

OLIGOPOLY AND THE DISTRIBUTION OF INCOME

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This paper is circulated for discussion purposes only and its contents should be considered preliminary.

The basic contention of this paper will be that theories of the functional distribution of income cannot ignore the existence of product market power in the economy. The existence of such power allows for the mark-up of prices on marginal production costs, the extent of the mark-up being determined by its degree. It follows that variations in the degree of product market power can explain variations in the distribution of income between profits and wages. It will be maintained that oligopoly or monopoly is the general case in the capitalist world, with competition being merely a transitory phenomenon. Given this premise, a theory of the functional distribution of income will be developed which is explicitly based on oligopolistic interdependence, with monopoly as the polar case. Obviously this will build on Kalecki's earlier work {15} which it is felt has been dismissed rather too readily by many more orthodox theorists.

Subsequently it will be argued that the degree of monopoly or oligopoly* is increasing over time, certainly within the U.K. This poses an immediate paradox since despite the growth of monopoly power the share of profits appears to be falling or remaining relatively constant, subject to cyclical variation, but certainly showing no tendency to rise. This same paradox highlights a conflict between the analysis of the neomarxists (like Baran and Sweezy {2}) and the marxists (like Glyn and Sutcliffe {10}) who come to quite opposite views about the distribution of income under capitalism. The difference in their predictions stems from their initial differing assumptions about the degree of monopoly and what is happening to it over time. To resolve the paradox, and at the same time to move part way to an operational definition of surplus, the analysis of oligopoly

* The term "degree of monopoly" will generally be used for convenience of exposition, even though the discussion is centred on oligopoly situations.

will be generalized to allow for varying degrees of managerial discretion. Out of this a theory will emerge in which profits are determined by the degree of monopoly or oligopoly but these profits are siphoned off by management as various forms of income to the extent that the market for corporate control allows it. The falling profit share in the U.K. will then be explained in terms of a rising surplus in which the share going to stockholders is falling over time. In aggregate this has appeared as a rising share of income going to wages and salaries. This is happening because the market for corporate control has been becoming less effective over time, for a variety of reasons, and thus the opportunity set available for the discretionary activities of managers has been expanding.

This framework for the analysis of income distribution is not intended to be exclusive but it is intended to shift the debate somewhat from technology on the one hand and union power on the other. The orthodox theoretical view rests almost exclusively on the nature of technology while the popular view is almost exclusively concerned with union power. An exploration of oligopoly in a world of substantial managerial power will tend to put technology in its rightful secondary role while providing more insights into the sources and impact of union power.

Oligopoly Equilibrium

One of the major problems with Kalecki's analysis of the distribution of income in terms of the degree of monopoly was that it left the degree of monopoly itself undetermined [15]. Thus the analysis will first turn to this problem. Since oligopoly is the general case we will be determining the industry mark-up of price on marginal cost in terms of the structure of the industry and in terms of the degree of recognition by firms

in the industry of their mutual interdependence.

Assuming independent profit maximizing behaviour at the firm-level (firms $i = 1, \dots, n$) industry equilibrium will be defined by:*

$$\frac{p - c'(X)}{p} = \frac{H}{\eta} (1 + \lambda) \quad (1)$$

where p is price, c is cost, X is output and

$$H = \sum_i \left(\frac{X_i}{X} \right)^2$$

$$\eta = - \frac{d \log X}{d \log p}$$

$$\lambda = \frac{d \sum_{j \neq i} X_j}{d X_i}$$

Thus the degree of monopoly (Lerner {18}) will be directly related to the Herfindahl measure of concentration (H) and inversely related to the absolute value of the industry price elasticity of demand (η). The degree of monopoly will also be determined by λ which captures the firms' expectations concerning the response by rivals to its own output decisions. These expectations could be different for each firm in which case λ can be interpreted as a weighted average of such expectations. Because the magnitude of λ is partly determined by the number of rivals it is more useful for our purposes to rewrite equation (1) (for the symmetric case) in the form:

$$\frac{p - c'(X)}{p} = \frac{\alpha}{\eta} + \frac{(1 - \alpha) H}{\eta} \quad (2)$$

* Allowing for product differentiation indicates higher profit margins in equilibrium, a result which seems intuitively plausible {5}.

where $\alpha = \frac{dX_j}{dX_i}$. The Cournot model of oligopoly behaviour specifies a value of zero for α . Thus despite the existence of interdependence each firm assumes it away in setting its own output. This lack of recognition of interdependence puts a lower bound on the set of outcomes under oligopoly:

$$\frac{p - c'(X)}{p} = \frac{H}{n} \quad (2i)$$

The joint profit maximizing solution

$$\frac{p - c'(X)}{p} = \frac{1}{n} \quad (2ii)$$

implies a value for α of unity which establishes the upper bound on price-cost margins. The actual value of α can then be used as a measure of the degree of apparent collusion (see Cubbin 7), $\alpha = 0$ implying zero collusion, $\alpha = 1$ implying perfect collusion, $0 < \alpha < 1$ implying some imperfect degree of collusion.

The variables we have identified as determining the degree of monopoly in the industry are obviously determined by the actions of firms within the industry in question, in contrast to the view expressed by Johnson {13} which will be considered later. By a process of horizontal merger firms can raise the level of concentration in the industry and thus effect the degree of monopoly both directly and indirectly. Increases in H define a rising lower bound to the degree of monopoly, but increasing concentration will also make a move from Cournot equilibrium more likely since the costs of collusion are likely to be reduced as concentration increases (Stigler {23}). Obviously many other factors determine the degree of collusion, economic, social and technical, some of which are in the control of the firms involved. Let us just define these as a vector of variables,

u, and write the equation for the degree of collusion as:

$$\alpha = \alpha (H, u) \quad (3)$$

where $\alpha_H > 0$. However even if perfect collusion were attainable the degree of monopoly would still be constrained by the industry price elasticity of demand. But this is not a completely exogenous variable. Firms collectively can reduce the elasticity by raising the level of advertising - although this effect is not unambiguous. Informational advertising could result in higher price elasticities, and this may be typical of much of distribution, however as far as manufacturers are concerned the evidence points the other way (Boyer {3}) - advertising tends to encourage brand loyalty and buyer inertia which leads to increasing insensitivity to price changes.* The other possible determinants of the price elasticity we simply label v, and write the equation for the price elasticity as:

$$\eta = \eta (A, v) \quad (4)$$

where generally we assume $\eta_A < 0$.

The Irrelevance of Limit Pricing

Our analysis to this point has taken the degree of monopoly to be independent of barriers to entry. However the entry-limiting pricing literature would suggest that Cournot equilibrium cannot be regarded as the theoretical lower bound, the optimal price trajectory could fall below Cournot price. In general one might argue that since there are substantial barriers to entry into most industries this need not be taken too seriously

* It is important to note here that the level of advertising will be related to both H and α . This will be explored later when we discuss the effects in aggregate.

- but a nagging doubt might remain. Spence's paper goes some way to resolving the issue [22]. The limit-pricing literature is based on an assumption that price is an efficient signal for a potential entrant, but this is unlikely to be so in the general situation of product differentiation and uncertain costs. Spence adopts an excess capacity approach to entry and is able to demonstrate that short-run pricing is strategically independent of entry.* This price is determined within the existing oligopolistic group and does not generally reflect the behaviour of potential members of the group. If this position is accepted then the degree of monopoly is independent of entry but the rate of return on capital is not.**

Aggregation and the Distribution of Income

Our analysis of oligopoly in the last section identifies the determinants of the mark-up of price on marginal cost within a specific industry. Making certain plausible assumptions about cost functions we can derive the implications of oligopoly for the aggregate distribution of income. If we assume constant marginal costs (i.e. labour and material costs) then we can define the degree of monopoly in the k^{th} industry (μ_k) as the ratio of profits (Π_k^*) plus fixed costs (F_k , which includes interest, depreciation and salaries) to total revenue (R_k):

$$\mu_k = \frac{\Pi_k^* + F_k}{R_k} \quad (5)$$

(Note that Π^* is the maximum level of profit given the value of H , η and α . If this is less than the joint profit maximum then it could be raised to it by increasing the value of α i.e. by increasing the degree of collusion).

* Entry is deterred by the ability of existing firms in the industry to expand their output within the period required for the entrant to enter.

** It should be noted that the Spence model encompasses advertising investment which could in fact result in lower price elasticities and therefore enhanced degrees of monopoly.

The assumption of constant marginal costs has considerable empirical support (Johnston {14}), and would appear a reasonable assumption, at least up to capacity. If we recall the Spence result we also have some grounds for saying that industry will tend to operate with some degree of excess capacity, if the probability of entry is greater than zero.

If we now sum over 1, ... , N industries and divide through by aggregate turnover ($T = \sum_k p_k X_k$) then we derive the result that the weighted average degree of monopoly ($\bar{\mu}$) is equal to the ratio of gross capitalist income plus salaries ($\Pi^* + F$) to aggregate turnover.

$$\frac{\sum_k p_k X_k \mu_k}{\sum_k p_k X_k} = \bar{\mu} = \frac{\Pi^* + F}{T} \quad (6)$$

The result will carry over to the long-run situation if for each vintage of capital the assumption of constant marginal operating costs is preserved, since although costs may fall the degree of monopoly is still the sole determinant of $(\Pi^* + F)/T$. μ may of course be determined by technology but the effect on distribution comes only indirectly i.e. via its impact on H or α . Multiplying through by T/Y (where $Y =$ Gross National Income $= T - M$, and $M =$ expenditure on materials, i.e. $Y = \sum_k$ Value Added) we get the share of Gross Capitalist Income plus salaries in Gross National Income to be linearly related to the ratio of expenditure on materials to Gross National Income with the intercept and slope of the relationship being the degree of monopoly.

Baran, Sweezy {2 p.80} are not very clear on this point when they argue that profit margins will increase as capitalists cut costs, without being very precise about what is happening to the degree of monopoly.

$$\frac{\Pi^* + F}{Y} = \bar{\mu} \left(1 + \frac{M}{Y}\right)^* \quad (7)$$

Thus, for a given technology, ** profit share will increase as (i) the degree of monopoly increases and (ii) as materials prices increase. Profit share increases with M/Y because of the monopoly mark-up on non-wage costs. This in fact has a rather broad interpretation since all imports, no matter whether raw materials, intermediate goods or final consumer goods, will come under this umbrella so long as they are marketed via firms in the domestic industry e.g. beer, shoes, oil, Chrysler and Ford cars.

It is now necessary to look rather more closely at overhead costs to see how in fact they are partly determined by the degree of monopoly.

Managerial Discretion and the Distribution of Income

In a world in which a dichotomy between the ownership and control of the firm is quite normal it can no longer be automatically assumed that firms will behave as if to maximize stockholder welfare. It is safer to assume that managers will follow their own interests, wherever possible. Having stated the obvious, it is not so obvious that we would want to abandon the price-output rules implicit in the oligopoly equilibrium we have just described. It seems reasonable that in any short-run situation management will want to maximize the excess of revenue over variable costs, for any given interfirm arrangement. Having picked the profit maximizing price (or output) for any degree of collusion which it appears possible to sustain the problem becomes one of distributing this flow of income between stock-

* M at the aggregate level is in fact imported materials since domestic materials would become someone's value added.

** Since technology could influence the value of M/Y i.e. reduce the import content of British output. We are assuming no substitution in the short-run between materials and labour.

holders and management. Managements' opportunity set will be bounded by the minimum profits demanded to forestall a management displacement effort, and this could of course be couched in probability terms (see Yarrow {28}). Managerial income can come in the form of salary and perquisites, internal consumption activities and leisure.* The upper bound on profit, Π^* , is thus defined by the degree of monopoly.** Reported profits, Π , will only equal Π^* in cases of complete owner control. Thus more generally $\Pi \leq \Pi^*$. Managerial discretion would simply result in a shift away from reported profits to overheads. Thus the share of reported profits in national income would be determined by the degree of monopoly and the degree of managerial discretion. What determines the level of discretionary expenditure ($D = \Pi^* - \Pi$)? D will be determined by the interaction of the degree of monopoly (μ) and the degree of capital market power possessed by management (θ), each being necessary but not sufficient:

$$D = D(\mu, \theta) \quad (8)$$

where

$$D_\mu, D_\theta > 0; \quad D_{\mu, \theta}, \quad D_{\theta, \mu} > 0; \quad D(0, \theta) = D(\mu, 0) = 0.$$

We have already examined the determinants of μ . What of θ ? There are at least three elements: (1) the ability of stockholders to achieve the displacement of managers, which is likely to be conditional on dispersion of share-ownership and the composition of the board; (2) the ability of raiders to achieve control via takeover, which is likely to be determined by the size of the company; and (3) the efficiency of the internal control apparatus, which may to a large extent be conditional on the organ-

* Leisure can be handled in the same way as other forms of managerial income by thinking of it in terms of the extra managerial input which has to be bought to sustain the rate of output as more leisure is taken.

** Williamson {25} would argue that the number of staff, and therefore the number of layers in the hierarchy, would enter the utility function of top management. He also assumes that part of these extra staff could represent increased selling effort, which may tend to lower the price elasticity of demand and thus increase the degree of monopoly.

izational structure of the firm. In addition government regulation and taxation may encourage discretionary expenditure by penalizing a firm for high reported profits. This in itself may work through θ by reducing the level of profits required to forestall a management displacement effort.

Going back to our equation for the share of Gross Capitalist Income we can see that the distribution between reported profits and overheads will be partly explained by the variables which determine discretionary expenditures.

$$\text{Thus } \Pi^* = \Pi + D(\mu, \theta)$$

$$\therefore \Pi^* + F = \Pi + D(\mu, \theta) + F.$$

It should be noted that for any given value of θ the proportion of Π^* reported as Π will remain constant. Thus as the degree of monopoly increases a constant share of the increased monopoly profits will be actually reported as profits.

An Evaluation of the Criticisms of Kalecki

Since the Kalecki framework for analysing the distribution of income has been followed, albeit with some additions to allow for an explicit treatment of oligopoly and a recognition of managerial discretion, it is necessary to comment on the various criticisms of this approach.

Many surveys of the theory of distribution have dismissed Kalecki's contribution in rather cursory fashion. Reder {19} dismissed it as a tautology since it contained no theory relating profit margins to market power.

Ferguson {9} dealt with it in like manner. Johnson {13} argued that monopoly power is determined by consumer preferences and thus distribution is not determined by the behaviour of capitalists. He also argued that "... the notion of an aggregate community-wide degree of monopoly expressing the behaviour of capitalists in the aggregate makes no sense at all". He then sets up a straw-man - "Contemporary theory thus drops the concept of the degree of monopoly and instead makes use of a standard mark-up on prime costs." He follows this, perfectly correctly, with the argument that this is no theory at all, and anyway it is in conflict with empirical evidence. Worcester {27} implicitly accepts the basic notion but then seeks to demonstrate that entry conditions, rather than the elasticity of demand, determines distribution. Only Rothschild {20}, perhaps predictably, comes up with a sympathetic review. Whilst to a large extent accepting the tautology argument, he points out that this is typical of much of theory and does not necessarily imply an insignificant contribution.

By developing a theory of the degree of monopoly much of the criticism has been met. The previous analysis also serves to answer Johnson's two points since it has been demonstrated how the behaviour of capitalists can determine distribution (i.e. via merger, collusion and advertising). It is difficult to know what the point about the aggregate degree of monopoly is a criticism of! Obviously we are not concerned here with national measures of concentration and monopoly but with the weighted average degree of monopoly within specific industries. Ferguson makes the same sort of odd criticism when he implies the aggregate degree of monopoly would be very small because the number of firms in total is very large! It would appear that much of the criticism represents an attempt to sustain the assumptions of perfect competition and full employment under which the marginal productivity theories may be tenable.

The Recent Evidence

Degree of Monopoly

Within the U.K. over the last twenty years or so the evidence points toward a fairly rapid increase in the degree of monopoly in the majority of industries. Concentration within specific industries, at the M.L.H. or 3-digit level, has increased rather rapidly as revealed in the Census of Production for 1958, 1963 and 1968 (see, for example, Aaranovitch and Sawyer {1}).* Much of this increased concentration has come about via merger, where in the U.K., in contrast to the U.S., a majority of mergers have been of the horizontal variety (roughly 80%).

Advertising has also increased in real terms over time (see Cowling et al. {5}), although its impact will tend to wash out in aggregate if it is evenly distributed across industries. However if advertising is linked to the other determinants of the degree of monopoly then it could indeed influence the distribution of income. The theoretical prediction is that advertising will be inversely related to η and directly to α (see Cowling et al. {5}, Cubbin {7}) but the relationship with H is expected to have an interior maximum corresponding to $H \approx 0.5$ (Cable {6}). However, this implies self-cancelling advertising and therefore the fall-off in total expenditure with monopoly does not imply a reduction in the degree of monopoly. The assumption that a monopoly can appropriate all the gains from advertising must mean that efficiency, from the viewpoint of the maximization of the degree of monopoly will increase monotonically with H . Thus the general implication is that advertising will vary directly with the degree of monopoly and therefore there is some presumption that advertising could influence distribution at

* The Census gives estimates of the concentration ratio but Sawyer has also estimated the Herfindahl measure and this shows a similar upward drift over time in the majority of industries.

a point in time. What about over time? Advertising could accentuate the change in the degree of monopoly by its correlation with H . A fall in the real price of advertising (e.g. with the advent of T.V. advertising and now commercial radio) may imply an increase in the degree of monopoly since some competitive industries will still not advertise while other industries will advertise more. There is also the point that innovations such as T.V. advertising discriminate in favour of the large corporation, for reasons of indivisibilities and bargaining power. Similarly the fall in the real-price of national advertising allows for the growth of concentration (e.g. beer).

Against the general tendency for the degree of monopoly to increase there have been some changes working in the opposite direction. First the restrictive practices legislation of 1956 may have tended to reduce the value of α , although this is likely to have been only a temporary effect (see Swann et. al {24}), and recent revelations may indicate that many agreements continued and were never registered. Secondly the share of imports has gone up and this could imply a fall in the true measure of concentration, and in some cases this would certainly be true. Whether it is generally true is not so clear. First, foreign firms may become so dominant in some markets that the domestic measure of concentration understates the true position, and second, imports may be channelled through existing domestic firms and therefore either leave concentration unchanged, or increase it if we make the reasonable assumption that national franchises will go to the bigger firms in the industry (e.g. with beer).^{*} Lastly it might be argued that the degree of monopoly could rise over time in each industry and yet the average degree of monopoly could fall because of the changing industrial

* The empirical results do not support the hypothesis that imports have increased competition. Khalizandeh {16} and Dutton {8} find the import variable to be insignificant in explaining price-cost margins in U.K. industry.

composition of national output. In a period of rising incomes the share of a particular industry will, cet-par, rise, fall or remain constant as the income elasticity of demand (η_y) is greater, less than or equal to unity. Would any systematic relationship between η_y and μ be expected? Demand analysis would suggest $\text{cov}(\eta_y, \eta) > 0$. This in itself would provide a basic underlying trend towards a falling degree of monopoly at the aggregate level. However there is also a tendency for income and price elasticities to fall as income increases, which would tend to compensate for this effect.

Managerial Discretion

If the general inference from the evidence reported above is that the degree of monopoly is increasing is there any evidence which suggests a corresponding increase in discretionary expenditures in favour of management? Within the U.K. (and perhaps in Europe) the evidence points fairly unambiguously in that direction. Firms have been growing in size largely through acquisitions, and such acquisitions have automatically implied a dilution in shareholder concentration. With an increase in size the hierarchy has grown and internal control has become more difficult. In addition, government attempts to regulate the behaviour of firms in dominant positions has increased, which tends to encourage the internal absorption of profits. This has come about both via an increase in the activity of existing institutions (e.g. the Monopolies Commission) and also by an increase in the number of institutions (e.g. P.I.B., Prices Commission). The interaction of the growth in the degree of monopoly and the growth in managerial discretion implies that $(\dot{\Pi}^*/Y) > 0$, but $(\dot{\Pi}/Y)$ is problematic.

It depends whether $\dot{D}/D \begin{matrix} \geq \\ < \end{matrix} \frac{\dot{\Pi}^*}{\Pi^*}$

The evidence for the U.K. suggests that the share of pre-tax profits has been declining over the last twenty years. After taxes and subsidies the results suggest the share of profits has been relatively constant (King {17}). These results are consistent with our model but it does put a considerable onus on demonstrating that increased discretionary expenditures by management could explain the result. Let us therefore now turn to the evidence on the magnitude of managerial discretion.

Williamson {25} provides two types of empirical evidence which are relevant to this analysis. First he reports studies of cases of responses by individual firms to situations of adversity. To take a case in point - "Chemical Products" - he assesses the impact of a two-year programme of cost reduction. He found that, with no change in the rate of output, the rate of return on capital went up 125%, salaried employees went down 32% and headquarters employment went down by 40%. He also details the rather dramatic reductions in associated staff expenses. This picture is repeated in the various cases. The other source of evidence provided by Williamson is the estimated relationship between chief executive compensation and the determinants of the opportunities for discretionary behaviour. He argues, based on Simon's work {21}, that chief executive compensation will accurately

* From eq. (7) the change in the share of profits will also be affected by the price of imported raw materials. Until recently there has been a falling long-term trend in the real-price of raw materials which would imply a falling share of profits. This would provide a countervailing effect to the rise in the degree of monopoly. Recently we have experienced a sharp increase in raw-material prices which has been associated with a fall in measured profit share. This apparent paradox can be explained in terms of a temporary disequilibrium created by an unforeseen and massive change in raw materials prices. The disequilibrium may have persisted because of government intervention in price determination. The long-term implication of the recent increases in raw-material prices is a fall in the wage share.

reflect the general level of salaries and his results then suggest that a doubling in the concentration ratio will increase salaries by about 50%. He also feels that the same sort of relationship would be expected for perquisites. This sort of finding receives support from Gordon's work on airline efficiency {11}. He found that efficiency was inversely related to the degree of monopoly (i.e. favourable route advantages) and differences in efficiency were primarily due to excess personnel. These differences were non-trivial - if only one-third of potential cost savings were achieved the rate of return on capital would be doubled.

One last piece of evidence concerning the magnitude of discretionary activity, Monsen, Chiu and Cooley {19} compared the profitability of 72 carefully matched corporations over the period 1952/63. The major difference between the corporations was whether they were owner-controlled or not, the criterion being whether any individual owned more than 20% of the voting stock. Their results showed a rate of return on capital 75% higher for the owner-controlled firms.

Although each piece of evidence is open to a variety of interpretations the evidence as a whole would tend to support the view that managerial discretion is a major element in the determination of reported profits, and thus in the share of income going to the owners of capital. It would seem at this point that the conflict between the Marxists (Glyn & Sutcliffe) and Neomarxists (Baran and Sweezy) can be resolved. Superficially the evidence favours the Marxists - but for the wrong reasons. The share of profits is going down, despite the increase in the degree of monopoly, because of the rise of managerial power. If surplus is defined more broadly to reflect the growth of managerial capitalism then we end up with the prediction of rising surplus. Baran & Sweezy take a still broader view of surplus including

both government expenditure (excluding transfer payments) and the difference between aggregate potential output and aggregate actual output. We are simply focussing on the share of Π^* , potential profits associated with the increasing degree of monopoly, rather than reported profits which obscure much of the growth of monopoly power.

Faced with the conclusion "... that, individually and collectively, capital market controls experience weaknesses sufficient to warrant much of the expressed concern over the separation of ownership from control in the large corporation - at least in an environment in which the unitary form structure prevails", (Williamson {27}) it might appear that the capitalist system would respond with some more adequate system of controls. It is Williamson's view that the system, at least in the U.S., has in fact done this via the M-form (multi-divisional) structure. This innovation effectively separates strategic long-run decision making - corporate planning and capital allocation - from short-run operational decision making. The unitary form structure which it replaces inevitably resulted in the heads of functional divisions being involved in strategic decision making. This is replaced by a General Office, with a related elite staff, which acts as a well-informed, powerful internal capital market, with operating divisions, which are themselves scaled down U-form structures, being in a satellite relationship. Williamson regards this as "... American capitalism's most important single innovation of the 20th." It began in the 1920's with Dupont and G.M., but the rate of diffusion only really gained momentum post-war. I.B.M. was reorganized along M-form lines in 1956. This development fits in rather well with the U.S. experience relating to the share of reported profits in national income. Glyn & Sutcliffe's figures {10} show no visible trend in the data, although there are cyclical fluctuations. As far as Europe is concerned the innovation is much delayed and Williamson sees

this as the real answer to Servan-Schreiber's concern with the "American Challenge". Certainly the falling share of reported profit seems to be the general observation throughout Europe.

In developing this view of the distribution of income the possible importance of other factors, such as unions is not denied. What is being suggested is that it is not necessary to invoke increased union power to explain the declining share of profits. Glyn & Sutcliffe {10} hold the view that it is the joint effect of increased union power and increased international competition which explains the falling share of profits but they are unable to provide any acceptable evidence to support this view. The equation they estimate, which purports to support their hypothesis, is nothing but an accounting identity, i.e. wage share can be decomposed into labour productivity, wages and prices. It works for every country, no matter what the history of the distribution income is. Similarly they find no differences between industries which are subject to international competition and those which are not. However despite their inability to demonstrate the importance of unions this does not mean we should dismiss their effect. We might expect that union strength would grow as industry became more concentrated. Kalecki's {15} handling of this issue is not very satisfactory. He argues that wages will be determined by profits, in the presence of union power, and therefore prices will be held down to avoid escalating costs. But so long as $\partial W/\partial \Pi < 1$ firms will still prefer the profit-maximizing price and the lag in adjustment of wages to profits will reinforce this view. Rather than hold down $(p - mc)/p$ this situation would provide an extra incentive to absorb profits, given the existence of managerial discretion. Generally however we might expect unions to appropriate part of discretionary expenditures for themselves. This conjecture is supported by Hutchinson's results {12} which show a direct relation between

wages and concentration, even in the presence of a profits variable. Concentration determines the discretionary activity of management and this provides a source of monopoly wages.

Conclusions

An oligopoly theory of the functional distribution of income has been developed in which the share of profits is determined by the size distribution of firms, the price elasticity of demand and the degree of collusion among sellers in each industry. This leads to the prediction that the share of profits is increasing over time, at least in the U.K. However, before examining the evidence on profit share, it is necessary to determine who is likely to receive these profits. In a world of managerial capitalism it is argued that a proportion of profits will be absorbed by management. It is also argued that this proportion has been rising over time. The implication is that observations on reported profit share will not immediately reveal the increased degree of monopoly (oligopoly) in the economy. Therefore the observation of a falling profit share and a rising degree of monopoly can be reconciled.

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