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Effective Demand and the Rate of Profits
Some Thoughts on Marx, Kalecki and Sraffa.

di
Fernando Vianello
Università di Modena
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Dipartimento di Economia Politica
Via Giardini 454
41100 Modena (Italy)

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INTRODUCTION

The Marxian twist given by Kalecki to his theory of effective demand by restating it with the help of the "schemes of reproduction" (1) makes Marx a natural term of comparison for the Polish economist. As a matter of fact, it is Marx himself who uses the "schemes of reproduction" to point out the possibility that the "surplus-value produced" may be not entirely "realised", namely, that aggregate production may exceed aggregate planned expenditure. The lack of a short-period adjustment mechanism strikes the modern reader, however, as a distinctive feature of Marx's treatment of the matter *vis-a-vis* the Keynesian and perhaps even more the Kaleckian theory of effective demand (2) (section 1).

This difference between Marx and Kalecki appears interwoven with a difference in their views on the rate of profits. It is the latter difference that the present essay will try to highlight, disentangling it from the former.

According to Marx, overproduction (3) represents a chronic tendency of the capitalist economy, much for the same reason given by Kalecki (1939, p. 149) for the recurrence of crises: "The tragedy of investment is that it causes crisis because it is useful". (And according to both, it may be added, the role of the crises is to make investment useful again, by eliminating excess capacity). However, overproduction is not permitted to interfere with Marx's determination of the general rate of profits, which enters that price he calls "of production" and describes as

the "guiding star" for investment decisions. Given the level of the wage, the general rate of profits as conceived of by Marx can in fact be affected only by a change in the methods of production (section 2). The same is true of the rate of profits appearing in Piero Sraffa's normal-price equations, which implicitly postulate - it will be suggested - the normal degree of utilisation of productive capacity (sections 3 and 4).

According to Kalecki, on the contrary, no such things as normal prices and a general rate of profits are there to provide guidance for investment decisions, the expected profitability of investment being made to depend on the current profitability of capital, or the "realised" rate of profits, which is - *ceteris paribus* - the higher, the higher the degree of utilisation of productive capacity. Thus, effective demand is credited by Kalecki with an influence on the expected profitability of investment, whereas neither Marx nor (according to our interpretation) Sraffa are prepared to recognise such an influence on the general, or normal, rate of profits, which is - as how should it not be? - the rate they regard as relevant to investment decisions (4).

A current profitability exceeding (or falling short of) the general rate of profits as a result of productive capacity being over- (or, respectively, under-) utilised - it will be submitted - is no reason why a producer should expect that the productive capacity of the equipment (embodying the dominant method of production) he will find himself endowed with in the years to come be

similarly over- (or under-) utilised, thus causing profitability to persist in standing above (or, respectively, below) the general rate of profits. For such an expectation would imply - to put it shortly - that the producer in question is planning to endow himself with less (or, respectively, more) capital equipment than he expects to need.

On the same ground, Marx's claim that a rise in the wage weakens the inducement to invest will be defended against Josef Steindl's criticism, based on the notion that a real-wage rise does not show itself in lower profits - for profits cannot fall before investment (or capitalists' consumption) has fallen - but in a higher degree of utilisation of productive capacity in the (vertically integrated) consumption-good department. Even if current profitability remains unchanged, it will be contended, the general rate of profits (i.e. the expected rate, corresponding to the normal degree of utilisation of productive capacity) falls as the wage rises (section 5). And this may well adversely affect investment (5).

1. PRODUCED AND REALISED SURPLUS-VALUE

"As soon as all the surplus-labour it was possible to squeeze out has been embodied in commodities", Marx declares, "surplus-value has been produced. But this production of surplus-value completes but the first act of the capitalist process of production - the direct production process ... Now comes the second act of the process. The entire mass of commodities, i.e., the total product, including the portion which replaces the constant and variable capital, and that representing surplus-value, must be sold. If this is not done, or done only in part, or only at prices below the prices of production, the labourer has been indeed exploited, but his exploitation is not realised as such for the capitalist, and this can be bound up with a total or partial failure to realise the surplus-value pressed out of him, indeed even with the partial or total loss of the capital" (Marx, 1894, p. 244).

Let C be the overall value of the means of production - or "constant capital" - employed in a particular year and Y that year's value added. The value of the "entire mass of commodities" produced, and brought to market at the end of the annual cycle of production, is $(C' + Y)$, where C' denotes the sum of the value of the intermediate goods used up in production and of the portion of value "transferred from the instruments of labour to the product of labour" (Marx, 1885, p. 453). An equivalent expression is $(C' + V + S)$, where V denotes the economy's "variable capital", or the value of the necessaries advanced

to workers in the year considered, and S the "surplus-value" produced, the latter being defined as the difference between the value added and the value of the necessaries ($S = Y - V$). If each worker is assumed to receive the same bundle of commodities in exchange for one year's labour, and the labour time directly or indirectly required to produce the bundle is taken as given, the labour theory of value makes S a constant proportion of Y (6), as shown by the line OS in Fig. 1.

Planned expenditure too is reckoned by Marx gross of depreciation and inclusive of the purchase of intermediate goods, namely (assuming the absence of capitalists' consumption) as ($C' + V$) *plus* net planned investment, or the planned variation of ($C + V$) from one year to the next. Clearly, total planned expenditure ($C' + V + \Delta C + \Delta V$) exceeds the total value of production ($C' + V + S$) or falls short of it by the excess of ($\Delta C + \Delta V$) over S or, respectively, of S over ($\Delta C + \Delta V$) (7). (The distinction, peculiar to Marx's theoretical construction, between the "values", reflecting the quantities of labour expended on the production of the commodities, and the "prices of production", based on the general rate of profits, will for the moment be ignored, as Marx himself usually does in his analysis of the "realisation problem"; on the prices of production see below, pp. 14 and 17).

In Fig. 1 net planned investment is represented by the line II. At the value added OY_∞ the surplus-value produced ($Y_\infty S_\infty$) equals net planned investment ($Y_\infty I_\infty$). If, then, the composition of total planned expenditure is the

same as that of the total product, the latter is entirely sold at its full value, and the surplus-value produced is entirely realised, or converted into an equal amount of net profits. Next, consider the case where the value added is OY_1. If total planned expenditure is constant in terms of value, as assumed in Fig. 1, it falls short of the total value of production by I_1S_1. Realised surplus-value is the same as in the previous case ($Y_1I_1 = Y_0I_0$), although the surplus-value produced (Y_1S_1) is now greater. Capitalists, then, "earn what they spend" (Kaldor, 1955-56, p. 230) though in a sense peculiar to the present context: they receive as realised surplus-value what they spend on the

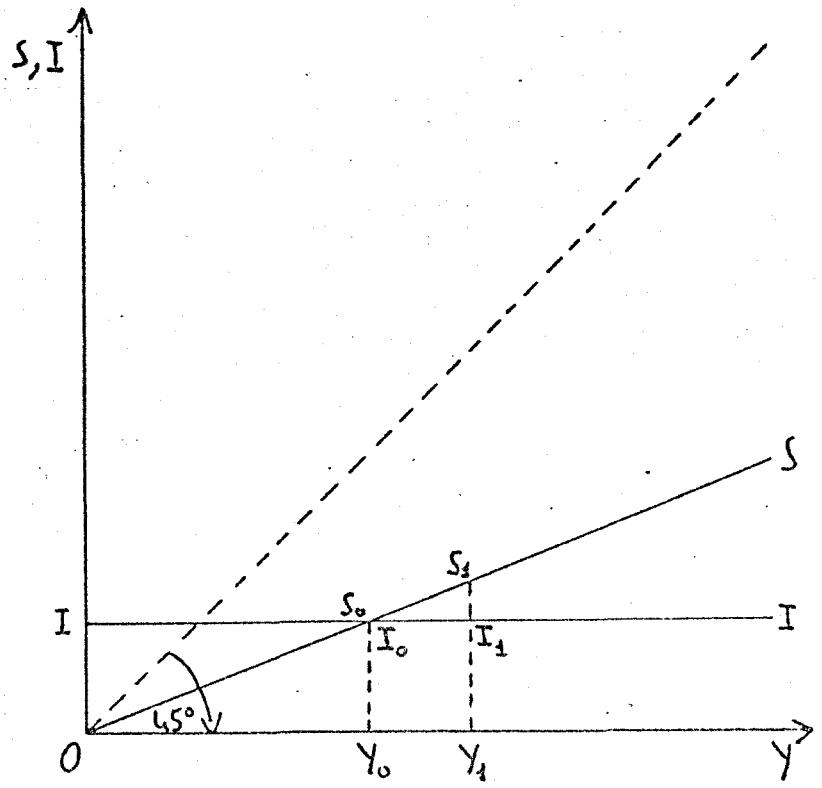

Fig. 1. Realised surplus-value unchanged ($Y_0I_0 = Y_1I_1$) as value added rises from OY_0 to OY_1 and produced surplus-value from Y_0S_0 to Y_1S_1.

purchase of additional constant and variable capital (plus what they spend for their own consumption, the existence of which can easily be allowed for).

No short-period adjustment mechanism is implied in the above discussion. Namely, the economy's value added is *not* assumed to tend to that level (OY_e) at which total expenditure and total output are equal. It follows that the deficiency of planned expenditure shows itself in overproduction (8) rather than in under-utilisation of productive capacity: lack of realisation does not prevent surplus-value from being produced.

This reading of Marx's position may appear objectionable in the light of his emphatic rejection of the view of "social capital as a fixed magnitude of a fixed degree of efficiency" (a view which makes "the commonest phenomena of the process of production, as, *e.g.*, its sudden expansions and contractions, nay, accumulation itself, ... perfectly unconceivable": Marx, 1867, pp. 570-1) and of the prominence he gives to the "elasticity" (*ibid.*, p. 424) of production by calling attention, in particular, to the existence of reserves of unused productive capacity - or "dormant capital", in Bailey's phrase taken over by Marx (1953, pp. 582-4) - and to the common practice of changing the length of the working day and the intensity of labour in response to changes in demand (see, *e.g.*, Marx, 1885, p. 262) (9). It must, however, be stressed that such statements belong to a different context from the analysis of the "realisation problem", where departures from the normal degree of utilisation of productive capacity play no

significant role, and the production plans made at the beginning of the year (when means of production and necessaries are bought) are usually treated as if they were not revised until the end of the year (when products are brought to market).

2. THE GENERAL RATE OF PROFITS UNAFFECTED BY OVERPRODUCTION

Maladjustments in the composition of output were left out of the picture in the preceding section, where the attention was focused on the *level* (as opposed to the *composition*) of planned expenditure. Such maladjustments (or "disproportionate production": Marx, 1905-10, vol. II, p. 521) are, however, of major importance in Marx's view of the "realisation problem", being indeed susceptible of giving rise not only to "partial crises" (*ibid.*, p. 521), but also to a widespread fall in the demand for means of production and necessaries, and thereby - if the industries initially involved are of sufficient weight - to a "more or less general ... overproduction on the whole market" (*ibid.*, p. 523) (10).

The adjustment mechanism entrusted with the task of bringing about a proper composition of output is a long-period one, namely, the "competition of capitals" (Marx, 1905-10, vol. II, p. 521). Apart from the above-mentioned reference to "a more or less general overproduction" as a possible outcome of "disproportionate production", Marx's argument closely follows that of Ricardo (which in turn echoes that of Adam Smith). If the quantities of commodities brought to market bear different proportions to each other from the quantities that the market is prepared to absorb at those prices ("natural prices", "prices of production") which embody the "general" or, in Adam Smith's phrase, "ordinary" rate of profits, then - so the argument runs - "the rise or fall of market value which

is caused by this disproportion", and the consequent unequal profitability of the different employments of capital, result in the "withdrawal of capital from one branch of production and its transfer to another" (*ibid.*, p. 521). Thus, "the principle that apportions capital to each trade in the precise amount that is required", as Ricardo (1821, p. 80) calls the competition of capitals, is the same one which makes it possible to conceive of the natural price as "the central price, to which the prices of all commodities are continually gravitating" (Smith, 1776, vol. I, p. 65).

According to Ricardo, however, the competition of capitals, which tends to correct the maladjustments as regards the composition of output, operates in conjunction with the Law of Markets, which ensures that the level of planned expenditure is adjusted to the level of output. As we have seen, this is not so with Marx, to whose analysis of the "realisation problem" we must now return, bringing into consideration his view of overproduction not as a mere possibility, but as a chronic tendency of the capitalist economy.

"Even when the real wages are rising", Marx holds, they "never rise proportionally to the productive power of labour" (Marx, 1867, p. 566), which is continuously enhanced by the replacement of workers with machines (11). This enlarges year after year the relative (as well as the absolute) size of the gap between the value added and the variable capital – the line *OS* in Fig. 1 steepens progressively – thus making increasingly difficult for investment to fill it, namely, to equal the surplus-value

produced. A strengthening of the inducement to invest in the investment-good department of the economy, such as to make up for the weakening of the inducement to increase the productive capacity installed in the consumption-good department, may of course alleviate the difficulty. Accumulation in the investment good department cannot; however, be assumed to be self-sustaining - as it will be in Tugan-Baranovsky's criticism of Marx's conclusions (see Tugan-Baranovsky, 1905, ch. 9) - for, ultimately, "constant capital is never produced for its own sake but solely because more of it is needed in spheres of production whose products go into individual consumption" (Marx, 1894, p. 305).

If we turn now to Marx's determination of the general rate of profits, the picture appears markedly different. For in this part of his theory we find no trace of overproduction. In calculating the general rate of profits as the ratio between the overall surplus-value produced (S) and the overall constant *plus* variable capital ($C + V$), Marx takes it for granted that the surplus-value produced is entirely realised, namely, that the total product and the productive capacity installed are fully adjusted to the level and composition of planned expenditure.

The reason given by Marx for ruling out overproduction when determining the general rate of profits is that overproduction is by its very nature a temporary phenomenon. Commenting upon Adam Smith's claim that "as capitals increase in any country, the profits that can be

made by employing them necessarily diminish" (Smith, 1776, vol. I, p. 375; see also *ibid.*, p. 98), Marx observes: "When Adam Smith explains the fall in the rate of profits from an over-abundance of capital, he is speaking of a *permanent* effect and this is wrong. As against this, the transitory over-abundance of capital, overproduction and crises are something different. Permanent crises do not exist" (Marx, 1905-10, vol. II, p. 497, footnote). For it is characteristic of the crises to abolish their own cause by reducing the productive capacity installed.

This amounts to saying that the actual ratio of the economy's realised surplus-value to the value of the overall capital employed gravitates towards a "central" ratio, much in the same way in which actual (or "market") prices gravitate towards the prices of production. Overproduction - we are led to conclude - though a chronic tendency of the capitalist economy, cannot affect the general rate of profits - the latter being not, in Marx's opinion, the actual, but the "central" surplus-value: capital ratio, or the ratio (of *produced-and-realised* surplus-value to the value of capital) observable in a "fully adjusted situation", as defined in Vianello (1985), namely, one in which commodities are sold at their prices of production and the productive capacity installed in each industry is exactly sufficient to produce the quantities that the market absorbs at those prices (see p. 70). It follows that what can cause a change in the general rate of profits, as conceived of by Marx, is only (a) a change in the "rate of surplus-value", namely, the ratio of the

surplus-value produced to the variable capital (S/V) or (b) a change in the "organic composition of capital", namely, the ratio of constant to variable capital (C/V); either change being susceptible of resulting both from a change in the bundle of necessaries which represents the reward of one year's labour and by a change in the methods of production. (On the existence side by side of two or more methods of production for the same commodity as a persisting source of discrepancy between the overall profits:overall capital ratio and the general rate of profits, see below, pp. 17-18. Let us assume, for the moment, that each commodity is produced in only one way).

The general rate of profits - determined, as we have seen, on the basis of the labour theory of value - is used by Marx, in a second stage of the argument, to determine the "prices of production", which owe their name to the circumstance of being "*in the long run the necessary condition of supply* (12), of the reproduction of commodities in every individual sphere" (Marx, 1894, p. 198; it. added). As noted above (pp. 10-11) - and as Marx himself points out in a passage quoted shortly below (p. 16) - "price of production" is nothing but another name for the "natural price", namely, for that price of which Adam Smith says that, though it "is not always the lowest at which a dealer may sometimes sell his goods, it is the lowest at which he is likely to sell them for a considerable time; at least where there is perfect liberty, or where he may change his trade as often as he pleases" (Smith, 1776, vol. I, p. 63). A formulation which also appears to have inspired Alfred

Marshall's description of the long-period normal supply price as that price "the expectation of which is sufficient and only just sufficient to make it worth while for people to set themselves to produce that aggregate amount", where reference is made to "what can be produced by plant, which itself can be remuneratively produced and applied within the given time" (Marshall, 1920, pp. 310 and 315) (13).

As Marx puts it, the price of production "forms the guiding star of the merchant or the manufacturer in every undertaking that requires time" (Marx, 1867, p. 163, footnote). Which, as far as the manufacturer is concerned, can only be taken to mean that he will plan to endow himself with the capital equipment required to produce those commodities, and in those quantities, which he expects to be able to sell at prices not falling short - as a rough average over "fat and lean years" (Marx, 1894, p. 208) - of the corresponding prices of production; namely, at a profit not falling short of that corresponding to the general rate (an extra profit being, however, expected by "the capitalist who applies /an/ improved method of production" up to the moment at which "the new method of production /will have/ become general" (Marx, 1867, p. 302) and a lower price of production will have come to be established).

3. THE GENERAL RATE OF PROFITS REDEFINED

Also in Piero Sraffa's *Production of Commodities by Means of Commodities* the rate of profits and the prices corresponding to any given wage (or the wage and the prices corresponding to any given rate of profits, if one accepts Sraffa's suggestion of treating the latter as the independent variable: see Sraffa, 1960, p. 33) can only be affected by a change in the methods of production. Explaining his choice of calling "values" or "prices" *tout court* the exchange ratios which satisfy his equations, Sraffa observes: "Such classical terms as 'necessary price', 'natural price' or 'price of production' would meet the case, but value and price have been preferred as being shorter and in the present context (which contains no reference to market prices) no more ambiguous" (*ibid.*, p. 9; see also Marx, 1894, p. 198: "/the price of production/ is really what Adam Smith calls *natural price*, Ricardo calls *price of production*, *cost of production*, and the physiocrats *prix necessaire*"). To this list J. Robinson (1962) adds "normal price" (see also above, note 13), a phrase which will be preferred in what follows to the old-fashioned "price of production" as a description of the "centre of repose" (Smith, 1776, vol. I, p.65) towards which market prices gravitate.

Three differences between Marx's and Sraffa's treatment of the matter should, however, be noted. The first, and best known, one is that Sraffa recognises that the rate of profits "cannot be determined before we know the

prices of the goods" (Sraffa, 1960, p. 6) any more than the prices can be determined before we know the rate of profits, and provides a theoretical scheme capable of coping with this interdependence. In doing so, he breaks with Marx's two-stage procedure, of determining firstly the general rate of profits on the basis of the labour theory of value and then using the general rate of profits to determine the prices of production (see above, section 2), or, what amounts to the same thing, with his conception of the prices of production as resulting from the economy's overall surplus-value being allotted by competion to the different industries in proportion to the constant *plus* variable capitals employed in each (both reckoned in terms of the labour-determined "values" of the underlying commodities, rather than of their prices of production).

The second difference concerns the problem of identifying, among the different methods of production employed in the same (single-product) industry, the one to be taken into account for the purpose of determining normal prices and the general rate of profits. This must obviously be the same method of production which is normally chosen by a producer who decides to endow himself with additional productive capacity or to replace his worn-out, or obsolete, equipment. Such a "normal", or "dominant", method of production may conceivably co-exist both with more profitable methods - which, although susceptible of becoming dominant at some point in the future, for the time being have no substantial bearing on the competition of capitals (see Marx's reference to an improved method being made

"general" by competition: end of section 2, above) - and with less profitable ones, employing "fixed capital items which, having been in active use in the past, have now been superseded but are worth employing for what they can get" (Sraffa, 1960, p. 78). In discussing, however, the formation of the general rate of profits and of the prices of production, Marx inclines to treat the "values", on which the above-described procedure leading to the prices of production is based, as reflecting the quantity of labour expended *on average* on the production of one unit of each commodity, thus making the "value" of the overall quantity produced of each commodity reflect the overall quantity of labour expended in its production, no matter how numerous, and how different from each other, are the methods of production employed (14). It is worth emphasizing that, once the ingenious idea of combining all the methods employed in the production of each commodity into a single "average" method has been recognised as untenable as a basis for the normal-price equations, we are left with no connection whatsoever between the general rate of profits and the ratio of the overall profits received in the economy (inclusive of the "quasi-rent" (*ibid.*, p. 78) received for the obsolescent machines, as well as of the extra-profits secured by the latest-introduced methods) to the value of the overall capital employed (inclusive of the value of the obsolescent as well as of the newest machines).

The third difference is that nothing in Sraffa's book appears to preclude a reading of his normal-price equations as referring to a world in which production

adjusts to demand through changes in the degree of utilisation of productive capacity. (In order to conciliate this interpretation with the classical hypothesis, retained by Sraffa, that commodities are brought to market at the end of the year, we shall assume that producers correctly anticipate demand one year in advance, so that they can endow themselves with the appropriate amounts of intermediate goods; as to the wages, Sraffa assumes that they are paid "*post factum* as a share of the annual product" (p. 70), rather than at the beginning of the year as an advance from capital.)

The existence of a short-period adjustment mechanism, based on changes in the degree of utilisation of productive capacity, calls, however, for a redefinition of normal prices and the general rate of profits, to the effect that these concepts postulate the "normal" degree of utilisation of productive capacity, namely, that degree of utilisation which producers regard as ideally suited to their requirements, particularly (though not only) in the light of the expected fluctuations of demand (for a detailed discussion of the factors affecting the normal degree of utilisation see Ciccone, 1986, pp. 26-32; the *locus classicus* for the subject is Steindl, 1952, ch. 2). The normal, or "planned", degree of utilisation of productive capacity - which bears a definite kinship to Professor Steindl's "planned" (or "desired") excess capacity (but also, *mutatis mutandis*, to Harrod's "required" capital coefficient) - is the only one compatible with the conception of normal prices as the "central" ones, and the

guiding lights for investment decisions. For that rate of profits the expectation of which is regarded as just sufficient to make a trade attractive (namely, the general rate of profits) cannot be conceived of as implying a degree of utilisation of productive capacity different from the one planned by the investors. (Suppose the general rate of profits to be 10%. A 10% rate obtainable thanks to a degree of utilisation systematically higher - or in spite of a degree of utilisation systematically lower - than the one planned by the investors would, then, represent an insufficient - or, respectively, more than sufficient - reward for the employment of capital in production. Were it regarded as exactly sufficient, we should be compelled to conclude that the general rate of profits is actually lower - or, respectively, higher - than 10%.)

Consider now a highly simplified economy, consisting of two industries. As in Professor Hicks's well-known example (Hicks, 1965, ch. 12), one of them produces a quantity of tractors (T) and the other a quantity of corn (C), tractors being the only means of production employed in the two industries. The tractors, which are all of the same type, do not wear out with use and are confidently expected not to become obsolete. By T_t and T_c we indicate the quantities of tractors employed in the tractor and in the corn industries, respectively; by L_t and L_c the corresponding quantities of (uniform) labour. Sraffa's normal-price equations, adapted to our hypotheses and definitions, appear as follows:

$$T_t p_t r + L_t w = T p_t$$

$$T_c p_t r + L_c w = C$$

where r is the general rate of profits, w the wage and p_t the price of tractors; the price of corn is made equal to unity.

The reference to the normal degree of utilisation of productive capacity is made explicit by adding the equations

$$T = x_t T_t$$

$$C = x_c T_c$$

$$L_t = l_t T_t$$

$$L_c = l_c T_c$$

where x_t and x_c are the quantities of tractors and, respectively, of corn produced by a tractor utilised normally, i.e. manned with l_t and l_c units of labour, respectively.

Substituting the latter equations into the former, we get the following:

$$p_t r + l_t w = x_t p_t$$

$$p_t r + l_c w = x_c$$

i.e. two equations as compared with three variables (r, w and p_t). The resulting degree of freedom allows us to establish a relationship between the wage and the rate of profits. If we further assume that tractors, when utilised

normally, are manned in the same way in the two industries, namely $l_t = l_c$, we are back in the realm of the labour theory of value, and the relationship between w and r becomes a straight-line one,

$$r = x_t \left(1 - \frac{l_c}{x_c} w \right)$$

as shown in Fig. 2 (the second variable, π, measured on the horizontal axis belongs in the argument of the following sections). When $w = 0$ the rate of profits is equal to x_t, or to the ratio of T to T_t corresponding to the normal degree of utilisation of productive capacity. As the wage is increased, the rate of profits falls continuously, reaching zero when the wage equals the output of corn per unit of labour (x_c/l_c).

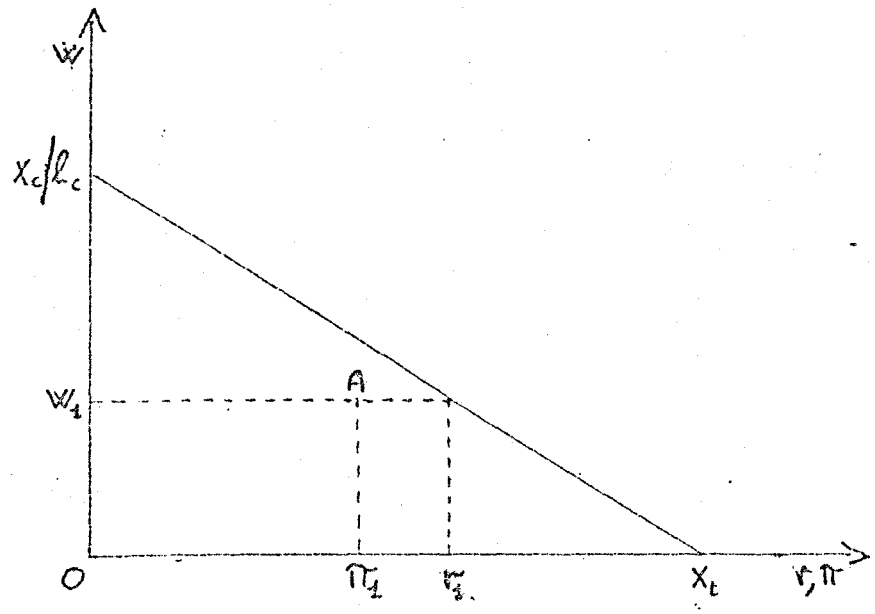

Fig. 2. Relationship between the wage in terms of corn (w) and the general rate of profits (r) when $l_t = l_c$. Current profitability ($\pi = P/K$) is measured on the horizontal axis alongside of r; let $O\pi_1$ be the current profitability corresponding to the wage Ow_1 (hence, to the general rate of profits Or_1) when the value added has fallen to the level OY_c in Fig. 3.

4. CURRENT PROFITABILITY AND THE GENERAL RATE OF PROFITS COMPARED.

In considering the adjustment of production to demand through changes in the degree of utilisation of productive capacity, T_t and T_c will be taken as given and it will be assumed that, as T and C rise or fall, L_t and, respectively, L_c rise or fall in the same proportion. It will further be assumed that the two commodities are actually sold (and the book value of tractors reckoned) at their normal prices, this being true not only when productive capacity is utilised normally, but also when it is over- or under-utilised.

Thanks to these additional assumptions the graphical device presented in Fig. 1 can easily be adapted to the case under scrutiny. This is done in Fig. 3, which is premissed on the wage being taken as given (let it be the wage Ow_1 in Fig. 2) and on workers being assumed not to save and capitalists not to consume. As in Fig. 1, the line OS represents the difference between the value added and the wages. Investment orders are assumed to be initially at the level shown by the upper horizontal line (*II*). The value added OY_1 satisfies the condition

$$Y - (L_t w + L_c w) = Tp_t$$

(it being understood that T is adequate to meet the investment orders). This implies that corn is produced in

the quantity demanded by the workers ($L_{t-1}w + L_{t-2}w_{-1} C$) and that profits equal the value of the quantity of tractors produced, or

$$P = Tp_{t-1}$$

where P denotes profits. At any other level of Y errors in the anticipation of demand would cause unplanned accumulation of stocks of corn or postponement of consumption (15). It will be remembered, however, that such errors have been assumed not to be made (see above, p. 19).

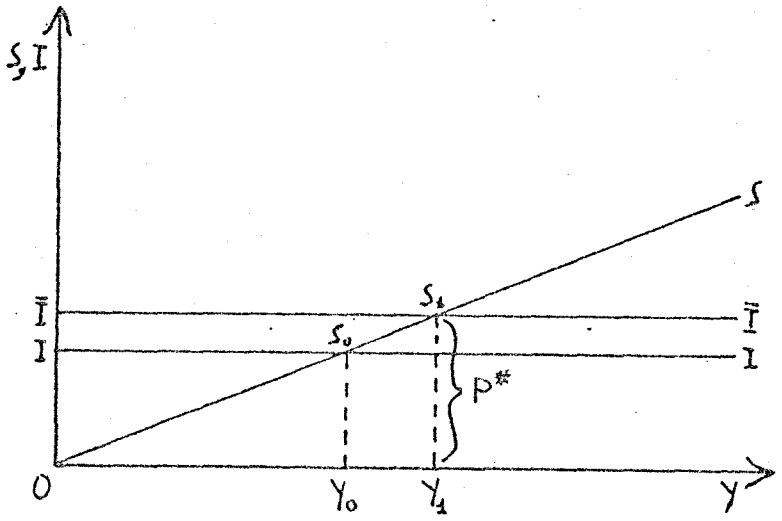

Fig. 3. Profits fall as investment falls. From being equal to the general rate of profits (Or_1 in Fig. 2) when the value added is at the level OY_1, current profitability ($\pi = P/K$) falls to $O\pi_1$ in Fig. 2 as the value added falls to the level OY_0.

The stage has now been set for comparing Sraffa's general rate of profits with Kalecki's "gross profitability of existing plant", or "rate of profits" (Kalecki, 1933, p. 6 and, respectively, 1954, p. 98), by which he means the ratio of the economy's current profits, gross of depreciation, to the current value of the economy's capital. A concept which our everlasting tractors make equivalent to the "current", or "realised", rate of profits as defined by Joan Robinson, namely, "the ratio of current gross profits, minus depreciation, to the value of the stock of capital at current replacement costs" (Robinson, 1962, p. 29).

Current profitability may differ from the general rate of profits on account of (a) different methods of production being employed side by side in the same industry (see above, section 3), (b) commodities being sold at market prices which differ from their normal prices, and (c) productive capacity being over- or under-utilised. The tractors being assumed to be all of the same type and the two commodities to be sold in all cases at their normal prices, our economy admits of only one reason for discrepancy between current profitability and the general rate of profits, namely, over- or under-utilisation of productive capacity.

Suppose however, as a last preliminary exercise, that, the value added being OY_1, the normal degree of utilisation prevails in both industries. The profits accruing to the capitalists in this "fully adjusted situation" (see above, p 13) are

$$P^* = x_1 T_1 p_1$$

and the general rate of profits (Or_1 in Fig. 2), which is actually received in both industries, can be expressed as

$$r = \frac{P^*}{K}$$

where K denotes the value (at normal prices) of the stock of capital ($K = T_1 p_1 + T_2 p_1$). If now investment falls to the level shown by the lower horizontal line (II) in Fig. 3, the value added falls to OY_2 and profits to $Y_2 S_2$. The resulting situation may be described as one in which, the general rate of profits being P^*/K, current profitability (P/K) falls short of it (let it be $O\pi_1$ in Fig. 2); or one in which, owing to the under-utilisation of productive capacity, capitalists as a class fail to receive the full (general) rate of profits on their capital.

5. CURRENT AND EXPECTED PROFITABILITY, THE GENERAL RATE OF PROFITS REHABILITATED.

According to Kalecki, the expected profitability of investment is higher, the higher *P/K* (16), which in turn is higher, the higher the current degree of utilisation of productive capacity. In his own words, "the marginal rate of profits at a given time - by which is meant the marginal *prospective* rate of profits... - is determined *grosso modo* by the level of national income *Y* and the stock of capital equipment" (Kalecki, 1939, p. 133). This being so because, "knowing so little about the future, entrepreneurs are inclined to be optimists when present trade is good and pessimists when it is bad" (ibid. p. 134).

What makes this alleged influence of current on expected profitability highly objectionable (no less so for being widely recognised) is that it implies that, whenever the existing tractors (to stay with the above example) are over- (or under-) utilised, producers expect, for that very reason, that their tractors (taking together the existing ones and those - of the same type - to be installed) will turn out to be over- (or, respectively, under-) utilised also in the future. Which is tantamount to saying that they are currently planning to endow themselves with less (or, respectively, more) tractors than they expect to be able to run at their normal degree of capacity utilisation. Why, however, should producers set themselves the goal of perpetuating the initial maladjustment?

The foregoing does not seek to deny that "present

affairs have a predominant influence on long-term expectations" (Kalecki, 1939, p. 134) - or that "the facts of the existing situation enter, in a sense disproportionately, into the formation of our long-term expectations; our current practice being to take the existing situation and to project it into the future, modified only to the extent that we have more or less definite reasons for expecting a change" (Keynes, 1936, p. 148). What is denied is, rather, that producers *expect* a certain degree of utilisation of productive capacity in the same way in which they expect, say, a certain level of demand for their products. The future degree of utilisation of productive capacity, it is contended, is not a question of expectation but of requirement and planning (see above, pp. 19-20).

The planned degree of utilisation is, indeed, to be numbered among the elements of the existing situation susceptible of being projected into the future in the way suggested by Keynes, while this is not the case with the current degree. Whatever the latter may be, producers will plan to install that amount of additional productive capacity which they regard as necessary in order to meet the expected demand for their products without either systematically exceeding or systematically falling short of that degree of utilisation which they consider normal - i.e. suitable - in the existing situation (unless, of course, they have "more or less definite reasons for expecting a change" in the factors on which they base their opinion, *e.g.*, in the pattern of the fluctuations of demand). This

planned addition to the existing productive capacity brings the expected degree of utilisation into line with the normal one, hence expected profitability into line with the general rate of profits.

Suppose, however, that all the producers in a trade regard their existing capital equipment as more than sufficient to meet the expected demand for their products. The general rate of profits can still be said to provide guidance for their investment decisions no less than for those of potential entrants - though, as it were, a negative guidance. For no producer will resume investment until he satisfies himself that he will receive at least the general rate of profits from the employment not only of his existing tractors, but also of additional ones (17).

To look at the argument of this section from a different perspective, let us suppose the wage to rise from Ow_1 to Ow_2 in Fig. 4 (which is in fact a replica of Fig. 2). If the new proportion of $(Y - Lw)$ to Y is that shown by the line OS and the investment orders by the line II in Fig. 5 (a replica of Fig. 3), the increased demand for and production of corn causes the value added to rise from OY_1 to OY_2. The economy's overall profits turn out not to have changed ($Y_1S_1 = Y_2S_2$), the fall in the profits received in the tractor industry being matched by an equivalent increase in the profits received in the corn industry.

It is on this ground that Professor Steindl rejects Marx's claim that, following a rise in real wages, "accumulation slackens... because the stimulus of gain is blunted" (Marx, 1867,p. 580). The rise in real wages,

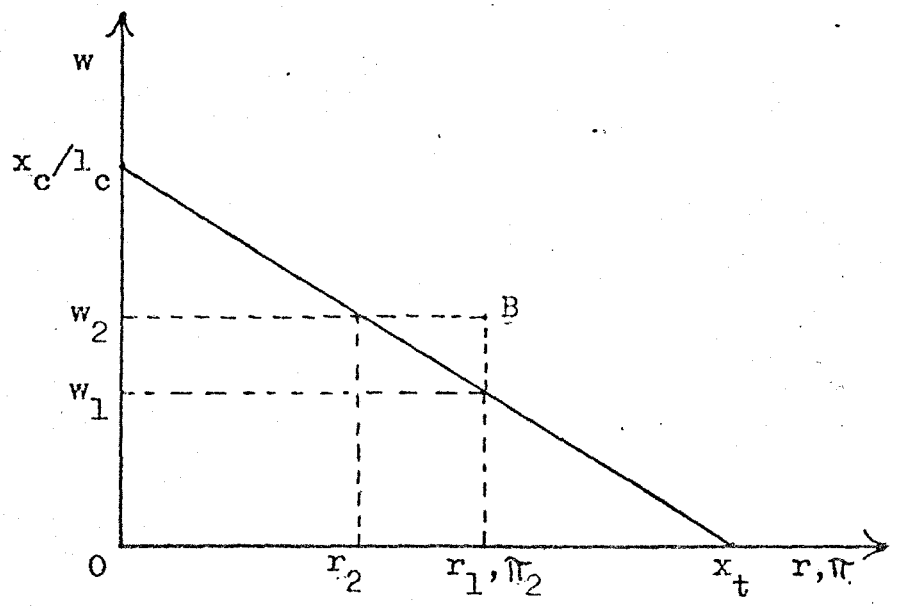

Fig. 4. Relationship between the wage in terms of corn (w) and the general rate of profits (r) when $l_t = l_c$: see Fig. 2. $O\pi_2$ is the current profitability corresponding to the wage Ow_2 (hence, to the rate of profits Or_2) when, following the rise of the wage from Ow_1 to Ow_2, the value added has risen to the level OY_2 in Fig. 5; current profitability remains equal to the general rate of profits (Or_1) ruling before the rise in the wage and in the value added.

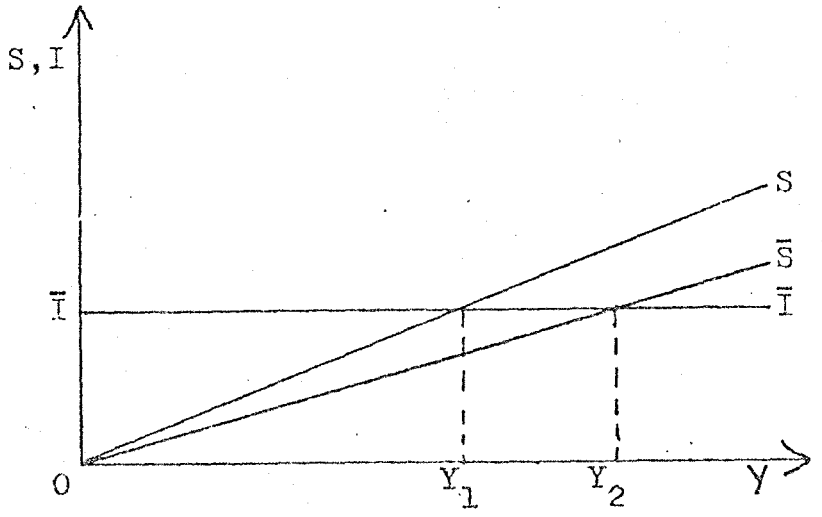

Fig. 5. Profits unchanged as the wage rises (from Ow_1 to Ow_2 in Fig. 4) and the general rate of profits falls (from Or_1 to Or_2).

Professor Steindl argues, "could never reduce profits as long as investment (and capitalists' consumption) remains high" (Steindl 1952, p. 237; see also Kalecki, 1954, p. 61).

What he fails to point out is, however, that expected profitability is hindered by the wage rise even if current profitability is not. Current profitability - which was assumed to equal the general rate of profits when the wage was Ow_1 (in Figs. 2 and 4) and the value added OY_1 (in Figs. 3 and 5) - has indeed remained unchanged (the current profitability corresponding to Ow_2 being $O\pi_2 = Or_1$) but it now exceeds the general rate of profits (which has fallen from Or_1 to Or_2) as shown by point B in Fig. 4. As a matter of fact, current profitability in the corn industry is still higher than $O\pi_2$. Producers, however, know very well that their profits are bolstered by the over-utilisation of productive capacity. And since they are not planning to keep productive capacity perpetually over-utilised, they must expect profitability to fall not only below its present level, but also below Or_1. Indeed, if they expect the normal price of tractors in terms of corn to remain constant (an expectation which, thanks to our heroic assumptions, will prove correct), their expected profitability will be Or_2. As to producers in the tractor industry (whose equipment has never ceased to be run at its normal degree of capacity utilisation), their current profitability already equals the new general rate of profits (Or_2); nor have they any apparent reason for expecting the future to bring about a change in profitability (provided, of course, that the new wage is believed to have come to stay).

That a rise in real wages had an unmistakably beneficial impact on the economy was a basic tenet of the old underconsumptionists. To which Marx countered that a rise in real wages was indeed a remedy for overproduction, but not a painless one. For it caused the general rate of profits to fall, thus paving the way for a different kind of crisis (18). Kalecki's and his followers' lack of a proper understanding of the cost- (as opposed to the demand-) side of the problem, namely, of the impact of a rise in real wages on expected profitability, brings them closer to the underconsumptionists than to Marx, in whose theoretical construction the view of the capitalist economy as doomed to overproduction - a view for which he was indebted to Engels and through him to Sismondi (19) - is made to co-exist with the Ricardian approach to value and distribution, hence (the differences between Marx and Ricardo as regards capital being left out of the picture) with the inverse relationship between the wage and the general rate of profits. (It is noteworthy, in the latter connection, that in Marx's *Contribution to a Critique of Political Economy* Ricardo and Sismondi are, as it were, placed on the same footing, "classical economics" being described as "ending with Ricardo in Britain and Sismondi in France": Marx, 1859,p. 52; see also Marx, 1873, p. 24).

F O O T N O T E S

(1) See, in particular, Kalecki (1954), ch. 3. A reference to the "schemes of reproduction" can also be found in Kalecki (1939). Kalecki's claim that, in discussing the "schemes of reproduction", Marx "does not pay attention to the problem of what happens if investment is inadequate to secure the moving equilibrium" (*ibid.*, p. 45) is at variance with the reading of Marx's position offered in section 1, below.

(2) In Kalecki's theory of effective demand, as expounded in ch. 3 of his *Theory of Economic Dynamics*, production is assumed to adjust smoothly to demand and prices to remain constant until a bottleneck is reached. The importance of "unexpected accumulation or running down of stocks", Kalecki contends, "seems to have been frequently exaggerated" (Kalecki, 1954, p. 79).
In a 1937 note, not to come to light till many years later, Keynes observed that "the theory of effective demand is substantially the same if we assume that short-period expectations are always fulfilled". "I now feel", Keynes added, "that if I were writing the book again I should begin by setting forth my theory on the assumption that short-period expectations were always fulfilled: and then have a subsequent chapter showing what difference it makes when short-period expectations are disappointed" (Keynes, 1973, p. 181). Had Keynes actually re-arranged the matter along these lines, the initial statement of the principle of effective demand would have looked very much like that contained in ch. 3 of the *Theory of Economic Dynamics*.

(3) A situation of overproduction can be said to occur when the production of one or more commodities exceeds its or their "effectual demand" as defined by Adam Smith, namely, "the demand of those who are willing to pay the natural price" (Smith, 1776, vol. II, p. 63) - in Marx's terminology, the "price of production" - of the commodity or commodities in question. Kalecki's use of the phrase "overproduction" to denote a situation resulting from a fall in aggregate demand *and production* (see Kalecki, 1967, pp. 149 and 150) is eloquent as to his lack of interest in overproduction proper.

(4) "At any given level of the *general rate of profits*, the method that produces at a lower price is of course the most profitable of the two for *a producer who builds a new plant*" (Sraffa, 1960, p. 81; it. added). Indeed, who would care about a "general rate of profits" which a producer who builds a new plant regards as irrelevant?

(5) An investment slump is indeed hardly avoidable - it may be observed as an aside - if producers are unable to restore profitability (either by putting up prices relative to money wages or via a rise in productivity), and the monetary authorities refuse to let the rate of interest adjust downwards. See Vianello (1987), section 1.

(6) This is most clearly seen if the value of commodities is reckoned directly in units of labour (man-years). The value added per unit of labour is then made equal to unity. Since the variable capital per unit of labour (v) is uniform in all industries, the surplus-value per unit of labour, $(1 - v)$, is also uniform in all industries. Provided, then, that v remains constant, a rise in the economy's value added entails a proportional rise in the surplus-value produced, no matter how the composition of output may change.

(7) Rather than to give a detailed account of Marx's treatment of the matter, the present section endeavours to bring out the essentials and to explore some implications of his position (as stated in *Capital*, vol. II, ch. 20 and 21). The explanation he offers of a discrepancy between total planned expenditure and the total value of production deserves however, to be reported somewhat diffusely. At any moment of time, Marx argues, some capitalists are engaged in the "formation of a hoard" (Marx, 1885, p. 496); among the reasons for this use of profits, one to which Marx calls attention is that "every single capitalist requires a sinking fund for that part of his fixed capital which falls due for reproduction only after a lapse of years but must then be entirely replaced" (*ibid.*, p. 185). Other capitalists are simultaneously engaged in the opposite exercise: "with the money hoarded by the conversion of surplus-value into money they buy means of production, additional elements of constant capital ... Capitalists belonging to these two categories confront each other: some as buyers, the others as sellers, and each one of the two exclusively in one of the two roles ... But inasmuch as only one-sided exchanges are made, a number of mere purchases on the one hand, a number of mere sales on the other ... the balance can be maintained only on the assumption that in amount the value of the one-sided purchases and that of the one-sided sales tally". Such a balance, however, is "an accident, owing to the spontaneous nature of this production" (*ibid.*, pp. 496-9).

A general deficiency of investment opportunities invites "not an individual, but a general accumulation of money capital on the part of the capitalist class". In order, however, to realise the surplus-value produced, converting it into money to be hoarded, capitalists "would all have to sell a portion of their

product without buying nothing in return" (*ibid.*, pp. 352-3), which is obviously impossible. The resulting situation is of the kind discussed in the remainder of the present section.

(8) See above, note 3. Overproduction of capital goods may be ruled out by assuming, as Marx sometimes does, that their production is "determined by orders" (Marx, 1885, p. 470; see also *ibid.*, p. 494).

(9) A distinction is drawn by Marx between foodstuffs, whose production "cannot be suddenly increased in the course of the year", so that "their import grows" as a consequence of a rise in demand, and "those branches of industry in which production can be rapidly expanded (manufacture proper, mining, etc.)" (Marx, 1885, p. 319). This distinction bears a close resemblance to Kalecki's one between those branches in which production "is elastic as a result of existing reserves of productive capacity" and prices are "cost-determined", and those in which production "requires a considerable time" and prices are "demand-determined" (Kalecki, 1954, p. 43; mining is, however, transferred from the first to the second group).

(10) "The stagnation of the market, which is glutted with cotton cloth, hampers the reproduction process of the weaver. This disturbance first affects his workers. Thus they are now to a smaller extent, or not at all, consumers of his commodity - cotton cloth - and of other commodities which entered into their consumption ... But apart from the workers who are directly employed by the capital invested in the cotton weaving, a large number of other producers are hit by this interruption in the reproduction process of cotton: spinners, cotton-growers, engineers (producers of spindles, looms, etc.), iron and coal producers and so on ... All these industries have this in common, that their revenue ... is not consumed ... in their own product but in the product of other spheres, which produce articles of consumption, calico among others. Thus the consumption and the demand for calico fall just because there is too much of it on the market. But this also applies to all other commodities on which, as articles of consumption, the revenue of these indirect producers of cotton is spent" (Marx, 1905-10, vol. II, pp. 522-3).

(11) "... the majority of the population, the working people, can only expand their consumption within very narrow limits, whereas the demand for labour, although it grows *absolutely*, decreases *relatively*, to the same extent as capitalism develops" (Marx, 1905-10, vol. II, p. 492).

(12) "*Bedingung der Zufuhr*", which in the English translation referred to in the text is rendered by "prerequisite of supply", renders in turn the English expression "necessary condition of the supply /of the object wanted/", originally appearing in Malthus, 1820, p. 78.

(13) Marshall's "long-period supply prices" and Marx's "prices of production" can, indeed, be treated as equivalent concepts, as in Robinson (1962), p. 8. Provided, however, that this does not lead one to lose sight of the basic difference between Marshall's demand-and-supply determined "equilibrium prices" (and "equilibrium amounts") and the classical notion of competition as simply causing market prices to gravitate towards the non-demand-and-supply determined "natural prices". As we can read in Ricardo (1821), "The opinion that the price of commodities depends solely on the proportion of supply to demand, or demand to supply, ... has been the source of much error" in political economy (p. 382).

(14) This is a rather simplified account of Marx's view of the subject, as it can be extracted from *Capital*, vol. III, ch. 10 (the main simplification consisting in having avoided any reference to the awkward concept of "market values"). For a fuller account see Lippi, 1976, pp. 11-19.

(15) As a matter of fact, an excess of current demand for over current production of corn can be taken care of by a rise in the money price of corn relative to the money wage. In Kalecki's words, "if the output of consumption goods for workers is at capacity level any increase in capitalists' consumption or investment will merely cause a rise in prices of these goods. In such a case it is the rise in prices of consumption goods for workers which will increase profits in department III (consumption goods for workers) up to a point where they are equal to the higher amount of wages in departments I (investment goods) and II (consumption goods for capitalists). Real wages will fall, reflecting the fact that an increased wage bill meets an unchanged supply of consumption goods" (Kalecki, 1954, pp. 47-8, note 1; see also Keynes, 1936, pp. 122-25, where "a redistribution of income in favour of the saving classes as an effect of the increased profits resulting from the higher prices" is made to follow - alongside of a postponement of consumption and a depletion of stocks - from the hypothesis that "the expansion of employment in the capital-good industries is ... entirely unforeseen"). The redistributive way to the equality between profits and investment (*plus* capitalists' consumption) is barred to us by our having taken the wage in terms of corn as given.

As to the depletion of the stocks of corn, it must be observed that (as shown by the normal-price equations in section 3) in our economy no stocks are systematically carried over. This being also the reason why the difference $Y - (L_{\epsilon}w + L_{\varepsilon}w)$, represented by the line OS in Fig. 3, has not been called *ex post* (i.e. planned *plus* unplanned) investment, as somebody might have expected. The latter description is appropriate only for $Y \geq Y_{\prime}$.

(16) "Thus if entrepreneurs consider investing a capital k in the construction of capital equipment, they will estimate in the first place the anticipated gross profit p ... The anticipated gross profitability P/K /but read instead p/k/ may be estimated from the actual gross profitability of existing plant. We have already denoted the volume of capital equipment at a given time by K and the aggregate gross profit by P; consequently the gross profitability of existing plant is P/K. Thus we may conclude that p/k is estimated on the basis of P/K" (Kalecki, 1933, p. 6). It should be noted that Kalecki's P/K differs from ours not only because of (a) our peculiar assumption about the economic life of the tractors, and the consequent vanishing of the distinction between gross and net profits, but also because of (b) our assumption that each commodity is produced in only one way and (c) our reckoning of the value of capital at normal prices (at which commodities are assumed to be actually sold).
As pointed out by Professor Steindl (1981), the above conception was later modified (starting with Kalecki, 1943; the changes introduced in Kalecki, 1968, will be left out of account) to the effect that investment decisions were made to depend (*inter alia*) on the change of P and K per unit of time, rather than on their absolute value. In Kalecki (1954) we are, however, warned that, although the ultimate result of connecting investment decisions to the change in P is very much the same as that of connecting them to the change in output, as in the "acceleration principle", yet the rationale of the former connection is not to be sought in "the necessity of expanding capacity in order to increase output" (p. 100), but in the circumstance that "a rise in profits from the beginning to the end of the period considered renders attractive certain projects which were previously considered unprofitable" (p. 97). As to the change in K, Kalecki observes: " ... the net increment of capital equipment per unit of time *affects adversely the rate of investment decisions*, i.e. without this effect the rate of investment decisions would be higher. Indeed, an increase in the volume of capital equipment if profits, P, are constant means *a reduction in the rate of profits*" (p. 98; it. added).

(17) The view that the degree of utilisation of productive capacity relevant to the determination of normal prices and the general rate of profits is the normal, or planned one - which, if actually prevailing, would make producers "content with what they are doing" (Harrod, 1948, p. 81) - was at the basis of the argument in Vianello (1985), where it was denied that current over- or under-utilisation of productive capacity may affect "the rate of profits which is considered a sufficient reward for the employment of capital, and represents the guiding light for investment and pricing decisions" (p. 84). The notion of a normal degree of utilisation was, however, described as not belonging exclusively in the producers' mind, but having a factual counterpart in the long-period tendency of productive capacity to adjust to the level and composition of aggregate demand. The outcome of this conception was a transplantation into a Kaleckian world - characterised by the existence of a short-period adjustment mechanism - of Marx's view of the general rate of profits as the "centre" towards which the actual ratio of profits to the value of capital gravitates (only one method of production was assumed to be employed in each industry).
The above conception was criticized by R. Ciccone (1986) on the ground that, on the one hand, "the achievement of a particular size of capacity *relative* to that of demand appears in itself to be a process that is liable to be frustrated for long periods of time", such periods being conceivably "longer than those required for normal prices to show themselves as the central positions of actual prices" (p. 25); and, on the other, the planned degree of utilisation of productive capacity pulls itself up by its own bootstraps, requiring no other basis than the sheer circumstance of being planned (see p. 26). I hope to be able to comment extensively on this article in the next future (in particular on Dr. Ciccone's critique of Joan Robinson's theory of income distribution, which forms the main object of the article, references to my paper being only incidental). What I wish to declare straight away is, however, that it was only after reading Dr. Ciccone's article that I realised I had no need to bring in the tendency of productive capacity to adjust when arguing away the alleged influence of current on expected profitability.

(18) "That commodities are unsealable means only that no effective purchasers have been found for them ... But if one were to attempt to give this tautology the semblance of a profounder justification by saying that the working-class receives too small a portion of its own product and the evil would be remedied as soon as it receives a larger share of it ..., one could only remark that crises are always prepared by precisely a period in which wages rise generally ... From the point

of view of these advocates of sound and 'simple' (!) common sense, such a period should rather remove the crisis. It appears, then, that capitalist production comprises conditions independent of good or bad will, conditions which permit the working-class to enjoy that relative prosperity only momentarily, and at that always only as the harbinger of a coming crisis (Marx, 1885, pp. 414-5). As pointed out by a note marked with the initials of the editor, Frederick Engels (*ibid.*, p. 415, note 47), Marx's criticism is chiefly addressed to Rodbertus's theory of crises. To correct the one-sidedness of the above passage as a statement of Marx's own position, it may prove useful to read it in conjunction with the following: "Contradiction in the capitalist mode of production: the labourers as buyers of commodities are important for the market. But as sellers of their own commodity - the labour power - capitalist society tends to keep them down to the minimum price" (*ibid.*, p. 320, note 32).

(19) On Engels's Sismondianism and its influence on Marx's early economic conceptions see Ginzburg (1985), pp. 94-101. According to the author, it was in 1845 that Marx, while persisting in the rejection of the Law of Markets, came to accept the Ricardian theory of profits, a change on which the reading of J.S. Mill's 1844 *Essays on Some Unsettled Questions of Political Economy* may have had a decisive bearing (see *ibid.*, p. 101).

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