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The Economic Consequences of  
Weintraub's Consumption Coefficient

by

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**Abstract:** In this paper we show that Weintraub's consumption coefficient (the ratio of total consumption to wages) can elucidate trends in the sectoral and functional distributions of income. We also show that, in a Kaleckian model, it simplifies and adds precision to Kaleckian macroeconomics. Using a Kaleckian definition of profits, empirical estimates of the coefficient are presented for the UK 1972 - 1990. From a level of around 1.1 in the 1970's, the coefficient rose to around 1.3 in the mid-1980s from which it has started to fall back to its 1970's levels. During the 1980s, the coefficient indicated a marked redistribution of income in favour of profits along with a rise in capitalists' propensity to consume. This confirms the evidence that the economic boom of the 1980s was driven principally by an expansion of demand for luxury goods rather than fixed capital investment. This will have been a factor in the slump after 1990.

## Introduction

It is now fifteen years since Weintraub (1979, 1981) revealed to a sceptical readership how easy it is to simplify and generalise macroeconomics by means of the consumption coefficient. For most of that time the consumption coefficient has gathered dust on the shelf and has only rarely been put to serious use (Heskel et. al., 1982). Laramie (1991), Mair and Laramie (1992) and Laramie and Mair (1993) have found it convenient to use the consumption coefficient as a heuristic device in developing a Kaleckian model of tax incidence without seriously exploring its properties. In this paper we examine the properties of the consumption coefficient in more detail and produce empirical estimates for the UK for the period 1972 - 1990.

Weintraub (1979) proposed the use of a consumption coefficient, the ratio of total consumption expenditures to worker income, as a means of generalising Kalecki's profit function and simplifying macroeconomics. Kalecki (1968, p.45) showed that aggregate profits are identical to the sum of gross investment, the government budget deficit, the export surplus and the difference between capitalist consumption and worker savings. The consumption coefficient allows the difference between capitalist consumption and worker savings to be expressed as a function of worker income. As a result, a number of conventional "post-Keynesian" assumptions (Weintraub 1979, p. 101) such as workers do not save and/or capitalists do not consume or capitalist consumption equals worker savings used by Kalecki and others can be dropped. Weintraub introduces this generalisation into a "post-Keynesian" income determination model.

We show that the consumption coefficient simplifies and adds analytical precision to Kalecki's macroeconomics, though not without costs. The precision is improved because the structural parameters can be explicitly identified. The loss is the cost in dynamic elements associated with the relationship between capitalist consumption and profits. To illustrate the role of the consumption coefficient, we give a brief outline of Kalecki's original model. Then we discuss Weintraub's generalisation, introduce it into Kalecki's framework and assess its impact. Finally, we produce estimates for the consumption coefficient for the UK for the period 1972 -1990 and discuss some of the implications of its movements. Evidence on the behaviour of the aggregate mark up is also provided as a corollary.

### Kalecki's Model of National Income Determination

Kalecki's national income determination model is developed from an expression he used to explain labour and capitalist shares in the gross income of the private sector, assuming the government sector is negligible (Kalecki (1968 p. 40)). Worker income can be divided into: 1) a fixed portion (salaries) and 2) a variable portion (wages). The fixed portion represents income to overhead workers and the variable portion represents income to workers whose employment varies with national income. Kalecki expressed workers' share of gross income as:

$$(1) \quad W = \beta/Y + \alpha;$$

where  $W$  is worker income (gross of taxes),  $Y$  is gross private sector income,  $\beta > 0$ , is the fixed portion of worker income,  $0 < \alpha < 1$ , is the variable worker income share in gross income.

From equation (1), the level of private sector gross income is shown to depend on the level of profits ( $P$ ) by noting that  $V = Y - P$ . Substituting this expression for  $W$  in equation (1) and solving for  $Y$  yields:

$$(2) \quad Y = (\beta + P)/(1 - \alpha)$$

Kalecki (1968, p. 60) describes how the distribution factors determine private sector gross income ".....gross income.....is pushed up to a point at which profits out of it are determined by the 'distribution factors'."

So far the analysis has dealt only with private sector gross income and has ignored direct and indirect taxes. To generalise the analysis, a non-negligible government sector is introduced. As a result, gross income equals private sector income plus indirect business taxes; and taxes, direct and indirect, are treated as part of the surplus, ( $\Pi$ ), where:

$$(1') \quad W/Y = \beta'/Y' + \alpha'; \text{ and}$$

$$\Pi = P + T_c + T_i = Y' - W;$$

where  $T_c$  = taxes on all types of capitalist income,  $T_i$  = indirect business taxes;  $Y'$  = aggregate income; and the distribution factors

$\beta'$  and  $\alpha'$  are adjusted for the inclusion of the indirect business taxes. The reason why taxes, direct and indirect, are treated as part of the surplus is because they are not a cost of production but rather, when spent, end up in the pockets of capitalists as illustrated by Kalecki's famous aphorism "Workers spend what they earn: capitalists earn what they spend".

The general expression for aggregate income is given as:

$$(3) \quad Y' = (\beta' + \Pi) / (1 - \alpha').$$

In the general model, the distribution factors push the level of gross national product up to fulfill the requirements of the profits gross of direct and indirect taxes. In relating aggregate income to investment and the government budget deficit, among other things, the aggregate profit function is specified.

### **The Aggregate Level of Profit**

Kalecki shows that aggregate profits can be expressed as the following identity:

$$(4) \quad P = I + G - (T - Q) + X - M + Cc - Ws;$$

where  $I$  = gross private investment,  $G$  = government purchases,  $T$  = gross tax receipts,  $Q$  = government transfer payments,  $X$  = exports,  $M$  = imports,  $Cc$  = capitalist consumption and  $Ws$  = worker savings.

Kalecki (1968, p. 53) transforms equation (4) by assuming that capitalist consumption,  $Cc$ , can be divided into two parts: autonomous capitalist consumption and induced capitalist consumption, which is a lagged function of profits, where  $0 < q < 1$ , and  $r$  is the time lag necessary for a change in profits to change capitalist consumption. By noting that profits in a past period are identical to the left hand side of equation (4) and that through successive substitution, profits in any time are equal to a geometric distribution of past expenditures less worker savings (weighted by capitalist marginal propensity to consume) plus autonomous capitalist consumption. Given that the weight given to past expenditures diminishes quickly, ( $0 < q < 1$ ), Kalecki (1968, p.54) states : "Profits will be a function of [current expenditure less worker savings] and of [expenditures less worker savings] of the near past; or, roughly speaking, profits follow investment with a time lag". From this, Kalecki (1968, pp. 54 - 56) shows profits, in an "approximate equation", as a multiple of

past expenditures and worker savings, i.e.:

$$(5) \quad P_t = (I'_{t-n} - Ws_{t-n} + A)/(1 - q)$$

where  $I' = I + G - (T - Q) + X - M$  and  $n$  is the time lag necessary for a change in expenditures to effect a change in profits.

Kalecki's profit function shows how an injection of spending, e.g. investment, induces additional capitalist consumption through an initial change in profits and, therefore, leads to a multiple change in profits.

With an expression for aggregate profits, the level of the profits gross of direct and indirect taxes is derived by adding  $T_i$  and  $T_c$  to both sides of (5). Kalecki (1968, pp. 63, 64) assumed that the gross and net levels could be expressed in a linear relationship and thus would have the same independent variables with only the coefficients adjusted. For example, suppose  $T_c = a$  head-tax and  $T_i = Q = 0$ , the surplus function can be written as:

$$(6) \quad \Pi_t = (I''_{t-n} - Ws_{t-n} + A)/(1 - q)$$

where  $I'' = I + G + Q - Tw - q(T_c + T_i) + X - M$ .

#### **Kalecki's Generalised Expenditure Model**

Now that an expression for profits has been found, national income can be expressed as a function of expenditures. Substituting (6) into (3) yields:

$$(7) \quad Y' = \beta'/(1-\alpha') + (I''_{t-n} - Ws_{t-n} + A)/(1-\alpha')(1-q).$$

Given the difficulty of measuring worker savings, Kalecki (1968, p. 56) drops that expression from (7), and thus (5) and (6), by assuming that worker savings are correlated with  $I'$ , gross savings, and he adjusts the coefficients  $A$  and  $q$  implicitly. That is:

$$(7') \quad Y' = \beta'/(1-\alpha') + (I''_{t-n} + A')/(1-\alpha')(1-q')$$

where  $A'$  and  $q'$  are the adjusted parameters.

The factors that determine aggregate income can now be summarised. These are: the distribution factors,  $\beta'$  and  $\alpha'$ ; capitalists' marginal propensity to consume; autonomous capitalist consumption;

the parameters in the worker savings function; gross investment; government purchases; taxes; and the export surplus.

### **Weintraub's Generalisation: the Consumption Coefficient**

The introduction of the consumption coefficient into Kaleckian macroeconomics is somewhat problematic because a sufficient condition for the coefficient to be stable is that the income shares must be stable.<sup>1</sup> In Kalecki's theory income shares vary with respect to changes in aggregate income. Weintraub (1981, pp. 14, 15) shows the determinants of the consumption coefficient. First, the consumption function is given as:

$$(8) \quad C = aW = c_w(W) + c_r\lambda(P') + \theta;$$

assuming the marginal propensity to consume out of transfer income equals one; where  $c_w$  = workers' average propensity to consume out of pre-tax wage income and  $c_r$  = capitalists' average propensity to consume and  $\lambda$  = corporate profit payout ratio. Now divide both sides by  $W$ , which yields:

$$(9) \quad a = c_w + c_r\lambda(P/W) + \theta/W.$$

A sufficient condition for the stability of the consumption coefficient is that workers' and capitalists' marginal propensities to consume and the ratios of profits to worker income and transfer incomes to worker incomes remain constant. However, in Kalecki's framework, the ratio of profits to worker income varies over the business cycle. For example:

$$(10) \quad d(P/W)/dY' = -\alpha(P)/W^2 < 0.$$

Thus, for the consumption coefficient to be stable, two possible situations arise. First, offsetting changes in other variables must occur, or, second, the consumption coefficient must be extremely inelastic with respect to changes in  $P/W$ .

Consider the first case by setting  $da = 0$ , i.e.:

$$(11) \quad da = 0 = dc_w + d(c_r\lambda(P/W)) + d(\theta/W).$$

This condition seems unreasonable, because it requires procyclical movements in workers' average propensity to consume out pre-tax wages



and salaries, *ceteris paribus*, and in the ratio of transfer payments to worker income, *ceteris paribus*.

With respect to the second case, the elasticity of the consumption coefficient with respect to a change in  $P/W$  is given as:

$$(12) \quad [da/d(P/W)][(P/W)/a] = (cr\lambda/a)(P/W) < 1;$$

assuming that  $cr$  is close to zero, the consumption coefficient is greater than one and  $P/V$  is less than one. Given these assumptions, the coefficient,  $a$ , can serve as a good approximation of the relationship between consumption expenditures and worker income even when  $P/W$  changes over the business cycle. In either case, the fact that income shares or other determinants vary over the business cycle does not preclude the applicability of the consumption coefficient to Kaleckian macroeconomics because offsetting changes may arise or the consumption coefficient may be highly inelastic with respect to changes in income shares.

### **The Profit Function**

Above, we emphasised the role of capitalist expenditures, so that national income is tied to expenditures through the profit function. Weintraub's (1979, pp. 101-106) generalisation alters the specification of the profit function and, thus, has implications for Kalecki's theory of income determination. Weintraub generalised Kalecki's model to overcome the "Kalecki-Kaldor-Robinson" hypothesis, that is, the assumption that workers do not save, that capitalists do not consume and other similar assumptions, and, incidentally, some of the statistical problems in representing capitalist consumption less worker savings.

To derive the profit equation using the consumption coefficient, assume total consumption is defined as the sum of worker and capitalist consumption and transfer payments, add and subtract taxes on wage and salary income,  $T_w$ , government transfer payments,  $\theta$ , and the wage and salary bill,  $W$ , to both sides of (4), and collect terms; i.e.:

$$(13) \quad P = I + G - (T_i + T_c) + X - M + (W)(a - 1)$$

If  $a = 1$ , then the "Kalecki-Kaldor-Robinson" hypothesis holds (Weintraub, 1979, p. 101).

The level of profits, gross of direct and indirect taxes, is found simply by adding  $T_i$  and  $T_c$  to both sides of (13): i.e.:

$$(14) \quad \Pi = I + G + X - M + (W)(a-1).$$

As is shown in (13) and (14), the profit functions are no longer represented as multiples of past expenditures but now as functions of current expenditures and worker income.

#### **Applying Weintraub's Generalisation to Kaleckian**

**Macroeconomics.** In order to illustrate the application of Weintraub's generalisation to Kalecki's model, we express the equations of the model as a function of expenditures. Noting that  $\Pi = P + T_i + T_c$  and substituting (4) into (1') and (1') into (13) yields:

$$(15) \quad P = [(1-\alpha')/(1-\alpha\alpha')][I + G + X - M] + \beta'(a-1)/(1-\alpha\alpha') - (T_i + T_c).$$

Adding  $(T_i + T_c)$  to both sides of (15) yields:

$$(16) \quad \Pi = [(1-\alpha')/(1-\alpha\alpha')][I + G + X - M] + \beta'(a-1)/(1-\alpha\alpha')$$

By combining (16) with (3), aggregate income can be expressed as a function of expenditures; i.e.:

$$(17) \quad Y' = (\beta'a/(1-\alpha\alpha')) + [I + G + X - M]/(1-\alpha\alpha')$$

We present the statics of this Kaleckian model to highlight the role of the consumption coefficient. The statics can be easily derived by differentiating (14), (15), (16) and (17) with respect to  $E$  ( $E = I + G + X - M$ ),  $\alpha'$ ,  $\beta'$  and  $a$ ; i.e.:

$$(22) \quad d\Pi/dE = (1-\alpha')/(1-\alpha\alpha') > 0, \text{ if } 1 > \alpha\alpha';$$

$$(23) \quad dY'/dE = 1/(1-\alpha\alpha') > 0, \text{ if } 1 > \alpha\alpha';$$

$$(24) \quad d\Pi/d\alpha' = [E + \beta'a(a-1)]/(1-\alpha\alpha')^2 > 0, \text{ if } a > 1;$$

$$(25) \quad dY'/d\alpha' = a[(\beta' + E)/(1-\alpha\alpha')^2] > 0;$$

$$(26) \quad d\Pi/d\beta' = (a-1)/(1-\alpha\alpha') > 0, \text{ if } a > 1;$$

$$(27) \quad dY'/d\beta' = a/(1-\alpha\alpha') > 0, \text{ if } 1 > \alpha\alpha';$$

$$(28) \quad d\Pi/da = \alpha E(1-\alpha)/(1-\alpha\alpha')^2 > 0; \text{ and}$$

$$(29) \quad dY'/da = (\beta' + E)/(1-\alpha\alpha')^2 > 0.$$

Perhaps the most interesting aspect of the comparative statics is the

role of the consumption coefficient in determining the relationship between the distribution factors, the fixed portion of worker income and the wage share, and the aggregate level of profits. If  $a > 1$ , changes in the distribution factors are positively related to the level of profits. This result corresponds approximately to the stagnationist regime described by Bhaduri and Marglin (1990), although their exhilarationist regime would occur when the consumption coefficient is less than one. In the stagnationist regime, a decline in the wage share would reduce economic activity by adversely affecting profits and, thus, future investment and future economic activity.

### **Impact of Weintraub's Generalisation on Kaleckian**

**Macroeconomics** Weintraub's generalisation of the profit function affects Kaleckian macroeconomics by altering the multiplier impact of expenditures on profits. Kalecki's original profit function was expressed as a multiple of past expenditures. With Weintraub's generalisation, the profit function depends on current expenditures. With Kalecki's profit function, autonomous expenditures induce additional capitalist consumption through a lag and, therefore, push up the level of national product, according to the distribution factors, to fulfill the surplus requirements. In contrast, Weintraub's generalisation does not explicitly consider the impact of autonomous expenditures on capitalist consumption and thus forces the multiplier to work itself out completely in the current period as implied in equations (21) and (22) above. To illustrate this difference, consider a change in the impact of investment on profits in both approaches. In Kalecki's original approach (see equation (5)), a £1 change in investment is equal to a dollar change in profits in the current period and the £1 change in profits induces additional capitalist consumption in the future and, therefore, induces additional profits in the future. With Weintraub's generalisation (see equation (14)), assuming  $a = 1$ , a £1 change in investment causes a £1 change in profits in the current period.....end of story. Thus, Weintraub's generalisation eliminates one of the dynamic elements in Kalecki's model and changes the lag structure of the business cycle equation. We consider these changes to be substantive.

With the exception of the loss of one dynamic element, Weintraub's generalisation provides two advantages over Kalecki's original formulation. First, the approach is simpler and involves fewer assumptions than Kalecki's original approach. For example, in

deriving the reduced form expression for national product (equation (9')), Kalecki had to make assumptions about the tax structure and about the relationship between worker savings and gross savings. With Weintraub's generalisation, these assumptions are not necessary. Second, structural changes in the economy are easier to analyse than in Kalecki's original formulation. For example, if capitalists' marginal propensity to consume and workers' marginal propensity to save are unknown, then it is uncertain how changes in the distribution factors influence the surplus (profits) and national product. With a known consumption coefficient, the impact of changes in the distribution factors on the surplus can be readily assessed. The usefulness of the consumption coefficient is ultimately an empirical question and we now proceed to examine its behaviour in the UK for the period 1972 - 1990.

### **Consumption Coefficient for the UK 1972 - 1990**

Whether or not the consumption coefficient has analytical merit is essentially an empirical issue. Weintraub (1979) produced values of  $a$  for the US, Canada and the UK for the period 1960 - 1975, defining  $a$  as the ratio of total consumption outlay,  $C$ , to the wage bill,  $W$ . For the UK he showed  $a$  falling from 1.10 in 1960 to 0.92 in 1975. However, this definition of  $a$  is deficient in two respects. First, it fails to take account of the context in which the Kaldor - Kalecki - Robinson hypothesis was formulated, namely a "classical" commodity economy (Weintraub, 1978; Kregel, 1977; Shaikh et. al., 1985; Tonak, 1983). In such an economy, it is necessary to treat the wages and salaries of government employees as a transfer payment. Second, expressing  $a$  as  $C/W$  precludes any analysis of its determinants.

For these reasons, we think it is useful to produce more detailed estimates of the consumption coefficient in order to examine its properties more thoroughly. All the data we use below to calculate  $a$  are taken from UK official statistics, but there are two important qualifications to be made. First, as we note above, the wages and salaries of government employees should not be regarded as part of the wage bill but rather as a category of transfer payments. UK National Accounts identify government wages and salaries as a separate item since 1972, so that the estimates of  $a$  presented below start from that year. Transfer payments are defined to include government wages and salaries as well as the more conventional items such as Social Security benefits, pensions etc..

Second, we use the "Kaleckian" definition of profits developed by Toporowski (1993a) on the grounds that official statistics of profits in the UK have been distorted by changes in accounting practices and taxation, by privatisation and by the arbitrary allocation of profits by multinational companies. Kalecki's theory of profits provides a way of systematically determining gross profits in national income that overcomes these biases. We use this "Kaleckian" approach, therefore, in the definition of profits in the equations below.

The derivation of  $a$  is given in equations (8) and (9) above. We estimate the consumption coefficient from equation (9) for the UK for the period 1972 to 1990 in the following way. The data are from Economic Trends, Annual Supplement, 1992 and UK National Accounts, 1992.

$c_w = 1 - (\text{personal savings ratio (ET, Table 5)} + \text{total disposable income/total personal income before tax (ET, Table 5)})$ .

$c_r = \text{capitalist consumption/capitalist income}$ .

$\text{capitalist consumption} = \text{total consumer expenditure (ET, Table 5)} - (\text{after tax wages and salaries (net of savings) (ET, Table 5)} + \text{transfer payments (UK National Accounts 1992, Table 3.1)})$ .

$\text{capitalist income} = \text{payments of dividends by UK companies and financial institutions (ET, Table 38)} + \text{income from self employment (UK National Accounts, 1992, Table 4.1)}$ .

$\lambda = \text{dividends (ET, Table 38)/total corporate income (ET, Table 38)}$

$P = (\text{gross domestic fixed capital formation of industrial and commercial companies and financial companies and institutions (ET, Table 37)} - \text{stock appreciation (ET, Table 38)}) + \text{UK public sector deficit (ET, Table 36)} + \text{UK current account surplus (ET, Table 30)} - \text{cyclical saving (ET, Table 5)} + \text{corporate taxes on income and capital (UK National Accounts, 1992, Table 5.1)}$ .

$\theta = \text{transfer payments (UK National Accounts, 1992, Table 9.1)} + \text{government wages and salaries (UK National accounts, 1992, Table 9.4)}$ .

$W = \text{pre-tax wages and salaries (ET, Table 5)}$ .

We test for the consistency of  $a$  calculated in the above manner by plotting it against  $C/W$  (see Figure 1). As can be seen  $a$  and  $C/W$  move closely together, particularly from 1975 - 1985, and the small differences between the two series can probably be attributed to the increasing inaccuracies in UK national income data of recent years. We regard the consistency of the two series as confirmation of our use of Kalecki's definition of profits

We present in Table 1 our estimates of the determinants of the consumption coefficient. Weintraub (1981, p. 15) argues that  $c_w < 1$  because of payment of taxes ( $t_w$ ) and some saving out of wage and salary income ( $s_w$ ). Thus,  $c_w = 1 - (s_w + t_w)$  and whether  $a \geq 1$  depends on whether  $(s_w + t_w) \leq c_r P/W + \theta/W$  (see equation 9). The consumption coefficient is greater than one for the whole period and, as we show in Figure 2,  $s_w + t_w < c_r P/W + \theta/W$  which is as hypothesised by Weintraub.

### **Behaviour of the Consumption Coefficient, 1972 - 1990**

With what we consider to be a reasonably reliable estimate of  $a$  for the UK for the period 1972 - 1990, the question now is to find an explanation of its behaviour. From 1972 - 1980,  $a$  moved in the range 1.10 - 1.15, but from 1981 - 1988 it rose to around 1.25 - 1.30 before starting to fall back again towards its level of the 1970s.

In Figure 3, we decompose  $a$  into its constituent elements. The average propensity to consume out of wage income,  $c_w$ , has remained little changed over the period at around 0.7. The movement in  $a$ , particularly since 1979, has been driven by two forces, a change in the distribution of income in favour of profits as shown by the increase in  $P/W$  and a rise in the propensity to consume out of capitalist income,  $c_r$ . From a low in 1974, the recovery in  $P/W$  was reversed temporarily in 1978/79 but thereafter resumed its upward path peaking in 1985 from which it has fallen back to the levels of the late 1970s. This increase up to 1985 in  $P/W$  was reinforced by the increase in  $c_r$ , which began in 1979 and peaked in 1988 from which it has fallen sharply.

### **Changes in Income Distribution in the UK in the 1970's and 1980s**

This change in the distribution of income indicated by  $a$  accords with what else is known about changes in income distribution in the UK in the 1980s. Jenkins' (1991) detailed study of the UK in the 1970's and 1980s shows that at the bottom end of the distribution real incomes have hardly changed in twenty years. In the top five deciles, income growth was more noticeable, especially in the 1980s, with the biggest gain being in the top decile. For the top 10 per cent, average real income in 1988 was 1.8 times that in 1967, corresponding to an annual compound growth rate of almost 3 per cent between 1967 and 1988 which more than doubled between 1984 and 1988.

It is a reasonable assumption that the personal, or household, distribution of profits is concentrated in the top decile, so that Jenkin's figures, which are derived primarily from Family Expenditure Survey sources, reflect the shift in the distribution of income in favour of profits revealed in Figure 3. When allied to the increase in the propensity to consume out of capitalist income also shown in Figure 3, this suggests an absolute and relative increase in the consumption of "luxury" goods, certainly in the middle years of the decade. Conversely, the bottom five quintiles have shown little gain in real income since 1967, which, when allied to the more or less constant propensity to consume,  $c_w$ , shown in Figure 3, suggests that there will have been an absolute and relative decline in the consumption of "wage" goods bought out of wage income.

This pattern is confirmed by further reference to the consumption coefficient. The Kaldor - Kalecki - Robinson theorem that profits equals investment follows when  $a = 1$ . With profits heavily dependent on investment and the consumption coefficient responsive to profits, the wage share,  $\alpha$ , corresponds to the ratio of consumption to income,  $C/Y$ , and the profits share,  $P/Y$ , corresponds to the ratio of investment to income,  $I/Y$ , when  $P = I$  and  $a = 1$ . Conversely, if  $P > I$ , then  $a > 1$  and  $W/Y < C/Y$ . As shown in Figure 4, profits ( $P$ ) have indeed been heavily dependent on investment ( $I$ ) in the UK since 1972 (and  $P > I$  for 1980 - 1987) and with  $a > 1$ , then  $W/Y < C/Y$  which is confirmed in Figure 5.  $C/Y$  has been on an upward trend in the UK since 1979/80 while  $W/Y$  has been on a downward trend which confirms the diverging movements in the relative income shares of profits and wages suggested by Jenkins' analysis.

#### **Distributional Effects of Housing as a Wage and a Luxury Good**

One plausible explanation of what has happened to relative income shares in the UK, particularly in the 1980s is provided by Toporowski (1993b) who challenges the "trickle-down" effect of supply side economics, according to which a redistribution of income in favour of those on higher incomes is supposed to generate sufficient growth of income to make everybody better off. A redistribution of this kind can cause a reallocation of resources to the production of "luxury" goods, reducing the supply of "wage" good commodities in whose production these resources are used. This issue of changes in the distribution of income being caused by and giving rise to changes in the composition of expenditure and production was recognised by Kalecki (1937), when, in response to a

criticism from Keynes that his assumptions about capitalists' consumption were not clear, he added this footnote to his paper "A Theory of Commodity, Income and Capital Taxation":

"....capitalist consumption is partly directed to wage goods, the increase in the price of which [as a consequence of an increase in taxation on wage goods] may cause a rise in capitalists' expenditure on wage goods and a fall in the purchases of other goods subject to their consumption. Then a corresponding shift in output will take place".  
(Kalecki, 1937, reprinted in Kalecki, 1971, p. 38).

The process by which a change in the distribution of income can alter the composition of expenditure and lead to a shift in output is argued as follows. Consider a commodity whose supply is fixed in the time period under consideration and which is purchased by both capitalists and by workers, i.e. it is both a "luxury" good and a "wage" good. Assume for the present that the income elasticity of demand for this commodity is the same for all classes. If income is distributed from wages to profits, then total nominal income, demand and supply stay the same, but because a higher proportion of the supply of the commodity is now bought out of profits, the commodity becomes more of a "luxury" good.

Assume the redistribution of income is effected by an increase in nominal profits (for example, by cutting tax rates on higher incomes or profits), while nominal wages remain the same. In order to examine the pure "distribution" effect, assume that total supply remains fixed. The price of the commodity will, therefore, rise to equalise demand and supply and profits will rise for its producers. With nominal wages fixed, (because with output remaining constant, supply and demand in the labour market remain the same) real wages will fall fractionally due to the higher price of the commodity. These two effects will further raise the share of total income of capitalists, or those on highest incomes.

One commodity that is consumed as both a "wage" good and a "luxury" good is housing and its aggregate supply is generally regarded as fixed in the short run. The income elasticities of demand for housing as a "wage" good and as a "luxury" good are unlikely to be the same. As a "luxury" good, the demand for housing is relatively income-elastic, whereas as a "wage" good its demand is relatively



income-inelastic. As a consequence, when income is redistributed from wages to profits, the demand for housing as a "luxury" good rises relatively rapidly, while demand for housing as a "wage" good does not fall by much. Thus, with the total supply of housing fixed in the short period, a redistribution of income from wages to profits results in higher prices in the housing market contributing to house price inflation and a switch from housing as a "wage" good to housing as a "luxury " good.

#### **Changes in the Markup in the 1980s**

A corollary of the fall in  $W/Y$  (and the increases in  $P/W$  and  $a$ ) noted in Figure 5 is that the markup, which reflects the degree of monopoly, will have risen (ignoring the effects of an increase in the ratio of imports to wage bill--see Kalecki, 1968, p. 29) This follows from the national income identity that the value of output,  $(PQ)$ , equals gross income,  $(Y)$ :

$$(30) \quad Y = PQ = k w N;$$

where  $k = (Y/wN) = 1/(W/Y)$  (= the markup).

We follow Weintraub (1979) in regarding markup as an empirical coefficient covering the entire business sector rather than Kalecki's narrower definition restricted to the manufacturing sector only. As we demonstrate in Figure 6, the markup has risen sharply in the UK from a level of around 2.1 in the early 1970s to around 2.4 - 2.5 in the mid 1980s before falling back to 2.25 by 1990. The factors influencing the markup are complex and still only imperfectly understood (Reynolds, 1983).

Kalecki (1954, p. 18) argued that the existence of powerful trade unions might tend to reduce profit margins on the grounds that a high ratio of profits to wages strengthens their bargaining position in their demand for wage increases. Markups and, hence, the distribution of income will be influenced by the power of trade unions although, as Reynolds observes, the dynamic structure of the process is still very unclear. Kalecki, of course, was writing at a time when trade union membership and power were high. A major feature of the period since 1979 has been the substantial fall in trade union membership and in the political and economic influence of the trade unions.

Between 1980 and 1990 the Conservative government introduced a series of statutes affecting industrial relations in the UK in such areas as

the right to strike, the closed shop, trade union government, trade union recognition and minimum wage fixing. The evidence concerning the effect of this legislation on the ability of unions to bid up wages is conflicting. Brown and Wadhvani (1990) find no evidence that the legislation reduced the ability of unions to bid up wages in the 1980s. By contrast, however, Layard and Nickell (1987) find that while the trend in the trade union markup (the markup of union over non-union wages) had been upward to 1982, the decline in union membership after 1979 and the impact of the trade union legislation of the 1980s had caused the gap between union and non-union wages to narrow. The Layard and Nickell results lend support to the upward movement in business markups which we have identified above.

We are not claiming to have provided exhaustive proof of the reasons for the shift in income shares in the UK in the 1980s highlighted by the consumption coefficient. What we are arguing is that use of the coefficient allows us to focus precisely on key macroeconomic aspects of the 1980s which was, after all, Weintraub's intention when he developed it as a simplifying device.

### **Conclusion**

Weintraub's consumption coefficient simplifies Kaleckian macroeconomics by eliminating the necessity to measure the difference between capitalist consumption and worker savings when deriving empirical measures of profits. The use of the coefficient is not without cost as its introduction eliminates one of the dynamic channels in Kaleckian macroeconomics--namely the relationship between aggregate profits and capitalist marginal propensity to consume. The consumption coefficient allows for a simplification of the macroeconomic statics. For example, knowledge of the value of  $a$  permits an assessment of how the distribution parameters affect the level of profits (future investment and incomes). Our evidence confirms that the consumption coefficient is greater than one and has been rising in recent years. The rise in  $a$ , holding other things constant, suggests that the levels of aggregate profits and income have been pushed up. However, the rise in  $a$  has been accompanied by higher markups and a reduction in the wage share. These latter effects, with a consumption coefficient greater than one, have a negative impact on current profits, future investment and growth. In short, the rising consumption coefficient, although it boosts aggregate demand holding other things constant, has heightened stagnationist tendencies in an era when the Conservative government

has been hostile to labour and where the *raison d'être* of fiscal policy has been to trickle down. The rise in the consumption coefficient, combined with a fall in the share of wages, indicates that the redistribution of income from wages to profits has induced higher expenditure on luxury consumption out of profits, rather than on fixed capital investment, resulting in the weak trend of growth in real economic activity since the 1970s.

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1. Laramie 1991 uses a variant of Weintraub's consumption coefficient, the ratio of consumption expenditures to the post-tax

Figure Number:- 1

# **C/W, a**

UK 1972 - 1990

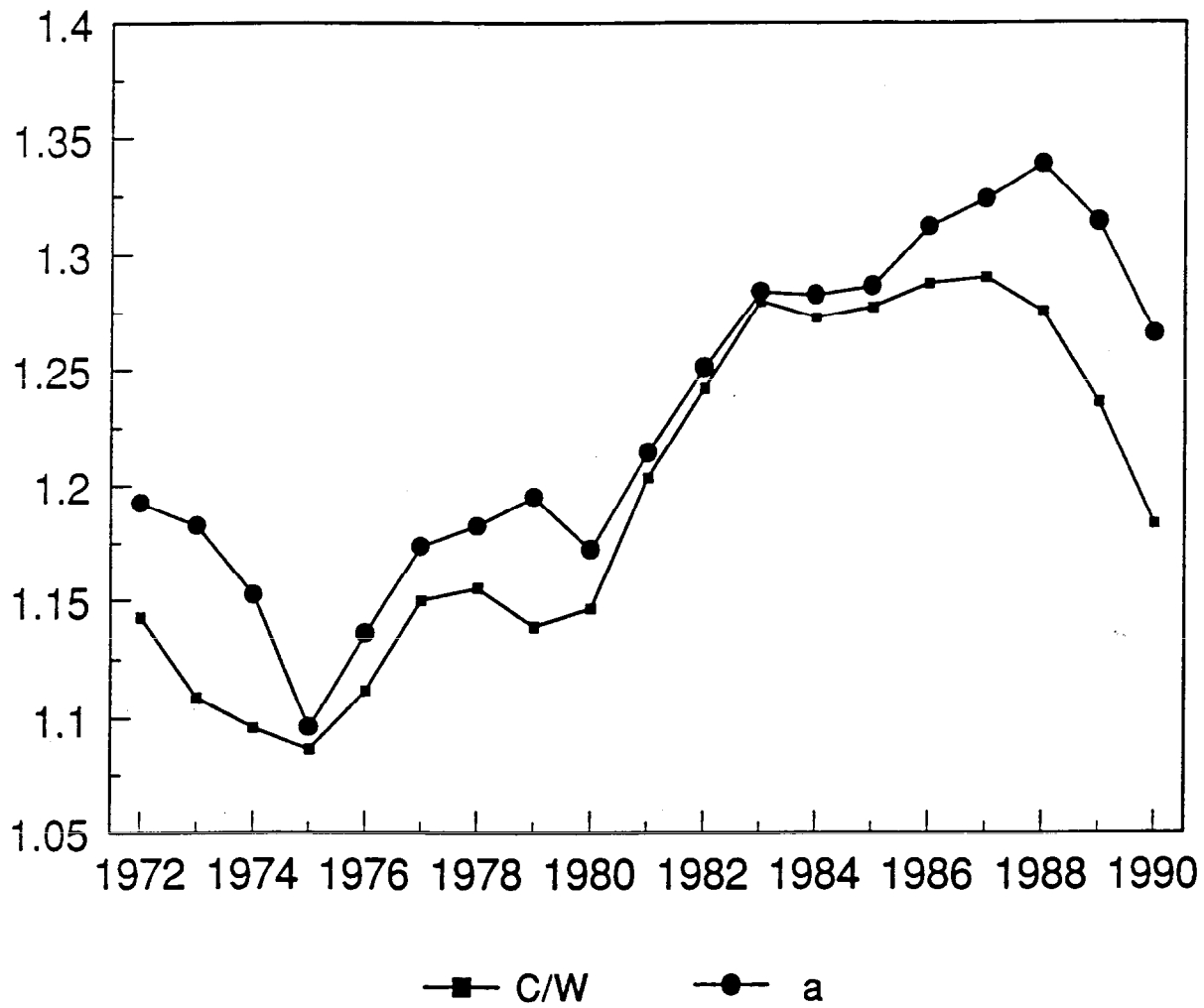


Figure Number:- 2

$$s_w + t_w, c\lambda P'_r + \theta'$$

UK 1972 - 1990

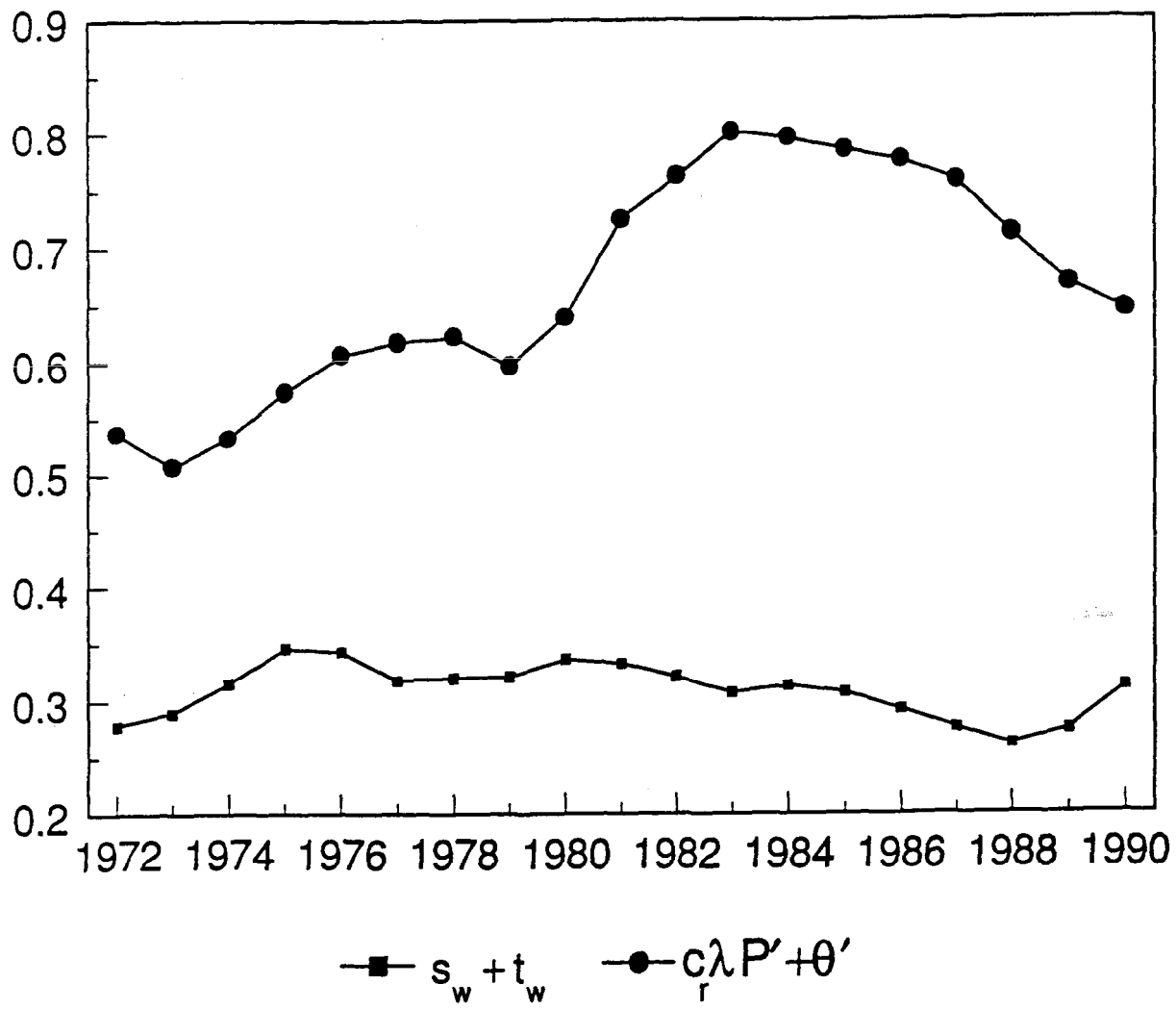


Figure Number:- 3

**P/W, cw, cr**

UK 1972 - 1990

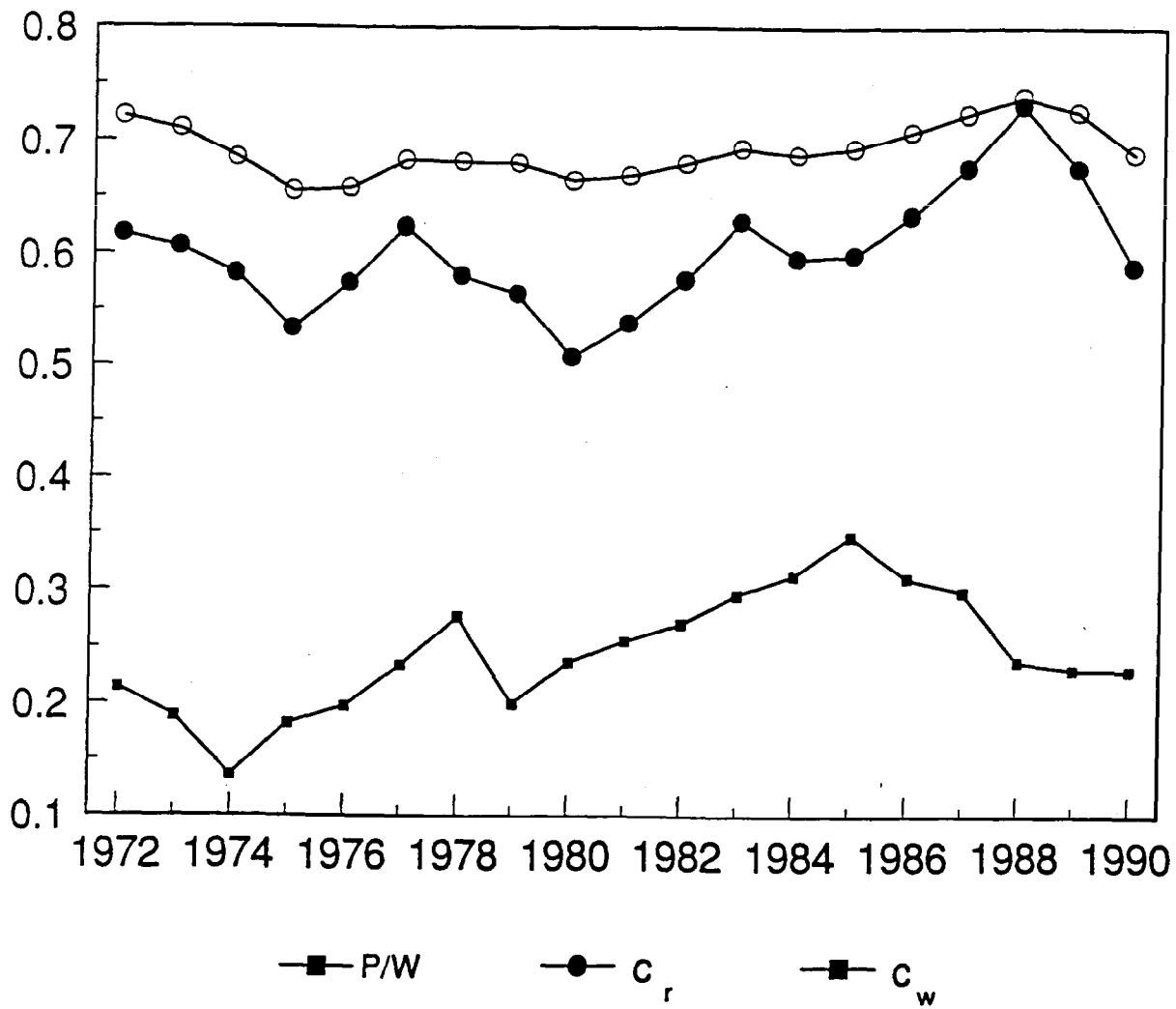


Figure Number:- 4

# P, I

UK 1972 - 1990

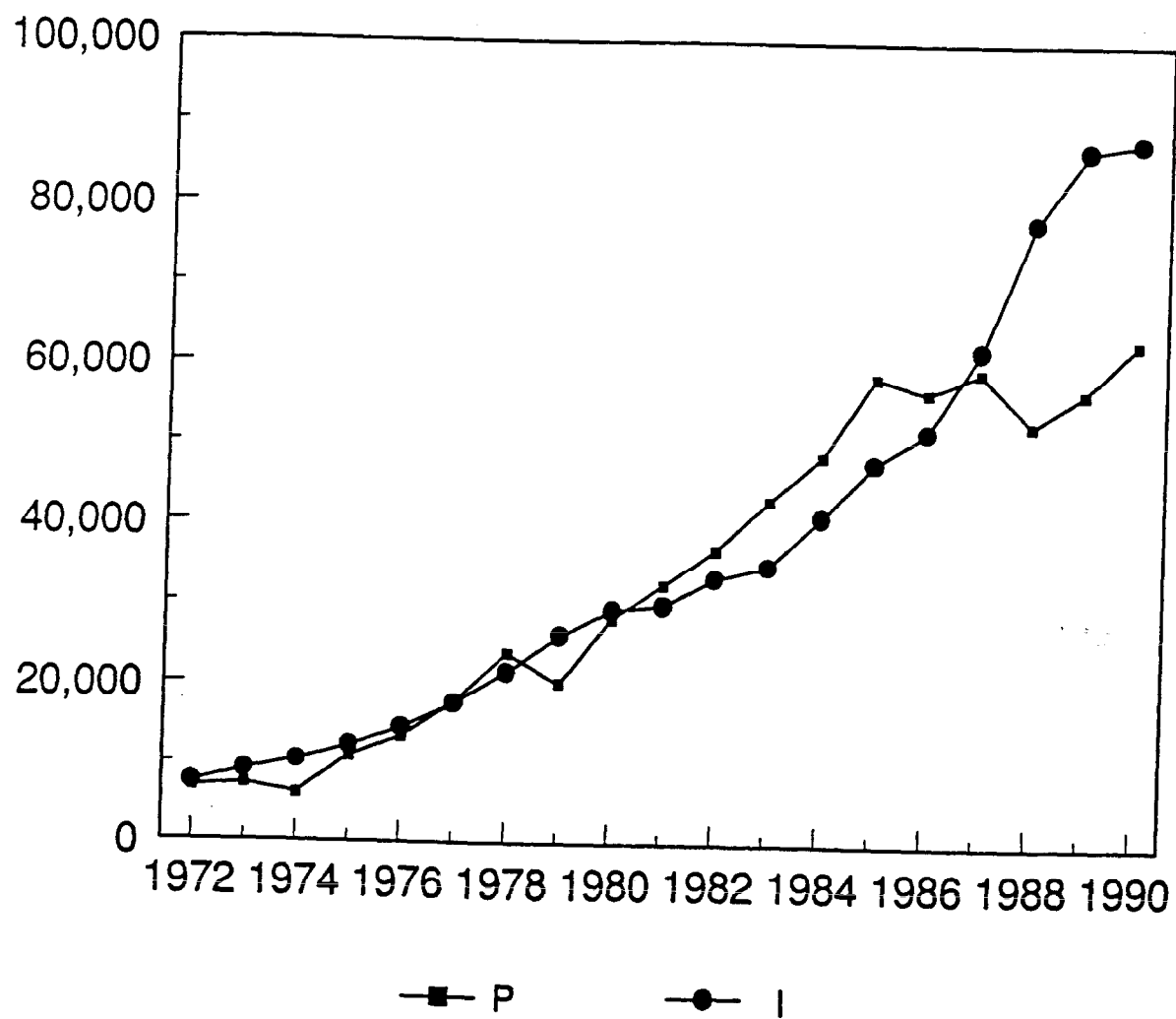




Figure Number:- 5

# **W/Y, C/Y**

UK 1972 - 1990

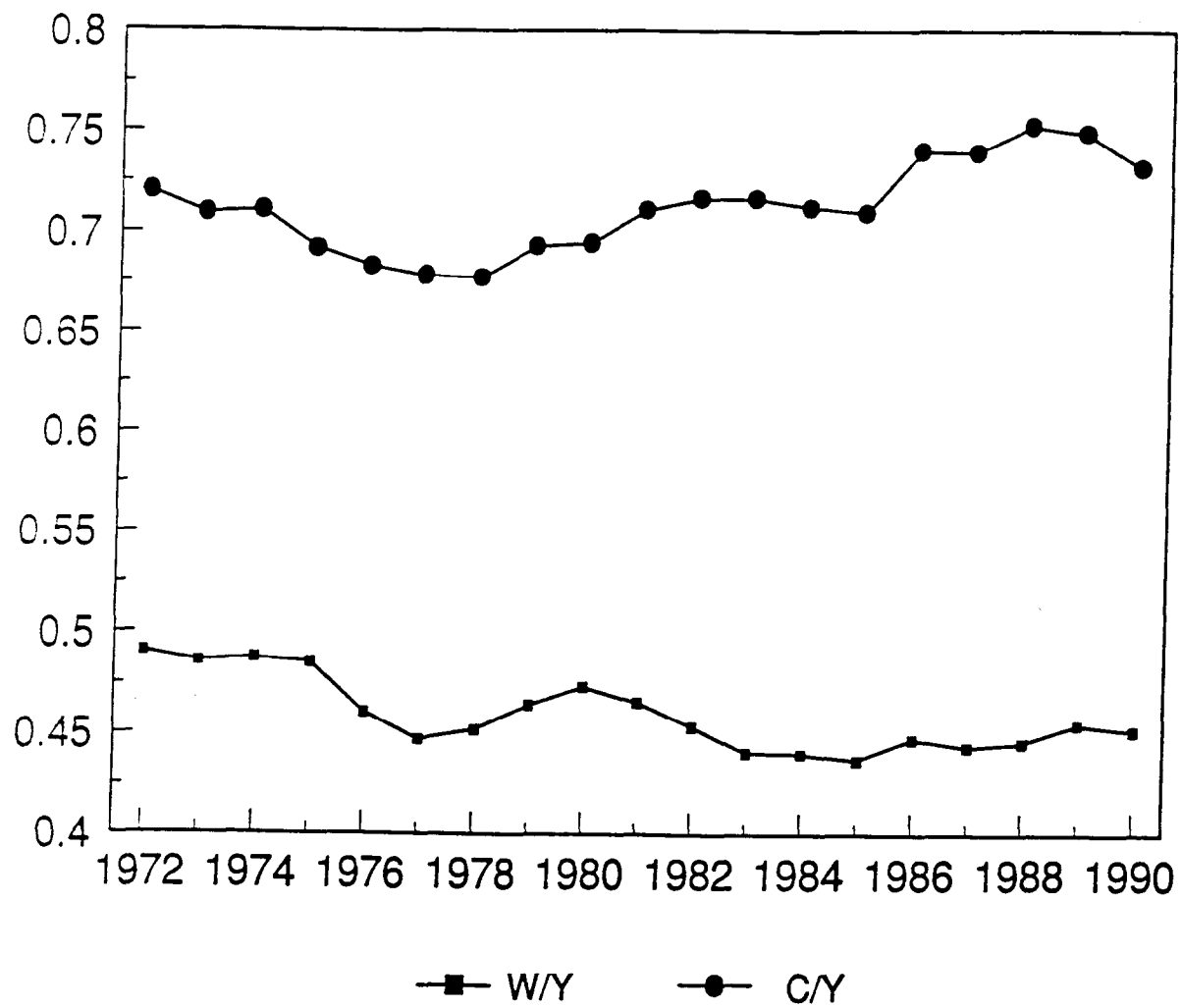


Figure Number:- 6

**K**

UK 1972 - 1990

