constituents. For instance, it is simply assumed that a given rate of profit will produce the same level of investment as results from high capacity utilisation and a low profit margin or from low capacity utilisation and a high profit margin. An investment function which depends simply on the rate of profit is insensitive to the influence of the existing degree of capacity utilisation, e.g. it neglects the possibility that, despite a high profit margin, investors may not be inclined to invest in additional capacity if massive excess capacity already exists.<sup>1</sup>

Observe that this influence of existing capacity on investment cannot be captured satisfactorily by simply introducing a term for capacity utilisation ( $z$ ) along with the rate of profit ( $r$ ) as the arguments in the investment function (see Rowthorn, 1981; Dutt, 1984; Taylor, 1985). The problem with this procedure is that it imposes unwarranted restrictions on the relative response of investment to the two constituents of the profit rate,  $h$  and  $z$ , with the result that the possibility of profit-led expansion is ruled out (why this is so is discussed in Appendix A). These problems are avoidable by treating profit share/margin and capacity utilisation as independent and separate arguments in an investment function, i.e. in place of our earlier equation (5) we have

$$I = I(h, z); Y^* = 1; \quad I_h > 0, \quad I_z > 0 \tag{8}$$

The investment behaviour in (8) may be imagined to be based on static expectations where, current *average* profitability ( $m$  and  $h$ ) and *average* degree of capacity utilisation ( $z$ ) are used by investors as predictors of *marginal* profitability on new investment and the future state of demand respectively.

Although no investment function can be defended beyond a point, the investment function in (8) has the analytical advantage of clearly separating the ‘demand side’ impact on investment operating through the acceleration effect of higher capacity utilisation from the ‘supply side’ impact operating through the cost-reducing effect of a lower real wage and higher profit margin/share. Since these two variables,  $z$  and  $h$ , also enter in determining the rate of saving in (1), we can capture the dual effects of real wage variation through a reconstruction of *IS*-curve. Equating saving in (1) with investment in (8), the *IS*-curve is generated in the ( $z, h$ ) space as

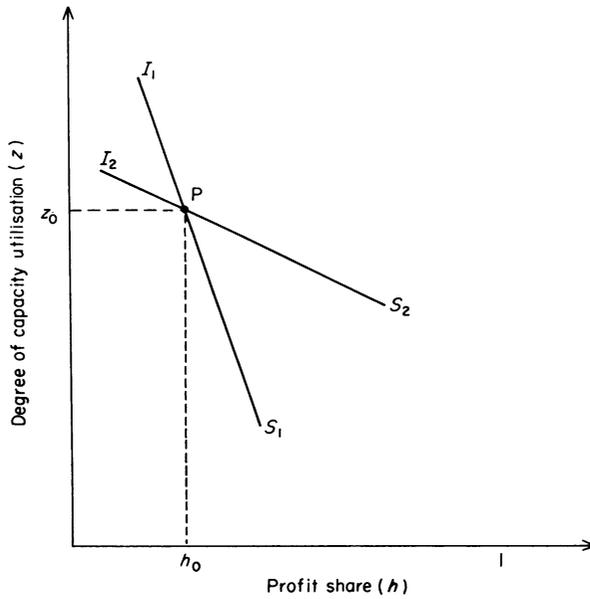
$$shz = I(h, z) \tag{9}$$

which has the (local) slope,

$$dz/dh = (I_h - sz) / (sh - I_z) \tag{10}$$

Again, the slope of the *IS*-curve in (10) can be negative or positive, depending on the relative response of investment and saving to profit share in the numerator and to capacity utilisation in the denominator.

<sup>1</sup> This may influence the shape of the *IS*-curve, as discussed further in Appendix B.



**Fig. 1.** The stagnationist regime [with  $(I_1, S_1)$  or without  $(I_2, S_2)$  cooperation between labour and capital, depending on whether elasticity in absolute value at the initial point  $P(h_0, z_0)$  is greater (in  $I_1, S_1$ ) or less (in  $I_2, S_2$ ) than unity].

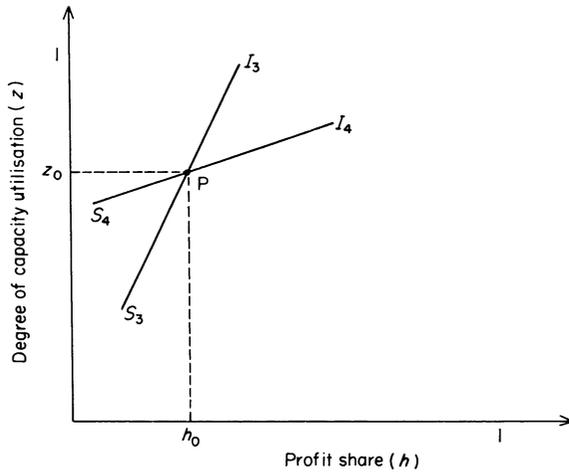
The standard textbook assumption, that at the margin saving is more responsive than investment to changes in capacity utilisation for making the Keynesian income adjustment process stable, imposes a sign restriction on the denominator in equation (10) namely,

$$sh - I_z > 0 \tag{11}$$

Since the expression in the numerator for the slope of the  $IS$ -curve remains unchanged in (6) and (10), our previous economic interpretation holds (in view of inequality 11). With relatively weak response of investment to profitability (i.e.  $I_h < sz$ ), consumption necessarily assumes the dominant role in effective demand. In this case of wage-led expansion, a lower profit share or equivalently, a higher real wage rate leads to higher aggregate demand as well as capacity utilization. This is shown in Fig. 1 as the *stagnationist regime*.

An antithesis to this stagnationist regime emerges when the capitalist class is energetic and private investment responds vigorously to a higher profit margin/share. This means that the coefficient  $I_h$  is sufficiently large to ensure  $I_h > sz$  which, in conjunction with (11), makes the  $IS$ -curve positively sloped.<sup>1</sup> In this case, profit and investment play the

<sup>1</sup> Recall that inequality (11) makes the slope of Hicks's traditional  $IS$ -curve unambiguously negative because in his construction a higher interest rate decreases both consumption and investment, so that aggregate demand is always lower at a higher interest rate. The variable comparable to the interest rate in our present construction is the real wage rate which is inversely related to the profit margin/share through (4). The ambiguity of the slope of our  $IS$ -curve stems from the contradictory effects of the real wage on consumption and on investment. The former increases (see 1) but the latter decreases (see 8) at a higher real wage rate. These contradictory effects also underlie part of the difficulty in justifying analytically stability condition (11), if both  $z$  and  $h$  adjust in a general dynamic model, as emphasised at the end of the paper.



**Fig. 2.** The exhilarationist regime [with  $(I_3, S_3)$  or without  $(I_4, S_4)$  cooperation between labour and capital, depending on whether elasticity at the initial point  $P(h_0, z_0)$  is greater (in  $I_3, S_3$ ) or less (in  $I_4, S_4$ ) than the relative share of profit to wage,  $h_0(1 - h_0)$  at  $P$ ].

dominant role in expanding aggregate demand in so far as any reduction in consumption due to a lower real wage is more than compensated for by the enthusiastic response of private investment to that lower real wage. Counterposed against the stagnationist regime of Fig. 1, this is shown as the *exhilarationist regime* in Fig. 2.

The distinction between the stagnationist and the exhilarationist regimes brings into sharp focus the possibility that economic expansion may benefit the two classes very differently. Everywhere along the negatively sloped *IS*-curve of the stagnationist regime, a higher real wage rate produces higher capacity utilisation and higher employment. This means an unambiguous gain to the working class in terms of both a higher real wage rate and a higher real wage bill. Nevertheless, a fundamental tenet of the social democratic ideology, articulated with considerable intellectual force by the ‘left Keynesians’, has been to stress that such all round gain to the workers need not imply unambiguous loss to the capitalists. Capitalism is not necessarily a zero-sum game. Despite a higher real wage rate and a lower profit margin/share, capitalists may continue to make a higher total profit in the stagnationist regime so long as they more than recoup on the volume of sales what they lose on profit margin per unit of sale. Given the accountants’ book value of capital in the short period, a higher total profit would also mean a higher profit rate despite the lower profit margin/share. Therefore, the critical analytical condition for the successful working of this model of *cooperative capitalism* is that the normalised value of total profit,  $(R/Y^*) = (R/Y)(Y/Y) = hz$ , must decrease as the real wage rate decreases and the profit share correspondingly increases, i.e.

$$d(hz) / dh < 0 \quad \text{or,} \quad -(h/z)(dz/dh) > 1 \tag{12}$$

In other words, a cooperative relationship can be established between capital and labour in the stagnationist regime if the negatively sloped *IS*-curve is elastic, as shown by

$I_1 S_1$  in Fig. 1. Note that, by virtue of (10) and (11), this elasticity condition (12) is ensured if

$$zI_z > hI_h \quad (13)$$

which implies that the investors must respond more strongly (measured by respective elasticities) to a variation in capacity utilisation than in profit margin/share.

Economic cooperation between the classes envisaged in the social democratic ideology becomes problematic even in the stagnationist regime as condition (12) or equivalently (13) fails. A decline in the profit share brings about a small increase in capacity utilisation along an inelastic  $IS$ -curve, shown by  $I_2 S_2$  in Fig. 1, which is insufficient to compensate for the decline in profit margin per unit of sale. Consequently, both the total and the rate of profit decline as the real wage rate increases. The resulting model of *profit squeeze* (Glyn and Sutcliffe, 1972; Goodwin, 1967) indicates the limit to cooperation in the stagnationist regime, despite the stimulating effect of a higher real wage on economic activity.

A profit squeeze due to a higher real wage rate is essentially a reinterpretation of the underconsumptionist argument from a radical point of view. Empirically, it is an appealing argument in the light of the experience of some OECD countries during the 1970s (Armstrong, Glyn and Harrison, 1984; Glyn, Hughes, Lipietz and Singh, 1988). Its analytical attraction lies in reconciling apparently incompatible theories. The left Keynesian social democratic position takes its clue from the underconsumptionist argument that a high real wage is good for both labour and capital because it keeps effective demand buoyant. This can be reconciled with the radical Marxist view that class interests are necessarily conflictual, when a higher real wage fails to stimulate aggregate demand and capacity utilisation sufficiently to accommodate the interests of both the classes (i.e. condition 12 and equivalently, condition 13 are violated). The resulting squeeze on profits manifests conflictual class interests despite accepting the Keynesian logic of demand-determined output (Marglin and Bhaduri, 1990).

The limit to cooperative capitalism based on a high wage policy in the stagnationist regime may manifest itself in two rather different ways. In the short run, the squeeze on total profits could result in a lack of cohesion of economic interests *within* the capitalist class itself, especially if the loss in profit is very unevenly distributed, e.g. some sections of capitalists lose disproportionately while others may even earn higher profits. The political difficulty of pursuing a high wage policy may then lie not so much in attaining cooperation between capital and labour, as between the capitalists themselves.

In the longer run, maintaining economic expansion and higher capacity utilisation through higher consumption and a lower profit margin/share in the stagnationist regime could breed trouble for social democratic cooperative economic policies. There is the danger that wage-led growth will lead to an inadequate rate of expansion in productive capacity over time. A 'crisis of underaccumulation' may occur if productive capacity persistently fails to keep pace with growth in the labour force. This would show up in structural unemployment which arises from a disproportionately large labour force in relation to existing capacity, rather than Keynesian deficiency of aggregate demand.<sup>1</sup>

From this longer term perspective, even the social democratic strategy of wage-led expansion would require some restraint on the rate of growth of the real wage rate (in relation to labour productivity growth) so as to generate the required growth in productive

<sup>1</sup> Malinvaud (1982) provides an alternative analysis of how a high real wage could lead to such structural unemployment, through a slower pace of accumulation as well as through factor substitution against labour, resulting in what we describe as the crisis of underaccumulation (plus over-mechanisation induced by a high real wage).

capacity over time. It may indeed be argued that the 'social democratic consensus' rested historically on the double-edged assumption that, while the real wage should grow fast enough to keep up with the growth in productive capacity, it should not grow so fast as to endanger the required growth in productive capacity (Rowthorn, 1981). However, systematic analysis of these longer-term implications of wage-led economic expansion lies outside the scope of the present paper. Our focus here is entirely on the short period.

The stagnationist regime has its mirror image in the exhilarationist regime. Along the positively sloped *IS*-curve of the exhilarationist regime (Fig. 2) capitalists gain unambiguously in terms of both a higher profit margin/share as well as a higher total profit at higher capacity utilisation. Contrary to the underconsumptionist argument and in conformity with 'supply-side' logic, a higher level of capacity utilisation and employment becomes possible only at a lower real wage rate. But despite a lower real wage rate, the working class as a whole would gain a higher real wage bill through higher capacity utilisation and employment if

$$d(W/Y^*)/dh = d(1-h)z/dh > 0, \quad Y^* = 1$$

that is, if the (positive) elasticity of the *IS*-curve in the exhilarationist regime exceeds the relative share of profit to wage,

$$(h/z)(dz/dh) > h/(1-h) \quad (14)$$

Under condition (14), a given decrease (increase) in the real wage rate (profit share) stimulates the level of demand and capacity utilisation sufficiently to increase aggregate employment and the wage bill, as shown by  $I_3S_3$  in Fig. 2. This provides favourable ground for cooperation between the two classes in the exhilarationist regime. Nevertheless, since the increase in aggregate employment and the wage bill is achieved through lowering the real wage rate of the already employed (typically unionised 'inside' workers) this may also generate tensions within the working class, between the already employed 'insiders' and the newly employed 'outsiders'. However, even without condition (14) being satisfied, a reduction in the real wage rate of the 'insiders' would increase employment opportunities for the 'outsiders', albeit to a somewhat lesser extent along a relatively flat positively sloped  $I_4S_4$  curve in Fig. 2. The exhilarationist regime is therefore *not* merely a situation of conflict between the capitalists and the 'inside' trade union members over distributive shares; it may be beset with intra-working class tension, which could help the capitalists to 'divide and rule'.

In the longer run, a sustained high rate of expansion of productive capacity through a high rate (and share) of investment required for maintaining adequate effective demand in the exhilarationist regime may create the opposite type of disproportionality. A 'crisis of overaccumulation' may develop gradually, as the productive capacity of the economy becomes disproportionately large in relation to the existing labour force. Structural excess capacity which does not originate in the Keynesian problem of deficient effective demand could become increasingly pervasive to heighten intra-capitalist rivalry. However, like the crisis of underaccumulation in the stagnationist regime, this overaccumulation crisis of the exhilarationist regime is a long-run problem, lying beyond the focus of this paper.

### 3. The open economy

The preceding analysis assumes greater relevance in the context of an open economy for two quite different reasons. First, we assumed in the context of a closed economy that a lower real wage rate would depress consumption but stimulate investment by raising the profit margin/share within the short period. However, this is problematic in so far as investment, particularly in long-lived fixed capital equipment, is likely to respond more cautiously to a change in profit margin/share compared to consumption. Thus, the depressing effect of a lower real wage rate on consumption may be felt within the short period without its stimulating effect on investment materialising within the same period, owing to the widely different 'speeds of adjustment' of the two relevant variables. To the extent that exports and imports have faster speeds of adjustment (to price changes) compared to investment, the static short-term *IS*-curve analysis presented in this paper may be less misleading in the context of an open economy.<sup>1</sup>

Second, the assumption of exogenous variation in profit share,  $h$ , through exchange rate variation is easier to justify in an open economy (cf. Kalecki, 1939, ch. 3). Depreciation of the home currency would reduce the profit margin by increasing the cost of imported raw materials, while increasing the price of imported consumption goods would increase the cost-of-living index of domestic workers. As a result, there would be upward pressure on both prices and *money* wages. However, depending on the extent to which an open economy is subject to international price discipline, the proportional link between the money wage rate and the price level may become weakened (cf. Glyn and Sutcliff, 1972). For maintaining price competitiveness in the world market, a price-taker, 'small' open economy may not raise its export (and domestic) price level in proportion to the increase in domestic money wage rate with the result that the domestic profit margin/share is squeezed owing to a rising money wage as well as the higher cost of imported raw materials. In this way, an exogenous squeeze of the profit margin/share through devaluation becomes more easily justifiable in an open economy which is subject to international price discipline. However, this may be countered by raising the price level in home currency without 'spoiling' the foreign market significantly, as devaluation also makes home goods cheaper. More formally, international price competitiveness may be denoted by  $\theta$ ,

$$\theta = (vp_f)/p \quad (15)$$

and

$$(d\theta/\theta) = (dv/v) - (dp/p) \quad (16)$$

where,  $v$  = the rate of exchange of domestic currency per unit of foreign currency,  $p_f$  = price level of finished goods in foreign currency of the trade rivals which is assumed constant, and  $p$  = domestic as well as export price level of finished goods.

Thus, so long as devaluation in proportional terms,  $d\theta/\theta$ , exceeds the domestic rate of price increase,  $dp/p$  (given  $p_f$ ), the international price competitiveness of the domestic economy would be enhanced. However, whether this enhanced price competitiveness

<sup>1</sup> The familiar J-curve phenomenon in the balance of trade associated with the depreciation of currency arises precisely when exports and/or imports have relatively slow speeds of adjustment and low price elasticities in the short period. But, even in this case, they are likely to have faster speeds of adjustment compared to investment in fixed capital.

can improve the home country's trade balance will depend on the responsiveness of the volume of export and import to prices, measured by the usual 'trade elasticities'.

If some raw materials are imported, the price equation (2) for an open economy becomes

$$p = (1 + m)(bw + kp_f'v) \tag{17}$$

where,  $k$  = imported raw material per unit of output, assumed constant in the short period, and  $p_f'$  = imported price of raw material in foreign currency, also assumed constant.

Profit share, *net* of imported material cost is given as

$$h = [p - (wb + kp_f'v)]/p$$

which implies from (17),  $h = m/(1 + m)$  as in equation (3). This ensures that profit margin ( $m$ ) and net profit share ( $h$ ) move in the same direction. Total differentiation of equation (17) yields on simplification the variation in total profit share as

$$dh = (1 - h)[(dp/p) - \lambda(dw/w) - (1 - \lambda)(dv/v)] \tag{18}$$

where,  $\lambda = (bw)/(bw + kp_f'v)$ , i.e., the share of wage cost in unit prime cost. Thus, the impact of devaluation on international price competitiveness and profit share are captured by equations (16) and (18) respectively.

Export and import expenditure in domestic currency, again normalised as proportions of full capacity income ( $Y^* = 1$ ), are given as

$$E = pX_e \text{ and } M = v\bar{p}_f X_m \tag{19}$$

where,  $\bar{p}_f$  = constant average international price level of imported raw materials ( $p_f'$ ) and finished goods ( $p_f$ ).<sup>1</sup>

The volume of export ( $X_e$ ) has (total) elasticity with respect to international price competitiveness, defined as

$$(\theta/X_e)(dX_e/d\theta) = n_e, \quad n_e > 0 \tag{20}$$

The volume of import ( $X_m$ ), consisting of both raw materials and finished goods, depends both on international price competitiveness and on the activity level ( $z$ ) of the domestic economy, i.e.

$$X_m = X_m(\theta, z); \quad \partial X_m/\partial \theta < 0, \quad \partial X_m/\partial z > 0 \tag{21}$$

with the corresponding (partial) elasticities of the volume of import given as

$$(\theta/X_m)(\partial X_m/\partial \theta) = -n_m \text{ and, } (z/X_m)(\partial X_m/\partial z) = u, \quad n_m, u > 0 \tag{22}$$

<sup>1</sup> The import price index ( $\bar{p}_f$ ) is a weighted average of imported raw material price ( $p_f'$ ) and price of finished product ( $p_f$ ), which changes owing to changes in the composition of raw material to finished product import. This 'composition effect' is ignored here by assuming the import composition to be roughly constant in the short period.

Assuming for algebraic simplicity an initial trade balance ( $E_0 = M_0$ ), manipulation of equations (19) to (22) yield the familiar formula combining the ‘price effect’ with the ‘income effect’ of devaluation on marginal trade balance, i.e.

$$(dE - dM) = zg(n_e + n_m - 1)(d\theta/\theta) - ugdz \tag{23}$$

where  $g$  = initial share of import and export in income.

The balance between income and expenditure in an open economy is restated from (1), (8) and (19) as

$$shz + M = I(h, z) + E \tag{24}$$

Totally differentiating (24) and substituting (23), the effect of devaluation on capacity utilisation is obtained as

$$dz = [D^{-1}(I_h - sz)dh] + [D^{-1}gz(n_e + n_m - 1)(d\theta/\theta)] \tag{25}$$

where the positivity of  $D = (gu + sh - I_z)$  is sufficiently guaranteed by (11).

The first square-bracketed term on the right hand side of (25) shows how devaluation affects capacity utilisation through changes in profit share  $h$  and thus corresponds directly to the case of the closed economy (see 10). The second square-bracketed term is the familiar effect of devaluation on the trade balance through changes in international price competitiveness. If international price competitiveness increases as a result of the rate of devaluation exceeding domestic inflation rate in percentage terms (equation 16), the overall ‘trade effect’ would be positive so long as the combined trade elasticities exceed unity,  $n_e + n_m > 1$ , to satisfy the Marshall–Lerner condition.

However, the ‘income distribution effect’ of devaluation operating through changes in profit share captured by the first square-bracketed term of (25) remains ambiguous. Devaluation may or may not increase the profit share,  $h$ , depending on the relative increase of domestic price and money wage, as shown by (18). Nevertheless, if devaluation results in improved international price competitiveness ( $d\theta > 0$ ), as well as a higher profit share ( $dh > 0$ ), then (16) and (18) together would imply  $(dv/v) > (dp/p) > (dw/w)$ , i.e. a lower *real* wage rate as a result of devaluation.<sup>1</sup> In this case, a direct analogy with the *closed* economy is easy to draw.

Devaluation resulting in a lower real wage and higher profit margin would raise the degree of capacity utilisation by stimulating effective demand at home in the exhilarationist regime. This would make the first square-bracketed term on the right-hand side of (25) positive. The second term capturing the trade effect is also positive so long as the Marshall–Lerner condition is satisfied. Therefore, a strategy of lowering the real wage through devaluation to increase international price competitiveness ( $\theta$ ) and profit share ( $h$ ) can stimulate capacity utilisation *unambiguously* if the economy is in the exhilarationist regime. Otherwise, in a stagnationist regime the effect of this strategy on domestic activity remains ambiguous.

Nevertheless, the greater the trade ‘openness’ of the economy, indicated by a higher initial share of trade in income ( $g$ ) as well as larger (absolute) values of the trade elasticities  $n_e$  and  $n_m$ , the more important the trade effect becomes. And if the positive trade effect

<sup>1</sup> From (18),  $(d\theta/\theta) > 0$  implies  $(dv/v) > (dp/p)$ . From (16) and (18),  $dh > 0$  implies  $\lambda > [(dv/v) - (dp/p)] / [(dv/v) - (dw/w)]$ . Since, by definition,  $1 > \lambda > 0$ , it is easy to see,  $(dp/p) > (dw/w)$ .

dominates quantitatively the negative term in the first square bracket of (25) in a stagnationist regime, the open economy assumes an exhilarationist character.

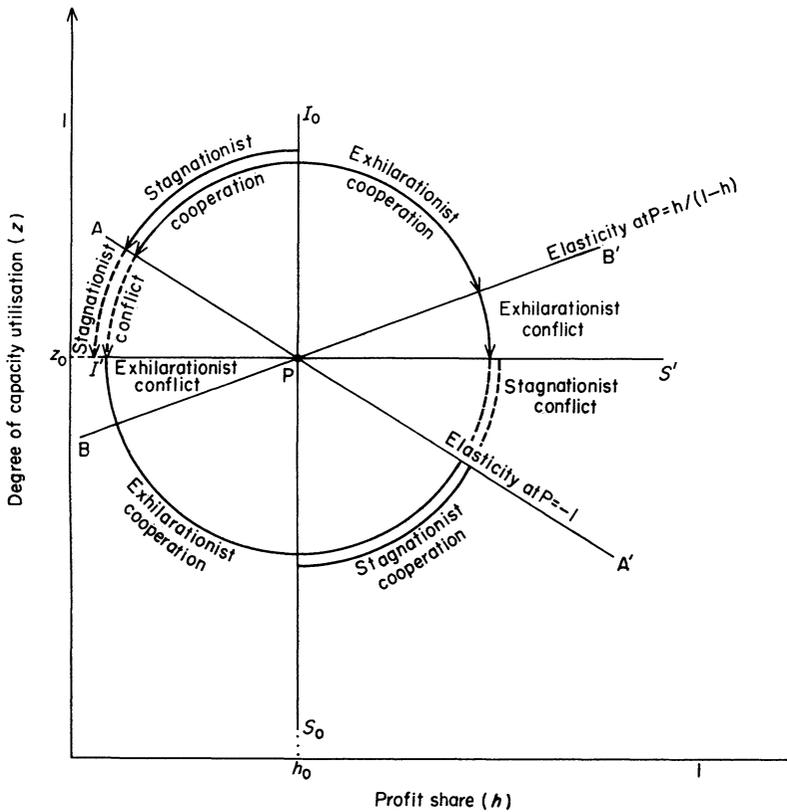
In other words, a dominant trade effect tends to make the stagnationist logic increasingly irrelevant in a world characterised by high trade interdependence. The left social democratic emphasis on wage-led expansion derived from the stagnationist logic may be given up in the pursuit of export surplus by following restrictive macroeconomic policies to keep down real wages (and inflation) for greater international price competitiveness. Further, so long as successful export performance maintains a high enough level of employment to overcompensate a relatively low real wage rate, cooperation between labour and capital may continue to be feasible (condition 14). The only problem with this strategy is that it is impossible for all countries to achieve a trade surplus simultaneously. And yet, the lure of this impossibility has contributed substantially to the disintegration of the traditional social democratic ideology without any coherent alternative taking its place.

#### 4. Summary and concluding observations

This paper has been motivated by our attempt to demonstrate that the Keynesian theory, which emphasises the centrality of effective demand rather than ‘supply-side’ problems, has a far wider theoretical as well as political range than is usually recognised. Particular *models* such as that of ‘cooperative capitalism’ enunciated by the left Keynesian social democrats, the Marxian model of ‘profit squeeze’ or even the conservative model relying on ‘supply-side’ stimulus through high profitability and a low real wage, fit into the more general Keynesian theoretical scheme. They become particular *variants* of the theoretical framework presented here.

The framework is developed by counterposing the underconsumptionist idea that a high real wage is beneficial as it generates high effective demand against the orthodox view that high labour cost discourages production. In order to assign central importance to effective demand in determining the level of economic activity ( $z$ ), we reconstructed the familiar *IS*-curve, showing different commodity market-clearing levels of economic activity at a different real wage rate (which is inversely related to profit margin and share  $h$ , see equation 4). This resulted in the emergence of two economic regimes, depending on the *sign* of the (local) slope of the *IS*-curve (equation 10). When the *IS*-schedule is downward-sloping in the ( $zh$ ) space, the underconsumptionist idea emphasising the beneficial ‘demand effect’ of a higher real wage is validated in what was described as the stagnationist regime of mass-consumption-based, wage-led expansion (Fig. 1). Conversely, if the *IS*-schedule is upward-sloping in that same space, an investment-based, profit-led exhilarationist regime obtains (Fig. 2). The latter regime contradicts the underconsumptionist view to lend support to the orthodox position that the ‘cost effect’ of a high real wage rate depresses economic activity.

In contrast to the sign of the slope of the *IS*-curve which is critical for characterising the two regimes, its elasticity in absolute value is an indicator of the limits to cooperation between capital and labour. This can be summarised by imagining an *IS*-curve (linear for simplicity) which rotates gradually from the vertical position  $I_0S_0$  to the horizontal position  $I'S'$  in Fig. 3. The anti-clockwise and clockwise rotation of  $I_0P$  in the neighbourhood of the initial configuration ( $h_0, z_0$ ) represented by point P spans the stagnationist and the exhilarationist regime respectively. So long as the elasticity of the *IS*-curve in absolute value exceeds unity in its anti-clockwise rotation from the vertical position  $I_0P$ , a higher



**Fig. 3.** Zones of cooperation and conflict in the two regimes [zone  $I_0PA = S_0PA'$  = stagnationist cooperation (condition 12 satisfied); zone  $API' = A'PS'$  = stagnationist conflict (condition 12 fails); zone  $I_0PB' = S_0PB$  = exhilarationist cooperation (condition 14 satisfied); zone  $B'PS' = BPI'$  = exhilarationist conflict (condition 14 fails)].

*total* as well as a higher rate of profit despite a higher real wage rate makes cooperative capitalism feasible in the stagnationist regime (conditions 12 and 13). Similarly, clockwise rotation of  $I_0P$  from its vertical position, until the critical value of its elasticity  $h/(1-h)$  is reached, spans a zone of feasible cooperation in the exhilarationist regime as employment and the *total* wage bill expand in spite of a lower real wage rate (condition 14). Cooperation gives way to conflict when these elasticity conditions (12) and (14) are violated in the stagnationist and in the exhilarationist regime respectively. It also needs emphasis that in either regime the feasibility of cooperation between the two contending classes does *not* rule out the possibility of intra-class conflict over the distribution of the total profit among the capitalists or of the total wage between the already employed ‘insiders’ and the newly employed ‘outsiders’.

By showing that inter-class cooperation (or conflict) is possible in *either* regime, our analysis dispels a common misconception that the cooperative view of capitalism derives *exclusively* from the stagnationist logic of underconsumption. This observation becomes especially relevant in an open economy which is highly dependent on foreign trade and is sensitive to international price competition. Any positive ‘demand effect’ of a higher domestic real wage envisaged in the stagnationist logic tends to be outweighed by its

negative 'cost effect' on international price competitiveness owing to greater reliance on the foreign market. Therefore, in its search for export surplus, an open economy could be driven increasingly towards the conservative, exhilarationist logic emphasising the desirability of low labour costs. However, cooperation between the classes is still possible if a large enough export surplus is achieved to keep employment and the wage bill high despite the relatively low domestic real wage rate. Nevertheless, the impossibility of all countries achieving export surplus simultaneously makes this strategy inherently flawed.

For maintaining a direct analogy with the traditional (Hicksian) *IS*-curve analysis as well as for expositional simplicity, our discussion was focused mainly on the short period, with only casual excursions into the longer-run problems of 'disproportionality' arising from under- or over-accumulation. Lack of space also forced us to ignore all dynamic considerations.<sup>1</sup> Nevertheless, two central problems concerning dynamic analysis deserves comment for appreciating the limitation of our present static framework. First, a word of caution: the familiar 'stability condition' of inequality (11) turns out to be less compelling in a more general dynamic framework in which both capacity utilisation (quantity) and profit share/real wage (price) are endogenously adjustable variables.<sup>2</sup> The familiar one-variable 'stability condition' (11) turns out to be neither necessary nor sufficient in the more general dynamic analysis, involving simultaneously adjustments in quantity *and* price variables. Note also that the stability properties could be affected by the non-linearity of the *IS*-schedule (unlike in Figs. 1–3). Even assuming (11), the value of its slope is only *locally* defined from (10) by the response of investment to the profit margin/share,  $I_h$ . It is plausible that  $I_h$  is influenced by the existing degree of capacity utilisation ( $z$ ) to make the slope of the *IS*-curve different at different values of  $z$  (this is discussed in greater detail in Appendix B). This could introduce significant non-linearity into the *IS*-curve to make local stability analysis, based on linear approximation, an insufficient or even misleading guide to the actual stability properties of the system.

The recognition that quantities (capacity utilisation) and prices (the real wage) may adjust simultaneously in a more general dynamic model raises a deeper conceptual issue regarding the interpretation of the *IS*-curve itself. It can be treated *either* as the locus of stationary capacity utilisation, i.e.,  $\dot{z} = 0$ , as has been implicitly assumed in our (and Hicks') analysis, or as the locus of stationary price level, i.e.,  $\dot{p} = 0$ , as we believe, is implied in Keynes' *General Theory* (especially pp. 17–18, 289, 301). Ultimately it boils down to one of the most important unsettled questions of modern macroeconomics: does excess demand for commodities lead primarily to quantity or to price adjustment? We cannot pretend to have an answer; but dynamic analysis cannot be undertaken without addressing this important, and as yet unsettled, question.

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<sup>1</sup> Marglin and Bhaduri (1986) provides some preliminary dynamic analysis (in terms of *local* stability) of a range of models only some of which have been discussed here. However, see Appendix B which indicates why *local* analysis may be misleading.

<sup>2</sup> For this reason, we began by showing the essential economic logic of the two regimes in the simpler case of equation (6) which does not involve condition (11).

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## Appendix A

The definition of the average rate of profit  $r$  in (7) permits investment function (8) to be rewritten as,

$$I = I(z, h) = I(z, r/za)$$

Its total differentiation at a constant rate of profit  $r = \bar{r}$  yields,

$$(dI/dz)|_{r=\bar{r}} = I_z - (h/z)I_h \tag{A1}$$

Note that the left hand side of (A1) is simply the partial derivative of investment with respect to capacity utilisation at a constant rate of profit. Therefore, when the investment function (8) of the text is replaced by an investment function with specifications,

$$I = F(r, z), F_r > 0 \text{ and } F_z > 0 \tag{A2}$$

it implies from (A1) and (A2),

$$F_z = dI/dz|_{r=\bar{r}} = I_z - (h/z)I_h > 0 \tag{A3}$$

or,

$$zI_z > hI_h$$

which is exactly inequality (13) in the text, characterising the cooperative zone in the stagnationist regime. Therefore, assuming investment function (A2) is tantamount to assuming a cooperative stagnationist regime.

**Appendix B**

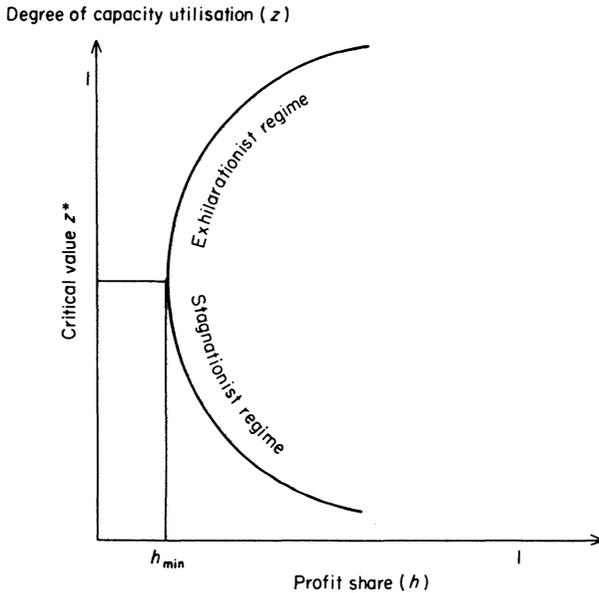
In defence of the investment function (8) in the text, it was pointed out that the rate of profit,  $r$ , is a problematic concept as an argument entering the investment function, because, by definition (7), the two constituents of  $r-h$  and  $z-$  can move in opposite directions to maintain the *same* profit rate. (This results in restrictions on the investment function, already examined in Appendix A.) Since the same rate of profit can be associated with either a low profit margin/share ( $h$ ) coupled with a high degree of capacity utilisation ( $z$ ) and *vice versa*, it neglects the important economic possibility that the response of investment to profit margin/share, captured by the magnitude of the coefficient  $I_h$ , may be influenced significantly by the *existing* degree of capacity utilisation. For instance, if existing capacities are heavily underutilised, it is probable that the lure of a higher profit margin would fail to induce much fresh investment in creating additional capacity, implying a low value of  $I_h$ . This could make

$$sz > I_h \text{ at 'low' initial values of } z \tag{B1}$$

resulting in the stagnationist regime (see 6 or 10).

Contrariwise, at high rates of utilisation of existing capacities, investors may respond enthusiastically to a higher profit margin to make feasible the emergence of the exhilarationist regime, i.e.

$$I_h > sz \text{ at 'high' initial values of } z \tag{B2}$$



**Fig. B1.** Non-linear, IS-schedule with both stagnationist and exhilarationist regimes.

Condition (B1) suggests that the stagnationist regime is more likely when the prevalent economic situation is recessionary with low capacity utilisation; whereas condition (B2) suggests the possibility of an exhilarationist regime being ushered in by an economic boom.

The combination of these two conditions result in a *non-linear IS*-schedule which is downward-sloping (stagnationist) at relatively low values of  $z$ , but upward-sloping (exhilarationist) at relatively high values of  $z$ . This could be represented by the C-shaped *IS*-curve in Fig. B1 (various other shapes are plausible though; see Marglin and Bhaduri, 1986 and 1988). It may not be altogether premature to conjecture that non-linear *IS*-curves traversing both the regimes have complex and interesting possibilities of sudden regime change due to bifurcation and/or hysteresis (cf. Nicolis and Prigogine, 1977, especially pp. 170–178).