Cadrisme within a Kaleckian Model of Growth and Distribution

by

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September 2006
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Abstract:

The 1990s, specially in the United States, have witnessed an unprecedented change in income distribution, with a large redistribution towards rentiers on the one hand, and towards the upper ranks of the managerial bureaucracy on the other hand, as became ever more obvious after the financial scandals affecting large corporations such as Enron and Worldcom. This has also been accompanied by large capital gains that benefited top-file managers as well as shareholders. Ordinary employers and workers, as a counterpart, have seen their real purchasing power stagnate. Despite all this, and in contrast to the predictions of the canonical Kaleckian growth model, many countries achieved respectable growth rates of capital and output.

The purpose of the present paper is to explain this paradox and to provide a consistent Kaleckian model of growth that would model the main features identified above, making a distinction between managerial labour, basically overhead labour, and workers, essentially direct labour. The model is based on target-return pricing procedures. We then study the implications of _cadrisme_, a managerial-friendly regime based on large pay packages for the managerial class.
**Cadrisme within a Kaleckian model of growth and distribution**

In a recent paper that was presented at the conference honouring Joan Robinson, held at the University of Vermont, Tom Palley (2005) argued that class conflict, in its traditional Marxist sense, is absent from Cambridge theories of growth and income distribution. As a remedy, Palley (2005) presents a Kaleckian growth model, where income is split between capital and labour income, with the latter being split again between salaries being paid to the managerial classes and wages being paid to workers. As to capital income, part of it is retained by firms, while the rest is distributed to households, according to capital ownership.

The 1990s, specially in the United States, have witnessed an unprecedented change in income distribution, with a large redistribution towards wealth owners (rentiers) on the one hand (Epstein and Jayadev 2005: 65), and towards the upper ranks of the managerial bureaucracy on the other hand (Petit 2006: 47), as became ever more obvious after the financial scandals affecting large corporations such as Enron and Worldcom. This has also been accompanied by large capital gains that benefited top-file managers as well as shareholders up until 2001. This managerial-friendly regime based on large pay packages for upper-level managers and the overall managerial class has been called *cadrisme* by Duménil and Lévy (2004, ch. 7). Ordinary employees and workers, as a counterpart, have seen their real purchasing power stagnate. Despite all this, many countries achieved high profit rates and respectable growth rates of capital and output – a rather paradoxical fact seen from a canonical Kaleckian point of view.

The purpose of the present paper is to explain this paradox and to provide a consistent Kaleckian model of growth that could explicitly take into account at least most of the features identified above. The model will focus on the distinction between: upper and middle management, or white-collar or supervisory labor, on the one hand; and workers, or blue-collar or non-supervisory labor, on the other hand, being understood that most blue-collar workers today are to be found in the service industries. The model to be built relies on a staff/worker

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1 For instance, the average remuneration of CEOs in the USA, as a ratio of average workers’s wages has increased from 96 in 1990 to 458 in 2000 (Petit 2006: 51), a period that most observers associate to the demise of managerial capitalism. One would presume that other upper and middle rank managers also benefited from this bonanza.
distinction proposed by Rowthorn (1981) in his remarkable article, a distinction that was renewed in the papers of Nichols and Norton (1991), Dutt (1992) and Lavoie (1992, 1995, 1996, 1996-97). All these authors assume that managerial staff must be understood as essentially overhead labor, the amount of which is proportional to full-capacity output, while non-supervisory workers are variable or direct labor, the amount of which is proportional to actual output. This is how the model is different from Palley’s (2005), since the latter assumes that the proportion of wages paid to workers and managers respectively is indifferent to the actual rate of capacity utilization, thus assuming that average labor productivity and the profit share are constants, whatever the rate of utilization.

A drawback of the approach followed by Rowthorn (1981) and others is that they assume that an increase in the cost of staff labour will have no impact whatsoever on the markup or on prices. This is because prices are assumed to depend only on unit direct costs, that is on the costs encountered on workers only – variable labour. Under the conditions of monopoly capitalism, i.e., in the real world of megacorps surrounded by smaller firms, it is most likely that managerial staff costs could be shifted on to the consumer, and hence induce higher prices, at given nominal wage rates for variable labor, even though there are still excess reserves of capacity. To take this likely possibility into consideration, the markup, instead of being given exogenously or determined by the pressures of demand, will depend on target-return pricing. Thus in contrast to what can be found in most Kaleckian models, where prices are fixed through a simple markup on direct costs, we shall assume, rather, that prices are fixed through a target-return pricing procedure which takes into account direct as well as indirect costs, such as those incurred for managerial and supervisory staff, as in Lavoie (1992, 350-2; 1996).

We shall discover that additional managerial costs may lead to slower accumulation, even when managers do not save, if the economy is running beyond their standard rate of capacity utilization. This will be contrasted with the results achieved by Dutt (1992) and Rowthorn

\[\text{2 These features were originally to be found in Harris (1974) and Asimakopulos (1975).}\]

\[\text{3 Unfortunately, there also some erroneous statements in Palley (2005), such as those on pages 210 and 215, where curves are said to shift in the wrong direction.}\]
Some additional remarks with regards to profit shares and the saving propensities of managers will then be made in the last sections of the paper.

**The profits cost equation**

The standard Kaleckian model of growth and distribution with excess capacity can be brought down to two equations describing the rate of profit, from the supply side and from the demand side (Rowthorn 1981; Dutt 1990). We start out with the derivation of the profits function seen from the cost side (the profits cost equation PC). From national accounting, we know that the value of output is equal to the sum of the wage costs and the profits on capital:

\[ pq = w^*L + rpK \]

where \( p \) is the price level, \( q \) is the level of real output, \( w^* \) is the average nominal wage rate, \( L \) is the level of labor employment, \( r \) is the rate of profit, \( K \) is the stock of capital in real terms. This may be rewritten as:

\[
(1) \quad p = w^*(L/q) + rpK/q
\]

We now consider two sorts of labor: on one hand upper- and middle-class managerial labor, and on the other hand the rank-and-file workers, who may include lower-rank managers. Broadly speaking, we shall associate upper-level management with overhead or fixed labor (\( L_f \)), while rank-and-file workers are direct or variable labor (\( L_v \)). We then make use of the following definitions:

\[
L = L_v + L_f
\]

\[
(2) \quad L_v = q/y_v
\]
Equation (2) assumes that there are constant returns, i.e., productivity per variable worker, $y_v$, is constant up to full-capacity output ($q_{fc}$). This implies that variable and marginal costs are constant. The amount of unproductive labor is assumed to depend on full capacity output, as in equation (3). The nominal wage rates of variable and fixed workers are $w_v$ and $w_f$, and it is assumed that the latter are $\sigma$ times the level of the former, as shown in equation (4). This $\sigma$ ratio will be the focus of our analysis, since we mainly wish to study what could have been the impact of a shift in favour of managerial average remuneration relative to that of ordinary labor.

To define the profits cost curve, we need in addition the following two variables: the rate of utilization of capacity $u$, with $q_{fc}$ full capacity output:

$$u = q / q_{fc}$$

and the capital to capacity ratio $v$, assumed to be given by the existing technology:

$$v = K / q_{fc}$$

Let us call $f$ the ratio of fixed labor to variable labor, the latter being defined at full capacity output. It follows from its definition and from equations (2) and (3) that $f$ is equal to:

$$f = y_v / y_f$$
With these definitions, equation (1) can be rewritten as:

\[ p = w(1 + f\sigma/u)/y_v + rp/v/u \]  

Equation (5) gives us the price of a unit of output in terms of the labor costs per unit of output and the profits per unit of output. Note that the first element of the right-hand side of equation (12) is simply average cost per unit at the actual rate of utilization of capacity. From this equation, we obtain the profits cost equation, in terms of the real wage rate \( w/p \):

\[ r^{PC} = (u/v)[1 - (w/p)(1 + f\sigma/u)/y_v] \]

It remains to decide upon the determinants of the real wage, or more precisely of real efficiency wages, \( (w/p)/y_v \). In Kaleckian models the level of the real wage, for a given productivity level, depends on the value of the costing margin. We thus need a pricing equation. Prices in Kaleckian models are usually based on a simple markup over unit direct costs. Here, as we deal with a single vertically-integrated sector, all direct costs come down to variable labor costs, so the markup pricing procedure becomes:

\[ p = (1 + \theta) w/y_v \]

**Target return pricing**

The point now at issue is the determinant of the markup \( \theta \). Herein lies the originality of the model. Whereas many Kaleckians and post-Keynesian authors assume that the costing margin is applied to unit direct costs, studies have shown that most firms nowadays fix prices on the basis of total unit costs, *i.e.*, full cost pricing. More precisely, prices are based on *standard* unit costs, *i.e.*, *normal-cost* pricing (Lee 1994). A particular specification of such normal-cost pricing is *target-return* pricing, and it seems to be prevalent today, in particular among large firms (Lanzillotti 1958; Shipley 1981; Lee 1994).
A crucial element of target-return pricing is the value taken by the target rate of return $r_*$. With the new corporate governance that was fashionable over the last two decades, firms were being asked by their financial sponsors to achieve a minimum rate of return on equity, the ROE standard, conventionally (or mystically) set at 15% (Plihon 2002). In the current model, to keep things simple, the financial side is being kept aside. Still, we may presume that if firms desire to achieve a given rate of return on equity, they would have to consistently achieve a given rate of profit. This required rate of profit, or normal profit, is the target rate of return $r_*$.

We can find an explicit pricing formula for target-return procedures that is almost as simple as the markup on direct costs, given by equation (7). To do so, we define the *standard* rate of utilization of capacity, $u_*$. First note, with the help of equation (5), that unit costs at standard volume are equal to: $w(1 + f\sigma/u_*)/y_*$. Target-return pricing would then be such that:

$$p = (1 + \Theta)w(1 + f\sigma/u_*)/y_*$$

What then would the markup on total unit costs, $\Theta$, be equal to? Suppose that the replacement value of the stock of capital is $pK$, while the target rate of return is $r_*$. Required profits for the period are then $r_*pK$. With a standard rate of utilization of capacity of $u_*$, corresponding in the period to a level of output of $q_*$, the required profits for the period must be equal to $r_*vpq_*/u_*$. This must be equated to the total profits that are to be obtained by marking up unit costs at the standard rate of utilization of capacity: $q_*\Theta w(1 + f\sigma/u_*)/y_*$. After some

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4 In Kaleckian models, markups are usually assumed to depend on various historical factors, such as industry concentration ratios or the bargaining power of labor unions. For instance, Dutt (1990: 83) assumes that labor unions have a target real wage, while firms have a target markup, and hence, in line with equation (7), a target real wage. The actual real wage will be some weighted average of these two targets. Similarly, we can assume here that labor unions target a certain real wage, which corresponds to a standard rate of return, while firms aim at a standard rate of return, say $r_*$, whereas the actual target rate of return incorporated into prices, $r_*$, in general will be in-between these two rates (Lavoie 1992: 418-9; 2003). See also Cassetti (2003).

5 See Lavoie (1992: 256-8). In addition, such an approach to pricing would appear to bring consistency within a multi-sector framework, without adopting long-period Sraffian pricing. See Lavoie and Ramírez-Gastón (1997).
manipulation, a simple pricing formula for target pricing procedures emerges:\(^6\)

\[
p = \frac{u_s + f\sigma}{u_s - r_s v} w
\]

In terms of the simple markup pricing procedure, this implies that \(1 + \theta\) in equation (7) is equal to the term in parentheses in equation (9). Therefore, the markup \(\theta\) over unit direct costs is equal to:

\[
\theta = \frac{(r_s v + f\sigma)}{(u_s - r_s v)}
\]

The share of gross profits, that is, profits plus overhead costs, is equal to:

\[
m = \frac{\theta}{1 + \theta} = \frac{(r_s v + f\sigma)}{(u_s + f\sigma)}
\]

while, naturally, the share of wages, the labor income going to workers, i.e., direct or blue-collar workers, is equal to:

\[
1 - m = \omega = \frac{(u_s - r_s v)}{(u_s + f\sigma)}
\]

We shall say more later about the share of net profits, which we shall call \(\pi\), and the labor share

\(^6\) By equating the two expressions representing required total profits, one obtains:

\[
p = \Theta(w/y_v)(u_s + f\sigma)/r_s v
\]

Then equating this new value of \(p\) with the one given by equation (8), we have:

\[
\Theta = r_s v/(u_s - r_s v)
\]

Plugging back the required value of \(\Theta\) into equation (8), one obtains equation (9). Of course, this equation makes sense only if the denominator is positive, i.e., if: \(u_s > r_s v\). The inequality must by necessity be fulfilled since it implies that wages are positive, i.e., profit income is smaller than total income.
of managers, which by residual, is necessarily equal to \( m - \pi \). In the meantime, inspection of equation (12) reveals that, obviously, an increase in the \( f \sigma \) term will reduce the share of income \( \omega \) going to workers, while it will increase its complement, the gross profits share \( m \).

Pricing equation (9) can be reinterpreted in terms of real wages. Given the technical coefficients (such as \( y, f \) and \( v \)) and the rate of utilization used to compute standard costs, real wages are determined by the target rate of return \( r \), actually incorporated in the pricing formula:

\[
\frac{w}{p} = \frac{(u_s - r_v y_v)}{(u_s + f \sigma)}
\]

(13)

The profits cost equation, as appeared in equation (6), was a function of the then indeterminate real wage. The value of the real wage is now given by the elements of the target-return pricing formula. By combining equations (6) and (13), and after some manipulations, one obtains an explicit profits cost equation, equation (14), which turns out to be, as one would expect, a positive linear function of the actual rate of capacity utilization: the higher the actual rate of utilization the higher the realized rate of profit.

\[
r^{PC} = \frac{[(f \sigma + r_v u - (u_s - r_v f \sigma)/v(u_s + f \sigma)]}{v}
\]

(14)

In terms of the gross costing margin \( m \) this profits cost equation would be simplified to:

\[
r^{PC} = \frac{[mu - (1 - m)f \sigma]}{v}
\]

(15)

The formula given by equation (9) clearly shows how additional costs associated with overhead labor will be passed on to consumers, in the form of higher prices. It does not matter whether managerial and supervisory staff are now paid higher wages relative to variable labor (a higher \( \sigma \) ratio), or whether more managerial staff has been hired relative to the number of blue-collar workers (a higher \( f \) ratio). The result is the same: markups will be raised, and hence prices will increase, *ceteris paribus*, and both the real wages of workers (equation 13) and the share of
income going to (direct labor, blue-collar) workers (equation 12) will decrease. In a world dominated by megacorps that endorse pricing procedures based on target-return pricing, higher managerial staff costs are necessarily associated with higher prices, as well as higher gross costing margins *at standard capacity utilization*, unless firms simultaneously decide to reduce their target rates of return.

It remains to see whether this shift in costs towards consumers has any impact on effective demand.

**Effective demand without target return pricing**

The previous equations define a rate of profit seen from the cost accounting side. We now have to tackle the issue of profit realization, *i.e.*, the question of effective demand. The canonical Kaleckian model has the following saving and investment functions in growth terms:

\[
g' = s\rho r
\]

with \( s \), the overall propensity to save out of profits.

With this saving function we assume that there is no saving out of wages. In other words, neither the managers nor the workers save on their labor income. It is also assumed that either profit recipients save on their capital income, or that profit recipients save nothing out of their capital incomes, and that all saving is done by corporations, through their retained earnings. While this may look like an excessively simplified assumption, it is not too far from reality since, in countries such as the United States and Canada, saving rates on flow income by households have fallen down to zero over the most recent years.

The investment function is assumed to be the canonical Kaleckian investment function, given by:

\[
g' = \gamma + g_uu + g_r
\]
where $\gamma$ is some constant, which could be indifferently positive or negative, reflecting the strength of animal spirits, while $g_u$ and $g_r$ are reaction parameters to changes in the current rate of utilization and the current rate of profit.\(^7\)

Putting together the above two equations, one obtains what Rowthorn (1981: 12) calls the realization curve. We shall call it the effective demand function (ED):

\[ \rho^{ED} = \frac{(g_u u + \gamma)(s_r - g_r)}{s - g} \]

The long-run solution to this Kaleckian model of growth and distribution can be obtained by combining the profits cost equation (noted PC) and the effective demand function (noted ED), both of which are upward-sloping.\(^8\)

We first deal with the case studied by Dutt (1992). This case is defined by the combination of equation (18), which deals with effective demand, and equation (15), which represents the profits cost curve when the simple Kaleckian markup procedure is assumed to be followed by firms, that is when firms do not take into account overhead unit costs when setting prices. The graphical solution of this first case is shown in Figure 1. The graph illustrates what happens with the Dutt model when there is an increase in overhead managerial costs, that is when either the $f$ or the $\sigma$ ratio is raised. The PC curve shifts down, from $PC_1$ to $PC_2$, the two curves being parallel to each other. The overall impact of an increase in overhead managerial costs, without target return pricing, is quite obvious: there is an increase in both the equilibrium rate of

\(^7\) More will be said later about the well-known Bhaduri and Marglin (1990) investment function. In the meantime, note that in a model without overhead costs or without capital depreciation, the constant parameter $\gamma$ would need to be positive, because the saving function would arise from the origin, forcing the investment function to have a positive intercept with the vertical axis, for otherwise, as we shall see in the next footnote, there would be no economically-meaning solution, since the slope of the investment function needs to be smaller than that of the saving function. But here, with overhead costs, the constant $\gamma$ can be negative, as will be emphasized later.

\(^8\) The model is stable if the slope of the saving function is steeper than that of the investment function, which implies that the profits cost curve is steeper than that of the effective demand curve, i.e., provided: $s_r > g_r + g_u v/m$. This, or similar conditions, will be assumed throughout.
capacity utilization and the rate of profit, and as a consequence the rate of accumulation also increases (Rowthorn 1981: 18; Dutt 1992: 105; Lavoie 1992: 315). The paradox of costs is fully at work here: higher costs lead to higher profit costs.

FIGURE 1: Macroeconomic impact of an increase in managerial costs, without target return pricing

**Effective demand with target return pricing**

Dutt (1992), Nichols and Norton (1991) and Lavoie (1992: 344-7) all show that this paradoxical behaviour could disappear if there is some saving out of labor income. Indeed, it is well-known since Amadeo (1986: 94) that the paradox of costs does not hold all the time if there are savings out of wages or salaries. But this is not what we wish to tackle immediately. Another issue, as had been pointed out by Burkett (1994: 119), in a comment on Dutt (1992), is “whether firms are able to pass on unproductive outlays as higher prices”, that is whether firms are able to pass onto consumers additional managerial costs. If this is so, as would be the case with target return pricing, the higher prices “could limit the positive impact of such expenses on effective demand in the economy as a whole”. Higher managerial costs could thus be associated with lower realized profit rates and rates of accumulation. The paradox of costs, as applied to managerial costs, would vanish, even without savings out of labor income. This is now what we explore.

Let us instead analyze what happens when firms follow target-return pricing procedures. The question at stake is whether an increase in $f$ or in $\sigma$, *i.e.*, in the relative importance of managerial labor or in its relative remuneration, still leads to an increase in effective demand, and hence to an increase in the rate of capacity utilization, the rate of profit (and the rate of capital accumulation). To find out, we must take the derivative of the profits cost function with respect to $\sigma$ (or indifferently with respect to $f$, since the two parameters play a symmetric role). Making use of equation (14), we find:

\[
\frac{dP_C}{d\sigma} = f(u - r)v(u - u_s)/v(u_s + f\sigma)^2 > 0 \quad \text{if } u > u_s
\]
The partial derivative is positive whenever the actual rate of capacity utilization is above the standard rate.\footnote{Recall that \((u_s - r_s\gamma)\) is necessarily positive.} Equation (19) shows that when there is an increase in overhead costs in a model in which firms practice target-return pricing, the profits cost curve spins counterclockwise around the fixed point determined by the target rate of return and the standard rate of capacity utilization. This is shown in Figure 2, where two graphical solutions are offered: one where the economy stands beneath the average standard rate of capacity utilization (point A, given by the intersection of \(PC_1\) and \(ED_A\)), and the other where the economy operates beyond the average standard rate of capacity utilization (point B, given by \(PC_1\) and \(ED_B\)).

FIGURE 2: Macroeconomic impact of an increase in managerial costs, with target return pricing

To the initial unit overhead cost corresponds the \(PC_1\) curve, while the higher unit overhead cost corresponds to the \(PC_2\) curve. The impact of the rise in overhead costs on the rates of profit and of capacity utilization depends on the actual rate of capacity utilization compared to the standard one. The former depends on the position of the effective demand curve, \(ED_A\) or \(ED_B\).

One may be puzzled as to why higher unit overhead costs would have a positive effect on the cost-side profitability of firms when the actual rate of capacity utilization exceeds its standard rate, whereas it would have a negative effect on cost-side profitability when the actual rate of capacity utilization is below the standard rate. The cause of this is that overhead labor costs are spread out over different levels of output. Following an increase in managerial labor costs, prices are raised just enough to maintain the customary rate of return when the firm is operating at the standard rate of utilization of capacity. When the firm is operating beyond the standard rate of utilization, the hike in prices more than compensates for the increase in unit costs. Reciprocally, when the firm is operating below the standard rate of utilization, the hike in prices does not fully compensate for the increase in unit costs.

This can be seen in Figure 3, where the cost curves of the representative Kaleckian firm, as they emerge from equation (5), have been drawn with direct labor costs shown as constant per
unit of output, while total unit costs incorporating the fixed managerial overhead labor costs are represented by a rectangular hyperbola. The increase in the overhead labor costs is shown here by the upward shift of the unit cost curve. At the standard rate of capacity utilization $u_s$, the vertical distance between unit costs and the price level remains the same, before and after the change, indicating that the rate of profit on capital remains at $r_s$. By contrast, at $u_\theta > u_s$, this vertical distance increases, showing that profitability is now higher than when overhead labor costs were lower. At $u_\delta < u_s$, the vertical distance diminishes, indicating that profitability is dropping at that rate of utilization. An extreme instance of this case is given at rate $u_c$, where profitability becomes negative.

FIGURE 3 : Microeconomic impact of an increase in managerial costs, with target return pricing

Having cleared up the implications of higher managerial overhead labor costs for the profits cost function, we may now study their implications for the long-run solution of the model. Let us go back to Figure 2. When the economy is stagnating, i.e., when the actual rate of capacity utilization is below its standard level and when the actual rate of profit is below its normal level (as at point A), an increase in managerial labor costs will have positive effects on the economy. The positive effects of additional purchasing power being granted by the firms to their high and medium rank managers will overtake the negative effects induced by the rise in prices and the fall in real purchasing power of direct labor. The rate of capacity utilization, the rate of profit and hence the rate of capital accumulation will all rise as a result. The mechanism at stake here, as in Cambridgian models of growth à la Kaldor and Robinson, is the principle of effective demand.

At the rate of utilization $u_d$, the potential rate of profit is now lower than what it was before

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10 If we leave partial equilibrium analysis, things are a bit more complicated since all prices, including those of investment goods, would need to rise, as can be seen from equation (5), which implies that price increases would need to take into account the higher value of replacement capital. This however does not change anything to the logic of the above argument.

11 This effect is clearly illustrated at $u_c$. At that rate of utilization, the firm was initially making profits. The increase in overhead labour costs would push up unit costs to the new (higher) price level, and hence profits and profitability would drop to zero.
additional managerial labor costs were introduced. The potentially lower share of profit thus generates some excess demand at that rate of utilization, because the propensity to save out of wages is greater than that of out of profits, which drives up the actual rate of capacity utilization.

On the other hand, when the economy is in a boom, i.e., when firms are operating beyond their standard levels of capacity utilization (as at point B), the potential share of profit is hiked up, and hence at a given rate of capacity utilization there is an excess supply of output. As additional managerial costs are passed on to consumers, the real purchasing power of (direct) workers diminishes and drives down effective demand, along with rates of capacity utilization, profit rates and accumulation rates. Thus even if saving from overhead workers is entirely assumed away, there are strong Keynesian reasons to be opposed to any increase in relative managerial or sales staff expenses. These reasons are however less relevant when the economy is stagnating, at low rates of capacity utilization and low rates of growth.

If higher rates of accumulation are the target of an economy, firms should increase the relative weight of their managerial expenses (as defined by $f$ and $\sigma$) when the economy is stagnating, not when it is booming. An educated guess would lead us to believe that firms tend to do the converse, expanding the relative importance of managerial staff and their remuneration when times are good, and cutting heavily (again in relative terms) into unproductive staff when times are bad. If such a behaviour is indeed that of firms, then the cyclical fluctuations in the relative importance of managerial outlays tend to dampen effective demand under all circumstances, be they those of a stagnating or a booming economy.

The evolution of the net profit share with target return pricing

We can further examine the consequences of target return pricing when managerial costs are pushed upwards. Let us study the impact of higher managerial costs on income distribution, more precisely the evolution of the net profit share. Once again we can study what would happen by

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12 Within the context of a short-run model, see Lavoie (1998) for a simplified analysis of the profit share under different hypotheses (with or without overhead costs, with a Kaleckian or Marxist closure, etc.)
starting off from the profits cost curve and the effective demand curve, expressed as a profit rate. We know, from accounting identities, that the rate of profit can be expressed as \( r = \pi u/v \), where \( v \) is the capital to full capacity ratio, \( u \) is the rate of capacity utilization and \( \pi \) is the net profit share. By taking equations (14) and (18), and multiplying them by \( v/u \), we thus obtain the net profit shares, \( \pi' \) and \( \pi'' \), seen from the supply and the demand sides. We have:

\[
\begin{align*}
\pi' &= \{(f + r)v/(u + f)\} - \{(u - r)v)f/(u + f)u\} \\
\pi'' &= \{(v\gamma/(s_p - g_s) + \gamma v/(s_p - g_s)u\}
\end{align*}
\]

Obviously, once again because the expression \( (u - r)v \) must be positive for the model to make economic sense, there is a positive relationship between \( \pi' \) and the rate of capacity utilization \( u \). Thus, the profit share seen from the supply side \( \pi' \) is upward sloping in the \((u, \pi)\) plane, as shown in Figure 4 and 5.

Things are not so clear in the case of the profit share seen from the demand side \( \pi'' \). The constant parameter \( \gamma \) of the investment function can be indifferently positive or negative. When the \( \gamma \) parameter is positive, there is a negative relationship between the profit share seen from the demand side \( \pi'' \) and the rate of capacity utilization, as shown in Figure 4. By contrast, when the \( \gamma \) parameter is negative, there exists a positive relationship between these two variables, as shown in Figure 5 (see Rowthorn 1981: 21; Lavoie 1992: 341-3).

Let us again focus on what happens when there is an increase in managerial costs, more precisely in the relative remuneration \( \sigma \) of the managerial staff. The derivative with respect to \( \sigma \) of the profit share seen from the supply side is:

\[
d\pi'/d\sigma = f(u_s - r_s v)(u - u_s)/u(u_s + f) > 0 \quad \text{if} \quad u > u_s
\]

Thus once more the sign of the derivative depends on whether the actual rate of utilization is below or above the standard rate of capacity utilization. As before, the profit share seen from the supply side spins counter-clockwise around the fixed point determined by the standard rate of capacity utilization and the net standard profit share \((r, \nu/u_s)\). Following an
increase in managerial costs, the net profit share, for a given rate of capacity utilization, increases when the rate of capacity utilization is above the standard rate of capacity utilization; and it decreases when the rate of capacity utilization is below the standard rate.

Naturally, since the above derivative is equal to zero when \( u = u_s \), the net profit share remains unchanged when managerial costs are increased when the economy is operating at the standard degree of capacity utilization \( u_s \). This is not surprising since we know, from the accounting identity \( r = \pi u/v \), that when \( u = u_s \) the net profit share \( \pi \) equals \( r_s v / u_s \), which is a constant.

But to find out what will actually occur to the net profit share in general, we need to consider both curves. In Figure 4, when effective demand is strong, and the rate of utilization is above its standard value, the increase in managerial costs leads to an increase in the net profit share; but when effective demand is weak, and the rate of capacity utilization is below its standard rate, the increase in managerial costs leads to a decrease in the net profit share.

FIGURE 4: Impact of an increase in managerial costs on the net profit share, with target return pricing, when the investment constant is positive
FIGURE 5: Impact of an increase in managerial costs on the net profit share, with target return pricing, when the investment constant is negative

Yet, the case described by Figure 5 is also possible. With a negative \( \gamma \) constant, when the rate of utilization is above its standard value, the increase in managerial costs leads to a decrease in the net profit share; and when the rate of capacity utilization is below its standard rate, the increase in managerial costs leads to an increase in the net profit share.

The lesson to be drawn from all this is that the net profit share can go in any direction. By contrast, as already pointed out earlier, an increase in managerial costs necessarily leads to a reduction in the income share of workers and to an increase in the gross profit share, as shown in Table 1. It can also be shown that it leads to an increase in the labor share of the managerial staff in all circumstances, since this share is given by \( m - \pi \), and since its derivative with respect to \( \sigma \) is always positive, being equal to: \( f(u_s - r_s u)/u_s + f\sigma \)u > 0.
Table 1: Effect on the various income shares of an increase in managerial costs, with target return pricing

<table>
<thead>
<tr>
<th>Income share</th>
<th>Conditions</th>
<th>Effect of higher managerial costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers share $\omega = 1 - m$</td>
<td>$\forall u$</td>
<td>$-$</td>
</tr>
<tr>
<td>Managerial salaries $m - \pi$</td>
<td>$\forall u$</td>
<td>$+$</td>
</tr>
<tr>
<td>Gross profits share $m$</td>
<td>$\forall u$</td>
<td>$+$</td>
</tr>
<tr>
<td>Net profits share $\pi$</td>
<td>$u &gt; u_s$</td>
<td>$\gamma &gt; 0$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\gamma &lt; 0$</td>
</tr>
<tr>
<td></td>
<td>$u &lt; u_s$</td>
<td>$\gamma &gt; 0$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$\gamma &lt; 0$</td>
</tr>
</tbody>
</table>

In addition, the net profit share is a poor indicator of the potential profitability of firms. Take the case of an increase in the target rate of return $r$. From examination of equations (14) and (20) it is quite obvious that:

$$\frac{dr^c}{dr_s} > 0$$
$$\frac{d\pi^c}{dr_s} > 0$$

In Figure 6, it is shown that the increase in the target rate of return implemented through the pricing procedures would lead to an increase in the realized rate of profit if the actual rate of capacity utilization could remain at its assumed starting value $u_s$. But it won’t. As a consequence of the reduction in real wages, and hence in consumption, the actual rate of capacity utilization is reduced, and eventually so does the actual profit rate (whether the economy is in position A, B or S). By contrast, the net profit share can either increase or decrease when firms manage to implement a higher target rate of return into their prices. In Figure 7, the higher target rate of return induces lower rates of utilization but higher net profit shares. However, in Figure 8, an increase in the target rate of return leads to a decrease in the actual net profit share.
Making use of equation (3) and the definition of $f$, savings on managerial salaries are thus:

$$S = \sum wL = \sum wq_jf_jy_j$$

This demonstrates that the net profit share is not a reliable indicator of potential profitability when there are managerial costs, and hence there is no compelling reason to incorporate the profit share in an investment equation, as Bhaduri and Marglin (1990) do. Rather, if one is keen to eliminate the actual profit rate because it doubles up with the effect of the rate of utilization, it is the target rate of return, or the normal rate of profit, as suggested by Kurz (1991) and Lavoie (1992: 332-40), that could be included into investment functions.

**Saving on overhead salaries**

To close this paper, one may wonder whether the introduction of saving on salaries and wages can change the results obtained so far. We can proceed in a way which is nearly similar to that suggested by Nichols and Norton (1991) and Lavoie (1992: 344), assuming that (only) managerial (overhead) labor save out of their salaries. We can go slightly further by taking explicitly into consideration the propensity of firms to retain earnings. After some manipulation, the aggregate saving function can be rewritten as:

$$g^* = s_d r + s_p (1 - s_c) r + \frac{s_{fr} \sigma f(u_x - r_g y)}{(u_x + f\sigma y)} - \frac{(1 - s_g) r_{ag}}$$

where $s_c$ is the corporate retention ratio while the propensity to save of managers (fixed labor) out of their wage and rentier income is respectively $s_{fr}$ and $s_{g}$.\textsuperscript{13}

\textsuperscript{13} Making use of equation (3) and the definition of $f$, savings on managerial salaries are thus:

$$S_{fr} = s_{fr} \sigma wL_f = s_{fr} \sigma wq_j f_j y_j$$
We may also wish to consider that managers make capital gains on their holdings of shares, in which case we may consider in addition the propensity to save out of capital gains, $s_{cg}$, and the capital gain ratio, $r_{cg}$, which is the ratio of capital gains per unit of capital. The first term of the saving function represents the retained earnings of corporations; the second term represents managerial saving out of capital income, while the third term represents managerial saving out of salary income. As to the fourth term, it represents consumption out of capital gains, which must be subtracted from saving out of flow income.

As a result, a new effective demand relation can be derived, linking the previous investment function with this new saving function incorporating saving by managers. We now have:

$$r_{ED} = \frac{g_{c}\mu + \gamma + (1 - s_{cg})r_{cg}}{s_{c} + s_{p}(1 - s_{c}) - g_{r}} - \frac{s_{cg}\alpha f(u_{s} - r_{c}v)}{[s_{c} + s_{p}(1 - s_{c}) - g_{r}](u_{s} + fc)v}$$

Obviously, things get much more complicated than with the earlier saving function. Basically, when saving out of salaries are assumed away ($s_{w} = 0$), things remain as they were despite the introduction of consumption out of capital gains and saving out of rentier income. Only the first term of equation (22) remains, and hence the effective demand function behaves exactly as it did in the previous sections. In particular, it is quite obvious that the potential negative impact of additional managerial costs can be countered by a decrease in the retention ratio $s_{c}$ of corporations, as has been observed since the 1990s (Crotty 2005: 96-9). As shown in Figure 9, a reduction in $s_{c}$, or in the overall propensity to save out of profits $s_{p}$, will rotate up the effective demand function and lead to higher rates of capacity utilization and higher profit rates.\(^{14}\)

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Savings on overhead salaries as a percentage of the value of capital are thus:

$$S_{w}/pK = s_{w}\sigma wq_{w}f(y_{p}pK = (s_{w}\sigma f/vy_{p})(w/p)$$

and one only needs to substitute $w/p$ by its value in equation (13) to obtain the third term in the saving function.

\(^{14}\)Figure 9 illustrates the case where the sum of the constants in the $r^{ED}$ equation are negative.
This will occur even if firms decide to restrain capital accumulation (a reduction in the \( \gamma \) parameter). In fact, as we can read off equation (22), any reduction in the constant of the investment function can also be countered by either an increase in the capital gains ratio or the propensity to consume capital gains. Thus, as pointed out by Cordonnier (2006) in his enlightening contribution, the Kaleckian model can very easily explain the stylized facts of the more recent regime of capital accumulation, where corporations manage to achieve high profit rates despite slow capital accumulation and higher income shares being allocated to upper and middle rank managerial positions.

FIGURE 9: The impact of a reduction in the retention ratio of corporations on the profit rate and the rate of capacity utilization

Let us now move on to the case where managers do save out of their salary income \((s_{fw} > 0)\). Let us first consider the case where outlays on managerial costs are increased. Whereas before this had no impact on the effective demand curve, the curve will now shift down, as a result of the increase in saving out of overhead salaries, as an examination of equation of equation (22) quickly reveals. Indeed, taking the derivative of equation (22), we find it is always negative:  

\[
\frac{dp}{ds} = -\frac{\frac{u_s}{v} f(u_s - r_s \psi)}{\frac{1}{s_c} + s_p (1 - s_c) - g_p (u_s + f_s)^2} < 0
\]

FIGURE 10: The impact of an increase in managerial costs, with target return pricing and a positive propensity to save out of managerial salaries

The results are illustrated in Figure 10. When the rate of utilization is above its standard rate, as in situation B, the negative effects of an increase in managerial costs (through the rotation of the profits cost curve from \( PC_1 \) to \( PC_2 \)) are reinforced by the presence of saving out of

\[15\] Both \((u_s - r_s \psi)\) and \(s_c + s_p (1 - s_c) - g_p\) are positive. See footnotes 8 and 9.
overhead salary income (which shifts down the effective demand curve from $ED_{A1}$ to $ED_{A2}$). In situation A, where the rate of utilization is below the standard rate, the favourable effects of an increase in managerial costs may be cancelled, or even overwhelmed, by the negative effects on effective demand induced by savings out of overhead salary income (the downward shift of the effective demand curve from $ED_{A1}$ to $ED_{A2}$). By making a comparison in the values taken by equations (19) and (23), at a given level of capacity utilization, it is possible to assess the conditions that are required for an increase in managerial costs still to induce an increase in the rate of utilization when it is smaller than the standard rate. The condition is given by:

$\gamma_{fr} c < \{s_c + (1 - s_c) g_r\}(u_s - u)/u_s = \alpha$

The propensity to save on managerial labor income has to be sufficiently small compared to the relative distance of the rate of utilization from its standard rate. Also the more stable the model, the more likely this condition is to be fulfilled.

The various possibilities are summarized in the following table:
Conditions for a positive effect on the rate of accumulation are more stringent than those indicated for a positive effect on the rate of capacity utilization when there is saving out of managerial salaries, since we know, as revealed by Figures 9 and 10, that an increase in managerial costs will necessarily induce a reduction in the profit rate when the parameters are such that the rate of utilization is unaffected.

\textit{Conclusion}

It was argued by Nichols and Norton (1991: 53) that “stagnationist models can be easily generalized to include a third class of overhead workers, a class important in modern capitalism”. This is what we have done in this paper, taking up the challenge offered by Palley (2005), in the hope of showing that, as Nichols and Norton (1991: 53) further claim, “a stagnationist model so generalized is capable of yielding a broader range of capitalist dynamics than the traditional stagnationist framework allowed”.

The most significant result achieved with our growth model with overhead labor is that

\textsuperscript{16}Conditions for a positive effect on the rate of accumulation are more stringent than those indicated for a positive effect on the rate of capacity utilization when there is saving out of managerial salaries, since we know, as revealed by Figures 9 and 10, that an increase in managerial costs will necessarily induce a reduction in the profit rate when the parameters are such that the rate of utilization is unaffected.

\begin{table}[h]
\centering
\caption{Impact of an increase in managerial costs on the rate of capacity utilization\textsuperscript{16}}
\begin{tabular}{|c|c|c|c|}
\hline
Pricing procedure & Saving function & Conditions & Impact of higher managerial costs \\
\hline
Markup pricing & with only saving out of profit & $\forall u$ & + \\
also with saving out of managerial salaries & $s_{fw} < s_c + s_{tr} (1 - s_c) - g_r$ & + \\
& $s_{fw} > s_c + s_{tr} (1 - s_c) - g_r$ & - \\
Target return pricing & with only saving out of profit & $u > u_s$ & - \\
& & $u < u_s$ & + \\
also with saving out of managerial salaries & $u > u_s$ & - \\
& & $s_{fw} < \alpha$ & + \\
& & $u < u_s$ & - \\
& & $s_{fw} > \alpha$ & - \\
\hline
\end{tabular}
\end{table}
increases in managerial costs may have either positive or negative effects on rates of capacity utilization, profit rates, growth rates and net profits shares, even when propensities to save out of wages and salaries are assumed away.

It is understood that the model is only one among several possible formalisations. For instance, in this model, the real wage of managers was a given multiple $\sigma$ of the real wage of workers. As a consequence, an increase in the target rate of return of corporations would have led to an increase in the markup and hence to a reduction in the real wage of both the workers and the managerial staff. In a cadrisme regime of accumulation, where finance and managers join forces to appropriate potential income shares, it might be more appropriate to assume instead that the real wage of managers is a given. With this alternative closure, the wage multiple $\sigma$ becomes an endogenous variable, that depends on the target rate of return set by managers and on the real salaries which they assign to themselves through control of corporate board of directors. This alternative closure might generate slightly different dynamics.

References


with target return pricing”, *Manchester School of Economic and Social Studies*, 55 (1), March: 145-169.


Figure 1
Macroeconomic impact of an increase in managerial costs, without target return pricing

Figure 2
Macroeconomic impact of an increase in managerial costs, with target return pricing
Figure 3
Microeconomic impact of an increase in managerial costs, with target return pricing

Figure 4
Impact of an increase in managerial costs on the net profit share, with target return pricing, when the investment constant is positive
Figure 5
Impact of an increase in managerial costs on the net profit share, with target return pricing, when the investment constant is negative.

Figure 6
Impact of an increase in the target rate of return on the actual profit rate is negative.
Figure 7: Impact of an increase in the target rate of return on the net profit share, when the investment constant is positive.

Figure 8: Impact of an increase in the target rate of return on the net profit share, when the investment constant is negative.
Figure 9
The impact of a reduction in the retention ratio of corporations on the profit rate and the rate of capacity utilization

Figure 10
The impact of an increase in managerial costs, with target return pricing and a positive propensity to save out of managerial salaries