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LABOUR MARKET EQUILIBRIUM IN AN OPEN ECONOMY

by

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The object of this paper is to describe and estimate (on UK data) a model of the 'natural' rate of unemployment and the 'natural' levels of all those other real variables associated with it- such as real wages, the real exchange rate, the real interest rate and the level of output. The argument briefly will be that the labour market in an open economy clears at a real wage substantially influenced by government or government-permitted intervention in that market, especially the tax/benefit structure and the unionisation rate.

Section one outlines a stylised model of a small open economy with a labour market 'supply side'. Section two briefly discusses the actual macroeconomic model within which our labour market will be embedded. Sections three and four deal with the labour market in detail, this being the major focus of the paper.

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In the final section we present our estimates for the UK labour market equations and using them as part of the macroeconomic model draw out the implications for the UK natural rate.

1. The Role of Benefits in a Stylised 'Small Open' Economy Model

Let us suppose, as in the 'Scandinavian' model (Aukrust, 1970 and Edgren et al, 1969), that there is a non-traded and traded goods sector. The price of traded goods P_T , is set in competitive world markets by world prices. There is mobility of labour between these two sectors at a nominal wage rate, W .

Now suppose, in a way to be discussed below, that the supply of labour in total to the two sectors depends upon the wage, W , relative to the social security rate, B , for illustration write this as:

$$\frac{L}{\bar{L}} = \left(\frac{W}{B}\right)^\lambda \quad (1)$$

and unemployment as:

$$U = \bar{L} - L \quad (2)$$

where $\bar{L}$ is the 'registered' labour force, i.e. those working plus those registered for benefit.

For illustration, too, suppose that the non-traded sector (NT) provides services so that output, $Q_{NT} = L_{NT}$, labour employed there, and $P_{NT} = W$ and that technology in the traded goods sector is Cobb-Douglas with a specific factor, T (which we can regard as representing 'entrepreneurship' and 'land') or $Q_T = L_T^\alpha K_T^\beta T^{1-\alpha-\beta}$.

If capital is freely available (internationally mobile) at a real cost of r , then we can write:

$$Q_T = T \left(\frac{W}{\alpha P_T} \right)^{-\frac{\alpha}{1-\alpha-\beta}} \left(\frac{r}{\beta} \right)^{-\frac{\beta}{1-\alpha-\beta}} \equiv \left(\frac{W}{P_T} \right)^{-\alpha'} k \quad (3)$$

$$\text{and } L_T = \alpha \left(\frac{W}{P_T} \right)^{-1} Q_T \quad (4)$$

Q_T is the supply of traded goods, all of which will be sold at P_T the international price. In so far as the domestic demand for traded goods, D_T , exceeds Q_T there will be a current account deficit and vice versa. Domestic demand for non-traded services D_{NT} , must be equal to the supply of these services, L_{NT} . This is achieved by driving up the wage, W , until the total supply of labour equals the total demand ie.

$$L_{NT} + L_T = L \quad (5)$$

If we write the demand as depending on real spending ('absorption') a , and relative prices of traded and nontraded goods, P_T/W , we

have:

$$D_{NT} = \left(\frac{P_T}{W} \right)^\sigma a, \quad D_T = a - \frac{W}{P_T} D_{NT}, \quad (6)$$

$a = \frac{A}{P_T}$, where A is nominal spending and we deflate by tradeables' prices. So the market clearing wage is given by:

$$\left(\frac{W}{P_T} \right)^\sigma a + \alpha k \left(\frac{W}{P_T} \right)^{-1-\alpha'} = \left(\frac{W}{B} \right)^\lambda \quad (7)$$

The current account supply deficit (deflated by P_T) is:

$$xval = Q_T - D_T = \left(\frac{W}{P_T} \right)^{-\alpha'} k - a \left(1 + \left(\frac{W}{P_T} \right)^{1+\sigma} \right) \quad (8)$$

The particular functional forms are of little interest; they are supplied to illustrate the possibilities. The essence

of the analysis can be captured in a simple diagram:

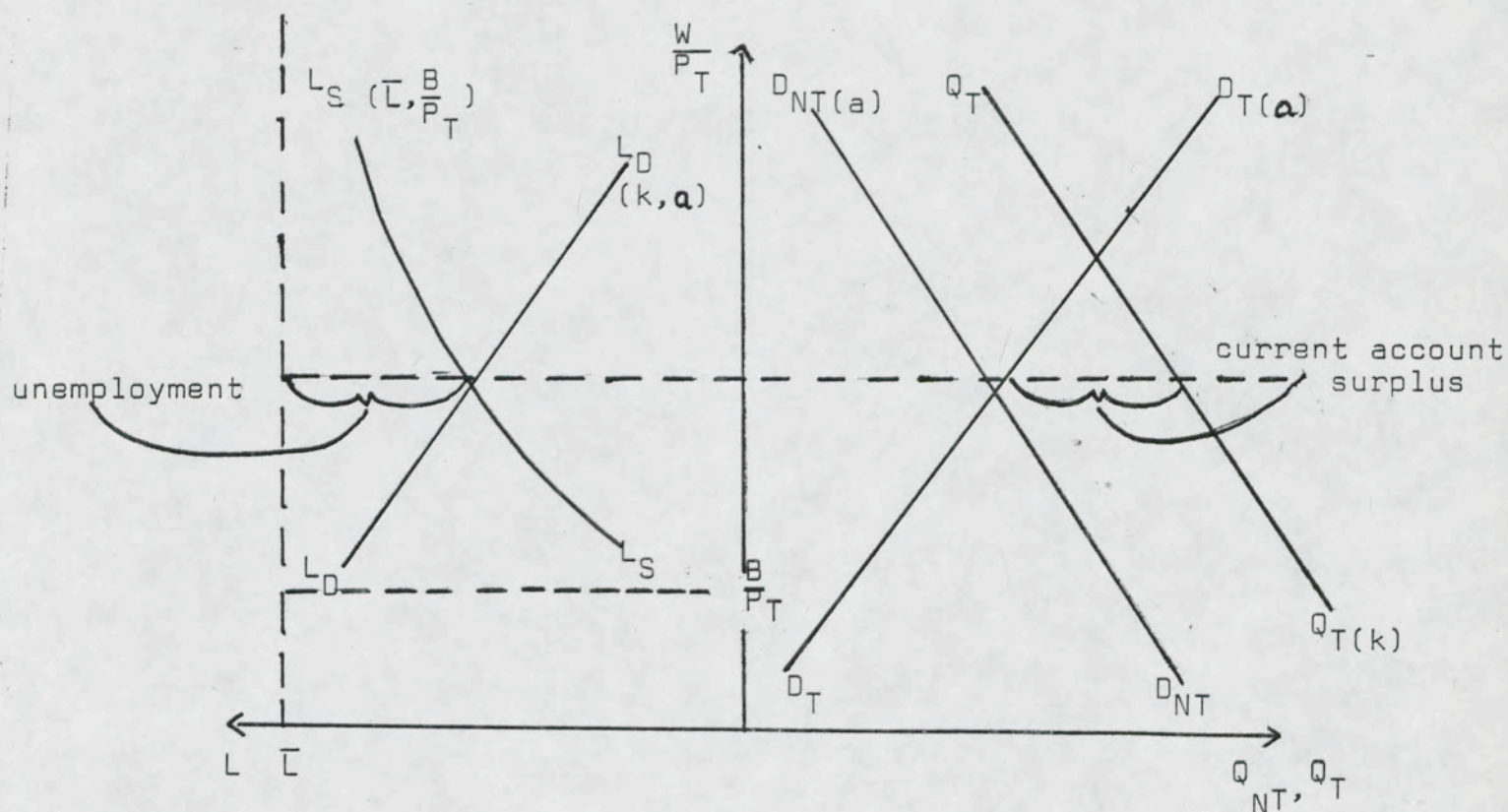


FIGURE 1

In the right hand quadrant are shown the demands for goods and the supply of traded goods (the supply of non-traded goods is identical to the demand, this is forced through the labour market clearing condition). At any given (market-clearing) wage relative to traded prices, there is defined a demand for non-traded services and traded goods which both shift to the right with rising absorption, a , and a supply of traded goods, which shifts to the right with increases in specific factors, T , and falls in the cost of capital, r , (summarised

as k). Turning to the left hand quadrant we see the total demand for labour L_D , which is the sum of L_T (depending on Q_T) and D_{NT} and so shifts to the left with rises in a and k .

Reading then from the left-hand side the market clearing real wage, we can derive the level of output, $y = D_T + D_{NT}$ and the current account balance, $xval$. We can see that both $xval$ and y tend to increase with rising $\frac{W}{P_T}$. Notice that real wages $\frac{W}{P}$ and the real exchange rate, $\frac{P}{P_T} = e$, are a simple transform of $\frac{W}{P_T}$. If $P = W^\pi P_T^{1-\pi}$ (π is the weight on non-traded services in the general price index, P), then $\frac{W}{P} = \left(\frac{W}{P_T}\right)^{1-\pi}$ (9) and $e = \frac{W}{P_T}^\pi$ (10)

So the diagram illustrates that real wages (the real exchange rate) determine output and the current balance, technology and absorption constant, and that real benefits are a major determinant of real wages.

Finally, we suppose that absorption, which is endogenous, is forced over time to equal output so that there is zero net borrowing from abroad ($xval = 0$). A rise in real benefits (technology constant) has two effects. First it raises real wages and the real exchange rate, reducing employment and raising unemployment. This in turn cuts output and via the resulting current deficit forces a cut in absorption, which feeds back onto the labour market, further raising unemployment.

(2) A Brief Account of the Overall Liverpool Macroeconomic Model

The UK model has the structure set out in Minford (1980). (For detailed support of the following account, the reader is referred there, while Appendix 1 gives the model listing, its dynamic performance and 8 simulations). The model consists of:

- a) an inter-related set of private sector demands for stocks of money, government bonds (and net foreign assets), and durable goods, and for a flow of non-durable consumption goods; these demands depend on wealth and real returns.
- b) a government supply function of (narrow M1) money which together with the government and foreign sector budget constraints determines also the supply of bonds plus foreign assets.
- c) efficient financial markets in the operational sense that expected returns are equated across domestic and international financial assets.
- d) rational expectations which is implemented operationally by using the model's forecasts as the expectations .

- e) the supply of output is modelled via a price equation derived from an aggregate production function as a mark-up over costs which varies with the level of output.
- f) the labour market has a significantly large union sector; the non-union sector clears continuously (at levels heavily influenced by social security benefits). But the union's real wage target is seen as the outcome of intertemporal maximisation of potential members' incomes and given adjustment costs in firms' demand for labour, this gives rise to a union real wage which is a mark-up over expected non-union real wages and also dependent on lagged union real wages and firms' other cost factors. This real wage target is translated into a 1-year nominal wage contract on the basis of expected inflation. Aggregating together union and non-union wages and substituting out firms' demand for labour, we obtain a reduced form real wage equation positively related to output, lagged real wages and employer taxes on labour and negatively to unexpected inflation, benefits and employee taxes. Hence if there is unanticipated inflation, real wages fall, and so do output costs; the supply curve of output therefore shifts outwards temporarily. In subsequent periods, real wages gradually return to equilibrium, and output with it. This Lucas-type supply function is however derived by a rather difference route from that chosen by Lucas and Rapping (1969). This will be described fully in Sections 3 and 4 below.

- g) the current account external balance depends on the real exchange rate (defined as domestic relative to foreign consumer prices adjusted for the exchange rate) and domestic and foreign absorption (total final expenditure). This is the major formal difference between the stylised model set out above and the full model here; it implies that the price elasticities of demand for exports and imports are not infinite and the terms of trade vary as net export supply varies. Hence a change in the 'real exchange rate' here implies a change in the terms of trade, whereas in the stylised model it implies a change in the ratio of traded to untraded goods prices (and the terms of trade are exogenous). However, the essential point remains as in the stylised model that as real wages and so the real exchange rate rise, the demand for UK output and so labour falls, given the balance on current account. The stylised model can therefore still be taken as usefully illustrative.

3. The Labour Market in Detail

a) Labour Market Structure

We distinguish a non-union and union sector for a given industry. The non-union sector we suppose to be competitive,

with atomistic suppliers of labour facing atomistic firms. In Britain, this sector consists primarily of the small business sector of private industry. Examples are the numerous small road haulage firms in the highly unionised (approx. 95%) Transport and Communication sector dominated by British Rail, British Road Services and the National Bus Company; and the large numbers of family engineering firms in the Metal Goods sector (approx. 69% unionised). Additionally the major parts of certain sectors are non-unionised; this applies notably to agriculture (only 22% unionised), construction (27%), and timber and furniture (35%).

The extent of formal unionisation is not necessarily a good guide to the extent of union dominance over wages because wage agreements for non-union employees are frequently linked automatically to union agreements (under 'agency shop' arrangements), and on the other hand wage agreements nationally negotiated by unions in highly unionised sectors (such as vehicles or engineering) are merely reference points for shop floor negotiation in individual firms in which the union may be powerless. Mulvey (1976) for example suggests in a study of 77 MLH manufacturing industries in 1976 that the union/non-union wage differential was 0 for industries covered only by national agreements, against 46 to 48% for industries covered by company, district or local agreements and 41 to 46% for those covered by national with supplementary agreements. Unfortunately coverage data is only available from the early 70s; and even this is not free of interpretational problems. Unionisation is

the only reasonably long time-series, and it seems likely to be reasonably well correlated with the extent of union dominance in wage agreements. As a measure of the absolute extent of the non-union sector at a point of time, it is unreliable; but the coverage data confirm the view that there is a significant part of the British economy where unions have no direct influence on wages. For example, in April 1973, as against an average unionisation rate of 49%, the extent of coverage by national-with-supplementary or by company, district and local agreements was 43% for manual men, 35% for manual women and much less for non-manual workers. Given that the public sector has very high unionisation rates and effective coverage is probably close to 100%, the extent of the non-union sector in Britain's private sector should not be underestimated.

b) The Theory of Labour Supply

The theory of unemployment that is currently most popular among labour economists is 'search' theory. Suppose that a man has been made redundant. He then searches for a new job for his particular skill. Extra time spent searching costs him extra; this cost includes the outlays on search net of any utility derived from leisure (which of course could be negative). He gets job offers at regular intervals with a wage attached to it which is taken randomly from a distribution (which he knows) of potential wages for the job type. He accepts an offer when it is equal to or greater than the expected wage from the next offer minus the extra cost of search involved in waiting for another period.

This theory is undoubtedly suitable for individuals in certain labour markets; notably, where the individual has a clearly defined job preference and jobs of that type become available periodically, and have a wage distribution attached to them. For example, professional people, such as an economics lecturer, may be well described by it. However, the vast mass of jobs are manual or semi-skilled non-manual; within these jobs some are restricted by union entry conditions, others are in industries with little union intervention. There would seem to be for such jobs a 'going rate', one in the union sector where jobs are rationed, and one in the non-union sector (if there is one for that job type) where jobs are freely available at the rate. Take taxi-drivers for example; there are areas such as Newcastle where there is close regulation of rates and attempted control of entry, and areas such as Liverpool which are effectively deregulated. An unskilled man could become a taxi-driver in Liverpool at will, or he could try to get a more profitable regulated job in Newcastle. But it is by no means clear that he will 'search' and remain unemployed. Rather, he may well decide whether it is worth his while to do either job if he concludes that the deregulated one is good enough, but the regulated one would be better if it came up, he may take the deregulated one and be ready to drop it and shift when and if the other comes up. It seems unlikely that he would remain unemployed, 'searching' the union or regulated sectors, unless he decided that the non-union rates were just not attractive at all; if he did so, he would lose income without necessarily enhancing his chances of a union job.

Such a person will furthermore be content to choose from a wide menu of jobs. Take, for example, the recent case of a Liverpool taxi-driver who had been made redundant from an engineering firm. He decided that, given the scarcity of union jobs, the taxi rate was acceptable; no doubt he is keeping the engineering places under review as they come up.

These considerations suggest an alternative model of the work decision, which is 'new classical' in spirit. The worker has knowledge of 'going rates' in unregulated, or non-union sectors in which he has the necessary skills to work; he does not need to 'search' for this knowledge. He decides when to enter and when to withdraw from these sectors in a standard 'optimising' manner; i.e. he maximises the present value of his expected welfare, given these wage rates and other relevant prices, including benefits out of work and taxes etc., in work. Though all workers would like to have a union job, it is assumed that the chances of getting one are not affected by taking a non-union job, so that the union wage does not affect his work decision.

It turns out in this model that the number of people willing to work at union wages is irrelevant to the determination of wages or jobs in either the union or the non-union sectors. The reason is straightforward; the union's mark-up over the non-union real wage is determined by its monopoly power interacting with technology and demand conditions; this monopoly power is precisely the power to ignore the desires of non-union members for better wages within the controlled sector. In practice of course this

ability would be eroded substantially, the larger the non-union sector; but this erosion depends not so much on the non-union members' frustration as on the enhanced ability of firms to hire non-union members beyond the reach of the union (as in the USA, with firms hiring in the South rather than the unionised North East).

The model therefore implies that the total supply of labour will be dependent on the level of current real wages in the non-union sector ('free market wages'), net of tax and expenses, relative to on the one hand net out of work benefits and on the other expected future net real non-union wages. In other words, the people who are 'on the margin' of supply in the labour market are in the non-union sector (in 'unprotected jobs'), typically on low wages and 'unattractive' jobs; hence the importance in labour supply of replacement ratios for low income households, for these are the ones most likely to withdraw under additional pressure.(By implication, replacement ratios for average workers - who will be unionised typically - are likely to be of no relevance).

There are various ways in which the supply of labour could contract as real wages fell. Workers could decide to quit more frequently, taking longer periods between work; for manual men for whom explicit part-time work is awkward, this would approximate to part-time working over the year as a whole. Workers could take spells of work abroad, and spells on benefits at home. Workers could decide not to work at all until real wages picked up again; for example, they could withdraw from the labour market in recessions and return in boom periods. Most drastically, they

could withdraw indefinitely and change their life-style to one of living on benefits and casual, possibly undeclared, earnings, on the assumption that real wages are never likely to be sufficiently attractive. To those accustomed to the ways of prosperous Southern areas of the country, such ideas may seem unfamiliar, even outrageous; but it has to be said that they are part of the everyday gossip and 'casual empiricism' of an area such as Liverpool.

Viewed in this way, the distinctions between decisions on 'duration' of unemployment and those on 'participation in work' become blurred; there is in essence a continuous decision on more or less or no participation in work.

This decision is naturally viewed as taken for the fiscal year. For example, someone wanting to work half the time would be best advised to work half the year and be unemployed for the other half (in either order); that way he uses up his tax allowances. Were he to work for one year and be unemployed for the whole of the next year, he would fail to use and subsequently lose his tax allowances in the second year under the UK tax system operating over our sample period.

Let us define π_{it} as the proportion of the current fiscal years hours the worker i currently plans to devote to work rather than leisure on which we assume he obtains a real benefit payment, b_{it} ; for his work he obtains the real non-union wage, $w_{i0t} \times (1 - T_{Lt})$ where T_L is the direct tax rate. We assume the worker's adjustment costs are low for non union employment and can be neglected; this

assumption may work rather well for low-paid manual work which constitutes the bulk of non-union employment close to the poverty line where unemployment is heavily concentrated. It also conveniently avoids introducing lags until later in the analysis. We therefore write quite simply that worker i maximises in each time period his (quadratic) utility,

$$U_{it} = (\gamma_i I_{it} - \frac{\beta_i}{2} \pi_{it}^2 + \pi_{it} \{ \alpha_i + v_{it} + D_t \}) \quad (11)$$

$$\text{subject to: } I_{it} = (1 - \pi_{it}) w_{ict} (1 - T_{LT}) + \pi_{it} b_{it} ; \quad (12)$$

I_{it} = his real net income rate; α_i = personal characteristics (e.g. family size) dummies, v_{it} = random factors, and D_t = seasonal factors affecting preferences. The solution from the 1st order condition is:

$$\pi_{it} = \frac{\gamma_i}{\beta_i} (b_{it} - w_{ict}) + \frac{1}{\beta_i} (\alpha_i + v_{it} + D_t)$$

In a cross section analysis taken at a point in time, π_{it} can be interpreted as the chances of a person being unemployed. In a cohort study of a cross-section over a period of time, π_{it} can be interpreted as the fraction of this whole time period worker i is unemployed.

We could treat all individuals as have the same γ_i, β_i . This would be defensible under the crude quadratic assumption if they all faced similarly sloped budget constraints; for then similar substitution effects in response to benefit changes could be expected. However, in the UK we can distinguish three major

groups in the bulk of our sample period, according to their benefit status as illustrated in Fig. 1. There are 'flat rate' benefits - i.e. effectively the minimum paid, shown as point A. People on net incomes to the left of A* will face a budget line with no slope. They are likely to be at a corner solution, where they do no work at all, and be unresponsive to benefit or wage changes.

Then there was an earnings related supplement (ERS, abolished last December) which raised the benefit/wage ratio to $2/3$ for those whose incomes relative to flat rate benefits put them below this ratio otherwise. Their budget line will have a slope of 33% therefore; they accordingly will be at a tangency point with some substitution effect. The group to the right of A includes these people as well as those with benefit/income ratios between $2/3$ and 1.

Finally, there was a ceiling on ERS, i.e. an income above which ERS became a flat rate supplement, shown as point B. Those to the right of B will have benefit/wage ratios progressively less than $2/3$ as income rises, and their budget lines will slope more steeply; so that their tangency point will be where the substitution effect is smaller still. (At very high incomes budget lines become shallow again with the higher rate of tax, however this is not of much concern for unemployment).

* The point A is properly the wage at which the flat rate benefit level is just attractive enough to make 100% leisure preferable. This point could occur at a replacement ratio lower than 100% (for some possibly higher).

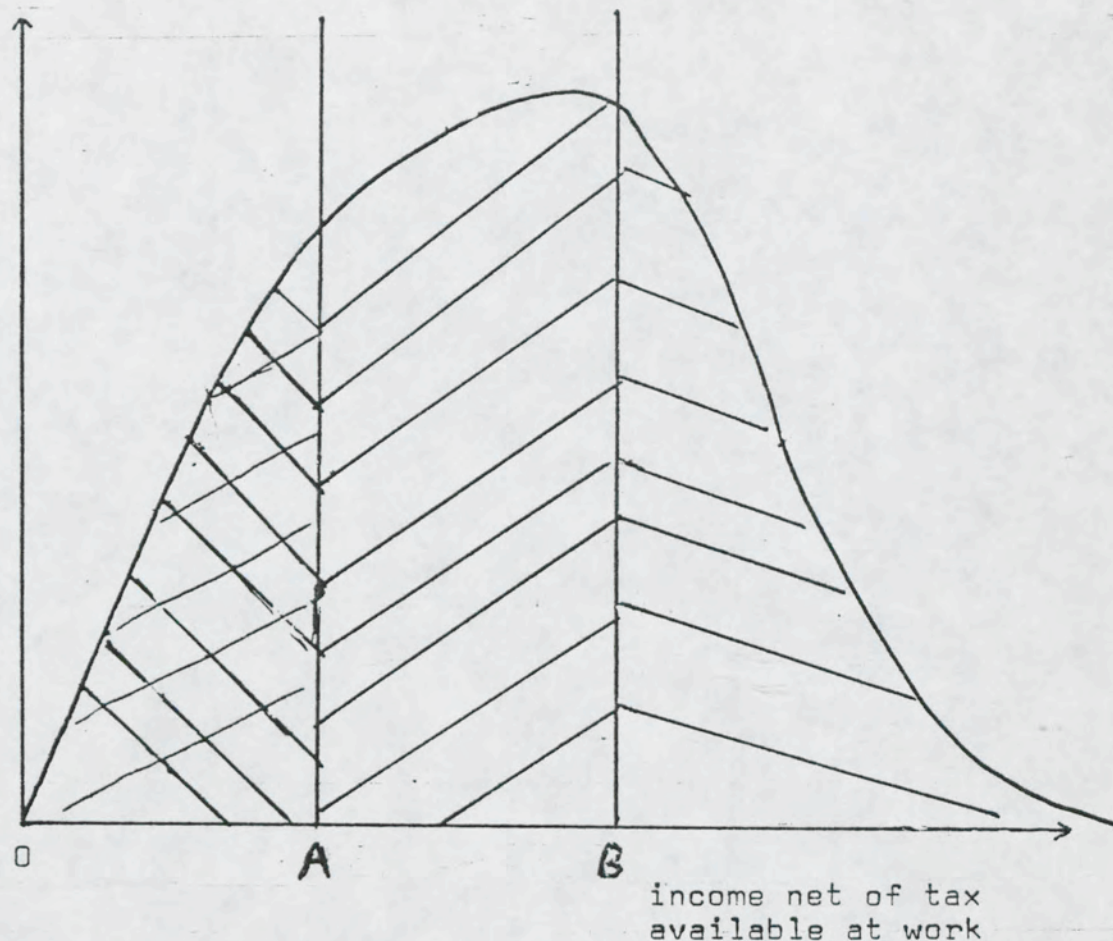


FIGURE 1

Distribution of Income and Benefit Status For A Typical Household Type

A= Flat Rate Benefit 'cut off' point)
 B= Earnings Related Benefit 'cut off' point) see text

If we were carrying out a cross section analysis, it would pay us to use a utility function which spanned these possibilities. However, we are proposing a time-series analysis for which this gives no particular gain. Instead, we note that for our population at t,

$$\pi_t = \sum_{j=2}^3 q_{jt} \left\{ \frac{\gamma_j}{\beta_j} (b_{jt} - w_{jct}) + \frac{1}{\beta_j} (\alpha_j + v_{jt} + D_t) \right\} + q_{1t} \quad (13)$$

where q_{jt} = proportion of population in category j (j ranging over the 3 groups just described), and j -subscripted parameters and variables are the averages in each group. q_{1t} is the group to the left of A who are assumed to prefer 100% leisure.

The q_{jt} are themselves functions of the general non-union wage, w_{ct} , the flat rate benefit, b_f , the ERS, b_{ers} , and the upper limit, b_{max} , as well as of the income distribution. Most importantly, as flat rate benefits rise, more people will be drawn into the area to the left of A where they may decide not to work at all. Since someone who does not work at all will be unemployed 12 times as long as someone who takes a 2 month spell every two years, these people dominate the unemployment stock. In a time-series analysis, we may expect the elasticity of unemployment (under the UK system) to the benefit/income ratio to be very low for a low aggregate ratio (e.g. around .5) to rise as the ratio rises, reaching a peak, and dropping again towards zero as the population becomes concentrated around or to the left of A.

This illustrates the important general point that while cross-section studies of populations are undoubtedly of great value, they do not necessarily provide ready answers to questions about reactions of population over time. In this case, to translate cross-section findings into time-series predictions of the effect of benefit changes one requires to know the income distribution, the location of points A and B, the reservation wage levels, and the elasticity between A and B. Such a translation

is likely to be hazardous at best; a time-series relationship, for all its faults, provides a useful direct estimate of the reactions under investigation.

It is extraordinarily hard to think of tractable set ups for estimating exactly this time series model. So far it has eluded us. The discussion must suffice as underpinning for a quite orthodox linear time-series representation. We write unemployment, $U_t = (1 - \pi_t) POP_t$ as a linear function of benefits, real non union wages, the direct tax rate, POP (the size of the labour force), and q (a measure of the toughness with which benefit disqualification provisions are enforced. Setting wages as the dependent variable (for reasons that will become apparent), this is:

$$w_{ct} = \alpha_0 + \alpha_1 q_t + \alpha_2 POP_t + \alpha_3 U_t + \alpha_4 T_{Lt} + \alpha_5 b_t \quad (14)$$

where $b = vb_{ers} + (1-v)b_f$, v being the weight for those drawing earnings related benefit.

We now turn to the union sector, where we suppose the union to maximise the expected real incomes of its potential members, M_t (assumed to be exogenous and defined as for example in Bain and Price (1980)).

$$\sum_{i=0}^{\infty} b^i E_t Y_{t+i} \quad \text{subject to} \quad (15)$$

$$Y_{t+i} = w_{ct+i} (M_t - L_{ut+i}) + w_{ut+i} L_{ut+i} \quad (16)$$

and

$$L_{ut+i} = \beta_0 + \beta_1 k_t - \beta_2 w_{ut} + \lambda L_{ut+i-1} \quad (17)$$

The latter demand for labour function is the linear analogue of equation (30) below (but with lagged adjustment); k_t represents the effects on labour productivity of capital costs, technological progress and other factors, L_{ut} = labour demand in union firms, w_{ut} = union real wage, $0 < b < 1$ is the union discount factor.

The first order conditions yield:

$$E_{t-1} \left[w_{ut+i} - w_{ct+i} = \frac{L_{ut+i}}{\beta_2} - \frac{b\lambda (w_{ut+i+1} - w_{ct+i+1})}{1 - b\lambda L^{-1}} \right]$$

or

$$E_{t-1} \left[w_{ut+i} - w_{ct+i} = (1 - b\lambda L^{-1}) \beta_2^{-1} L_{ut+i} \right] \quad i \geq 0 \quad (18)$$

where L^{-1} is the forward operator, and the E_{t-1} outside the square brackets indicates that all variables are expected values conditional on information at $t-1$.

Hence, using (17):

$$E_{t-1} \left[w_{ut+i} - w_{ct+i} = \beta_2^{-1} \frac{(1 - b\lambda L^{-1})}{(1 - \lambda L)} (\beta_0 + \beta_1 k_{t+i} - \beta_2 w_{ut+i}) \right] \quad i \geq 0 \quad (19)$$

So that:

$$E_{t-1} \left[\left(1 - \frac{2}{b\lambda} L + \frac{1}{b} L^2 \right) w_{ut+i+1} = - \frac{1}{b\lambda} (1 - \lambda L) w_{ct+i} - \frac{\beta_1}{\beta_2 b \lambda} (1 - b\lambda L^{-1}) k_{t+i} - \frac{\beta_0 (1 - b\lambda)}{\beta_2 b \lambda} \right] \quad i \geq 0 \quad (20)$$

The transversality condition for the union is that the rate of increase of real wages as given by (20) converges in infinite time to the constant rate determined by the trends of w_{ct} and k_t ; any other solution is suboptimal (in fact 'a road to ruin' leading to the extinction of the union either by pricing its members totally out of the union industry market or by pricing them so far below the non-union industry market as to cause them all to leave the union). This condition is met, following the operator method of Sargent (1980), eg. pp 333-8) by factoring $(1 - \frac{2}{b\lambda}L + \frac{1}{b}L^2)$ as $(1 - p_1L) \left(\frac{1 - (p_2L)^{-1}}{-(p_2L)^{-1}} \right)$ where p_1 is the

stable root, and p_2 , the unstable root, is used forwards. For a unique stable solution we require that one root is stable, the other unstable (ie. there is a saddlepath solution), which is satisfied here since $p_2 = (b\lambda)^{-1}(1 + \sqrt{1 - b\lambda^2}) > 1$, $p_1 = (bp_2)^{-1} = \frac{\lambda}{1 + \sqrt{1 - b\lambda^2}} < 1$.

The solution for w_{ut} is then:

$$E_{t-1} w_{ut} = p_1 w_{ut-1} + \frac{1}{p_2 b \lambda} \sum_{i=0}^{\infty} p_2^{-i} E_{t-1} \left[(1 - \lambda L) w_{ct+i} + \frac{\beta_1 (1 - b \lambda L^{-1})}{\beta_2} k_{t+i} + \frac{\beta_0 (1 - b \lambda)}{\beta_2} \right] \quad (21)$$

In other words, the planned real union wage depends upon initial levels and the expected path of non-union real wages and other cost factors. We shall rewrite (21), using the F^* prefix to denote the summed and discounted forward values of w_{ct} and k .

We also note that β_2 will fall as expected union power increases, measured by UNR (the unionisation rate); so we may also, using an expansion of the terms in k and the constant, add an argument in UNR.

So we write (dropping hereafter the t -subscripts throughout):

$$E_{-1} w_u = v_0 + v_1 F_w^* w_c + v_2 F_k^* k + v_3 F_u^* UNR + p_1 w_u - 1 \quad (22)$$

We wish to incorporate the observed facts of nominal wage contracting by a proportion of unions. The typical settlement length in our sample period has been one year, and we suppose that the proportion with 1 year contracts is c , the rest implicitly recontracting continuously via shop floor alterations of piece-rates, overtime etc.

For the latter, w_u is given by (22); they will succeed in setting w_u at the planned level. The former however set nominal wages, W_u , consistently with (22), given the information set at the settlement date and the expected price level over the coming year so that:

$$W_u = (E_{-1} \sum_{i=0}^{\infty} P_{t+i} / 4) \cdot E_{-1} w_u \quad (23)$$

Their actual real wages will be:

$$w_u = \frac{W_u}{P} \approx E_{t-1} w_u - \left(\frac{\Delta \log P - PEXP_{-1}}{4} \right) \quad (24)$$

for values of $E_{-1} w_u$ close to a (normalised) unity; $PEXP_{-1}$ is the expected inflation rate for the coming year viewed from $t-1$.

Putting contracts and non-contracts together yields:

$$w_u = -c(\Delta \log P - \frac{PEXP_{-1}}{4}) + v_0 + v_1 F^* w_c + v_2 F_k^* k + v_3 F_u^* UNR + p_1 w_{u,-1} \quad (25)$$

Our (only) observable series for wages is the total:

$$w = u w_u + (1-u) w_c \quad (26)$$

Substituting from (25) we get:

$$w = -uc(\Delta \log P - PEXP_{-1}) + uv_0 + uv_2 F_k^* k + uv_3 F_u^* UNR + \left\{ u F_w^* + (1-u)(1-p_1 L) \right\} w_c + p_1 w_{-1} \quad (27)$$

Referring back to (14) we may observe that the arguments of w_c consist of tax and benefit rates, demographic trends, benefit disqualifications, and the unemployment rate. In (14) and (22) it is natural to assume - and is not broadly violated by the data - that the tax and benefit rates follow a random walk, and that the demographic trends, UNR, q , and k are random walks with a time trend. This allows us to transform these variables into their current and lagged values, constants, and time trends. This leaves the expected unemployment rate and we shall write $\{uF_w^* + (1-u)(1-pL)U\}$ as a function of the lagged and current unemployment rate and of the natural rate, U^* , at t ; the latter however at this stage we have been forced to proxy by a time trend.

Finally we obtain our wage equation as:

$$\begin{aligned} \log w = & -uc(\Delta \log P - \underbrace{PEXP}_{-1}) + c_0 + c_1 q + c_2 UNR + c_3 \log POP + c_4 T_L + c_5 \log b \\ & + c_6 \log U + p_1 \log w_{-1} \end{aligned} \quad (28)$$

We have adopted a loglinear formulation and have dropped lagged values for certain variables. Forced to choose between a time trend and $\log POP$ because of their high collinearity, we omitted the (generally quite insignificant) time trend. Nothing serious appears to hang on these approximations.

The relation between (28), our 'supply' equation, and the equilibrium model of Lucas and Rapping (1969) can be seen by rewriting (28) as:

$$U = (P^{ue}, \quad UNR, POP, T_L, b, w_{-1}; w) \quad (28)'$$

(28)' indicates that unanticipated inflation, P^{ue} , reduces

unemployment. The role of 'expected normal real wages' is taken by the variables between semi-colons; these depress labour supply (raise registered unemployment). Finally current real wages raise labour supply and depress unemployment. Of course the derivation and true meaning of (28)* is quite different from that in the Lucas equilibrium model. But the family resemblance is striking; were someone to use the Lucas model on an 'as if' basis for the UK, he should obtain reasonable results (eg. Batchelor and Sherriff, 1980).

3. The demand for labour:

Individual firms* are regarded as competitive and atomistic each with a fixed endowment of 'entrepreneurship', T_i , which gives them decreasing returns to scale. They therefore determine an optimal supply of output and demand for labour

*We drop the simplification that the non-traded sector is purely services.

given the actual and expected prices and wages facing them.

In the absence of adjustment costs, and supposing each had the Cobb-Douglas technology of section (1), then we would have equivalently:

$$L_i^D = \alpha \left(\frac{W_i}{P_i} \right)^{-1} Q_i \quad (29)$$

$$L_i^D = \alpha k_i \left(\frac{W_i}{P_i} \right)^{-1-\alpha} \quad (30)$$

(29) relates desired labour to desired output, while (30) is the reduced form relation for desired labour. But, provided that desired output is properly related in the model to $\frac{W_i}{P_i}$, there will be no difference between (29) and (30), while $\frac{W_i}{P_i}$ for econometric reasons (29), is easier to implement.

Writing (29) more generally, also in an adjustment formulation and aggregating over the i firms gives familiarly:

$$\Delta \log L^D = \mu (\log L^* - \log L_{-1}) \quad (31)$$

where $L^* = \phi \left[\left((1+T_F) \frac{W^*}{P} \right), Q^*, t \right]$, and T_F = employers' tax rate on labour (proportion). This formulation, though ad hoc, corresponds approximately to the final form of an optimal plan by individual firms (eg. see Nickell, 1981). The starred variables are the desired or expected future outcomes, as appropriate. Since we use unemployment as the quantity measure, our operational demand equation becomes:

$$\log U = \mu\gamma_1 (\log w^* + T_F) + \mu\gamma_3 \log Q^* - \mu\gamma_3 t + (1-\mu)\log U_{-1} \quad (32)$$

(Note that any residual effect of POP is captured here by the time trend).

Equations (28) and (32) conveniently define a sub-model of the labour market which is conditional on planned output. Planned output depends upon the rest of the model interacting with this sub-model.

Empirical Work on U.K. Labour Market.

Our labour demand and supply equations have been deliberately kept to the simplest form in order to economise on degrees of freedom. Possibly intensive searching would yield some insights into nuances of dynamic structure; but we doubt if much could be gained, because the major exogenous variables in the labour subsector are benefit and tax variables, for which the best predictor turns out to be close to the current value. The first differences of all these exogenous variables except T_L appear to show no significant autocorrelation up to 8th order other than purely seasonal. T_F exhibits some negative 1st and 8th order autocorrelation which could form the basis for a better predictor. Planned/expected output creates more of a problem; Nickell (1981) reports encouraging results for a labour demand function in which quite complicated patterns of coefficients on future expected values are generated. At this stage, we have merely looked at expected values up to a year ahead using instrumental variables for the quarterly version and the model predictions for the annual.

Our study relates to most of the post-war time series data conveniently available from the CSO's data bank; namely quarterly data for the whole economy, for manufacturing and for individual industries and for annual data for the whole economy only. The Liverpool model is annual and so only the latter equation is used in it; but the other work serves as a further check and is possibly more informative because quarterly.

Whole Economy Time Series

The results that follow are based on benefits and average net direct taxes paid by a married man with two children whose wife is not working. Clearly this is not properly representative of those on the margin of employment and unemployment. We have also therefore checked the sensitivity of our results for a variety of weighting procedures; a full set of results for benefits and tax series weighted according to unemployment shares for six household-types (single, married + 0 up to + 4 children) is available on request but is not different in important aspects from those shown here.

The disqualification variable turned out to be generally insignificant in the quarterly analysis. An annual series was also not available for our full annual sample. We therefore dropped this variable altogether from the reported results.

In the tradition of most previous work we began with unrestricted reduced form equations for wages and unemployment. While seriously affected by collinearity, arising from the lack of restrictions, they indicated clearly that the basic theory could provide powerful explanation. Benefits, tax and unionisation variables were generally of correct sign and significant in both equations. We therefore proceeded to restricted structural estimation of (28) and (32).

With virtually no experimentation we arrived at the TSLS results shown in Table 3. All variables have the correct sign and are significant. In the 'supply' or 'wage' equation we tested the following restrictions: that the

coefficients on benefits (b) and tax rates (T_L) were (a) equal to each other and (b) also both equal to unity in the long run. (a) would come about if $\alpha_4 = \alpha_5 = 1$ in (14), i.e. if the benefit/net non union wage ratio affected the supply of labour, an assumption that is widely made in the literature. (b) would occur if additionally in (27) $\{ uF_w^* + (1-u)(1-p_1) \} w_c = (1-p_1)w_c$, a condition that in general seems unlikely to be met. In general we find that (a) is met but (b) is not and report the results for (a) accordingly.

The fact that benefits and direct taxes have an equal coefficient in the supply or wage equation, but one that is significantly less than unity in the long run, suggests that versions of this equation with unemployment as the dependent variable and the benefit/income ratio as a regressor are mis-specified (unless the level of real wages is also included); the reason as already discussed lies in the way w_c enters the supply equation which is as a complex dynamic term.

Unionisation enters the supply equation strongly. The long run elasticity of real wages to UNR (at its mean value of .48) is about unity.

It is tempting to attempt to derive an estimate of the union mark up from this coefficient. However, it is clear that the coefficient c_2 is a convolution of factors which cannot be disentangled without further restrictions. What we can say

is that there is prima facie evidence of a rise in the union mark-up during our sample period; and this is consistent with a number of studies (as indicated in the survey by Parsley (1980)), and most recently by Layard et al (1978).

Another issue on which these results throw some light is the prevalence of one-year non-contingent contracts. The term $(\Delta \log P - \text{PEXP}_{-1})$ will have a coefficient of minus unity if such contracts⁴ are universal in the sector under investigation, its absolute size below unity indicates the proportion of workers governed by such contracts. It is normally regarded as a 'stylised fact' about the UK that most wages are governed by such contracts. Indeed this is confirmed by evidence from wage rates. Yet in Italy where inflation rates have been similar over the past decade, indexation is virtually universal, and this of course is equivalent to a shortening of contract length. Belgium and the Netherlands also have also have widespread indexation in spite of a lower inflation experience. It is also the case that recorded labour contract lengths (on wage rates) declined in the UK from about 2 years in the early 1950s to around 1 year by the mid 1970s (Minford and Hilliard 1978). There is therefore some evidence both that UK contract behaviour is sensitive to the inflation rate and yet that it is out of line with some continental behaviour.

Our results which relate to earnings suggest that one year contracts are far from universal. In fact the coefficient as p^{ue} was ultimately dropped because it had the wrong sign, besides being insignificant.

It is possible to reconcile this finding with the prevalence of 1 year contracts for wage rates by appealing to wage drift. Presumably matters are arranged on the shop floor so that earnings are indexed to some degree to the inflation rate. Variation in overtime and piece rates or clocking on/off conventions, could well be used to achieve this effect. On this basis the UK contract behaviour is seen to be roughly in line with the continental practices cited. At the same time there seems no reason to believe that the change in contract lengths evidenced by wage rate data would be seriously misleading (indeed, Minford and Hilliard found it to reflect the predictions obtained from a transactions-cost minimisation approach).

Other features of the real wage equation are the significant role of unemployment, the fairly speedy adjustment rate (90% in 2 years), and the modest negative effect on real wages of the rising workforce. The unemployment term implies that the supply curve of labour is not infinitely elastic ('real wage rigidity') but has a pronounced upward slope; the (partial) long run elasticity of unemployment to real wages is around -8, probably implying (see below) an elasticity of labour supply to real wages of just over unity and to real benefits of about -0.5.

The negative effect of the rise in workforce presumably reflects its bias towards married women and juveniles, who

have it would seem, in spite of strong opposition from male-dominated unions, succeeded in somewhat lowering the real supply price of labour.

The speed of adjustment should reflect approximately that of unionised firms in their labour demand decisions, (i.e. in the U equation). No cross-equation constraint was applied but the free estimates are encouragingly close (.69 versus .75).

The demand for labour (here the unemployment) equation shows strong effects of output, real wage grossed up for employees taxes paid by employers, and productivity. The restriction that real wages and taxes have the same coefficient is rejected; this odd result does however not occur for manufacturing (results not reported) and suggests that it may be due to unusual behaviour in the non-manufacturing sector (especially perhaps the public sector). The unrestricted equation gives a much higher coefficient on taxes than on wages which is hard to rationalise. We therefore prefer and have reported the restricted estimate.

Various issues can be raised with these equations.

As far as specification tests are concerned, the equations are reasonably invariant both to changes in time period and to relatively obvious specification changes. Tables 4 and 5 illustrate. Stability over time periods is fairly impressive; both

equations pass the Chow test and an F-test for equality of coefficients*. The key parameter values do not move much; the only exception is the real wage cost coefficient in the unemployment equation, which drops away if experience from the mid-sixties is not included.

The unemployment equation is free of autocorrelation, as indicated by the X^2_4 test. The wage equation suffers from 3rd order autocorrelation; the X^2_4 test is just significant at the 5% level, and it turns out that the residual at the 3rd lag is also just significant in the regression for that test. However, the autocorrelation is modest and, while we have not yet corrected formally for it, correction is most unlikely to affect our estimates.

Inclusion of a time trend in the wage equation and the labour force in the unemployment equation leaves parameter values unchanged; and both additional variables are insignificant.

* The Chow test give F-values for the wage equation of 1.1 (truncated at 76.4), 0.6 (truncated at 67.1), for the unemployment equation of 1.04 and 1.0 respectively. The F-tests for constancy of coefficients (with the sample split in 1973) were .68 for real wages and .11 for unemployment.

Various other variables have been suggested as potential candidates for inclusion in the wage equation, within its overall specification. These include: the age structure of the population (those less than 20, A20, those more than 55, A55), the degree of toughness in denying benefit (TOUGH), inflows (INF) and outflows (OUT) from the unemployment register. Table 5 shows results with a variety of these. They are uniformly disappointing, however, Table 5 also shows that, if benefits and direct tax are split up, the coefficients are not significantly different, though that on tax is less well-determined and the higher of the two. If employers' tax and real wages are split up in the unemployment equation, there is a significantly higher coefficient on tax which is strongly positive while the coefficient on real wages drops to nothing. Nevertheless, it does seem reasonable to treat all real wage costs inclusive of tax as the relevant entity. What this result and the sensitivity of this coefficient to inclusion of mid-sixties data suggest is that the specification of 'real wage costs' probably requires more research (notably on the expectation-al aspects).

Is there reverse causation from real wages to real benefits and if so is it such as to bias our results? The vast proportion of benefits paid out (i.e. excluding the earnings related supplement which applied to under 20% of the unemployed) have been determined by reference to flat rate entitlements and not by a ratio to earnings, and these entitlements are fixed about 6 months in advance of the year to which they apply. Furthermore, the entitlements have been mainly governed by political considerations (e.g. the Wilson governments' decision to raise

benefits substantially in the late 60's) and the ratio to real wages has been permitted to vary considerably , as real wages have varied; this suggests that politicians have had in their minds varying ' poverty base lines' which have borne little systematic relationship since the mid 60s with real wages. It is however possible that current price changes affect both real wages and real benefits jointly. We used a version of the Wu test of exogeneity (see Smith, 1982) to check this; this regresses real wages on an I.V. estimate of real benefits, the other variables, and the residual of benefits from this I.V. estimate. Exogeneity is tested by the significance of this residual. As Table 6 shows, there is some evidence of exogeneity, but it does not bias the coefficients seriously as the equation with the I.V. estimate of benefits above reveals.

We also found (Table 6) no significant relationship from lagged real wages to real benefits, which suggests that whatever is determining benefits it is probably not real wages. In fact, real benefits follow a random walk according to this work; that is, its change is random with no evidence of other determinants. This is not too surprising as result with such a highly politicised variable.

Unionisation itself may respond to real wages and unemployment, and hence may bias the coefficients. We also carried out the Smith/Wu test for this, with a clearly negative result (Table 6).

A word is necessary about the annual results for 1955-79, Table 2. These were first estimated using expected output and inflation from the Liverpool Model; however actual outperformed expected output. As in the quarterly equations the contract (unanticipated inflation) term is either zero or the wrong sign; nevertheless, this is surprising because the data are for wage rates where contracts are unambiguously important. This may be the result of aggregation over the calendar year. However, the long run coefficients are similar to the quarterly ones for 1964/79. Such differences as there are (i.e. rather higher coefficients on UNR and POP) are presumably the result of the rather longer time period covered.

Empirically, therefore the whole economy equations give a reasonably robust performance. Nevertheless, they are based on a limited number of observations and one would wish to corroborate the coefficient estimates from other evidence. We now turn to our other work, before finally putting this in the context of previous work.

(b) The Evidence From 17 Industries

The model we described earlier can be used at the industry level as a 'micro' model. In our unemployment registration system people register for particular jobs so that they can be classified by industry; we interpret the unemployment figures by industry as mirroring the original activities of the unemployed and so as closely reflecting changes in employment in that industry. Besides unemployment, we have real wages and output by industry, and - kindly provided from his unpublished research

research by Professor George Bain of Warwick University - we have unionisation rates in 13 of the industries; where we do not have them, we have used some closely matching rates and failing that the aggregate unionisation rate. The other variables do not vary across industries and remain our aggregate figures.

Tables 7 and 8 show our results industry by industry. It is striking how in all industries bar one, the benefit variable has a highly significant effect on real wages, while unionisation in the industry is significant in 8 of the industries and has t-values over 1.5 in another 2. Agriculture has a perverse sign, possibly because the farm workers' union, though strong on paper, has been traditionally moderate. In the unemployment equations, in 15 of the industries real wage costs are significant, often highly so, and in the other two they have the appropriate sign and are merely not so well-determined.

Hence for our key coefficients, for benefits, union power, and wage costs, there is widespread evidence in the industry level data. This represents strong and striking confirmation of our model of wages and unemployment at the most detailed level; there are over 1000 observations in these industry samples.

(c) The Cross-Section Evidence From GB Regional Data

We do not have extensive time series data on Great Britain's regions. However, we have annual data from 1971 to 1980, on wages, unemployment, working days lost in industrial

disputes, working days lost through sickness; much of this is broken down by sex and manual/non-manual. We have, for 1978 alone, New Earnings Survey data on coverage by union agreements broken down in the same way. While this is insufficient data to estimate the full model across regions, it is sufficient to estimate for 1978 only the total (or 'reduced form') relationships between wages, unemployment etc., and the major exogenous variables, unionisation (in this case union coverage) and some measure of regional resource endowments, to account for regional variation in demand for labour. This is likely to shed additional light on the controversial effects of union power. We looked at the effects on working days lost for good measure, since these can be an additional way of taking out benefits from additional union power.

Two measures were tried for regional endowments; one was public sector investment as a proxy for public capital and another was a single zero - one dummy for the South East. (Other measures are unfortunately not available at this stage). It can be seen that these measures are in fact highly correlated, because of the SE's very high resource endowment.

The results for 1978 are shown in Table 9.

There are limited numbers of observations - 10 regions in all^x - nevertheless, the results are of some corroborative interest, since they offer almost a controlled experiment in the effect of a single influence, unionisation (contaminated only by the relative endowment factor).

x SE. E.Anglia, SW, W.Midlands,E.Midlands,Yorks and Humberside, NW, N.Wales and Scotland

For both men and women union power has a highly significant effect on unemployment. For manual men the effect on real wages is significantly positive; for non-manual men and for women, the effect on real wages is positive though not highly significant. There are strong positive effects on working days lost through both disputes and sickness. There is further confirmation here of our model; in particular, here in its unionisation aspect.

NOTES TO TABLES

Data = Quarterly 1964 = 2 to 1979 = 2, by SIC Industry Categories

		<u>SOURCES</u>
$U (U_i)$	Unemployment (of industry i)	D of E Gazette
$O (O_i)$	Total output of all industries (of industry i)	CSO
$w (w_i)$	Real average earnings (of industry i)	CSO
T_F	Employers NI contributions as percentage of gross (national) average earnings, male manual workers national figures.	Ann.Abst.Stats. D of E
$UNR (UNR_i)$	National unionisation rate (rate for industry i)	D of E Gazette and Prof.George Bain, Warwick Univ.
POP	National Working population	Economic Trends
P_{ue}	$\Delta \log P - (PEXP_{-1}/4)$	
$PEXP_{-1}$	Expected average change of price level in coming year, ie.expectation of: $\log \left[\frac{E (P_0+P_1+P_2+P_3)/4 - \log(P_{-1}+P_{-2}+P_{-3}+P_{-4})/4}{-1} \right]$ The expected value in this expression $E ()$ was derived by an instrumental regression⁻¹ on lagged values and on rates of change or output and money supply.	
$b=$	A weighted average of real benefits (national figures) $\left[\frac{(B+ERS) \times .3 + (B+R+M) \times .7}{P} \right]$	
B	Flat Rate benefits, man with wife and second child	DHSS

cont'd ...

NOTES TO TABLES cont'dSOURCES

ERS	Earnings related supplement based on gross average earnings	Holden
R	Local Authority Rents	Dept. Environ.
M	School Meals	DES
T _L	Percentage of national gross average earnings lost in taxes and national insurance contributions (national figures) (man with wife and second child)	Holden
P	Retail Price index (all items)	Economic Trends
^	denotes use of instrumental variable estimate.	

TABLE 2: 3SLS Estimates of Supply and Demand Equations on Annual Data (t-values)*

1955 - 1979	$\bar{R}^2$	DW	BP(6)	See
$\log U_t = 49.11 + 1.82 (\log \hat{w} + T_F)_t - 3.44 \log \hat{O}_t + .079 t + 0.53 \log U_{t-1}$ (2.43) (1.09) (1.70) (1.16) (2.93)	0.87	1.52	11.2	0.185
$\log w_t = 3.95 - .034 \log \hat{U}_t + .12 (\log b + T_L)_t + 0.95 \text{ UNR}_t - 0.61 \log \text{POP}$ (0.80) (0.93) (2.96) (2.78) (1.35) $+ 0.72 \log w_{t-1}$ (4.5)	0.97	2.47	2.3	0.024

*Notes

Data for T_F up to 1962 unavailable. 1955-1962 set at 1963 level (0.47).

Unexpected inflation failed to enter with the right sign.

For other notes, see notes to Tables 2 and 3; the only exception is that b, T_L here refer to benefits and taxes weighted according to household shares in unemployment.

TABLE 3 : Real wage and unemployment equations for whole Economy

(t-values bracketed)

Quarterly : 1964.2 to 1979.2

$$\log w_t = .34 \quad -.00162D1 + .002402 + .004403 - .024 \log \hat{U}_t + .11\{(\log b_t) + T_{Lt}\} \\ (1.5) \quad (-2.75) \quad (.41) \quad (.77) \quad (2.1) \quad (3.1) \\ + .45 \text{ UNR}_t - .016 \log N_t + .77 \log w_{t-1} \\ (2.4) \quad (.1) \quad (12.0)$$

$$\bar{R}^2 = .47 \quad ; \quad \text{S.e.e.} = .0125 \quad ; \quad X^2_4 = 10.3^* \quad \text{D.W.} = 1.719$$

$$\log U_t = 13.3 + .000419 D1 - .125 D2 + .0047 D3 - 2.17 \log \hat{O}_t + 1.04\{(\log \hat{w}_t) + T_{Ft}\} \\ (5.2) \quad (.01) \quad (3.52) \quad (.13) \quad (4.5) \quad (2.7) \\ + .008 t + .744 \log U_{t-1} \\ (2.6) \quad (11.3)$$

$$\bar{R}^2 = .96 \quad ; \quad \text{S.e.e.} = .4986 \quad ; \quad X^2_4 = 2.9^* \quad ; \quad \text{D.W.} = 2.008$$

Instrumental estimates shown by $\hat{}$.

Instruments used: (Lagged) inflation, output, real wages, real benefits, unemployment; (current) change in $\log M1$, T_F , UNR , T_L , $D1$, $D2$, $D3$.

* This is the Langrange Multiplier test for residual independence (the regression residuals are regressed on the right hand side variables and their lagged values, up to 4 in this case; TxR^2 where T is the sample size is distributed as X^2). The critical value of X^2_4 is 9.5 at the 5% level (11.1 at the 2½% level).

Table 4 : Real wage and unemployment equations for different sample (whole economy)

(constant and seasonal dummies included but not reported)

Dependent variable = $\log w_t$						$\log U_t$					
Sample =	64.2-79.2	64.2-73.1	73.2-79.2	64.2-76.4	67.1-79.2	Sample =	64.2-79.2	64.2-73.1	73.2-79.2	64.2-76.4	67.1-79.2
$\log \hat{U}_t$	-.024 (2.1)	.010 (.5)	-.033 (1.6)	-.022 (1.8)	-.027 (1.7)	$\log \hat{U}_t$	-2.17 (4.5)	-3.36 (3.4)	-2.2 (3.3)	-2.48 (4.7)	-2.2 (4.6)
$(\log b_t)^{+T}_{Lt}$	.12 (3.2)	.06 (.7)	.126 (1.4)	.13 (2.9)	.11 (2.0)	$(\log \hat{w}_t)^{+T}_{Ft}$	1.04 (2.7)	1.69 (1.3)	.07 (.1)	1.7 (3.2)	.18 (.3)
UNR_t	.45 (2.4)	.63 (1.8)	.48 (.9)	.65 (2.3)	.47 (1.8)	t	.008 (2.6)	.010 (.7)	.013 (2.2)	.005 (1.3)	.013 (3.4)
$\log N_t$	-.02 (.07)	.21 (.4)	.09 (.1)	.2 (.7)	.006 (.02)	$\log U_{t-1}$	.74 (11.3)	.78 (8.7)	.71 (7.0)	.70 (9.5)	.68 (9.0)
$\log w_{t-1}$	.77 (12.2)	.72 (3.7)	.77 (7.4)	.68 (6.3)	.78 (11.0)						
$\bar{R}^2$	.98	.95	.86	.98	.97		.96	.94	.90	.94	.94
S.e.e.	.0155	.0103	.0183	.0152	.0161		.097	.062	.116	.096	.097
R.S.S.	.01242	.00181	.00875	.00975	.010912		.4987	.0693	.3624	.3985	.4035
D.W.	1.72	1.95	1.62	1.74	1.67		2.0	1.56	2.16	2.12	2.05

Table 5: Some alternative specifications

Quarterly 1964.2 to 1979.2

Dependent variable = $\log w_t$								$\log U_t$	
1964.2 to 1978.4								64.2 to 77.4	
$\hat{p}_t$	.3 (.4)	.4 (.7)	-	-	-	-	-	$\log \hat{O}_t$	-2.43 (5.6) -2.13 (4.3)
$\log \hat{U}_t$	-.023 (1.7)	-.023 (1.8)	-.029 (1.7)	-.02 (1.6)	-.02 (1.3)	-.02 (2.0)	-.02 (1.7)	$\log \hat{w}_t$	-.04 (.1) -
$\log b_t$	.11 (1.9)	-	-	-	-	-	-	$(\log \hat{w}_t) + T_{Ft}$	- 1.23 (2.5)
$(\log b_t) + T_{Lt}$	-	.11 (1.9)	.12 (3.1)	.13 (3.3)	.14 (2.6)	.12 (3.2)	.13 (2.7)	T_{Ft}	2.0 (4.7) -
T_{Lt}	.16 (1.0)	-	-	-	-	-	-	t	.019 (4.6) .006 (1.3)
UNR_t	.44 (2.3)	.40 (1.5)	.47 (2.2)	.43 (2.2)	.37 (1.5)	.44 (2.2)	.35 (1.6)	$\log U_{t-1}$	.59 (8.1) .75 (11.2)
t	-	.0003 (.2)	-	-	-	-	-		
$\log N_t$	-.002 (.01)	-.05 (.2)	.04 (.2)	-.08 (.3)	-.07 (.3)	-.02 (.1)	-.2 (.6)	$\log N_t$	- .78 (.5)
$\log w_{t-1}$	.76 (11.1)	.74 (8.6)	.78 (12.1)	.76 (11.3)	.76 (11.6)	.77 (11.8)	.76 (8.2)		
$\log (INF)$	-	-	.01 (.5)	-	-	-	-		
$\log (OUT)$	-	-	-	-.02 (.8)	-	-	-		
TOUGH	-	-	-	-	-	-	-.007 (.6)		
A55	-	-	-	-	-	.0001 (.5)	-		
A20	-	-	-	-	-.04 (.5)	-	-		

TABLE 6: Tests of Exogeneity for b and UNR

Quarterly: 1964.2 to 1979.2

(constants and seasonal dummies included but not reported)

Dependent Variable	log w _t				log b _t	
					log b _{t-1}	.96 (18.4)
					log u _{t-1}	.009 (.5)
$\hat{p}_{ue}$	.42 (.7)	-.04 (.1)	.14 (.3)	-	$\hat{p}_{ue}$	-.15 (.3)
log $\hat{u}_t$	-.022 (1.8)	-.023 (1.8)	-.023 (2.0)	-.020 (1.8)	log w _{t-1}	-.06 (.5)
(log b _t) + T _{Lt}	.12 (3.0)	.09 (2.2)	-	-	T _{Ft}	.05 (.4)
(log b _t) + T _{Lt}	-	-	.12 (3.1)	.11 (2.8)	t	-.0001 (.1)
UNR _t	.45 (2.2)	.49 (2.4)	-	-	$\bar{R}^2$	.93
log N _t	.005 (.02)	-.16 (.7)	.03 (.1)	-.03 (.1)	D.W.	1.76
log w _{t-1}	.76 (11.1)	.84 (14.2)	.77 (11.4)	.79 (12.4)	Box-Pierce (χ^2_{16})	11.0
log b _t - log $\hat{b}_t$	.13 (1.85)	-	-	-		
$\hat{UNR}_t$	-	-	.42 (2.0)	.40 (1.9)		
UNR _t - $\hat{UNR}_t$	-	-	.63 (1.4)	-		

TABLE 7: Real Wage Equations for Individual industries - Quarterly 1964.2 - 1979.2. (Constants, seasonal dummies included but not shown)

Dependent Variable $\log w_{it}$	CAI	TEX	LLF	CF	TF	PPP	AG	CON	MG	GEW	TC	MM	SME*	V*	BPG	FDT	EEG*	Average
$\hat{u}_p$	-	-	-	-.64 (.09)	-.10 (.15)	-.46 (.7)	-	-	-.45 (1.2)	-	-.31 (.43)	-.92 (2.1)	-	-.48 (.5)	-	-	-	-
$\log \hat{u}_{it}$	-.008 (.4)	.007 (.8)	-.005 (.5)	-.013 (1.2)	-.008 (.8)	-.006 (.6)	-.076 (1.6)	-.02 (1.4)	-.009 (1.0)	-.038 (1.6)	-.029 (1.5)	-.015 (1.5)	-.028 (1.3)	-.007 (.7)	-.011 (1.0)	-.015 (1.1)	-.009 (1.1)	-.02
$(\log b_t) + T_{Lt}$	.125 (1.9)	.24 (4.1)	.135 (2.9)	.13 (2.8)	.18 (2.9)	.15 (3.0)	.34 (3.1)	.2 (3.2)	.11 (2.5)	.11 (1.3)	.13 (2.6)	.14 (2.6)	.17 (2.7)	.15 (2.4)	.102 (2.3)	.10 (2.0)	.12 (2.9)	.15
$\hat{UNR}_{it}$	.49 (2.1)	.44 (2.7)	.54 (1.1)	.49 (1.5)	.63 (2.0)	.27 (1.4)	-.33 (.24)	.13 (.47)	.34 (2.0)	.54 (3.1)	.19 (1.2)	.24 (1.6)	.56 (1.8)	.40 (1.4)	.19 (1.4)	.32 (2.3)	.39 (1.8)	.34
$\log N_t$	-.78 (1.4)	-.48 (1.3)	-.18 (.7)	.15 (.5)	.005 (.02)	-.38 (1.2)	1.9 (1.9)	.25 (.7)	.0004 (.3)	-.01 (.03)	-.4 (1.2)	-.001 (.6)	-.17 (.4)	-.81 (1.8)	-.36 (1.0)	-.62 (1.63)	-.29 (1.1)	-
$\log w_{it-1}$	.64 (6.8)	.37 (2.5)	.88 (12.5)	.63 (6.2)	.82 (12.4)	.71 (7.72)	.62 (6.3)	.75 (9.6)	.65 (5.7)	.59 (5.7)	.84 (14.1)	.68 (6.4)	.65 (6.6)	.70 (7.3)	.72 (7.3)	.67 (7.3)	.78 (11.9)	.69
$\bar{R}^2$	.95	.96	.94	.94	.96	.96	.82	.93	.97	.94	.97	.96	.95	.93	.97	.97	.98	
D.W.	1.77	2.18	2.42	2.23	1.9	1.79	1.78	2.14	1.96	2.26	1.77	1.95	2.0	1.75	1.73	1.94	1.71	

* National UNR (not instrumented) in place of UNR_i , which is not available+ UNR_i for Metal Engineering Industry used for both MG and MM, whose UNR_i not available.

Table 8 : Unemployment equation results for individual industries : quarterly 1964.2 to 1979.2
(constant and seasonal dummies included but not tabulated)
t-values bracketed

Dependent variable = $\log U_{it}$	CAI	TEX	LLF	CF	TF	PPP	AG	CON	MG	GEW	TC	MM	SME	V	BPG	FDT	EEG	Average (unweighted)
$\log \hat{O}_t$	-1.6 (5.3)	-3.7 (3.0)	-3.6 (3.5)	-4.8 (3.4)	-2.4 (3.5)	-2.3 (3.5)	-1.3 (3.1)	-2.7 (5.2)	-2.9 (3.4)	-1.2 (4.1)	-1.6 (6.2)	-1.9 (2.0)	-1.0 (1.6)	-3.7 (1.8)	-2.8 (3.6)	-2.5 (4.9)	-2.3 (3.7)	-2.5
$(\frac{\hat{O}_{it}}{\hat{O}_t})$	-2.8 (.5)	-2.9 (.3)	-6.6 (.6)	-19.7 (.9)	-50.3 (3.1)	-21.9 (2.0)	-	.1 (.3)	-46.8 (2.4)	-22.5 (3.8)	-	-18.5 (1.1)	33.8 (1.4)	46.8 (1.7)	-18.7 (1.1)	-5.2 (8.5)	-	-
$(\log \hat{w}_{it}) + T_{Ft}$	1.3 (5.8)	3.3 (3.2)	1.5 (2.4)	1.3 (1.0)	1.9 (3.1)	1.8 (4.0)	.37 (1.2)	2.1 (5.0)	2.8 (3.3)	2.0 (5.8)	.84 (5.7)	2.1 (2.3)	1.1 (2.6)	2.8 (2.4)	2.5 (4.0)	1.6 (5.3)	2.4 (4.2)	1.9
t	.002 (.8)	-.0007 (.1)	.013 (2.9)	.022 (2.5)	.005 (1.6)	.006 (2.3)	.004 (1.1)	.006 (1.4)	-.005 (1.0)	-.0 (.01)	.0034 (2.7)	-.011 (1.2)	-.0 (.03)	.017 (2.0)	.0007 (.2)	.006 (2.4)	-.002 (.7)	.004
$\log U_{it-1}$	.79 (16.7)	.63 (7.0)	.68 (8.4)	.6 (6.4)	.68 (9.1)	.71 (10.7)	.83 (10.7)	.75 (12.5)	.62 (7.0)	.90 (25.5)	.81 (17.3)	.79 (9.8)	.84 (15.5)	.62 (5.6)	.69 (9.4)	.73 (13.8)	.77 (12.9)	.73
$\bar{R}^2$	.98	.84	.92	.88	.94	.97	.93	.97	.94	.98	.97	.88	.83	.62	.91	.98	.95	
D.W.	1.89	2.25	2.0	2.3	1.77	1.42	1.72	1.79	1.75	1.4	1.82	1.68	2.0	1.64	2.1	2.0	1.6	
Box-Pierce ^x (16)	13.5	10.1	7.9	8.4	17.1	20.7	21.1	13.3	12.8	17.4	12.3	15.6	14.9	14.6	9.3	13.9	13.2	

x Approx. χ^2_{16} (5% critical value = 26.3)

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Industry Mnemonics

CAI	Chemical and Allied industries
PPP	Paper, Printing and Publishing
TEX	Textiles
LLF	Leather
CF	Clothing and Footwear
TF	Timber and Furniture
AG	Agriculture
CON	Construction
MG	Metal Goods
GEW	Gas, Electricity and Water
TC	Transport and Communication
MM	Metal Manufacture
SME	Shipbuilding and Marine Engineering
V	Vehicles
BPG	Bricks, Pottery and Glass
FDT	Food, Drink and Tobacco
EEG	Electrical Engineering

TABLE 9:

Real Wages, Unemployment, Working Days LostEquations for Regional Data; 10 Regions - 1978

(Constants included but not reported;
t- ratios bracketed)

Dependent Variable	Union Agreement Coverage	S.E. Dummy	Public Sector + Investment (f bill)	$\bar{R}^2$
<u>A: log w</u>				
1. Manual Men	.5 (2.3) .48 (2.5)	.09 (2.0) -	- .07 (2.2)	.31 .38
2. Non-Manual Men	.23 (1.0) .24 (1.2)	.06 (1.1) -	- .06 (1.4)	-.07 .03
3. All Men	.47 (2.3) .45 (2.5)	.10 (2.1) -	- .08 (2.5)	.31 .4
4. Manual Women	.22 (1.3) .21 (1.7)	.12 (2.5) -	- .10 (3.5)	.34 .54
5. Non Manual Women	.09 (1.4) .07 (.8)	.14 (8.9) -	- .1 (7.0)	.92 .9
6. All women	.13 (1.4) .1 (1.3)	.13 (5.8) -	- .1 (7.0)	.83 .88
<u>B: U</u>				
1. All men	2.86 (3.4) 3.0 (4.0)	.09 (.4) -	- .13 (0.9)	.63 .66
2. All women	3.75 (2.67) 4.2 (5.3)	.07 (.2) -	- 0.2 (0.8)	.53 .56

TABLE 9 - continued

Dependent Variables	Union Agreement Coverage	S.E. Dummy	Public Sector + Investment (£ bill)	$\bar{R}^2$
C: <u>Working Days lost by all men and Women</u>				
i) Through sickness	6.33 (5.5) 6.2 (6.0)	.51 (1.8) -	- 0.4 (2.0)	.79 .80
ii) Through disputes	6.8 (3.9) 6.4 (4.2)	.36 (.8) -	- 0.3 (1.0)	.68 .68

Source: Cambridge Economic Policy Review, July 1980, Vol. 6. No. 2. "Urban and Regional Policy with Provisional Regional Accents, 1966 - 1978".

(d) Relationship of this evidence to previous work:

The primary interest of this work lies in the effects of variables which can be influenced by policy, on unemployment. Our work suggests that following long run effects on unemployment, once all indirect effects have been included (ie. these are 'reduced form' effects):⁺

% change unemployment with respect to	* of	% change in benefits	Percentage point changes in:		
			Unionisation rate	Personal tax rates	Employer tax rates
From aggregate model		2½	9	2½	5
From average of industry models		4	9	4	9
From Regional cross- section		n.a	men 3 (union coverage) women 4	n.a	n.a

* not percentage point change.

Unfortunately, it is impossible to compare these findings directly with previous work. The reason is that previous work has all been microeconomic in nature, and hence 'partial equilibrium'; that is to say, no estimates have been derived, or for that matter were derivable, for total effects.

Nevertheless we may compare to some extent the estimates of partial relationships embodied here with those found by others.

⁺This assumes the long run relationship between output and real wages, world trade, and productivity given by the need to maintain current account balance is, as in the Liverpool model:

$$\log O_t = -1.2(\log w + T_F)_t + 0.46 \log WT_t + 0.022t$$

where WT = world trade volume. This relationship expresses the output that will be saleable at given levels of competitiveness and for given world trading conditions, and assuming that the country is spending its income and no more.

On benefits, our supply (wage) equation gives an implicit partial long run elasticity of unemployment to the replacement ratio of $4\frac{1}{2}$; Nickell (1979), Lancaster (1979) and Mackay and Reid (1972) have found elasticities of unemployment duration to the replacement ratio of around 0.6, in cross-section studies of samples of the unemployed. Lancaster went as far as to conclude that 'an elasticity of this order could now be regarded as established beyond reasonable doubt'.

A detailed critique of all these studies cannot be undertaken here. The Mackay and Reid study is in any case somewhat dated and uses less powerful methods than those of Lancaster and Nickell. Nevertheless, there is one major issue to be raised with all these studies. They all assume, within a search model framework, that intended (or desired) duration is never long term (or 'infinite'), or in terms of the search model that the offer - acceptance rate never tends to zero.* We have suggested above that a person's optimal level of unemployment per fiscal year will depend sensitively on the slope of his budget constraint (as roughly measured by the replacement ratio). For high ratios (very shallow slopes) he may go to a 'corner solution' and decide to work not at all, or only for brief spells when market wages are exceptionally favourable. Such people are likely to exhibit a very low elasticity to changes in the ratio; this is Nickell's finding for those with long durations (six months or more). Yet the implication, if our suggestion is correct, is precisely the

* Nickell inserts an exogenous quadratic decay function of duration into the re-employment probability function; but this is assumed by him to be due to 'demand factors' reducing offers as duration rises. It is entirely ad hoc, but could well be absorbing a major part of the variance to be explained in duration.

the opposite to that which he draws (that there is little effect of the ratio on long term unemployment), it is that at some ratio these people would cease to have a corner solution and would participate 'properly' again in employment, having therefore at this ratio a very high ('switching ') elasticity to it.

Furthermore, the total effect of the average replacement ratio on average duration across the sample would correspondingly be enormously higher. For suppose there were 2 equal groups, those with 'normal' duration of 8 weeks at a ratio of 0.5 and those with 'medium' duration of 20 weeks at a ratio of 0.8; their average duration and ratio would be 14 weeks and 0.65 respectively. Now suppose the ratios rise to 0.6 and 0.9; the first group, with an elasticity of 0.6, raises duration to 9 weeks, the second responds by planning 'indefinite' duration, say 2 years (104 weeks) to allow for an occasional sampling of work. Average duration will eventually settle at $56\frac{1}{2}$ weeks, while the average replacement ratio will have only risen to 0.75; unemployment will have quadrupled in response to a 15% (10 percentage point) rise in the average replacement ratio.

There are a number of potentially small points to be made, which may cummulative add up to a severe problem for these studies. Nickell assumes that inflow rates on to the unemployment register are independent of replacement ratios; this is required both in his econometric procedure and in his conclusion that the duration elasticity to the ratio can be equated with the unemployment elasticity. He produces no

evidence for this, other than that male inflow rate has 'hardly changed since 1967', this is suggestive at best since offsetting effects could be occurring. It certainly does not apply to the female inflows rate (outside his sample but important in total unemployment) which has risen from around 80,000 per month in the late 60s to 118,000 in early 1982.

The specification of alternative earnings is important. Nickell uses an occupational earnings function estimated by Stewart (1976) to provide estimates of these. Lancaster uses actual reported earnings, which is surely an improvement. Neither however take account of the union factor discussed above; jobs in the union sector are rationed, those in the non-union sector are not. A person may hope for a unionised job 'wage offer', which may have the distribution characteristics posited by Lancaster and Nickell; but non-union jobs require alternative treatment. Earnings on these are likely to be a lot lower than union wages. In particular, these authors might have investigated the possibility of duration-dependence in the relevant earnings faced; thus, a man made redundant from union employment may spend some weeks initially searching for union jobs at the higher wage to which he is accustomed, and then switch his attention to the lower wage non-union sector.

Details, such as the treatment of wife's income and of tax liability, can also be criticised in Nickell's study. Tax liability on potential work income varies with duration during any given fiscal year; this is ignored by Nickell. Wife's income is included in both work income and benefit income; yet

the marginal tax rates on wives of unemployed men are both high and increase with his unemployment duration (since as he loses ERS and becomes increasingly dependent on supplementary benefit, her income risks loss of benefit).

Finally, we may note a general problem which judging from an interesting recent paper by Lancaster and Chesher (1982) appears to be of increasing concern to Lancaster himself. This is that a large number of statistical assumptions are required to estimate these search models of duration; sensitivity of the results to variations in these assumptions is largely unknown. Illustrating this, Lancaster and Chester's paper uses an alternative technique on Lancaster's original sample. It is based on the reservation wage mentioned by the respondents. Using this and a variety of assumptions about the form of the wage offer distribution and the respondents' risk-aversion, leisure-valuation, etc. Lancaster and Chesher are able to show that:

- (1) the data are consistent with a rising elasticity of duration to the replacement ratio.
- (2) risk-aversion raises this elasticity.
- (3) leisure-preference also raises it - possibly very substantially.
- (4) substitution of the log normal for a Pareto distribution of wage offers lowers it.

We may also note that 'reservation wages' are close to (ie. in the same frequency class of approx. 15% width) 'expected earnings in a new job' for 46% of their sample; for $\frac{1}{2}\%$ they were

actually greater than expected earnings. Hence, a significant percentage are close to, at, or beyond the point where planned duration would become infinite. These final considerations point at the very least to great caution in interpreting the results from the earlier cross-section studies as a guide to the time-series response to changes in policy regime.

Maki and Spindler (1975) in a time-series analysis of the UK in the postwar period found a partial elasticity of unemployment to the replacement ratio of 0.6. This estimate is flawed by the use of the ERS benefit ratio, which only applied to a minority of unemployed, and by the ambiguous status of the estimating equation, which is neither a structural equation nor a reduced form. Also, the most recent re-working by their data by Junankar (1982) shows too that the equation is fairly vulnerable to shifts in estimation period. Holden and Peel (1981) have estimated reduced form equations on UK postwar time series using benefits paid to a married man on average earnings with 2 children which find an elasticity of around 0.4 to the replacement ratio; however since other exogenous variables, such as world trade and unionisation, have been omitted and rolled into the error process, the coefficient estimate may be biased. Similar problems and comments arise in the context of the work on inter-war by Benjamin and Kochin (1979) and others (see Benjamin and Kochin et al 1982). This type of time-series work has been stimulating and suggestive; but it would appear that it has established only that benefits probably

matter for unemployment but to an undetermined degree.

Hence, the work reported here is for better or worse rather different from any of these studies, time-series or cross-section. In the time series domain, none have been based on a structural approach, while the cross-section studies appear to have paid inadequate attention to the problem of non-participation which could well account for the high benefit elasticity we have found.

Whatever is true of benefits is also true of personal direct taxes, since these are included in the replacement ratios.

On unionisation, the previous literature has estimated union mark-ups. These estimates have varied substantially, and have given rise to substantial controversy. Most recently, Treble (1982) has pointed out the tenuous basis for the majority of these estimates which use a methodology originated by Lewis (1963). If one averages available estimates of this type for the UK mark-up (Parsley (1980), it comes out around 25%, with a high variance. In so far as any tentative estimate of this union mark-up emerges from our work, it is of the order of 70%.*

* A estimate of the increase in the union mark-up due to increased unionisation can be obtained from the model as follows. Reduced form effects (from appendix Simm.8 give $\frac{d \log U}{d \text{UNR}} = 9$; $\frac{d \log w}{d \text{UNR}} = 1.3$; $\frac{d \log U}{d \log w_c} = -8.3$ (partial elasticity, from annual supply equation); $d \log w = \alpha d \log w_u + (1-\alpha) d \log w_c$ where α is the proportion of workers covered by union agreements (according to New Earnings Survey 1978, this was .71 for men and .68 for women, say .7 overall, if all agreements are included). Hence $\frac{d \log w_u - d \log w_c}{d \text{UNR}} = \frac{1}{\alpha} \left(\frac{d \log w}{d \text{UNR}} - \frac{d \log w_c}{d \text{UNR}} \right) = \frac{1}{.7} \left(\frac{1.3 + 9}{-8.3} \right) = 3.4$. The change in UNR over our sample period 1955-79 was .14, hence the change in $\log \left(\frac{w_u}{w_c} \right)$ is put at .476 implying a rise in the mark-up of 60 percentage points. Assuming that the mark-up was quite low in 1955 (say 10% as in some early studies such as Pencavel (1974) on 1964 data), we could take 70% as an appropriate estimate with 60% as the lower bound. This is subject to the qualification that other factors than UNR could have affected the mark-up.

Treble (1982), used a random coefficients estimator to rework Mulvey's data, which gave estimates for the UK around 30%, and obtained an estimate of about 40%. This is closer to our implicit figure, however there is still reason to believe it is downward biased.

Treble's criticism and proposal can be simply reproduced. Lewis proposed to use the identity

$$\log W_i = \log W_{Ni} + \mu_i \alpha_i$$

where W_i = average wage, W_{Ni} = non-union wage, μ_i = union mark-up, α_i = proportion unionised (all in industry i at a point in time); letting $\mu_i = \mu$ and $\log W_{Ni} = f(\chi_i) + \epsilon$ where χ_i is a vector of industry characteristics, estimate

$$\log W_i = f(\chi_i) + \mu \alpha_i + \epsilon_i$$

Treble points out that μ is not constant and that the χ_i have been chosen in ad hoc manner; consequently he argues that estimates of μ have varied widely because of omitted variable bias (χ_i) and because the error contains the error in μ , θ_i , in the form $\theta_i \alpha_i$ and so is correlated with α_i . He proposes that since the χ_i are arbitrary, they be dropped and that μ be written $\delta + \theta_i$, and the equation be estimated by the random coefficients method as

$$\log W_i = \delta \alpha_i + (\epsilon + \theta_i \alpha_i).$$

The problems however go deeper than Treble suggests. Clearly micro theory would lead us to expect $\log W_{Ni}$ to depend negatively, and μ_i to depend positively, on α_i ; it also should suggest an appropriate list of χ_i apart from α_i . Thus the

relation should be:

$$\log W_i = f(\chi_i, \bar{\alpha}_i) + \mu(\bar{\alpha}_i) \alpha_i + \epsilon_i$$

Therefore in addition to the problems Treble mentions there is the bias from omitting α_i from the model for $\log W_{Ni}$. The coefficient on α_i estimated by Mulvey et al includes the negative effect on $\log W_{Ni}$ and is hence downward biased. This downward bias of course persists in Treble's own reworking. Furthermore, Treble's removal of all χ_i from the regression increases the likelihood of omitted variable bias.

The equation as it stands is incapable of identifying $\mu(\alpha_i)$ because α_i should enter $f(\quad)$. However, estimation of the full reduced form of the cross-section demand and supply model should permit it, since both demand and supply equations should be fully identified. Hence what is needed is to specify such a model properly, so that the χ_i are the exogenous variables of it, and estimate the other reduced form equation for the quantity of labour in each industry, L_i .

At this stage, we can regard estimates derived by methods such as Mulvey's (ie. all those for the UK, as cited in Parsley (1980)) and even Treble's as inadequate and probably downward biased, pending a reworking with a full model. Our own time-series work here is based on the use of a full model, and there is no reason to believe the results are biased: they do not appear to be challenged by these previous estimates.

Lastly, on employer labour taxes there appears to be no directly comparable work for the UK postwar period. However, there appears to be little controversy over the employment

effects of cuts in National Insurance contributions.

In view of these comments, it would appear reasonable to examine the implication of these estimates for policy. It is possible that they are underestimates; at the very least, they are certainly of the right sign. We must emphasise that the model used has been comprehensively tested against a mass of postwar data (in all over 1100 observations).

(e) The natural rate = estimates and policy effects

We now proceed to evaluate the properties of the equations for the whole economy. These are based on the annual data because of compatibility with the rest of the model, the fact that they were estimated using rational expectations predictors from the model, and the longer period covered (1955-79). The long run structural coefficients of these equations are (see Appendix pp.7-8. equations 20 and 21).

Model equation (21) $\log U^* = -7.3 \log O^* + 3.87(\log w^* + T_F) + .168t(\text{years})$

Model equation (20) $\log w^* = -0.12 \log U^* + .43(\log b + T_L) - 2.18 \log POP + 3.39 UNR$

For comparison, those of the quarterly equations are:

$\log U^* = -8.48 \log O^* + 4.06(\log w^* + T_F) + 0.031t(\text{quarters})$

$\log w^* = -0.10 \log U^* + 0.48(\log b + T_L) - 0.07 \log POP + 1.96 UNR$

These as can be seen are not too different, with the possible exceptions of POP and UNR; but the annual are based on a longer sample which must be the major reason for this difference.

(*denotes equilibrium value of variable).

It turns out that in the rest of the model the long run relationship between real wages and output, when absorption is constrained by the condition that the current account is in balance is:

Model equation (18) $\log O^* = -0.65 e^* + 0.46 \log WT,$

and that the long run relationship between the real exchange rate and real wages (given by the price equation from the production function) is:

Model equation (19) $e^* = 1.86 (\log w^* + T_F) - .033t$ (years)

where WT = index of world trade volume, e = real exchange rate.

We can use these four equilibrium expectations to compute the effects on the natural rate of unemployment, real wages and output of various permanent changes in taxation, benefits and unionisation - see Table .(All tax and benefit changes are offset notionally by lump sum transfers, leaving net government revenues unchanged; these, which include the effect of changes in output, are noted in Column 5).

Effects of Regime Changes +

Fall of	Unemployment* ('000)	Real (%) Wages	Output(%)	Available ** for lump sum transfers (£billion p.a 1982 prices)
10% in in benefits	-700	-1.2	+1.5	+2.3
.01 in T_F	-150	+0.6	+0.5	-0.6
.01 in T_L	- 60	-0.2	+0.2	-0.9
.01 in UNR	-260	-1.3	+0.85	+0.9

* Computed at $U = 2.8$ million (i.e current unemployment rates).

**Includes extra revenue from rise in output. Negative figure denotes net drain on Exchequer. Assumes marginal overall tax rate of 0.4.

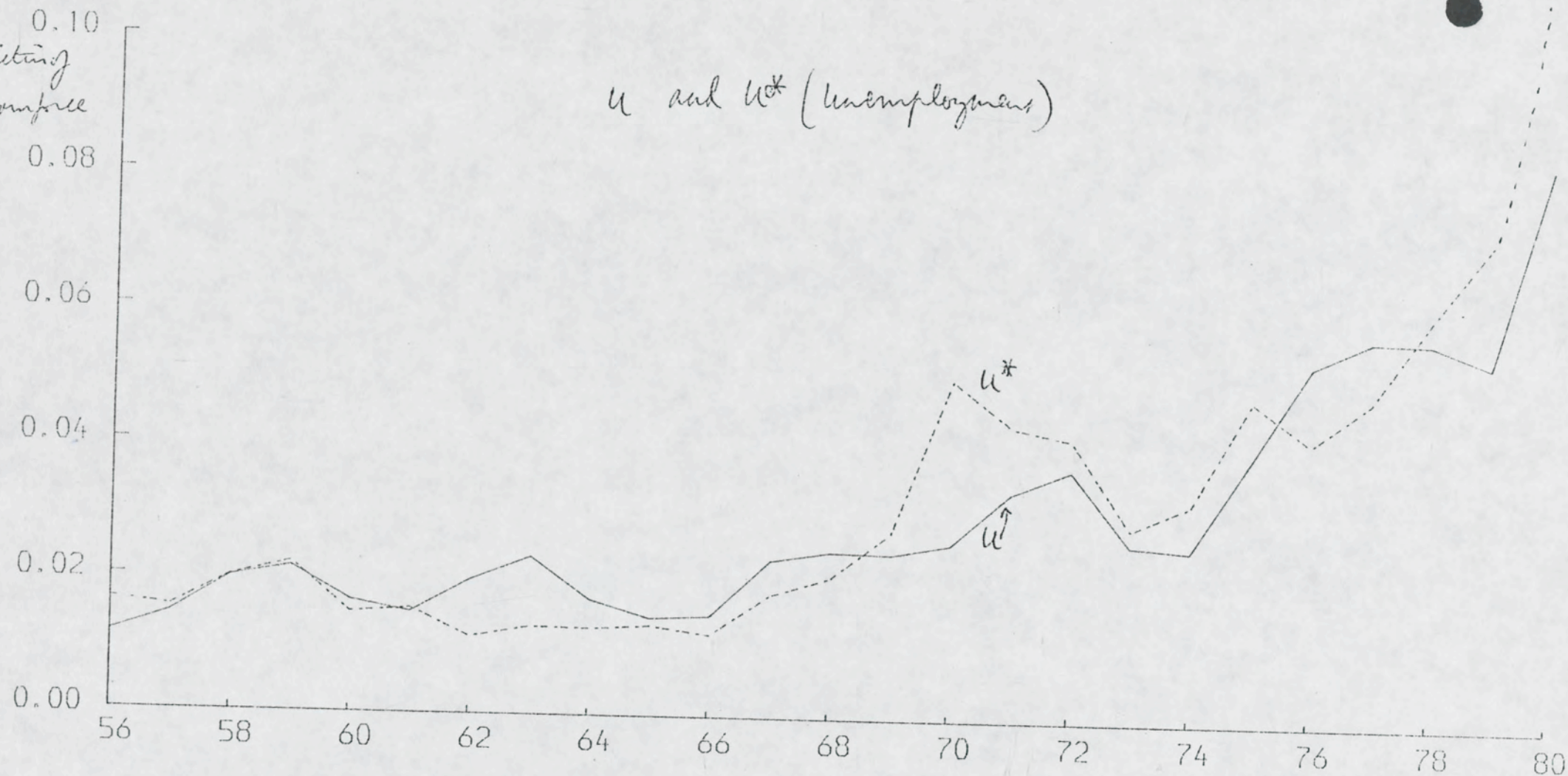
+ Source: Appendix, Simulations 5-8.

It can be seen that per unit of revenue cost cuts in National Insurance charges paid by firms are more effective in reducing unemployment than cuts in the standard rate while to equal the effect on unemployment of a 10% cut in real benefits it would require cuts in N.I. charges costing the Exchequer a net £5 billion p.a. more. However, the effectiveness of a cut in taxes on employees in reducing unemployment would presumably be increased the more it was concentrated on the lower paid; one may presume that if totally concentrated on those at the bottom end each £ of tax cut would have an effect on unemployment comparable with that of a £ of benefit cut. At present most of those in the 'unemployment trap' would pay significant tax if they were working (Howell 1981).

Finally, we may use these equations to compute the natural rates in 1979. The Charts that follow show the model's 'prediction' for these from 1956-79, as well as the behaviour of the exogenous variables. The natural rate of unemployment in particular is set at 7½% in 1979 (about 1½ million). The date at which it began its dizzying rise can be set fairly precisely at 1965, i.e. the beginning of Labour government after 13 years of Tory government. This led to a sharp rise in union power, in benefits and in taxation. In 1970-73 taxes were cut, and the rise in real benefits halted, by Mr. Heath's Tory government; however, the cut in taxes was unsustainable because it led to very large budget deficits and has subsequently been more than reversed, while real benefits began to climb again in the mid-1970s as Labour rule resumed. Union power rose steadily during the 1970s and finally

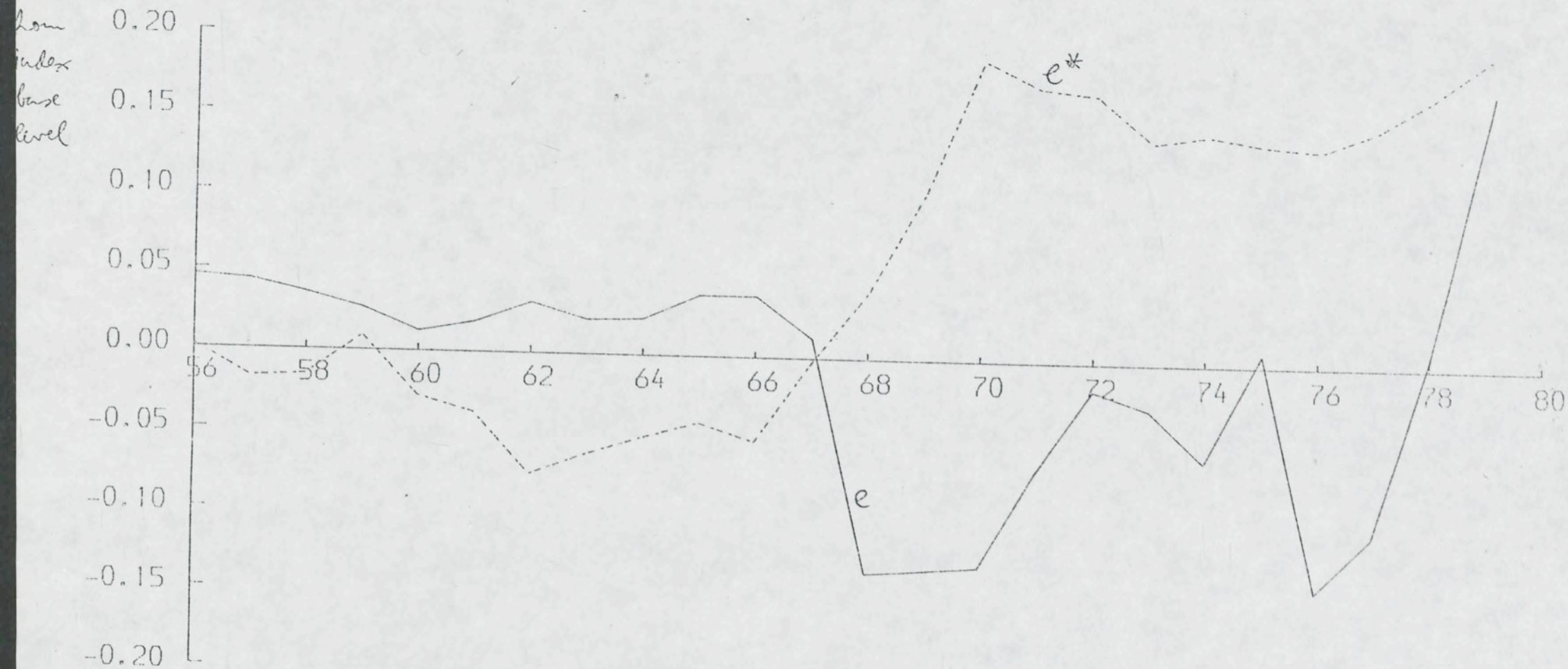
friction
labour force

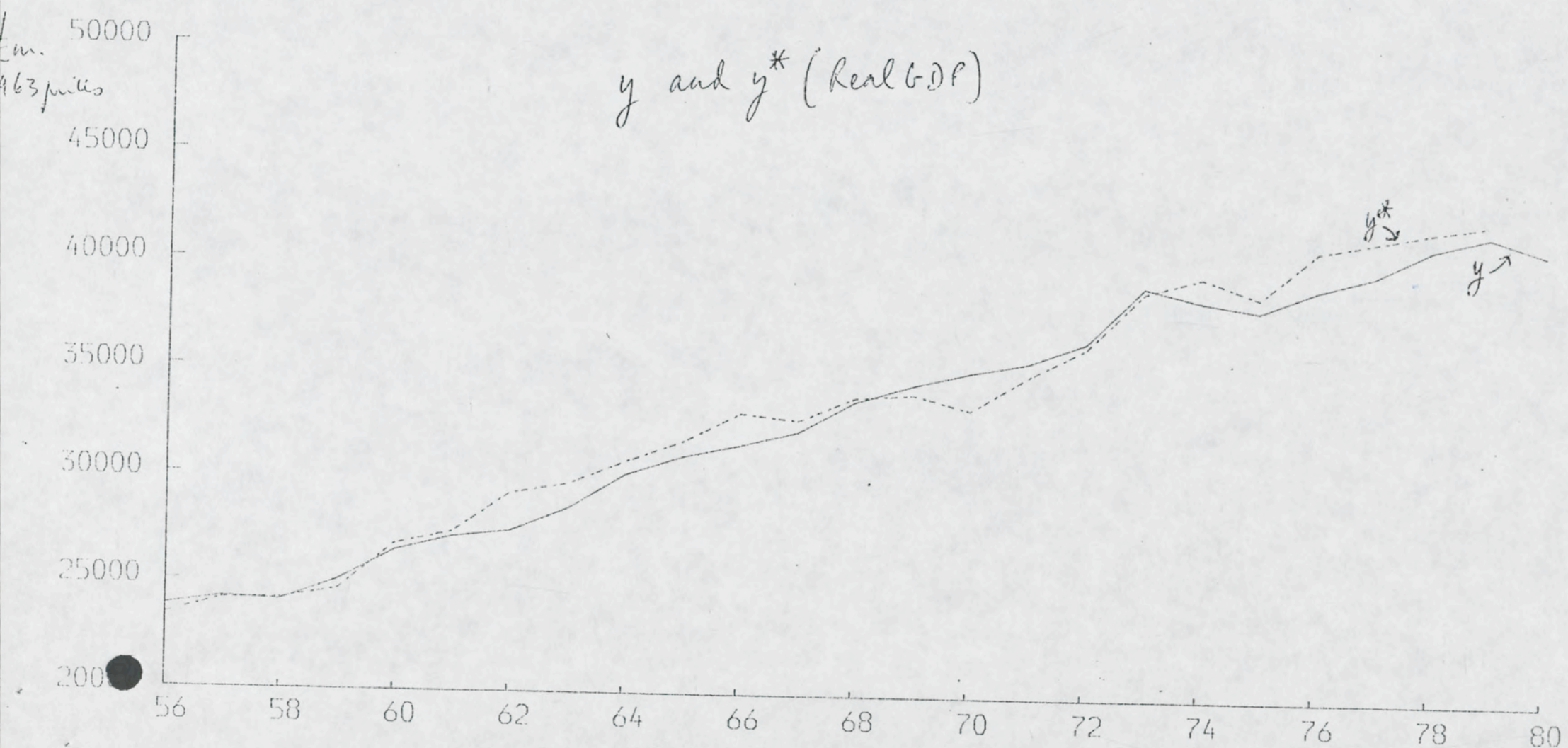
u and u^* (unemployment)



e and e^* (Real exchange rate)

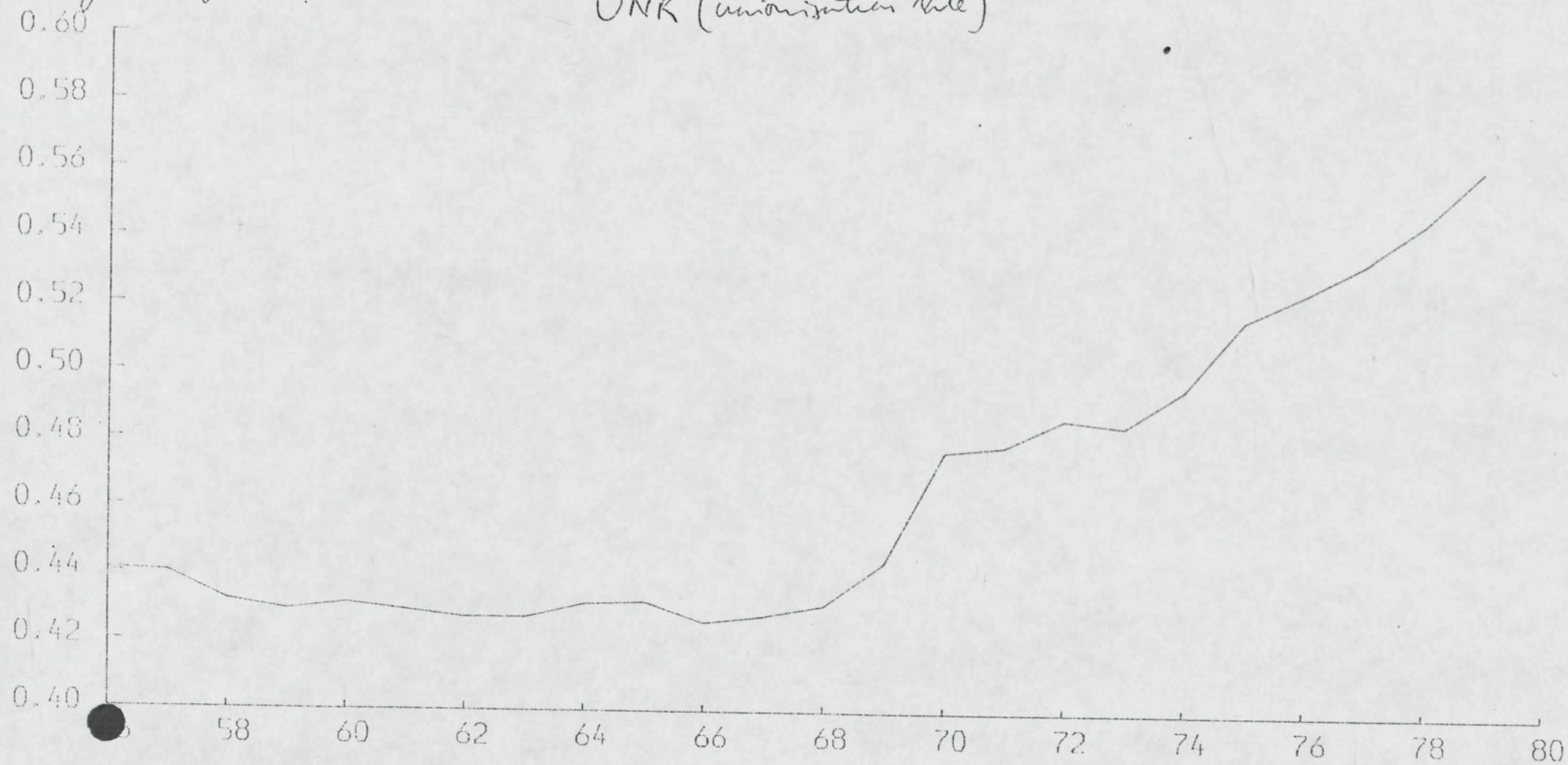
fractional deviation

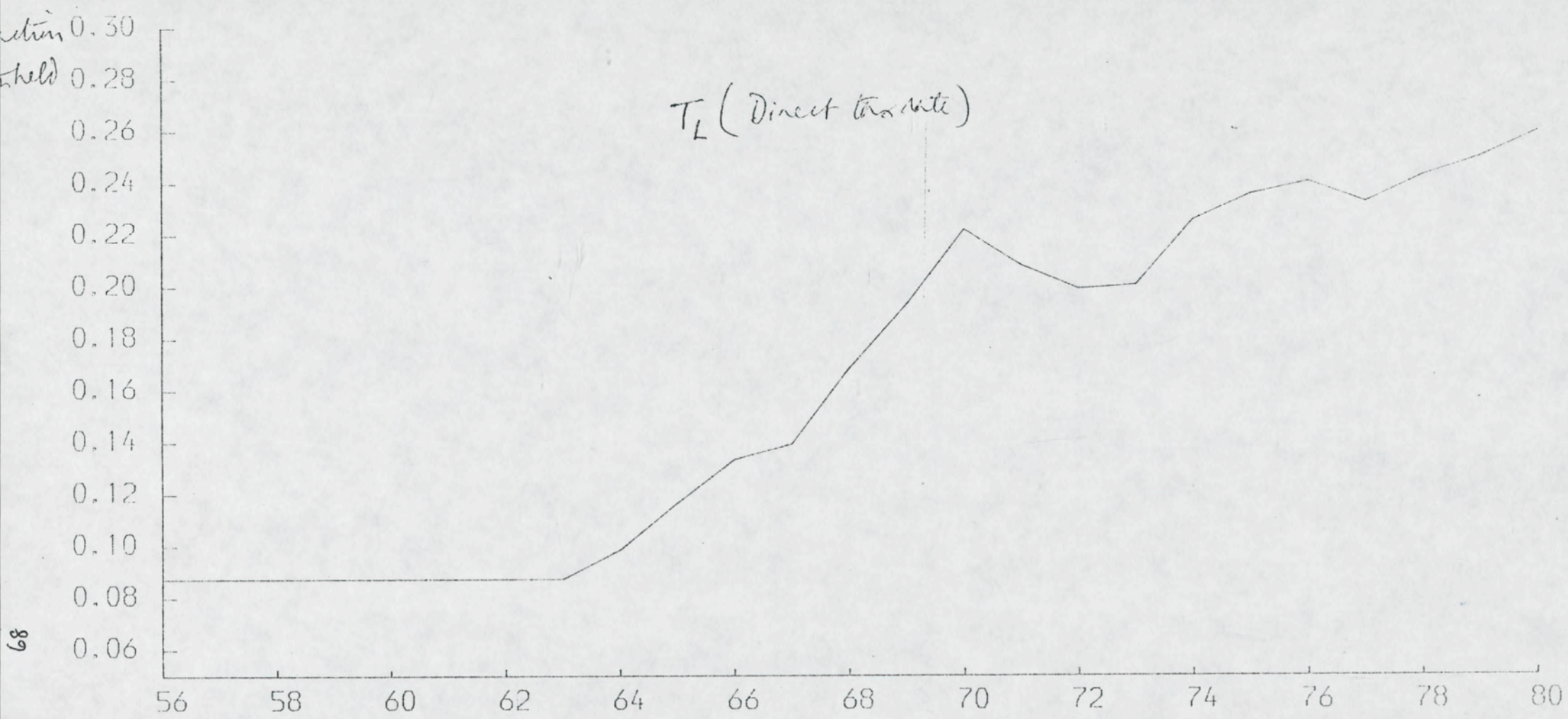


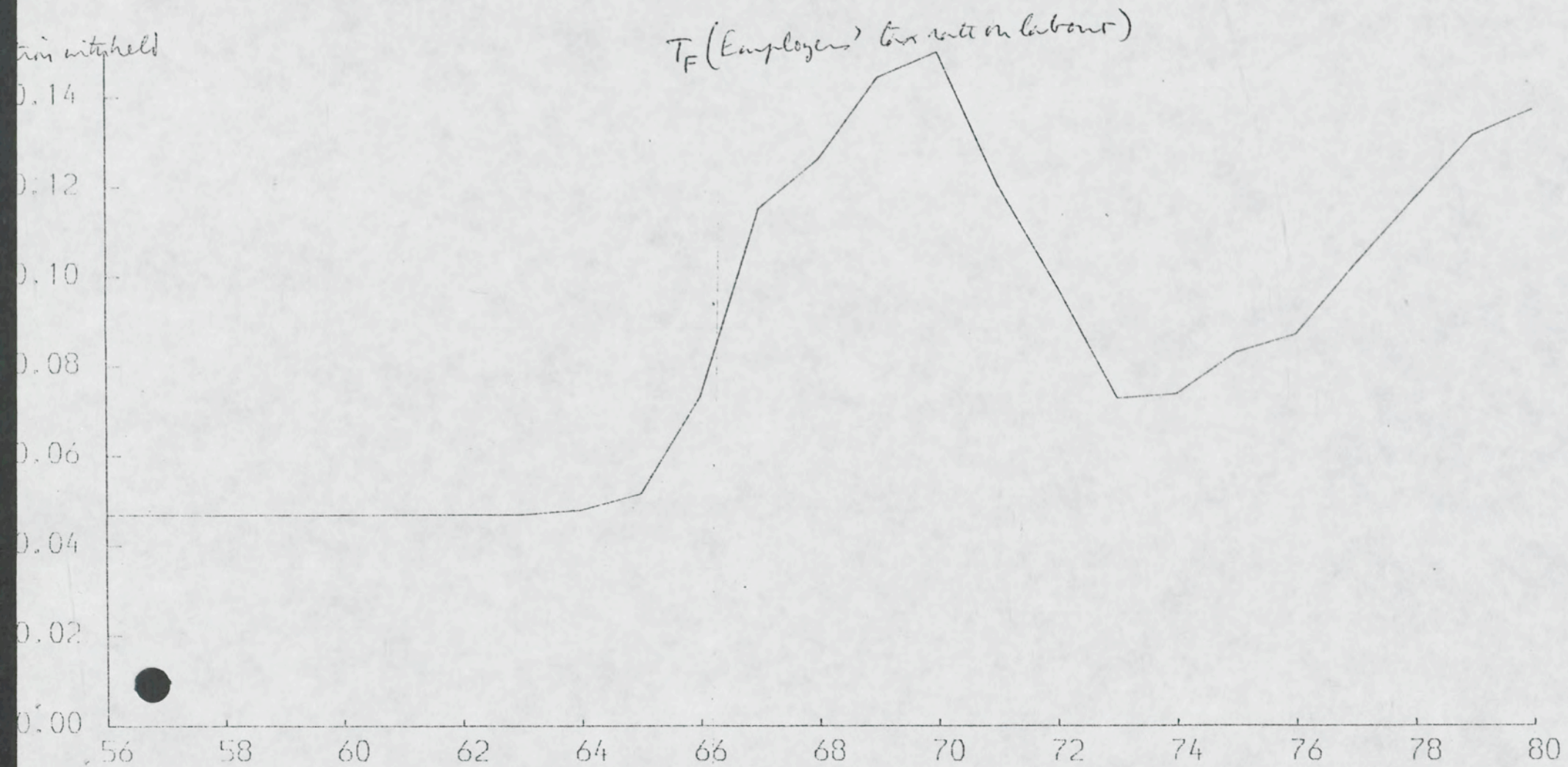


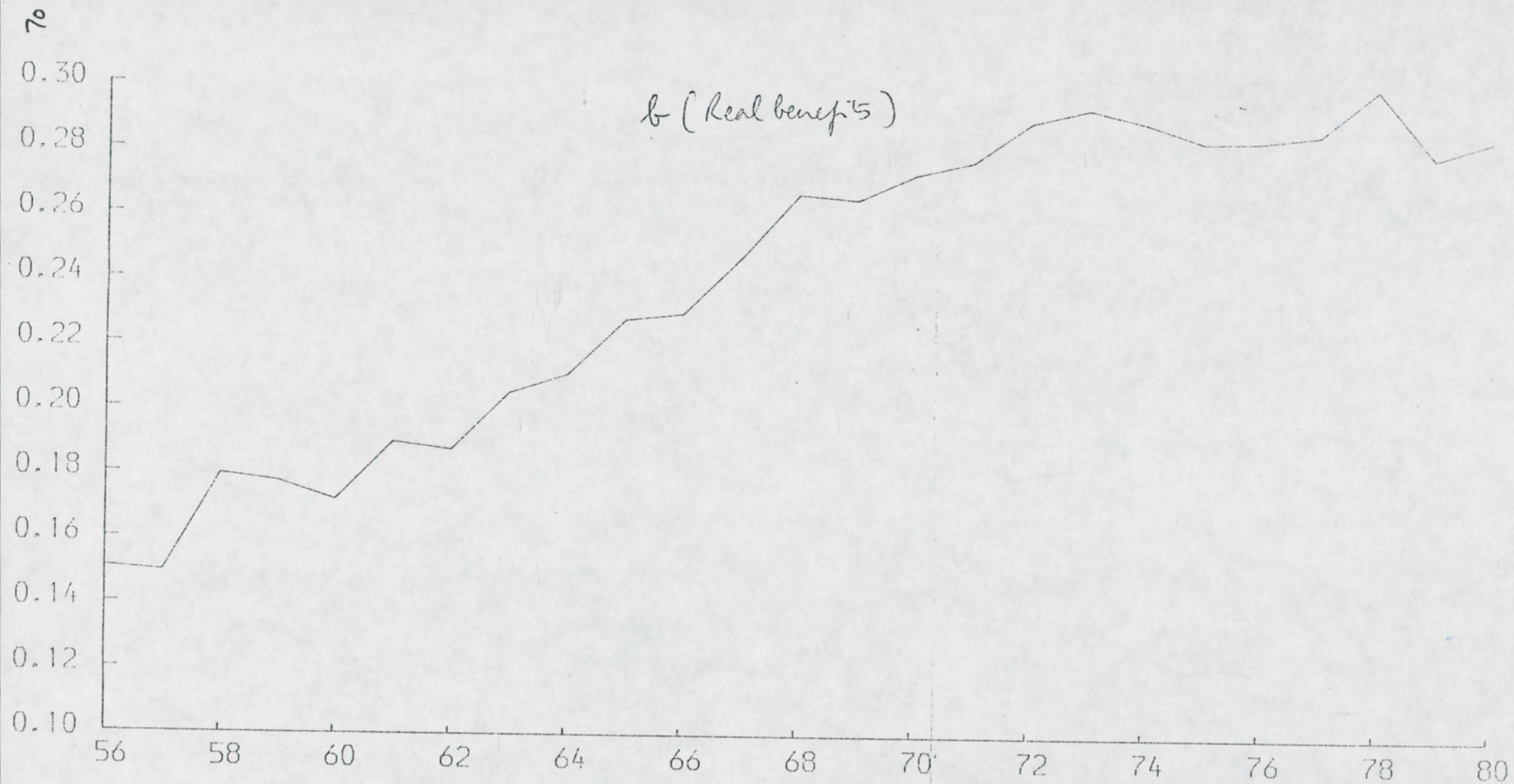
active labour force

UNR (unionisation rate)

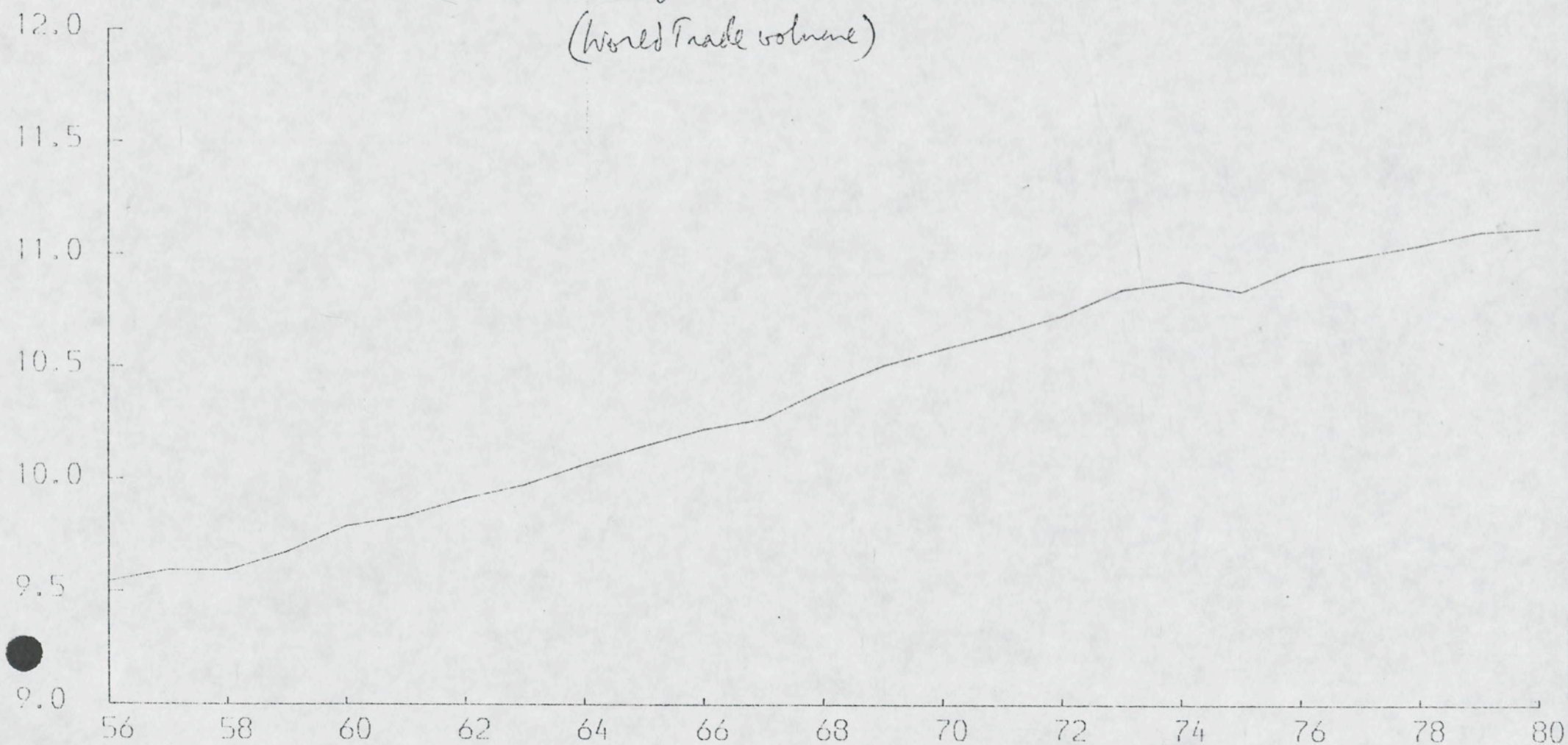




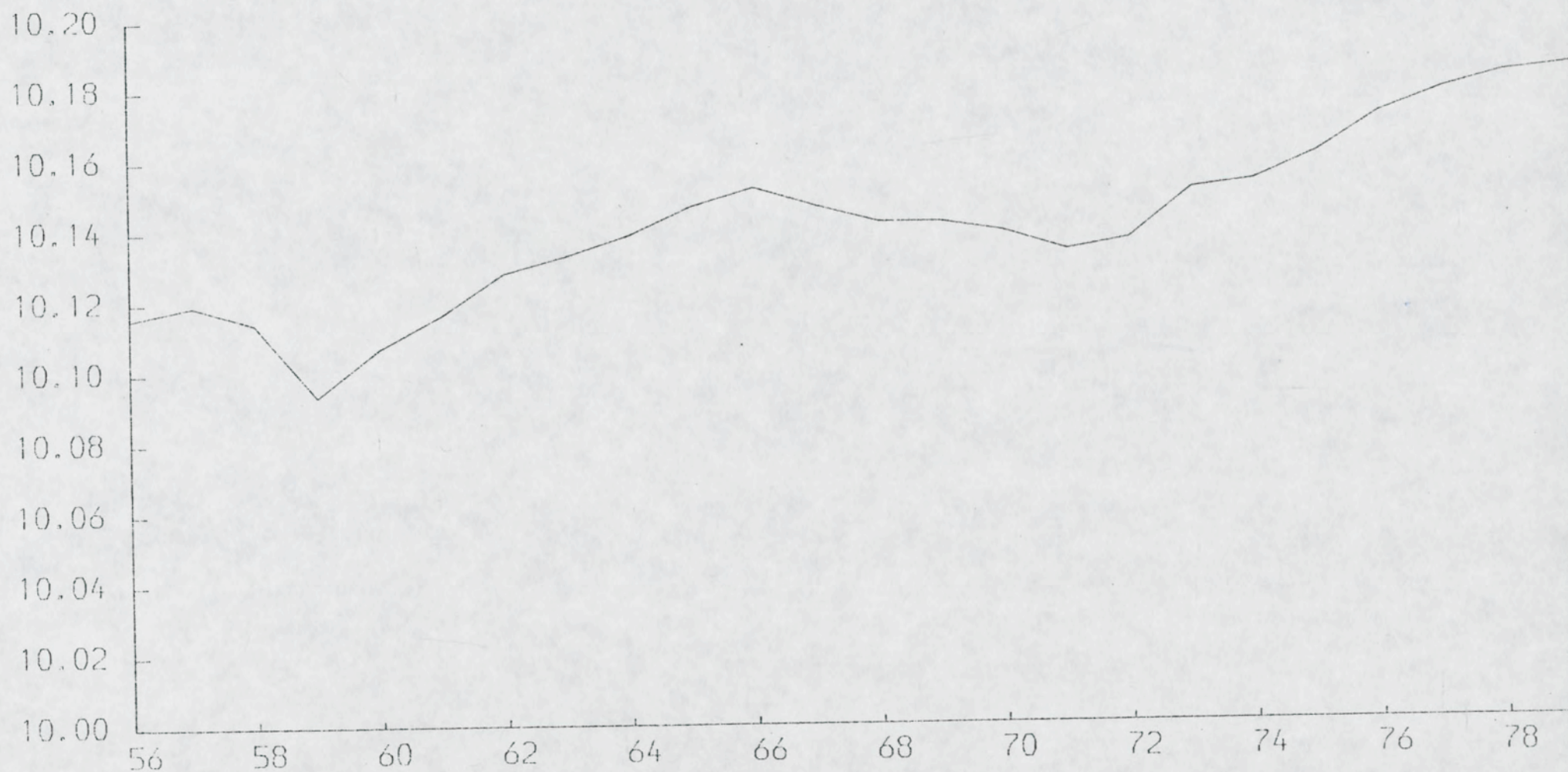




Log WT - -
(World Trade volume)



Log POP (Labour force)



world trade growth collapsed in the second half of the 1970s. So the upward trend was resumed from 1973.

Conclusions

This paper has attempted to produce a theory of the 'natural rate' for the open economy. The interaction with the balance of payments on current account via a stock flow mechanism has been argued to reinforce the direct effects of labour market intervention on unemployment and output. This interaction parallels the feedback onto the labour market through the budget constraint (output=spending) in a closed economy subject to the same intervention.

On annual data, expected output and inflation derived from the model were used in estimation; this was not possible with the quarterly data, though we hope to go this further step once a quarterly version of the full model is estimated. It may also be possible to improve on the 'expected values' used for the exogenous variables; in this paper actual values are used.

Nevertheless, these future changes seem unlikely to alter our major findings, judging from the similarity of the annual results (where some are already incorporated) to the quarterly. These findings were that there is a significant and powerful total elasticity of real benefits on unemployment (operating through higher real wages) of the order of $2\frac{1}{2}$; this is substantially higher than other post war estimates in so far

as these are comparable. Tax rates on employers and employees have analogous impacts, though the elasticities are much lower. Finally, and perhaps most strikingly, we find that in the past two decades union monopoly power has increased significantly and caused a substantial rise in real wages, with corresponding unemployment. The total elasticity of unemployment to the unionisation rate (our index of union monopoly power) is no less than $4\frac{1}{2}$.

The natural rate of unemployment in the UK in 1979 is estimated to be of the order of $7\frac{1}{4}\%$ or around $1\frac{1}{4}$ million. The analysis of this paper suggests that it can be lowered substantially by measures to reduce real benefits, labour tax rates and union monopoly power.

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APPENDIX

Listing of UK Model

The model is essentially the same as that in Working Paper 7902 - p.25 (a shorter version of which is published in Carnegie-Rochester Conference Vol.12,1980), with the following exceptions:

1. The xvol equation (F1) for fixed exchange rates has been preserved under floating rates, since recent experience suggests that there remains a substantial reaction of trade to the expected real exchange rate as defined.

The coefficients used are broadly the elasticities implied by the estimates; the whole equation in elasticity form is then multiplied by (y^* x share of exports GDP), so that there is continuous updating of the coefficients in terms of 1963 pounds.

2. The coefficient on e in the xval equation (I2) has been reduced substantially as a result of re-estimation on recent data; it now implies that the terms of trade improve by about 1/5 of the rise in the real exchange rate.

3. The price equation (P5) now contains a small term in output (implying rising marginal costs), again owing to recent re-estimation.

4. Equations F10 and F11 relating the real exchange rate to the real long term interest differential and the short real differential to the long one were approximations derived as shown on pp.19 - 22 of Working Paper 7902; the approximations were based on the tendency for the real exchange rate to follow a path to equilibrium determined by the adjustment factor in the real

wage equation. These equations have now been replaced by exact equations imposing the efficient market equalities, i.e. that the real short term interest differential be equal to the expected short term change in the real exchange rate, and the real long differential to its expected long term change.

5. In C26-28 VARP has been replaced by its prediction from an equation containing a constant and the square of expected inflation.

6. The wage equation and its whole derivation (pp.8-12 and Appendix 2) have been replaced by this Paper (Working Paper 8103 revised) which carries the original analysis much further. The new wage equation and the unemployment equation are derived from the Annual equations for the whole economy in 8103.

7. The equilibrium variables, y^* , e^* , w^* (real wages), u^* are the model's equilibrium solution rather than being set by time trends.

8. In the money supply rule (G3) all feedback terms have been dropped, for lack of evidence in their favour.

The status of the model in its present form is that it is a mixture of estimation results and judgement based partly on its simulation properties. A complete re-estimation of the model including the recently added supply side is in progress and is intended to replace this construct when available.

Equation No: (Model solution order)

4). Real Money Demand

$$\Delta \log \frac{QM}{QF} = A(2) * \Delta TBR + A(3) * \Delta \log (QW) \\ + A(4) * \Delta (PEXPLR)^2 + A(5) + A(6) * \Delta \log \left(\frac{QM}{QF} \right) - 1$$

$$\left. \begin{array}{l} A(1) = 12.26 \\ A(2) = -1.32 \\ A(3) = -1.41 \\ A(4) = 6.10 \\ A(5) = 0.0425 \\ A(6) = 0.3 \end{array} \right\} X.07$$

15) Non durable consumers expenditure (QCE)

$$\Delta \log QCE = A(42) + A(43) * \Delta \log (QCE(-1)) \\ + A(44) \Delta (PEXPLR)^2 + A(45) * \Delta QR5 + A(46) * \Delta \log (QW) \\ + A(41) * \Delta QEXP$$

$$A(41) = 0.18$$

$$A(42) = 0.0$$

$$A(43) = 0.57$$

$$A(44) = -.33$$

$$A(45) = -.2$$

$$A(46) = .38$$

5) Private Sector Real Physical Asset Stock (QG)

$$\Delta \frac{\text{LOG (QG)}}{\text{(QF)}} = A(8) * \Delta (\text{PEXPLR})^2 + A(9) * \Delta \text{LOG (QW)} \\ + A(12) * \Delta \text{QR5}(-1) + A(10) + A(11) * \Delta \text{LOG (QG}(-1) / \text{QF}(-1))$$

$$\begin{aligned} A(7) &= 11.57 \\ A(8) &= 2.85 \\ A(9) &= -1.20 \\ A(10) &= .0456 \\ A(11) &= 0.46 \\ A(12) &= -1.04 \end{aligned}$$

10) Current Volume Balance (XVOL)

$$\frac{\text{XVOL}}{\text{QGDPF}} = A(75) * (A(76) * \text{LOG QWT} - A(77) * \text{LOG QGDP} \\ + A(78) - A(79) * (A(80) * \text{EEXLR} + (1-A(80)) * \text{EEXP}))$$

$$\begin{aligned} A(75) &= 0.32 && \text{(ratio of exports to GDP)} \\ A(76) &= 1.20 \\ A(77) &= 2.6 \\ A(78) &= 14.6994 \\ A(79) &= 1.7 \\ A(80) &= 0.5 \end{aligned}$$

17) Real Wage Rates (QRW)

$$\begin{aligned}\text{LOG QRW} = & A(65)*\text{LOG} (\%U) + A(66)* (\text{LOG}(UB) + \text{LOSS}) \\ & + A(67)*\text{LOG} (POP) + A(68)* \text{UNR} + A(52)* \text{LOG} (\text{QRW}(-1)) \\ & + A(53)* \text{ETA} + A(69)\end{aligned}$$

$$\begin{aligned}A(52) &= 0.72 \\ A(53) &= -0.65 \\ A(65) &= -.034 \\ A(66) &= 0.12 \\ A(67) &= -0.61 \\ A(68) &= 0.95 \\ A(69) &= 5.8664\end{aligned}$$

22) Unemployment Rate (%U)

$$\begin{aligned}\text{LOG } \%U = & A(70)* \text{LOG} (QGDP) + A(71)* (\text{LOG}(\text{QRW} + \text{BOSS}) \\ & + A(72)* \text{TIME} + A(74)* \text{LOG} (\%U(-1)) + A(73)\end{aligned}$$

$$\begin{aligned}A(70) &= -3.44 \\ A(71) &= 1.82 \\ A(72) &= .079 \\ A(73) &= 27.6353 \\ A(74) &= .53\end{aligned}$$

14) Real exchange rate (QRXR)

$$QRXR = (A(20) * (\log(QRW) + BOSS) + A(63) * TIME + A(64) + A(23) * \log(\frac{QGDP}{QGDPF})) / (1 - A(20))$$

$$A(20) = 0.65$$

$$A(23) = 0.05$$

$$A(63) = -0.116$$

$$A(64) = 0.4915$$

Re-arrangement of the Price Equation

16) Government expenditure (QEG)

$$\frac{\Delta(QEG)}{(QGDPF)} = \Delta TAX + \left(\frac{QF}{(QGDPF) - 1} \right) * \Delta PEQ$$

$$-A(48) * \Delta(R5 * QF_{-1})$$

$$A(48) = 0.95$$

7) Real Current balance (Balance deflated by RPI) (XVAL)

$$\frac{XVAL}{QGDPF} = \frac{XVOL}{QGDPF} + A(81) * A(75) * (QRXR)$$

$$A(75) = 0.32$$

$$A(81) = 0.2$$

11) Long run real interest rate (QR5)

$$QR5 = (QRXR - EEXLR) / 5.0 + RLUS$$

12) Short run real interest rate (QTBR)

$$QTBR = (QRXR - EEXP) + RSUS$$

18) Equilibrium Output (QGDPF)

$$\text{Log QGDPF} = \frac{-A(79) \cdot \text{QRXRF} + A(76) \cdot \text{LOG(QWT)} + A(78)}{A(77)}$$

$$A(76) = 1.20$$

$$A(77) = 2.6$$

$$A(78) = 14.6994$$

$$A(79) = 1.7$$

Derived by setting XVOL = 0.0 and setting all variables to equilibrium values

20) Equilibrium real wages (QRWF)

$$\text{Log QRWF} = \frac{(A(65) \cdot \text{LOG}(\%UF) + A(66) \cdot (\text{LOG}(UB) + \text{LOSS}) + A(67) \cdot \text{LOG}(POP) + A(68) \cdot \text{UNR} + A(69))}{(1-A(52))}$$

$$A(52) = 0.72$$

$$A(65) = -.034$$

$$A(66) = 0.12$$

$$A(67) = -0.61$$

$$A(68) = 0.95$$

$$A(69) = 5.8907$$

Derived by setting the real wage equation to long run equilibrium

21) Equilibrium unemployment rate (%UF)

$$\text{Log } \%UF = \frac{A(70)*\text{LOG}(QGDPF) + A(71)*\text{LOG}(QRWF + BOSS) + A(72)*\text{TIME} + A(73)}{(1-A(74))}$$

$$A(70) = -3.44$$

$$A(71) = 1.82$$

$$A(72) = .079$$

$$A(73) = 27.6853$$

$$A(74) = 0.53$$

Derived by setting the unemployment rate equation to equilibrium

19) Equilibrium real exchange rate (QRXRF)

$$QRXRF = \frac{(A(20)*(\text{LOG}(QRWF) + BOSS) + A(63)*\text{TIME} + A(64))}{(1-A(20))}$$

$$A(20) = 0.65$$

$$A(63) = -.0116$$

$$A(64) = 0.4915$$

Derived by setting real exchange rate equation to equilibrium

Identities

3) Wealth Constraint QW

$$QW = QG + QF$$

6) Government and Foreign Sector Balance Sheet Constraint

$$QF = QDEF + XVAL + QF(-1)*((1-INF) + 0.95*(R5 - 0.5*\Delta LOG(R5)))$$

8) GDP identity (QGDP)

$$QGDP = QCE + \Delta QG + A(13)*QG(-1) + QEG + XVOL - AFC$$
$$A(13) = 0.05$$

9) Budget Deficit (QDEF)

$$QDEF = QEG - TAX*QGDP$$

13) Inflation (INF)

$$INF = PEQ - \Delta LOG(QM)$$

Real and nominal interest rates - 5 year interest rate (R5) and the 3 month Treasury Bill rate (TBR):

1) $R5 = QR5 + PEXPLR$

2) $TBR = QTBR + PEXP$

Variable (Mnemonic in W.P. 102)	Equation (Model No solution order)	Variable listing		Source
		Status	Definition	
AFC	-	X	Adjustment to Factor cost	L.C.E.S. and E.T.
BOSS	-	X	National Insurance surcharge of employers as percentage of average gross wage	Ann Abs of state and D of E
D1	-	X	Oil shock dummy	
EEXP	-	T	Expectation of one year ahead real exchange rate	Model
ETA	-	T	INF - PEXP (-1)	Model
LOSS	-	X	Percentage of national gross average earnings lost in taxes and national insurance including child benefit for married men with two child- ren	Holden and Peel
PEQ	-	X	Growth in money supply (M1)	Exogenous
POP		X	National Working Population	E.T.
QCE (c)	15	E	Non durable household consumption in 1963 prices	L.C.E.S. and E.T.
QDEF (d)	9	E	Real Public sector budget deficit excluding Debt Interest	F.S
QEG (eg)	16	E	Public Authority real expenditure on goods and services 1963 prices	L.C.E.S. and E.T.
QF (θ)	6	E	Real Private Sector Financial net worth (Outside Assets)	Pember and Boyle F.S. and E.T
QGDP (y)	8	E	Real GDP (Average estimate) factor cost 1963 prices	L.C.E.S. and E.T.
QGDPF (y*)	18	E	Equilibrium GDP	Model
QGDPEXP	-	T	Expected GDP one year ahead	Model
QGDPEXPL	-	T	Expected GDP 2 years ahead	Model
QGDPEXP	-	T	Expected GDPF one year ahead	Model
QM (m)	4	E	M1 end of period figure, deflated by CPI annual average 1963=100	L.C.E.S. Sheppard and B.E.Q.B.

Variable	Equation No	Status	Definition	Source
QR5 (r_L)	11	E	Real long rate of interest	Model
QRW	17	E	Index of Basic weekly wage rates	D of E Gazette
QRWF	20	E	Equilibrium real wage rate	Model
QRXR (e)	14	E	Real exchange rate deviations from logarithm of purchasing power parity (rise = appreciation from PPP)	E.T. and IMF
QRXRF	19	E	Equilibrium real exchange rate (deviation)	Model
QTBR (r_s)	12	E	Real short rate of interest	Model
QWT (WT)		X	Index of World trade in manufacturers	N.I.E.R. Statistical Appendix
R5 (R_L)	1	E	Five year interest rate	F.S.
RLUS		X	Real U.S. long rate of interest derived from AAA corporate rate	D.R.I. data bank
RSUS		X	Real U.S. short rate of interest derived from prime rate	D.R.I data bank
TBR (R_s)	2	E	3 month Treasury Bill rate (average)	F.S.
TAX (T)		X	Aggregate tax rate	F.S. and E.
TIME		X	Time trend 1980-81	
%U	22	E	Wholly unemployed G.B. excluding school leavers as fraction of working population	E.T.
UB		X	.3 (Earnings related benefits and school meals and rent and flat rate benefits) and .7(flat rate benefit and school meals and rent)	D.H.S.S.
%UF	21	E	Equilibrium unemployment rate	Model

Variable	Equation No	Status	Definition	Source
UNR		X	Unionisation rate: percentage of employed labour force in Unions	D of E Gazett
XVAL (xval)	7	E	Real current balance deflated by CPI 1963-100	E.T.
XVOL (xvol)	10	E	Exports of goods and services less imports (volume) 1963 prices	L.C.E.S. an E.T.
INF	13	E	Inflation (Consumer Price Index)	E.T.
QW	3	E	Real Total Private Sector Net Wealth	M.M
QG	5	E	Real Private Sector Stock of Goods	M.M.

Abbreviations

E:	Endogenous variable
X:	Exogenous variable
T:	Transformed variable
L.C.E.S.:	British Economy Key Statistics 1900-1970 London and Cambridge Economic Service
E.T.:	Economic Trends
Ann Abs of Stats:	Annual Abstract of Statistics
D of E :	Department of Employment Gazette
Holden and Peel: (1979)	"The Benefits - Income Ratio for Unemployed workers in the United Kingdom" <u>University of Liverpool Discussion Paper</u> No. 40
F.S.:	Financial Statistics
B.E.Q.B.:	Bank of England Quarterly Bulletin
D.H.S.S.:	Department of Health and Social Security Statistics
Pember and Boyle: (1972)	<u>British Government Securities in the</u> <u>Twentieth Century</u> , London
D. Sheppard (1971)	<u>The Growth and Role of U.K. Financial</u> <u>Institutions 1880-1962</u> London (Methuen)
M.M.	K.G.P. Matthews and A.P.L. Minford, "Asset Acquisition: An Integrated Approach" <u>Working Paper 7808, University of Liverpool</u> mimeo, 1978.

Mnemonics in W.P. 7902

These are the corresponding mnemonics used in working papers on the model, especially 7902 (a large part of which appeared as A.P.L. Minford, "A Rational Expectations Model of the UK Under Fixed and Floating Exchange Rates', Carnegie-Rochester Conference Series, 1980).

Model Within - Sample Dynamic Forecasting Errors ⁺

The model as set out above (the version as of 1.1.82) has been simulated dynamically for information sets from 1971 to 1979, giving the 1 to 3 year-ahead errors summarised below. There are seven 3 year-ahead errors, eight 2 year-ahead, and nine 1 year-ahead. The serial correlation coefficients are 1st order for 1 year-ahead, 2nd order for 2 year-ahead, 3rd order for 3 year-ahead.

These errors are for the whole model including the supply side. Hence errors in forecasting the 'natural rate' of output, unemployment, real wages etc., are embodied in them; possibly an unusually ambitious undertaking, particularly given that the model's actual forecasts are heavily influenced by the 'natural rates'. 1972-80 was also a volatile period and difficult to forecast, as is well known to those who lived through it and attempted actual forecasting during it. Against this, these are of course ex post, and effectively within sample, dynamic forecasts, albeit with forecasts for exogenous variables.

An appropriate yardstick of comparison is hard to find. Simple time-series relationships appear the best available and these have been run for some of the variables; it would be interesting to have equivalent errors for other models, but these are not yet available.

⁺ For dynamic simulations over the floating period, the time trend in the price equation was reduced in absolute value from -.0116 to -.003 (and consequential constant adjustments made to equations for QRW, QRWF, QRXR, QRXRF, XVOL, and QGDPF) because of problems in projecting UNR, for which we have no good time series equation; UNR is projected constant (as if a random walk). Parameters used were (model version in brackets):
A63(-.0116) -.003 , A64,(0.4915) -.2021 , A69(5.8907) 5.88 , A78(14.6994) 14.23

Output and inflation forecasts are comparable with time-series and interest rates not much worse. The real exchange rate and current balance are however quite a lot worse.

TABLE

	<u>RMSE</u> *			<u>MEAN ERROR</u> +			<u>SERIAL CORRELATION</u> *		
	1	2	3	1	2	3	1	2	3
Output level (%)	2.6 (3.1)	3.7 (3.8)	4.0	-0.1	1.0	3.1	.09 (.38)	-.09 (.15)	.51
Inflation (%pa)	5.2 (5.0)	5.8 (5.7)	6.3	0.5	-3.7	-4.2	.05 (v.35)	.15 (.15)	-.06
Current Account Balance (% of GDP)	3.2 (1.6)	3.2 (1.6)	3.4	-2.1	-1.8	-1.8	.62 (.06)	.54 (.31)	.43
Unemployment (% of labour force)	1.2	1.4	1.4	0.9	0.9	0.1	.57	-.20	-.34
5-year interest rates (% p.a.)	1.8 (1.4)	3.0 (1.9)	4.0	-0.5	-1.1	-1.4	.25 (-.08)	-.02 (.31)	-.41
1-year interest rates (% p.a.)	4.2	3.8	4.0	1.9	0.9	0.6	.33	-.20	-.29
Real Wealth Total (%)	1.4	2.6	3.0	0.7	1.5	2.2	.45	.44	.31
Real Physical Assets (%)	0.7	1.5	1.8	-	-0.2	-0.4	.07	-.33	-.21
Real Financial Assets (%)	6.2	13.0	18.2	3.5	9.1	14.2	.36	.55	.37
Real Money Balances (%) M1	8.2	10.1	7.6	-1.5	-0.6	-1.0	.30	-.92	-.35
Real Nondurable consumption (%)	2.6	5.4	7.6	1.2	2.9	5.1	.26	.14	.08
Real Govt. Expenditure (%)	6.7	9.0	9.8	0.7	2.7	4.5	.54	.09	-1.00
Real Exchange Rate (%)	11.6 (5.9)	13.1 (7.8)	15.2	-0.8	-4.6	-7.6	.48(.24)	-.83(-.77)	-1.00
Real Wage Rates (%)	4.3	6.3	7.4	-2.8	-5.0	-6.5	.22	.39	.28

+ Predicted Minus actual.

* Time series forecast errors parenthesised where available (source: P.Minford
OEP 1981, pp129-30)

On other variables for which no time-series relationships have been estimated, most seem reasonable in order of magnitude. Real financial assets and money stand out as bad, as does government expenditure. The former series however have been particularly volatile in these inflationary times; and so has government (especially capital) expenditure.

If the major interest is in output and inflation, however, one may perhaps conclude that the attempt to impose a lot of structure (especially on the natural rates) as in this modelling effort is not too unsatisfactory in terms of crude forecasting performance.

Simulation Properties

The following tables copied from the computer print out provide the absolute deviations from the base or control run of selected simulations.

Demand Side Simulations

SIMM 1 - Independent monetary shock (temporary).

An unanticipated 'one-off' increase in the supply of money by 10%. The results are fairly orthodox 'new classical'. Output increases in the first three years and then rapidly settles. Inflation rises in the first year and settles back in equilibrium by the third period. Real wages and the real exchange rate both decline sharply, then gradually tending to equilibrium.

SIMM 2 - Temporary increase in government expenditure.

An unanticipated increase in government expenditure for 4 years equivalent to 1% of GDP or roughly £1 billion in 1975 prices.

a) Bond Financed b) Tax Financed -1% increase in aggregate tax rate. Both methods have similar results. Output rises for the first year the policy is in force by 1% in the case of bond financing and $\frac{1}{2}$ % in the case of tax financing; in the next three years the output effects are more than halved. After the 4 years, output falls slightly below what it would have been for a run of years, so that the simulation reveals a substitution of output now for output later. The effects on nominal variables, the real wage and the real exchange rate are minimal.

SIMM 3 - Permanent increase in the PSBR (via government expenditure)-balanced money-and bond-finance. An unanticipated permanent increase in the PSBR of roughly £1 billion per annum, in 1975 prices, balanced finance. This involves roughly a 2% extra growth p.a. in the money supply. The effects on output are trivially small; i.e. there is 'crowding out' within the first year. The permanent nature of the expansion raises inflation expectations and with it nominal interest rates by approximately 2%. Private consumption and physical asset accumulation drop at once. Over time government expenditure is forced, by rising debt interest within the PSBR, to contract; this allows private spending to recover gradually. The rise in the short rate also causes a decline in the demand for real balances, forcing inflation to rise by 3.5% in the first year. The real exchange rate falls also in the first year as the surprise element in the inflation rate reduces real wages. Both variables adjust rapidly and are near equilibrium by year 3.

SIMM 4 - An unanticipated (permanent) increase in government expenditure (of £1 billion in 1975 prices) financed by raising the aggregate tax rate permanently by 1%. The effects on output are negligible, apart from a small expansion in the first year. There is no 'balanced budget multiplier' in the model except on the impact of this 'surprise'.

Supply Side Simulations*

SIMM 5 - An unanticipated permanent increase in employers' National Insurance contributions equivalent to 2% of the gross wage raises the 'natural rate' of unemployment by 1½ rising to 1½

* In all these simulations budget balance is maintained at base rule levels (apart from temporary effects due to the 'automatic stabilisers') by (a) offsetting simulated rises in tax rates or transfer rates by equal cuts in other 'neutral' general taxes (b) the government expenditure equation which assumes that all extra revenue at given tax rates is spent up to the exogenous PSBR target.

percentage points and reduces the level of output by just under 1%. The effects on actual unemployment come through in three years, and about 40% in the first year.

SIMM 6 - A permanent unanticipated increase in unemployment benefits in real terms by 7% raises the 'natural rate' of unemployment by around 2 percentage points (around $\frac{1}{2}$ million) and reduces the capacity level of output by about 1½%. The effects are slower to come through than for SIMM 5., about 20% in year 1, 50% in year 2, 70% by year 3, rising gradually thereafter.

SIMM 7 - An unanticipated permanent increase in income tax by 2 percentage points (of the gross wage) raises the 'natural rate' of unemployment by 0.5 rising to 0.6 percentage points and reduces capacity output by roughly 0.4%, the rate of adjustment is essentially the same as for the benefit case (because the coefficients on benefits and direct taxes are the same).

SIMM 8 - Permanent increase in Trade Union bargaining power. An unanticipated increase in Trade Union bargaining power measured by a 2 percentage point increase in Trade Union membership as a percentage of the employed labour force raises the natural rate by just over 2 percentage points and reduces capacity output by just over 1½%. The effects on actual unemployment came through gradually, 20% in year 1, 45% by year 2, 65% by year 3, slowly rising thereafter.

	1980	1981	1982	1983	1984	1985	BASE RUN		1988	1989
R5	0.1261	0.1263	0.1248	0.1234	0.1220	0.1203	0.1191	0.1186	0.1195	0.1230
TBR	0.1214	0.1313	0.1309	0.1288	0.1273	0.1271	0.1269	0.1261	0.1236	0.1203
QW	152991.9582	157605.6815	161733.8269	165274.8685	168647.4851	171729.8404	174524.0741	177127.1691	179581.4881	182110.6069
QM	7767.0531	8035.8897	8144.9430	8178.2340	8172.0336	8133.4387	8074.5158	8006.1382	7941.2681	7884.2140
QG	129983.6233	133754.1994	137608.9331	141375.8863	145064.1015	148637.4528	152026.9982	155294.3801	158476.7804	161711.0287
QFIN	23061.0325	23897.3517	24120.5093	23944.9572	23579.1889	23085.3606	22486.9702	21819.7692	21108.3557	20407.9473
XVAL	-1478.7563	-1561.8667	-1727.5502	-1789.1666	-1845.8158	-1868.5468	-1873.5284	-1871.8306	-1836.9084	-1624.4449
QGDP	40755.8311	42387.2283	43809.1940	45123.3274	46475.7477	47738.8192	48888.2916	50054.9558	51267.1991	52736.4542
QDEF	1895.4053	1430.5084	1288.1817	1247.0861	1222.6148	1225.3127	1255.9440	1282.9375	1303.4295	1229.0209
XVOL	-1830.0204	-1855.3249	-1988.7546	-2026.7160	-2098.4039	-2140.4214	-2172.2011	-2202.5109	-2195.3637	-2027.2495
QR5	0.0229	0.0155	0.0098	0.0060	0.0035	0.0020	0.0010	0.0002	-0.0003	0.0049
QTBR	0.0415	0.0327	0.0236	0.0161	0.0109	0.0084	0.0073	0.0068	0.0052	0.0047
INF	0.0766	0.0766	0.0965	0.1065	0.1108	0.1148	0.1173	0.1185	0.1181	0.1172
QRXR	0.1348	0.1102	0.0939	0.0860	0.0855	0.0900	0.0969	0.1050	0.1138	0.1242
QCE	24649.9374	25627.3260	26623.3238	27587.4358	28517.2538	29401.3505	30239.9277	31040.7928	31840.6544	32606.6023
QEG	13133.0366	13118.4273	13371.9811	13690.1550	14041.7065	14393.2906	14741.5497	15090.8571	15443.0598	15772.7527
QRW	1.8708	1.8529	1.8438	1.8437	1.8512	1.8640	1.8796	1.8967	1.9146	1.9338
QGDPF	40898.1244	41987.2336	42970.0590	44002.5532	45144.0505	46300.3288	47433.6472	48602.8132	49833.5239	51091.0412
QRXRF	0.0246	0.0363	0.0445	0.0534	0.0643	0.0749	0.0843	0.0938	0.1041	0.1142
QRWF	1.7626	1.7819	1.7981	1.8150	1.8342	1.8532	1.8712	1.8895	1.9088	1.9282
ZUF	0.1151	0.1172	0.1212	0.1249	0.1276	0.1306	0.1344	0.1381	0.1415	0.1451
ZU	0.0869	0.1040	0.1094	0.1100	0.1085	0.1076	0.1085	0.1105	0.1132	0.1147

SIMM 1

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
R5	-0.0174	-0.0144	-0.0118	-0.0099	-0.0084	-0.0074	-0.0064	-0.0054	-0.0043	-0.0032
TBR	-0.0205	-0.0192	-0.0147	-0.0115	-0.0090	-0.0070	-0.0058	-0.0049	-0.0041	-0.0032
QW	-557.3935	-961.8885	-1232.3079	-986.2951	-699.6709	-104.3217	511.8028	1151.4856	1790.8449	2305.9554
QM	118.4418	14.3834	-13.9663	-33.6473	-11.5394	23.0166	61.5058	101.7843	138.8789	170.2879
QG	-404.7125	-317.3891	-396.2750	-336.1208	-180.4486	144.2010	486.6818	871.4327	1267.8680	1646.8762
QFIN	-177.1268	-688.7099	-822.9352	-708.7310	-507.4805	-233.4143	36.3659	269.1195	512.6522	698.3906
XVAL	600.1052	132.4421	256.5556	208.9846	226.2969	206.6572	192.3913	181.6149	172.9791	167.7935
QGDP	335.7001	503.0945	132.9634	15.8695	-85.4622	-80.5102	-107.2628	-102.5049	-97.8613	-114.9693
QDEF										

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QDEF	-72.9261	238.6391	290.9760	261.1849	249.4285	215.6274	193.4611	168.8411	141.4394	118.1000
XVOL	833.9493	284.6869	354.0838	251.6500	264.9781	225.3894	205.6878	191.6605	174.2935	169.8232
QR5	-0.0166	-0.0099	-0.0055	-0.0027	-0.0011	-0.0002	0.0003	0.0005	0.0005	0.0004
QTBR	-0.0327	-0.0208	-0.0119	-0.0056	-0.0017	0.0006	0.0018	0.0024	0.0027	0.0026
INF	0.0847	0.0126	0.0063	-0.0007	-0.0027	-0.0042	-0.0048	-0.0050	-0.0047	-0.0041
QRXR	-0.0931	-0.0562	-0.0331	-0.0184	-0.0104	-0.0061	-0.0039	-0.0029	-0.0024	-0.0022
QCE	-89.9052	-250.9135	-411.2535	-580.0654	-693.0692	-774.9126	-820.5530	-837.2834	-843.4657	-837.7265
QEG	0.0000	379.4073	324.2045	267.5204	223.7285	188.7129	163.1368	139.6727	116.1431	90.0707
QRW	-0.0932	-0.0570	-0.0331	-0.0183	-0.0101	-0.0058	-0.0036	-0.0026	-0.0022	-0.0020
QGDPF	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000
QRXRF	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	0.0000
QRWF	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000
ZUF	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000
ZU	-0.0099	-0.0156	-0.0132	-0.0094	-0.0053	-0.0027	-0.0010	-0.0000	0.0000	0.0000

Tax-financed 1980 SIMM 2 1981

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
R5	-0.0058	-0.0059	-0.0056	-0.0056	-0.0053	-0.0051	-0.0046	-0.0041	-0.0033	-0.0026
TBR	0.0027	-0.0021	0.0002	-0.0027	-0.0028	-0.0029	-0.0029	-0.0031	-0.0028	-0.0026
QW	416.7087	341.6461	354.4595	479.9052	979.4972	1481.8791	2015.9676	2554.6225	3031.6398	3430.6617
QM	2.1351	41.5308	47.5423	81.8938	118.7888	152.9282	184.4296	216.8486	242.8681	262.0180
QG	263.5275	145.6418	141.6183	202.6815	584.3877	967.4150	1330.5168	1686.2388	2012.9510	2305.1161
QFIN	119.1554	151.6284	166.8362	213.9009	368.9974	542.3766	714.8698	875.2920	1006.0241	1105.1996
XVAL	-240.1911	-83.8063	-71.7962	-66.5039	35.1965	82.9871	101.6904	93.7736	99.6105	109.2162
QGDP	268.0558	88.9515	75.0195	68.4557	-30.0976	-39.9517	-45.1949	-34.5142	-40.1487	-63.0016
QDEF	-73.8657	96.0796	106.9402	98.0377	138.2710	141.8761	136.0597	118.2344	103.0944	87.9196
XVOL	-247.9313	-98.4817	-77.9007	-82.6201	30.3159	87.9737	109.0794	93.8085	92.8552	105.5809
QR5	0.0014	0.0011	0.0015	0.0013	0.0012	0.0011	0.0009	0.0008	0.0007	0.0006
QTBR	0.0088	0.0046	0.0059	0.0047	0.0043	0.0040	0.0035	0.0031	0.0030	0.0029
INF	-0.0007	-0.0053	-0.0024	-0.0047	-0.0046	-0.0040	-0.0037	-0.0040	-0.0034	-0.0026

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QRXR	0.0038	0.0029	0.0041	0.0034	0.0023	0.0013	0.0004	-0.0002	-0.0006	-0.0009
QCE	-158.4612	-287.7347	-416.7648	-527.1727	-594.3414	-631.8061	-648.0842	-650.9055	-655.8829	-657.9915
QEG	408.9812	548.2676	566.7317	572.7232	131.9313	125.4563	117.7388	106.8836	93.3133	73.4816
QRW	0.0022	0.0026	0.0034	0.0031	0.0023	0.0014	0.0005	-0.0001	-0.0005	-0.0007
QGDPF	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000
QRXRF	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000
QRWF	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000
ZUF	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
ZU	-0.0017	-0.0017	-0.0013	-0.0011	-0.0001	0.0000	0.0000	0.0000	-0.0000	-0.0000

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
R5	-0.0053	-0.0046	-0.0037	-0.0034	-0.0033	-0.0032	-0.0030	-0.0026	-0.0021	-0.0019
TBR	0.0001	-0.0026	-0.0018	-0.0003	-0.0010	-0.0010	-0.0013	-0.0014	-0.0013	-0.0013
QW	1033.3968	1419.0306	1730.3633	2276.2388	2386.3428	2667.2481	2974.2855	3250.1808	3523.7242	3738.0437
QM	51.4030	119.1677	152.1973	176.5954	201.1230	218.3650	234.7815	249.1895	260.3661	266.9449
QG	701.5963	820.1239	993.9099	1233.3230	1406.3310	1616.9354	1839.4213	2064.8878	2280.5432	2466.2800
QFIN	310.3545	554.5858	721.9808	908.0192	1000.3091	1075.5628	1141.1877	1192.6767	1230.7448	1250.9224
XVAL	-496.0540	-275.8190	-246.0385	-286.4425	46.1083	57.4396	56.4768	67.7392	74.0408	84.2609
QGDP	468.3397	225.0833	221.5133	244.0404	-68.2239	-46.7277	-28.7416	-22.6046	-24.8172	-55.5948
QDEF	283.2613	463.6371	452.5228	423.7042	60.5100	53.4351	42.5861	36.6408	25.0493	17.5567
XVOL	-526.7131	-307.1541	-272.9083	-318.1223	40.5609	56.3496	50.7393	64.1040	64.2390	81.0187
QR5	0.0025	0.0020	0.0022	0.0021	0.0016	0.0013	0.0011	0.0009	0.0008	0.0006
QTBR	0.0101	0.0049	0.0049	0.0061	0.0047	0.0041	0.0034	0.0031	0.0029	0.0027
INF	-0.0066	-0.0086	-0.0040	-0.0040	-0.0028	-0.0021	-0.0021	-0.0019	-0.0016	-0.0011

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QRXR	0.0119	0.0093	0.0090	0.0084	0.0054	0.0034	0.0019	0.0009	0.0002	-0.0003
QCE	-108.7555	-178.4418	-235.9471	-298.7210	-351.7470	-386.5503	-408.5828	-425.3500	-445.6789	-463.7518
QEG	408.9812	525.8923	511.9570	496.9600	37.4290	35.1905	32.6752	28.1110	19.0608	5.4120
QRW	0.0096	0.0086	0.0077	0.0074	0.0055	0.0035	0.0020	0.0009	0.0003	-0.0002
QGDPF	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000
QRXRF	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000
QRWF	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000
ZUF	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000
ZU	-0.0024	-0.0027	-0.0025	-0.0029	-0.0002	0.0008	0.0009	0.0008	0.0006	0.0007

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
R5	0.0099	0.0118	0.0131	0.0141	0.0153	0.0159	0.0169	0.0179	0.0190	0.0200
TBR	0.0119	0.0130	0.0133	0.0143	0.0157	0.0168	0.0177	0.0182	0.0189	0.0200
QW	-1227.1775	-1374.4673	-1246.4954	-905.5912	-697.6949	-439.5375	-268.9215	-146.1467	-21.1880	56.8114
QM	-130.8213	-227.7522	-241.4371	-226.8991	-213.2494	-195.8377	-184.3824	-174.4535	-168.4114	-171.0594
QG	-867.4527	-670.9972	-490.2153	-321.0380	-220.9953	-71.6763	-14.1679	46.0592	91.7066	103.2427
QFIN	-438.1126	-734.0216	-745.0842	-620.1134	-489.7161	-347.5408	-243.6798	-165.1960	-108.8897	-75.3854
XVAL	413.6731	90.7742	119.1474	114.2365	131.4133	122.9010	109.0661	98.8094	68.9720	31.7085
QGDP	-42.0457	204.8397	70.9457	2.4285	-69.3347	-49.7557	-70.5278	-41.4294	-5.2652	20.1799
QDEF	480.7770	205.5371	205.1122	195.9728	190.6312	165.2660	146.7130	120.2064	84.5255	46.8578
XVOL	515.8124	152.7866	160.5642	131.7203	147.9973	134.4822	120.2983	109.1086	63.6728	28.3447
QR5	-0.0070	-0.0038	-0.0019	-0.0008	-0.0003	0.0000	0.0002	0.0003	0.0003	0.0007
QTBR	-0.0116	-0.0054	-0.0025	-0.0004	0.0010	0.0019	0.0023	0.0024	0.0022	0.0025
INF	0.0350	0.0310	0.0211	0.0175	0.0181	0.0181	0.0187	0.0190	0.0194	0.0203

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QRXR	-0.0398	-0.0238	-0.0141	-0.0081	-0.0048	-0.0030	-0.0021	-0.0016	-0.0012	-0.0006
QCE	-211.4889	-366.3951	-460.7988	-491.9923	-480.2155	-437.2395	-372.4785	-293.6244	-206.1796	-109.5667
QEG	476.7506	259.9815	223.8869	197.1726	172.6037	147.3251	128.2979	105.5927	82.1210	56.4628
QRW	-0.0393	-0.0243	-0.0142	-0.0080	-0.0046	-0.0029	-0.0020	-0.0015	-0.0012	-0.0006
QGDPF	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000
QRXRF	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	0.0000
QRWF	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	0.0000
ZHF	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000
ZU	-0.0032	-0.0062	-0.0055	-0.0039	-0.0020	-0.0009	-0.0001	0.0002	0.0000	-0.0003

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
R5	-0.0044	-0.0042	-0.0039	-0.0037	-0.0035	-0.0032	-0.0030	-0.0025	-0.0020	-0.001
TBR	0.0034	-0.0013	-0.0017	-0.0017	-0.0014	-0.0006	-0.0009	-0.0008	-0.0008	-0.0005
QW	224.9223	164.0651	45.4827	125.9515	140.2387	349.7374	488.5259	746.8129	931.2909	1132.5569
QM	-13.4329	18.2323	28.1033	35.2717	37.7149	44.5691	58.6043	71.7776	85.6558	94.5874
QG	136.5774	49.2502	7.6755	25.4089	73.9312	184.2838	327.4666	464.5273	628.6847	766.9059
QFIN	60.4094	69.2461	45.3559	56.4147	71.3302	125.7396	186.0252	253.3326	314.4175	366.2774
XVAL	-162.1563	-69.0682	-8.1274	-7.6959	34.0982	18.8943	55.5001	7.6219	75.0713	88.7382
QGDP	212.4361	88.3444	41.5114	27.8005	-3.7548	5.4556	0.9180	8926	-4.8683	-34.5257
QDEF	-56.7244	64.5092	76.0240	68.3056	73.9437	64.0718	63.2040	53.6893	46.0837	36.4572
XVOL	-162.4295	-78.5186	-13.3523	-20.0849	32.2625	16.0793	59.4984	43.4507	71.7275	90.0177
QR5	0.0008	0.0006	0.0007	0.0008	0.0004	0.0009	0.0009	0.0009	0.0008	0.0006
QTBR	0.0078	0.0040	0.0034	0.0031	0.0031	0.0037	0.0033	0.0033	0.0032	0.0031
INF	0.0015	-0.0045	-0.0010	-0.0012	-0.0002	-0.0018	-0.0016	-0.0023	-0.0017	-0.0012

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QRXR	0.0007	0.0008	0.0012	0.0013	0.0011	0.0012	0.0006	0.0004	0.0000	-0.0002
QCE	-168.1624	-302.5393	-426.7936	-528.2101	-616.0638	-677.9614	-730.2259	-768.0892	-810.2989	-845.2787
QEG	408.9812	516.9046	525.0858	529.6788	536.6024	542.9041	547.2242	552.6474	554.0684	553.1809
QRW	-0.0008	0.0006	0.0011	0.0013	0.0011	0.0009	0.0006	0.0004	0.0001	-0.0002
QGDPF	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000
QRXRF	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000
QRWF	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	0.0000
ZUF	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000
ZU	-0.0015	-0.0018	-0.0012	-0.0009	-0.0003	-0.0001	0.0001	0.0002	0.0002	0.0004

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
R5	-0.0044	-0.0043	-0.0041	-0.0041	-0.0040	-0.0039	-0.0036	-0.0031	-0.0022	-0.0015
TBR	0.0056	0.0009	-0.0002	-0.0008	-0.0012	-0.0013	-0.0017	-0.0018	-0.0016	-0.0013
QW	337.3239	550.7807	708.7093	1111.1496	1319.3447	1643.2072	1986.1411	2281.8282	2563.3130	2805.4737
QM	-23.2139	38.6840	73.4833	102.3239	126.3302	145.1321	165.2380	183.0660	197.1128	207.4512
QG	210.9987	248.4281	375.4945	555.7449	782.8128	1016.6697	1247.8539	1467.0545	1668.9277	1859.2449
QFIN	96.0530	257.5578	353.9532	466.0415	557.4788	652.1977	743.9153	821.0416	881.9740	927.4945
XVAL	-125.8268	-44.9618	8.9182	-28.4502	32.0164	51.6442	52.4564	68.7039	80.3347	102.4349
QGDP	-337.0974	-409.7727	-412.9824	-399.6729	-408.2571	-420.2713	-426.8734	-445.7673	-468.7206	-492.4675
QDEF	-37.0060	97.5075	104.0172	88.2201	94.8521	92.9101	84.9572	80.3591	66.8164	48.0315
XVOL	-201.3461	-119.6852	-44.9485	-92.1207	-11.0680	11.7796	6.7053	23.5272	27.5963	51.6197
QR5	0.0036	0.0026	0.0020	0.0017	0.0013	0.0011	0.0009	0.0008	0.0008	0.0010

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QTBR	0.0144	0.0095	0.0071	0.0059	0.0047	0.0040	0.0035	0.0033	0.0031	0.0031
INF	0.0026	-0.0082	-0.0040	-0.0044	-0.0028	-0.0022	-0.0025	-0.0023	-0.0019	-0.0015
QRXR	0.0310	0.0265	0.0230	0.0208	0.0187	0.0173	0.0164	0.0159	0.0155	0.0153
QCE	-214.5269	-357.7555	-469.2434	-542.8509	-602.6986	-645.0635	-674.3531	-699.3598	-727.3966	-753.4363
QEG	-131.8001	-12.4918	-14.3068	-18.6172	-22.1581	-28.2226	-34.2817	-44.2194	-61.1121	-84.9677
QRW	-0.0070	-0.0106	-0.0140	-0.0164	-0.0184	-0.0199	-0.0209	-0.0217	-0.0222	-0.0227
QGDPF	-387.7457	-398.0713	-407.3893	-417.1781	-428.0004	-438.9628	-449.7075	-460.7921	-472.4602	-484.3824
QRXRF	0.0146	0.0146	0.0146	0.0146	0.0146	0.0146	0.0146	0.0146	0.0146	0.0146
QRWF	-0.0213	-0.0215	-0.0217	-0.0219	-0.0222	-0.0224	-0.0226	-0.0228	-0.0231	-0.0233
ZUF	0.0121	0.0123	0.0128	0.0132	0.0134	0.0138	0.0141	0.0145	0.0149	0.0153
ZU	0.0053	0.0097	0.0120	0.0120	0.0120	0.0118	0.0116	0.0117	0.0119	0.0120

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
R5	-0.0062	-0.0054	-0.0048	-0.0044	-0.0041	-0.0039	-0.0035	-0.0029	-0.0020	-0.0007
TBR	0.0016	-0.0019	-0.0019	-0.0018	-0.0017	-0.0015	-0.0011	-0.0012	-0.0012	-0.0009
QW	593.0528	424.9150	451.9482	656.9573	768.3659	1026.2713	1372.7287	1659.6084	1905.3969	2166.9208
QM	18.1416	35.1042	47.4810	64.9478	79.7486	95.2400	109.6836	129.0214	146.3933	159.1173
QG	394.4784	267.3652	246.8465	332.0809	457.1861	643.3821	831.2969	1038.5515	1249.9507	1446.9804
QFIN	173.7365	168.5257	182.0830	250.8387	318.2435	405.8567	500.7135	589.2855	660.4167	720.0026
XVAL	-181.9261	-1.6160	16.4429	3.1606	52.3568	64.6729	51.9045	58.7736	90.6698	121.6952
QGDP	-216.8458	-515.1828	-561.2635	-580.6494	-624.8519	-631.0380	-647.2975	-661.9853	-685.7159	-709.6634
QDEF	-133.1090	114.9513	111.6293	99.5332	103.3259	93.6180	83.4521	73.6941	64.0086	43.6451
XVOL	-222.5944	-54.4952	-47.6069	-63.7509	-4.6536	6.4335	-14.7781	-7.7143	22.6313	52.7486
QR5	-0.0005	0.0003	0.0008	0.0011	0.0010	0.0010	0.0010	0.0009	0.0008	0.0012
QTBR	0.0048	0.0034	0.0037	0.0039	0.0038	0.0036	0.0038	0.0037	0.0034	0.0033
INF	-0.0024	-0.0024	-0.0016	-0.0027	-0.0017	-0.0017	-0.0024	-0.0029	-0.0022	-0.0017

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QRXR	0.0177	0.0222	0.0245	0.0254	0.0250	0.0244	0.0241	0.0237	0.0232	0.0229
QCE	-190.4098	-345.7467	-481.0933	-584.9236	-669.8667	-731.9517	-773.3575	-805.1253	-838.9824	-868.1569
QEG	-195.2897	-25.8816	-42.4150	-58.5572	-71.3919	-84.7013	-94.0923	-108.0633	-126.8844	-152.7865
QRW	0.0160	0.0219	0.0242	0.0250	0.0249	0.0244	0.0243	0.0241	0.0239	0.0239
QGDFF	-574.5274	-589.8270	-603.6335	-618.1377	-634.1732	-650.4163	-666.3369	-682.7611	-700.0499	-717.7152
QRXRF	0.0216	0.0216	0.0216	0.0216	0.0216	0.0216	0.0216	0.0216	0.0216	0.0216
QRWF	0.0207	0.0209	0.0211	0.0213	0.0215	0.0217	0.0219	0.0221	0.0224	0.0226
ZUF	0.0184	0.0188	0.0194	0.0200	0.0205	0.0209	0.0215	0.0221	0.0227	0.0233
ZU	0.0031	0.0088	0.0128	0.0148	0.0161	0.0167	0.0169	0.0173	0.0178	0.0181

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
		SIMM7								
R5	-0.0059	-0.0054	-0.0051	-0.0045	-0.0042	-0.0039	-0.0036	-0.0031	-0.0023	-0.0017
TBR	0.0016	-0.0018	-0.0036	-0.0011	-0.0014	-0.0016	-0.0017	-0.0016	-0.0015	-0.0010
QW	775.5039	823.5216	1042.5376	1479.1999	1768.2267	2126.8687	2419.3909	2789.8120	3045.3752	3360.4178
QM	28.3398	67.5825	106.7986	128.5851	157.9381	184.9718	206.9922	225.7763	242.5412	254.6727
QG	515.9353	472.3560	611.4148	831.2018	1046.3534	1298.7992	1546.2172	1772.2049	2009.3827	2212.7013
QFIN	229.8373	335.3795	436.9791	572.0451	691.7317	805.3063	898.6199	983.1360	1046.7214	1097.5250
XVAL	-204.4942	32.3230	5.6662	-25.6448	17.7481	23.2732	59.1525	42.6632	74.4708	68.2766
QGDP	75.5773	-196.5675	-151.7055	-145.9505	-178.0551	-172.6225	-190.4890	-198.2459	71.5701	51.1987
QDEF	-75.6135	139.2506	116.2279	99.3939	101.0976	91.4988	92.5978	79.9515	54.9724	40.8120
XVOL	-228.0598	9.3774	-18.1451	-56.6759	-5.8297	0.5863	45.3464	20.9764	0.0007	0.0008
QR5	0.0014	0.0010	0.0009	0.0012	0.0010	0.0009	0.0008	0.0008	0.0007	0.0008
QTBR	0.0089	0.0050	0.0036	0.0052	0.0042	0.0037	0.0033	0.0032	0.0030	0.0029
INF	-0.0040	-0.0044	-0.0045	-0.0052	-0.0042	-0.0038	-0.0027	-0.0030	-0.0022	-0.0023

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	0.0106	0.0093	0.0090	0.0098	0.0087	0.0080	0.0073	0.0071	0.0066	0.0065
QRXR	-153.6146	-272.4393	-365.2379	-439.2463	-493.2539	-527.4881	-553.5156	-568.6025	-590.8205	-606.0663
QCE	-56.6395	83.2788	73.6784	64.1953	50.6247	41.9770	35.0011	25.7387	11.3776	-7.7813
QEG	0.0091	0.0092	0.0089	0.0091	0.0084	0.0079	0.0074	0.0071	0.0069	0.0068
QRW	-166.6291	-171.0664	-175.0707	-179.2773	-183.9281	-188.6391	-193.2565	-198.0200	-203.0342	-208.1576
QGDPF	0.0062	0.0062	0.0062	0.0062	0.0062	0.0062	0.0062	0.0062	0.0062	0.0062
QRXRF	0.0059	0.0060	0.0061	0.0061	0.0062	0.0062	0.0063	0.0064	0.0064	0.0065
QRWF	0.0050	0.0051	0.0053	0.0055	0.0056	0.0057	0.0059	0.0061	0.0062	0.0064
ZUF	0.0003	0.0028	0.0039	0.0044	0.0047	0.0047	0.0049	0.0049	0.0051	0.0051

SIMM8

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
R5	-0.0061	-0.0054	-0.0046	-0.0043	-0.0040	-0.0038	-0.0035	-0.0030	-0.0020	-0.0006
TBR	0.0018	-0.0025	-0.0003	-0.0015	-0.0011	-0.0009	-0.0011	-0.0013	-0.0014	-0.0010
QW	565.2342	457.9115	481.3072	682.7995	784.6335	996.7747	1303.0833	1578.6855	1839.1087	2057.8407
QM	16.4246	40.3804	56.3661	83.4519	94.6049	110.0202	127.5342	145.6160	160.9785	172.3129
QG	368.7323	259.1664	291.1562	352.0680	432.3113	624.1205	820.6184	1015.2568	1193.6984	1379.6577
QFIN	163.5424	154.4513	190.2251	266.3370	318.1830	397.5537	484.1857	562.9169	626.7029	678.5077
XVAL	-188.5747	-22.9115	-12.7868	2.9233	37.7445	55.1241	56.7274	68.5124	82.3543	123.7734
QGD	-282.4505	-558.5952	-609.7143	-652.7790	-713.2442	-705.4172	-726.8372	-755.5606	-787.1970	-806.3234
QDEF	-143.5007	100.5379	98.0352	93.4338	98.9365	88.0811	80.2958	74.3493	61.3662	42.5957
XVOL	-231.9913	-92.3001	-89.0119	-82.6247	-40.6871	-16.2461	-19.8215	-6.5305	-0.7086	44.9503
QR5	-0.0006	0.0002	0.0012	0.0011	0.0012	0.0011	0.0010	0.0009	0.0008	0.0013
QTBR	0.0046	0.0031	0.0059	0.0042	0.0045	0.0043	0.0039	0.0037	0.0035	0.0034
INF	-0.0026	-0.0034	-0.0033	-0.0031	-0.0013	-0.0017	-0.0023	-0.0024	-0.0021	-0.0015

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QRXR	0.0202	0.0254	0.0300	0.0294	0.0291	0.0284	0.0277	0.0271	0.0266	0.0263
QCE	-196.4554	-356.5215	-493.5246	-601.9850	-692.1289	-761.1037	-809.2172	-846.8848	-883.0293	-917.2255
QEG	-222.8505	-50.4864	-69.7372	-87.0753	-96.7311	-111.3658	-121.1019	-134.1571	-153.0082	-179.9898
QRW	0.0184	0.0251	0.0290	0.0294	0.0291	0.0285	0.0281	0.0277	0.0276	0.0275
QGD	-655.6093	-673.0681	-688.9230	-705.3742	-723.6728	-742.2083	-760.3757	-779.1178	-798.8465	-819.0048
QRXRF	0.0247	0.0247	0.0247	0.0247	0.0247	0.0247	0.0247	0.0247	0.0247	0.0247
QRWF	0.0236	0.0239	0.0241	0.0243	0.0246	0.0248	0.0251	0.0253	0.0256	0.0258
% OF	0.0213	0.0217	0.0224	0.0231	0.0236	0.0242	0.0249	0.0256	0.0262	0.0269
% U	0.0038	0.0099	0.0147	0.0170	0.0184	0.0191	0.0195	0.0200	0.0205	0.0209

ANNEX B

U.K. 'FACT BOOK'

A DETAILED ACCOUNT OF THE TAX AND BENEFIT
SYSTEM OF THE UK IN NOVEMBER 1982

Preface to the Tables

In analysing the causes of distortions in labour markets it will be useful to begin by outlining the structure of the present systems of taxation and social security and then consider the type of figures generated under the existing systems and by their inter-action.

The Present Tax Structure

Under current tax legislation, it is necessary to aggregate all chargeable incomes from the various recognised schedular sources (after allowing for permitted source deductions) so as to arrive at Gross Statutory Income. From this we deduct certain types of financial obligation known as charges on income, the most important in the present context being relief for interest paid on owner-occupied houses. The resultant figure is known as the Net Statutory Income from which is deducted the various personal allowances. In so far as the concern is with persons in work or capable of work the only relevant allowances are single persons (or wife's earned income) allowances and married mans allowance - the other personal allowances may be taken as having little effect on the work - leisure decision. Once taxable income has been computed in this way, the relevant amount is subjected to tax at the appropriate rate(s). The relevant rate for low income earners and those with taxable incomes up to £12,800 is 30% which is the basic rate of income tax. Leaving aside some obvious simplifications which may be considered desirable, the major difficulties

stemming from the tax system centre on the level of tax thresholds and starting rate of income tax. For reasons already stated we have preferred to concentrate our attentions on the former, whilst recognising that the case for a reduced rate liability may be more appropriate once computerisation of the pay as you earn system is achieved.

The Social Security System

In the main body of the text a distinction was made between the "unemployment" and "poverty" traps. The former refers to the situation where an unemployed person receives benefits larger in amount than the earnings he may reasonably expect from employment. The poverty trap, by contrast, applies only to persons who are currently in work, but are dissuaded from further work effort because of the loss of means tested benefits as their earnings increase. This distinction leads us to consider the social security system; first as regards those currently out of work who are entitled to unemployment and related benefits, and secondly the position of those who are in work but by virtue of their low earnings are entitled to some form of Family Income Supplement.

Benefits Payable to the Unemployed

At the outset it is necessary to distinguish between those persons who are unemployed for a short period of time (up to twelve months) and those who are unemployed over the longer period of time. For short term claimants the primary system of income support is provided by unemployment benefits which can be obtained as of right provided the claimant had paid a certain number of national

insurance contributions. The contribution conditions will not be detailed; it will suffice to note that provided they are met Unemployment Benefit (UB) will be given, whether or not the claimant has any other income. As this is not a means tested benefit, the amount of the benefit will not be reduced if for example the claimants spouse is working or if the household has investment income or capital resources by which it could otherwise maintain itself. By contrast, Supplementary Benefit which is a complementary system of income support for short term claimants is a means tested benefit, so that if the unemployed persons' circumstances are such that he would receive more on this scale than on unemployment benefit, the latter will be "topped up" to the supplementary benefit level of entitlement. Before considering the exact relationship between these two systems of income support for persons temporarily unemployed, it will be useful to consider how the level of primary support is calculated.

Until recently, unemployment Benefit was seen to comprise two major elements. Firstly, there was a scale rate element which was a flat rate benefit dependent upon age and domestic status, and secondly there was an earnings related supplement (E.R.S.) which was paid in addition to the scale rate, and which subject to certain conditions represented a certain percentage of previous earnings. The E.R.S. was seen as a means of temporarily cushioning the immediate impact of becoming unemployed and so was only paid for the first six months of unemployment, thereafter only the flat rate benefit was payable. After twelve months of unemployment even the flat rate benefit stops and thereafter the Supplementary Benefit applies.

As a result of the abolition of E.R.S. during 1982, we expect that most short term benefit claimants will in future be entitled to a level of state income commensurate with the S.B. scale, since the flat rate benefit is less than that provided by the supplementary scheme. In general terms, the only instances in which the U.B. rates will exceed the means tested S.B. entitlement is where the latter has been reduced because of other household income (e.g husband unemployed, but wife working) or where the household has capital resources in excess of the prescribed level. The only other major factor which may affect the decision of short term beneficiaries as to whether or not to claim the S.B "top up" is that rent and rate rebates which can be claimed from Local Authorities are available only to those on U.B not those on S.B.

We may summarise the present position by saying that the supplementary benefits level of income support is of relevance not only to the longer term unemployed but also to many claimants who have been registered unemployed for twelve months or less. Let us therefore consider this scheme in some detail.

The level of supplementary benefit entitlement is determined by reference to several recognised categories of need. Firstly there are prescribed scale rate benefits which are intended to provide for day to day living expenses, these are determined by the domestic status of the claimant at the rates shown in Table B, as already indicated these rates are higher than those provided by the U.B scale rates. The second category of financial need which is recognised in calculating supplementary

entitlement refers to housing costs - tenants may claim for rent (provided reasonable) and rates ; owner occupiers can claim mortgage interest (not capital) payments, rates and £78 for nominal repairs. The third category of need relates to special circumstances, for example "extra" payments may be incurred for heating or laundry or diet. The most relevant special circumstance allowance is the extra heating allowance available to households with one or more dependent children under 5 years old, since this is given automatically regardless of whether or not there is any incapacity in the family. And in addition to these statutorily recognised needs categories, it is possible to claim Exceptional Needs Payments (E.N.P) which are discretionary lump sum grants. Moreover in an attempt to reduce the administrative costs of social security, a "passport" system has been evolved whereby entitlement to S.B. automatically entitles the claimant to free prescriptions, dental/optical treatment and school meals. However it should be borne in mind that S.B. is a means tested benefit so that the total value of all these benefits will be reduced by the amount of child benefit or earnings from part time work (the first £4 is disregarded) or any other income.

Benefits Available to those in Work

It must not be thought that Social Security Benefits can only be claimed by the unemployed, for there are a number of benefits which may be claimed by low income earning families. By far the most important welfare benefit is Family Income Supplement (FIS) which may be claimed by those in full time work with dependent children, provided the family "income" does not exceed the prescribed amount. The details of how to compute family income

and the limits of prescribed income as well as the maximum amounts of supplement payable will not be considered here, though they have of course been fully taken into account in the annexed tables. What is important, indeed vital so far as a proper understanding of the poverty trap is concerned, is the formula for determining the amount of FIS payable for this leads us to observe that for every extra £1 earned, 50 pence may be lost in benefit.

The general rule for determining the amount of FIS payable is that it represents one half the difference between the prescribed income level and the actual income received; so that if the legislation provided the prescribed income level for a married couple with two children was £82 and the family income received was £72 then FIS payable is £5.

The problem is that for every extra £1 earned, 50% will be lost in FIS entitlement. Taking the previous example, earnings have now increased to £73, so FIS payable is £4.50 i.e. $\frac{1}{2}(\text{£}82 - 73)$. We can see that this means tested benefit is detrimental to those who seek to achieve earnings by increased work effort for the rate of withdrawal of income subsidy represents an implicit rate of 50% on earnings, and this is in addition to the explicit rate of income and national insurance taxation which adds another 38.75%. As such those in receipt of FIS may face an overall marginal tax rate of nearly 90% for every extra £1 (gross) earnings. Indeed the marginal tax rates can be much higher since those who claim FIS are automatically entitled to the same "passported" benefit as previously referred to under S.B: they may also be entitled to rent and rate rebates, free school meals and a number of discretionary local authority benefits.

If the total value of these benefits is taken into account, then as earnings increase the rate of withdrawal of these means tested benefits can be very high indeed. Detailed computations of marginal tax rates for low income earners and the assumptions upon which they are based may be found in Table A.

Inter-Action of Tax-Transfer Systems

Although it is widely recognised that both the tax and social security systems have failings in their own right, it should now be apparent that from a work incentive viewpoint the essential problem lies in the inter-action of the two systems. Indeed let us be more specific about the inter-active difficulty for as we have seen the Poverty Trap is the additive tax burden imposed by the tax (38.75%) and the implicit tax on subsidy withdrawals (at least 50%); whereas the unemployment trap where persons can receive more on the dole than in work, arises as a result of high benefit levels relative to low tax thresholds and high starting rates of tax. Although both traps may be alleviated by increasing tax thresholds and reducing initial tax rates, as we have already seen, such actions cannot in themselves remedy the poverty and unemployment anomalies. It is not necessary for us to re-iterate our earlier theoretical analysis, instead we shall consider what in fact happens and how the present tax-transfer systems happen to be so damaging to those who seek to improve their economic well being by hard work and increased responsibilities.

Table A

This table seeks to show how the marginal rate of tax is calculated for five types of family grouping (ranging from single persons to married couples with four children), given various gross earnings levels (ranging from £50 to £160 per week). In the Table A series we have considered the position of an adult male taxpayer - claimant, and in the case of married couples we have assumed the wife does not work; as regards the position of female persons this is considered in Table E.

Each Table is accompanied by a chart which illustrates the figures and hopefully highlights many of the points which need to be emphasised.

The format of the tables show the status of the earner for each income level less the tax and national insurance payments so that the post tax earnings may be readily computed. To this is added any social security payments to which the person may be entitled so as to arrive at gross disposable income. Bearing in mind that some welfare benefits (eg FIS and C.B.) are given only if there are dependent children; whilst other benefits are given solely on an income criteria (e.g Rent and Rate Rebates). we can now calculate the gross disposable income, from which work expenses assumed arbitrary at £8.25 p.w. are deductible in arriving at net disposable income. The other assumptions underlying the figures are that tax rates and allowances including national insurance payments as well as national welfare benefits rates are those in force as at the first of December 1982. Housing costs are assumed £15 per week, representing £12 in rent and £3 in rates and whilst this is based on local authority estimates it does seem to be on the low side. (if other assumptions are made

then the appropriate rebate tables may be consulted). The main reason being that as Rebate tables for December 1982 are not yet available we have based our calculations on 1981 tables and local authority tenanted housing cost figures. (Source DHSS, Social Security Statistics 1981 Table 34.60).

Work expenses are assumed £8.25 per week and this once again probably under-estimates the cost of average travelling expenses to work (etc). This figure has however been used by Ralph Howell in his pioneering work "why work" and so provides some means of comparing his results as at 1st January 1981 with our estimate at 1st December 1982.

Where FIS is granted there is an automatic entitlement to passported benefits, and in quantifying the value of these benefits we have taken the figures supplied by the DHSS (FIS1 1982) namely £1.50 per adult per week for medical dental services. £3.00 for each child in respect of free meals and £1.50 for free milk and vitamins for each child that is five years old.

Having dealt with all underlying assumptions we can now discuss the tables in detail.

In Table A (i) the position of single person is considered and it can be seen that the tax system is progressive for those on the earning up to about £110 p.w. thereafter it becomes proportional at the basic rate of income tax (38.75%). The reason for this is that whilst the basic rate of income tax is always present, rent and rate rebates are being lost as incomes rise up to about £100 and this is reflected in the marginal rates for one income level further up the scale. In Table A(ii), which represents the position of married couples, we have a

similar tax profile with the marginal tax rate settling at the basic rate at income levels of about £120 p.w.

However, when married couples with children are viewed we can see some very high marginal rates occurring, In Table A(iii) we consider a couple with one child, so for the first time we have FIS and passported benefits being withdrawn as the income of those on lowest earnings increases. And whilst marginal tax rates of more than 100% are encountered at the lowest income levels, this shoots up to nearly 150% for those in the £80.90 per week in-come range for there FIS, rebates and passported benefits are all being withdrawn; only when gross income exceeds £120 per week is the underlying (proportional) basic rate of income tax likely to be encountered.

Tables A (iv) to (vi) describe the position of families with 2, 3 and 4 dependent children respectively and much the same pattern is followed namely that those on the lowest incomes are met by marginal rates in excess of 100% and as the qualifying level of FIS, passported benefits and rebates is exceeded the marginal tax rates shoot up dramatically; thereafter followed by a falling marginal rate until the (proportional) basic rate is achieved at income levels of between £130 and £140 per week.

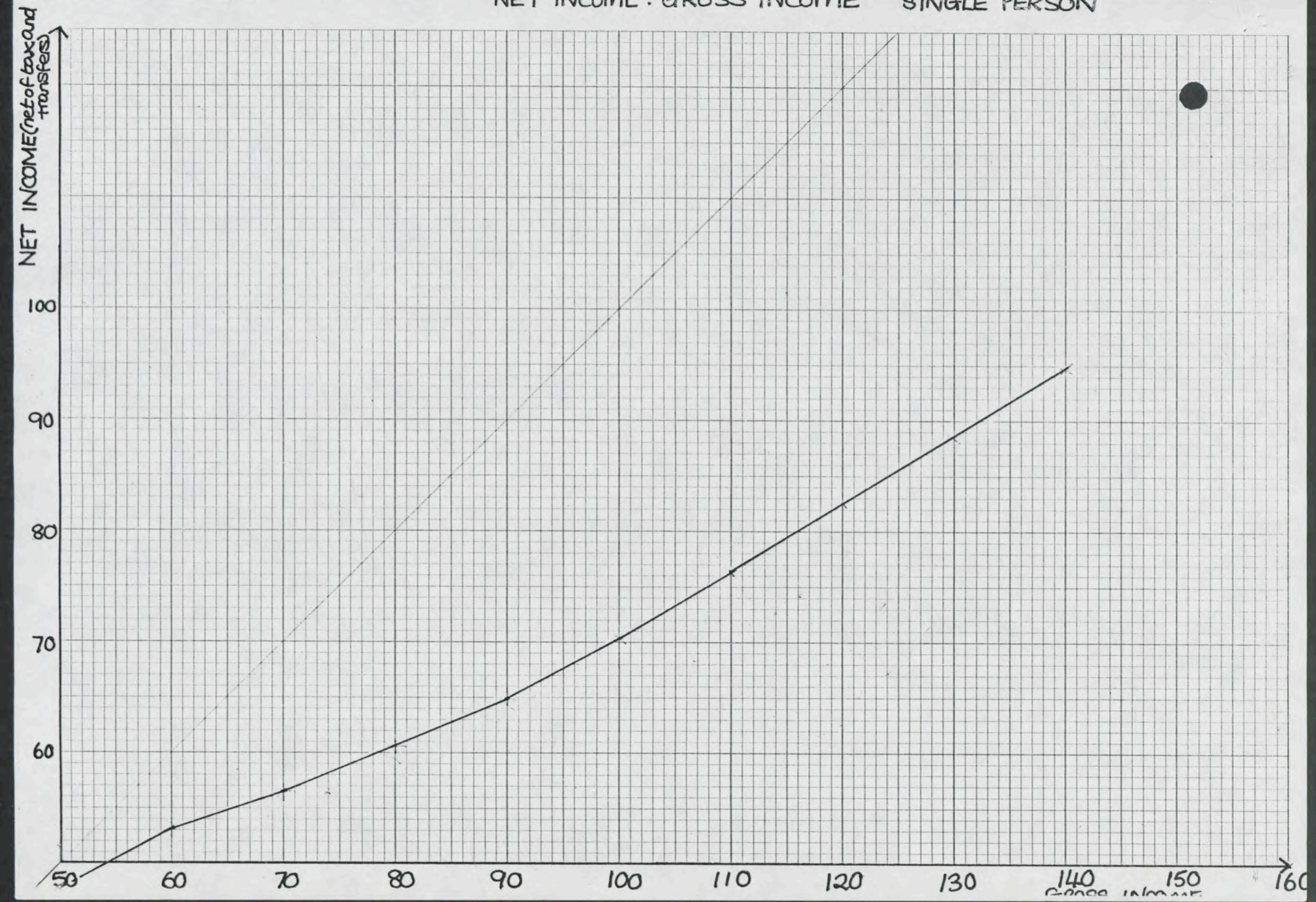
Table A therefore informs us of the circumstances where excessively high marginal rates of tax are encountered and why they arise, in short it depicts the Poverty Trap and its essential characteristics. So much by way of general introduction and observations let us now consider the evidence in detail.

TABLES A (1) to A(VI)

MARGINAL TAX RATES FOR DIFFERENT FAMILY TYPES

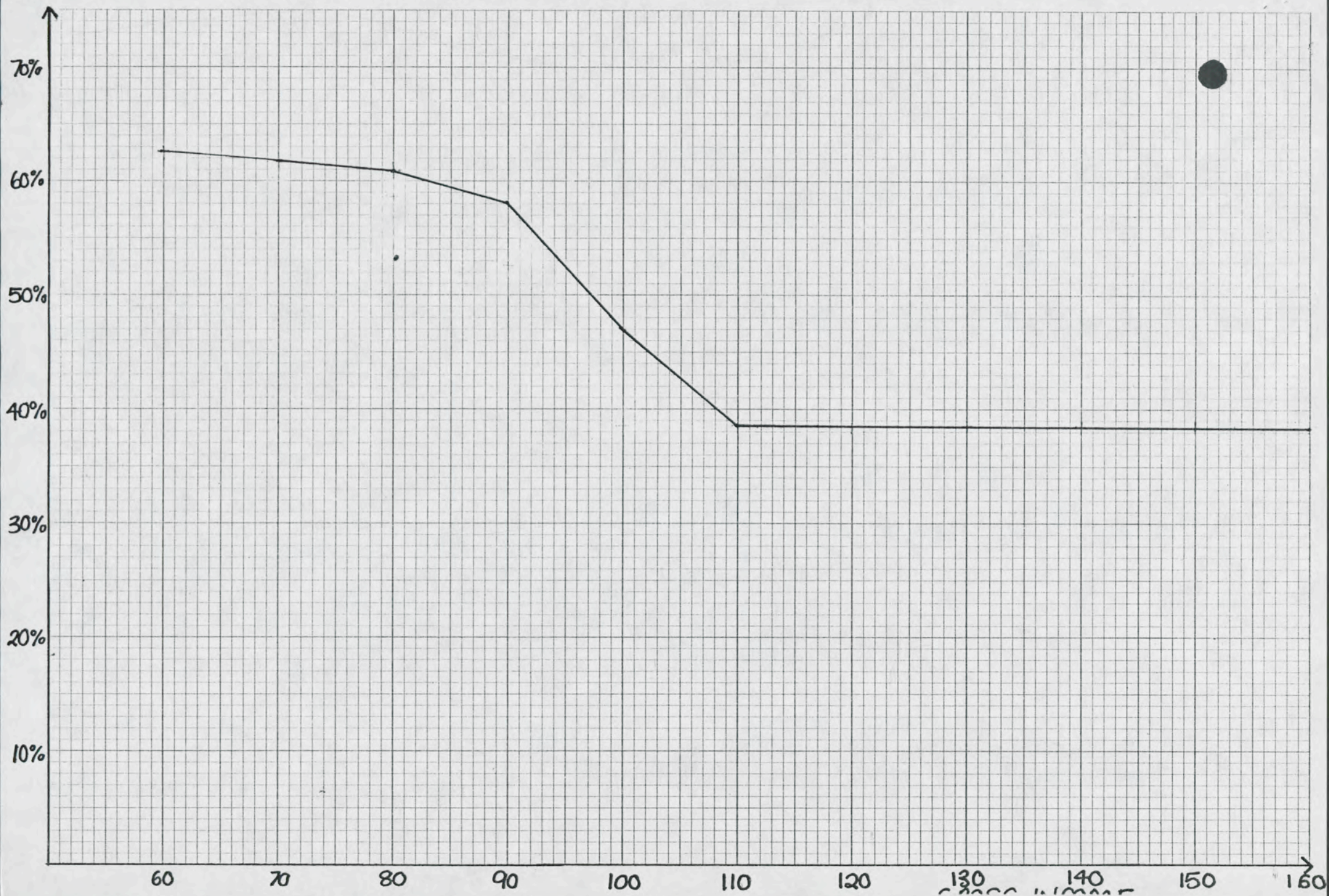
STATUS	EARNINGS P.W.	TAX DUE	N.I.	CHILD BENEFIT	FIS	RENT REBATE	RATE REBATE	OTHERS	WORK EXPENSES	NET INCOME	DIFFERENCE	MRT		
SINGLE	50	5.97	4.40	—	—	7.65	2.03	—	8.25	41.06				
"	60	8.97	5.27	—	—	5.93	1.36	—	8.25	44.80	3.74	62.6%		
"	70	11.97	6.15	—	—	4.23	0.75	—	8.25	48.61	3.81	61.9%		
"	80	14.97	7.02	—	—	2.53	0.23	—	8.25	52.52	3.91	60.9%		
"	90	17.97	7.90	—	—	0.83	—	—	8.25	56.71	4.19	58.1%		
"	100	20.97	8.77	—	—	—	—	—	8.25	62.01	5.30	47.0%		
"	110	23.97	9.65	—	—	—	—	—	8.25	68.13	6.12	38.8%		
"	120	26.97	10.52	—	—	—	—	—	8.25	74.26	6.13	38.7%		
"	130	29.97	11.40	—	—	—	—	—	8.25	80.38	6.12	38.8%		
"	140	32.97	12.27	—	—	—	—	—	8.25	86.51	6.13	38.7%		
"	150	35.97	13.15	—	—	—	—	—	8.25	92.63	6.12	38.8%		
"	160	38.97	14.02	—	—	—	—	—	8.25	98.76	6.13	38.7%		

NET INCOME : GROSS INCOME SINGLE PERSON



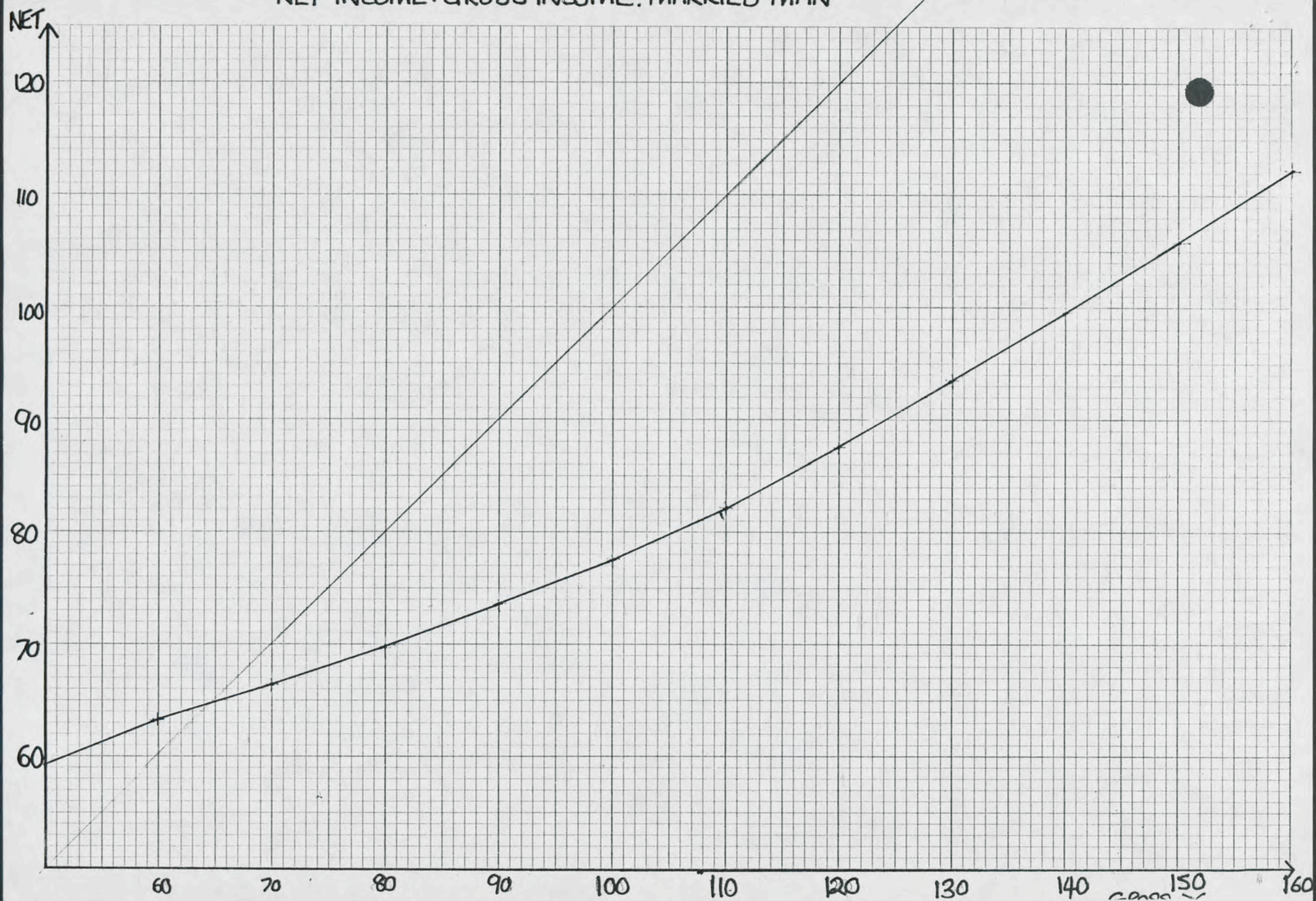
MRT

MARGINAL TAX RATE PROFILE, SINGLE PERSON.

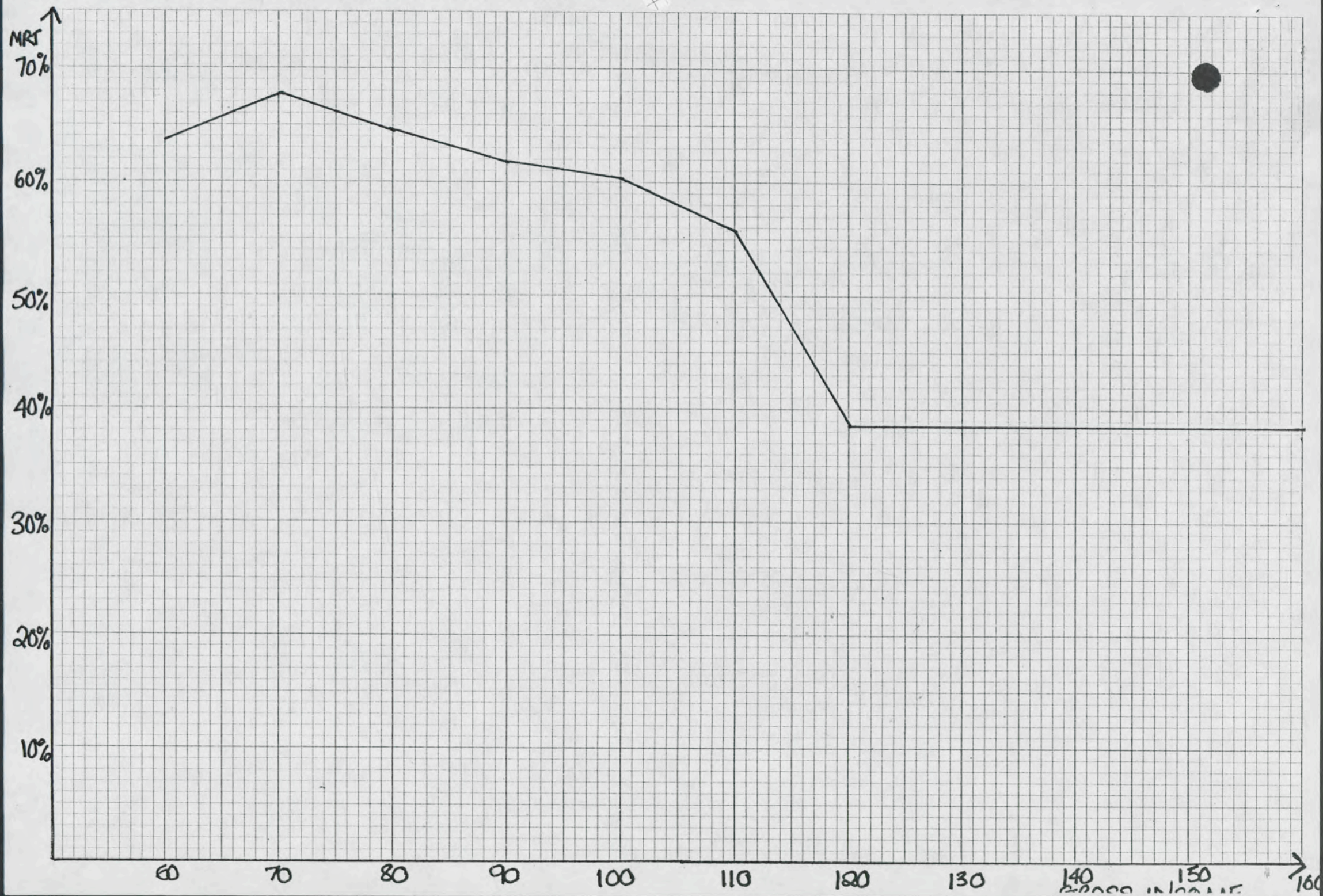


STATUS	EARNINGS P.W.	TAX DUE	N.I.	CHILD BENEFIT	FIS	RENT REBATE	RATE REBATE	OTHERS	WORK EXPENSES	NET INCOME	DIFFERENCE	MRT		
MARRIED	50	0.89	4.40	—	—	11.88	3.00	—	8.25	51.34				
"	60	3.89	5.27	—	—	9.73	2.66	—	8.25	54.98	3.64	63.6%		
"	70	6.89	6.15	—	—	7.58	1.91	—	8.25	58.20	3.22	67.8%		
"	80	9.89	7.02	—	—	5.64	1.25	—	8.25	61.73	3.53	64.7%		
"	90	12.89	7.90	—	—	3.94	0.65	—	8.25	65.55	3.82	61.8%		
"	100	15.89	8.77	—	—	2.24	0.18	—	8.25	69.51	3.96	60.4%		
"	110	18.89	9.65	—	—	0.71	—	—	8.25	73.92	4.41	55.9%		
"	120	21.89	10.52	—	—	—	—	—	8.25	79.34	6.13	38.7%		
"	130	24.89	11.40	—	—	—	—	—	8.25	85.46	6.12	38.8%		
"	140	27.89	12.27	—	—	—	—	—	8.25	91.59	6.13	38.7%		
"	150	30.89	13.15	—	—	—	—	—	8.25	97.71	6.12	38.8%		
"	160	33.89	14.02	—	—	—	—	—	8.25	104.84	6.13	38.7%		

NET INCOME: GROSS INCOME, MARRIED MAN

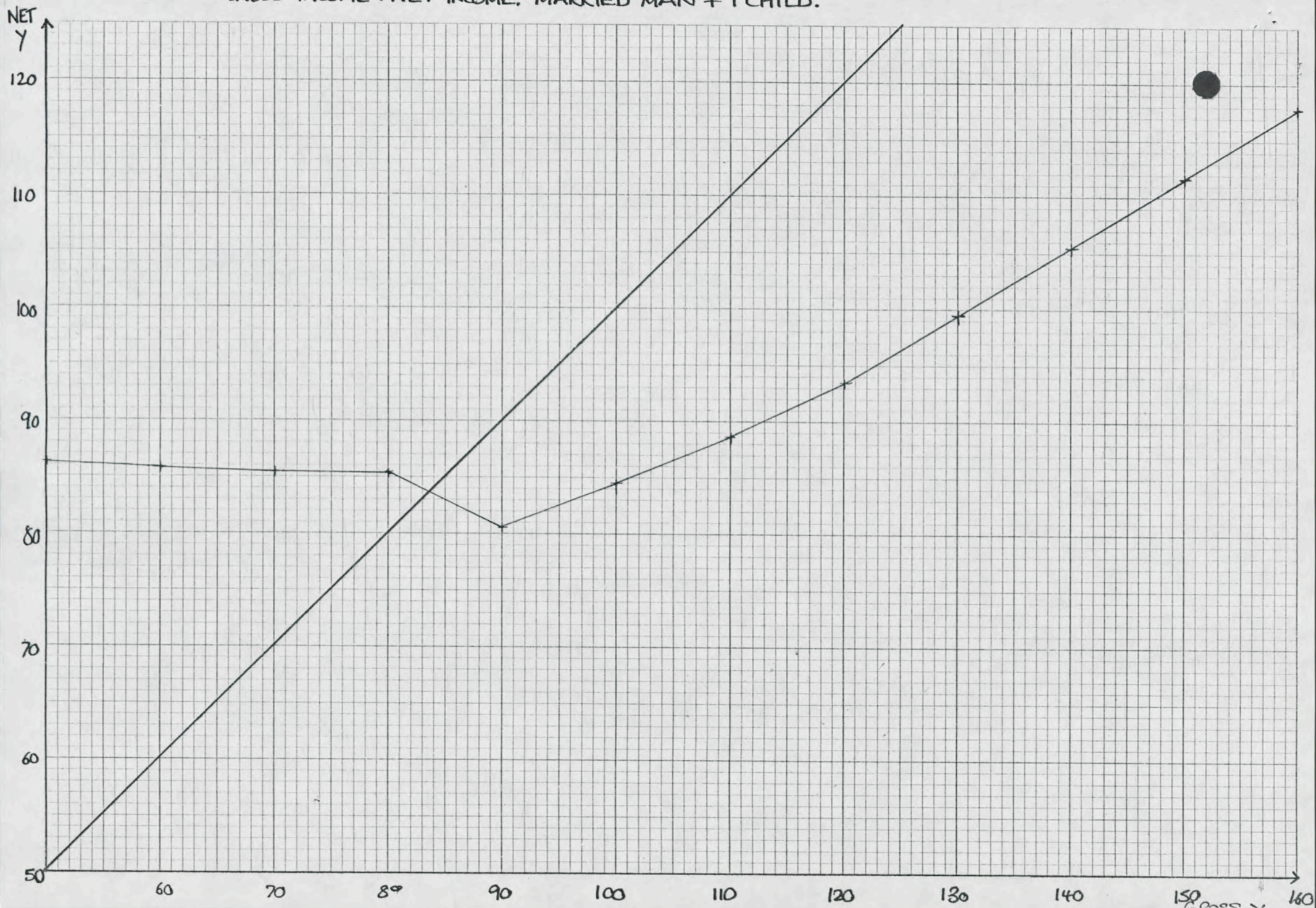


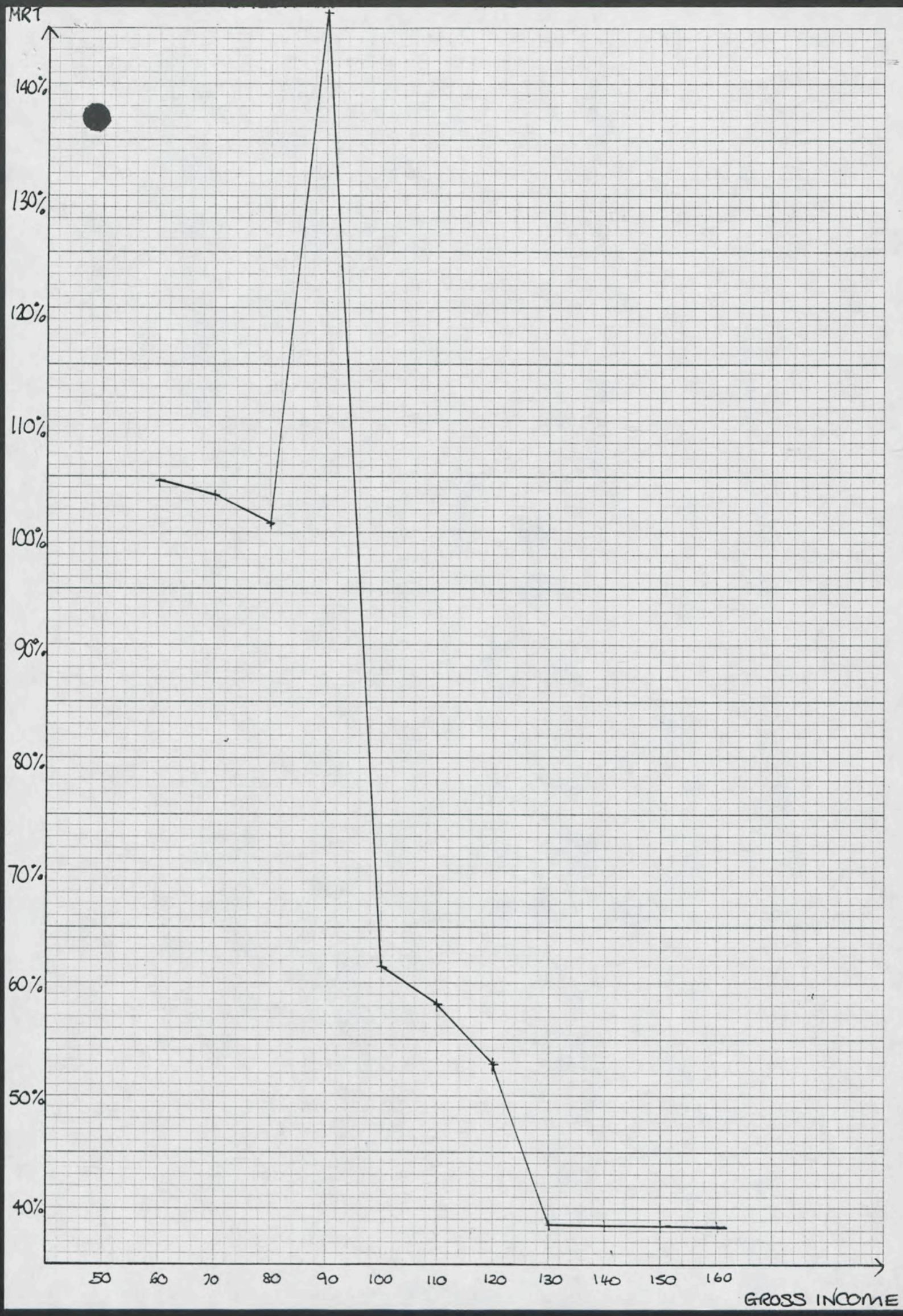
MARGINAL TAX RATE PROFILE, MARRIED M^{AN}



STATUS	EARNINGS P.W.	TAX DUE	N.I.	CHILD BENEFIT	FIS	RENT REBATE	RATE REBATE	OTHERS	WORK EXPENSES	NET INCOME	DIFFERENCE	MRT		
MARRIED + 1 CHILD	50	0.89	4.40	5.85	16.30	9.46	2.50	7.50 passported	8.25	78.07				
"	60	3.89	5.27	5.85	11.30	8.21	2.14	7.50	8.25	77.59	-0.48	104.8%		
"	70	6.89	6.15	5.85	6.30	7.11	1.78	7.50	8.25	77.25	-0.34	103.4%		
"	80	9.89	7.02	5.85	1.30	6.23	1.45	7.50	8.25	77.17	-0.08	100.8%		
"	90	12.89	7.90	5.85	—	4.71	0.92	—	8.25	72.44	-4.73	147.3%		
"	100	15.89	8.77	5.85	—	3.01	0.34	—	8.25	76.29	3.85	61.5%		
"	110	18.89	9.65	5.85	—	1.42	—	—	8.25	80.48	4.19	58.1%		
"	120	21.89	10.52	5.85	—	—	—	—	8.25	85.19	4.71	52.9%		
"	130	24.89	11.40	5.85	—	—	—	—	8.25	91.31	6.12	38.8%		
"	140	27.89	12.27	5.85	—	—	—	—	8.25	97.44	6.13	38.7%		
"	150	30.89	13.15	5.85	—	—	—	—	8.25	103.56	6.12	38.8%		
"	160	33.89	14.02	5.85	—	—	—	—	8.25	109.69	6.13	38.7%		

GROSS INCOME : NET INCOME, MARRIED MAN + 1 CHILD.

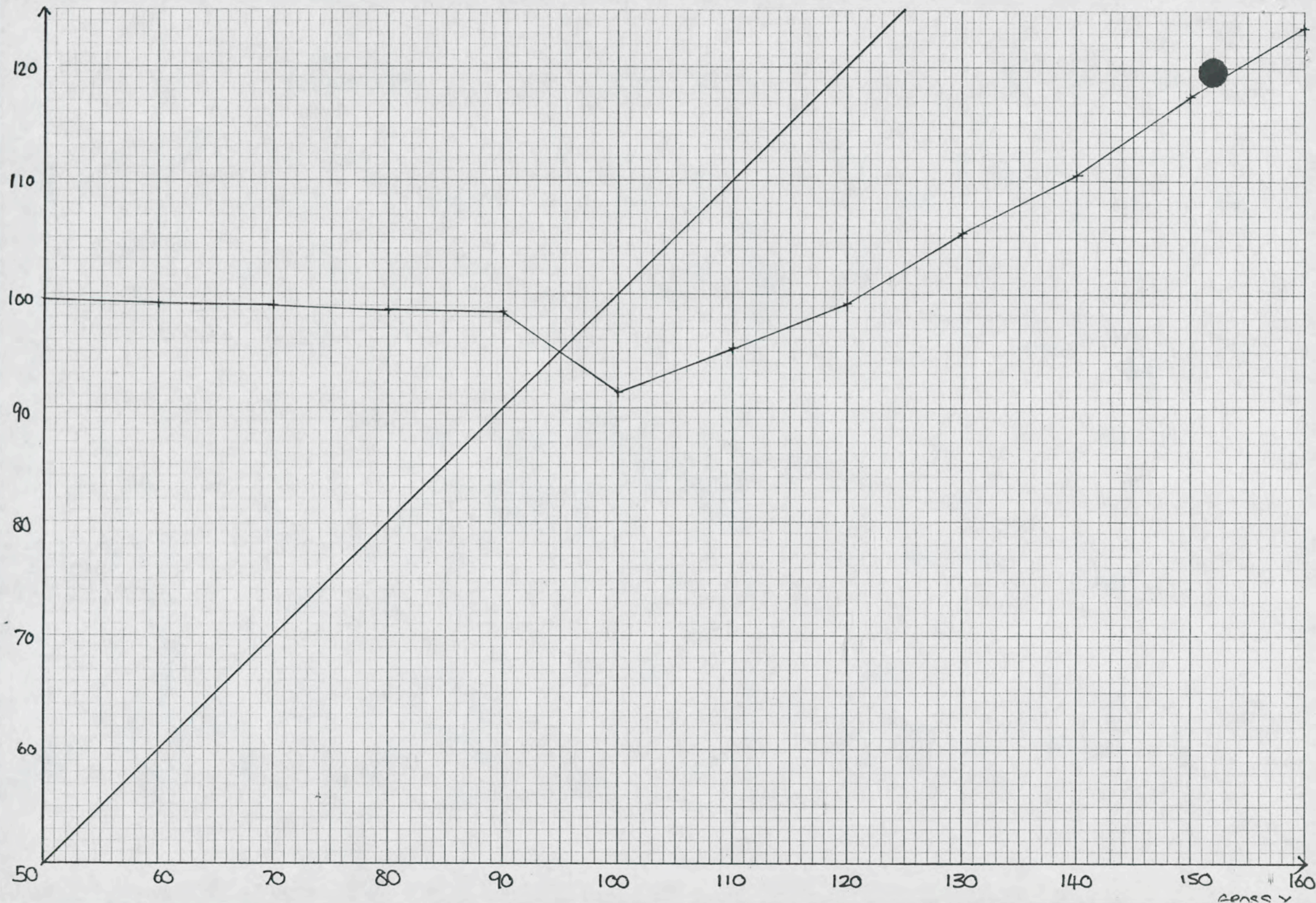




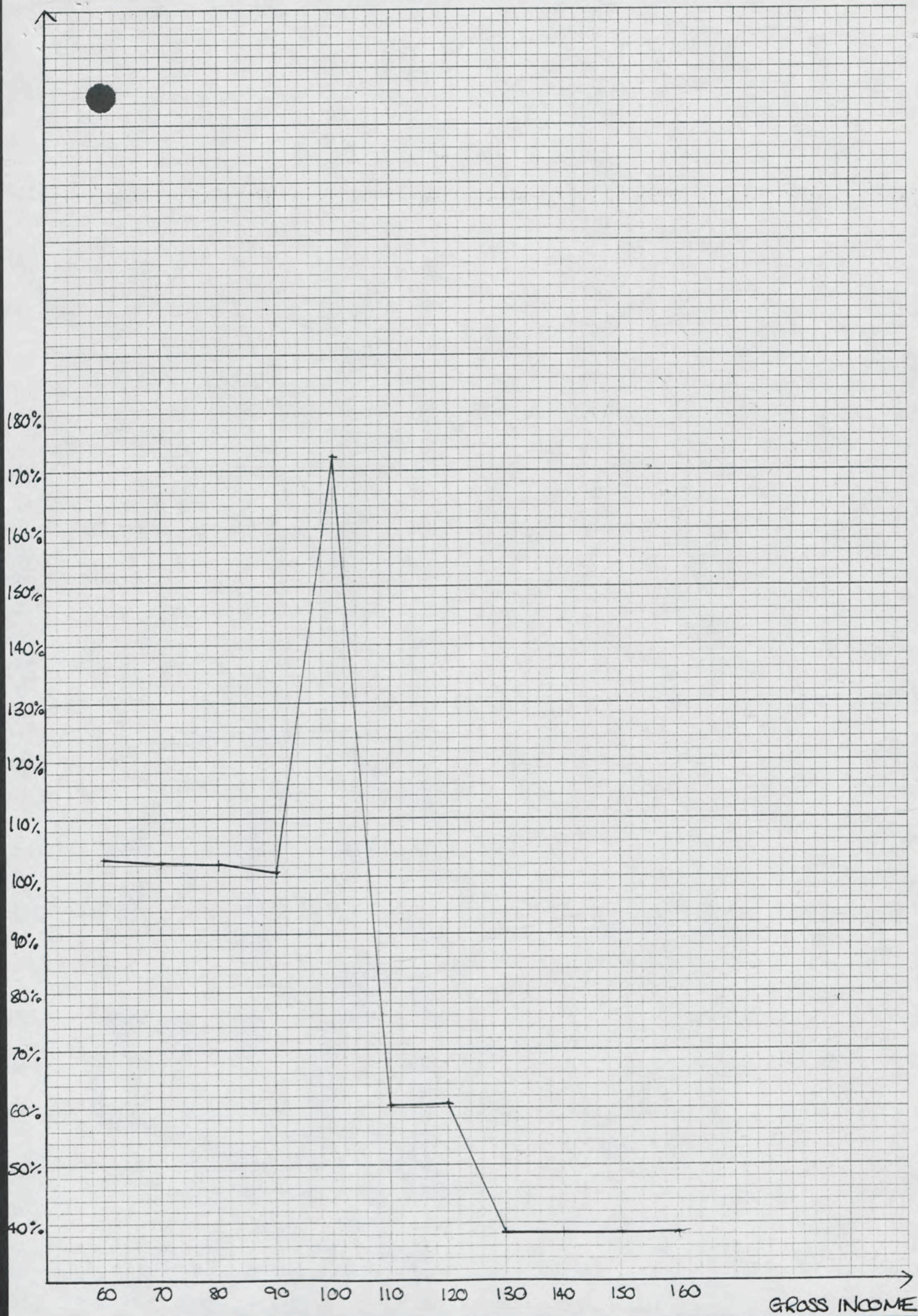
STATUS	EARNINGS P.W.	TAX DUE	N.I.	CHILD BENEFIT	FIS	RENT REBATE	RATE REBATE	OTHERS	WORK EXPENSES	NET INCOME	DIFFERENCE	MRT		
MARRIED + 2 CHILDREN	50	0.89	4.40	11.70	20.80	9.46	2.49	10.50 passported	8.25	91.41				
"	60	3.89	5.27	11.70	15.80	8.31	2.14	10.50	8.25	91.04	-0.37	103.7%		
"	70	6.89	6.15	11.70	10.80	7.30	1.78	10.50	8.25	90.79	-0.25	102.5%		
"	80	9.89	7.02	11.70	5.80	6.28	1.44	10.50	8.25	90.56	-0.23	102.3%		
"	90	12.89	7.90	11.70	0.80	5.34	1.14	10.50	8.25	90.44	-0.12	101.2%		
"	100	15.89	8.77	11.70	—	3.77	0.59	—	8.25	83.15	-7.29	172.9%		
"	110	18.89	9.65	11.70	—	2.07	0.13	—	8.25	87.11	3.96	60.4%		
"	120	21.89	10.52	11.70	—	—	—	—	8.25	91.04	3.93	60.7%		
"	130	24.89	11.40	11.70	—	—	—	—	8.25	97.16	6.12	38.8%		
"	140	27.89	12.27	11.70	—	—	—	—	8.25	103.29	6.13	38.7%		
"	150	30.89	13.15	11.70	—	—	—	—	8.25	109.41	6.12	38.8%		
"	160	33.89	14.02	11.70	—	—	—	—	8.25	115.54	6.13	38.7%		

NET Y

GROSS INCOME : NET INCOME . MARRIED MAN + 2 CHILDREN



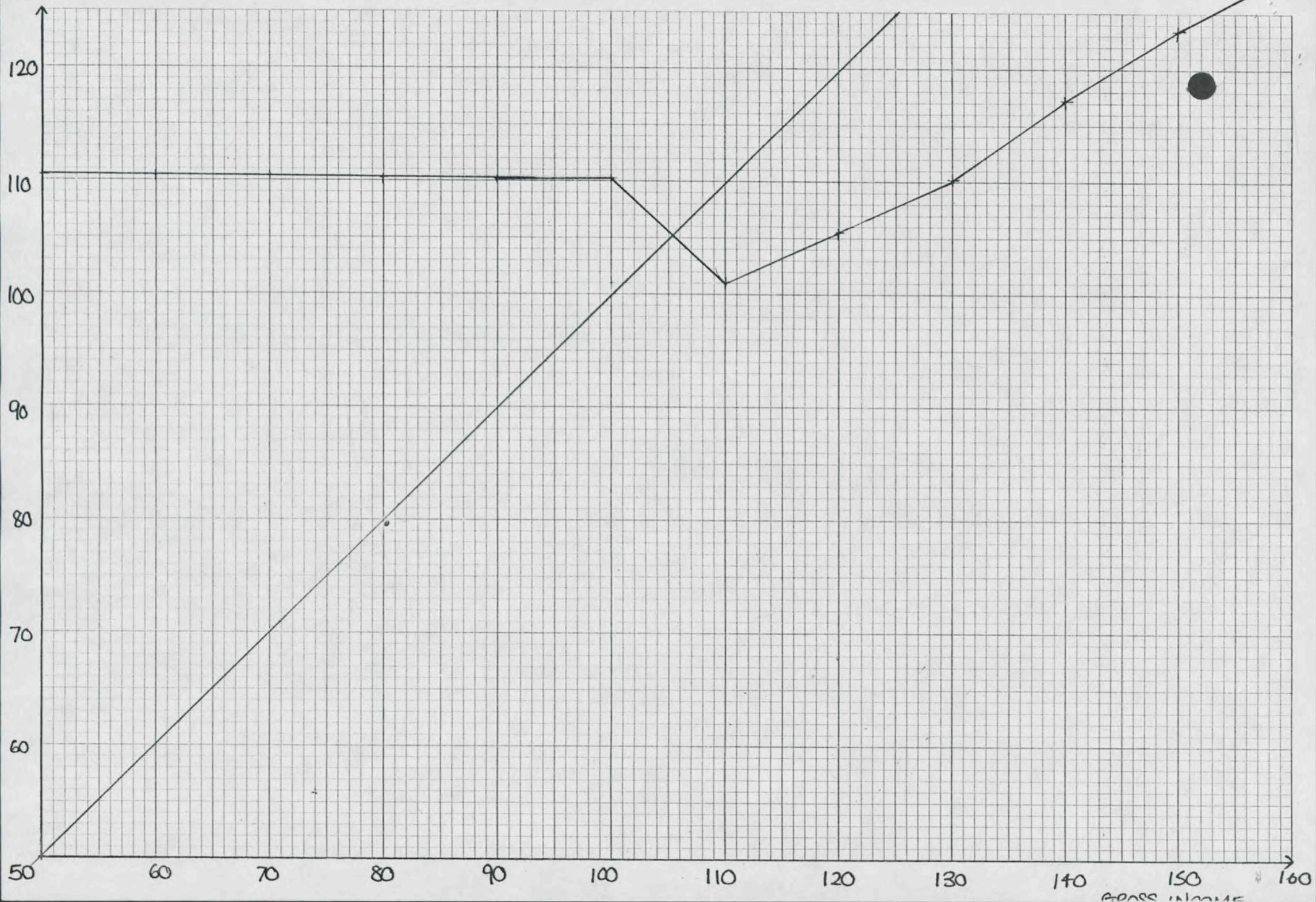
Mrs. TROTT. MARRIED MAN + 2 CHILDREN.

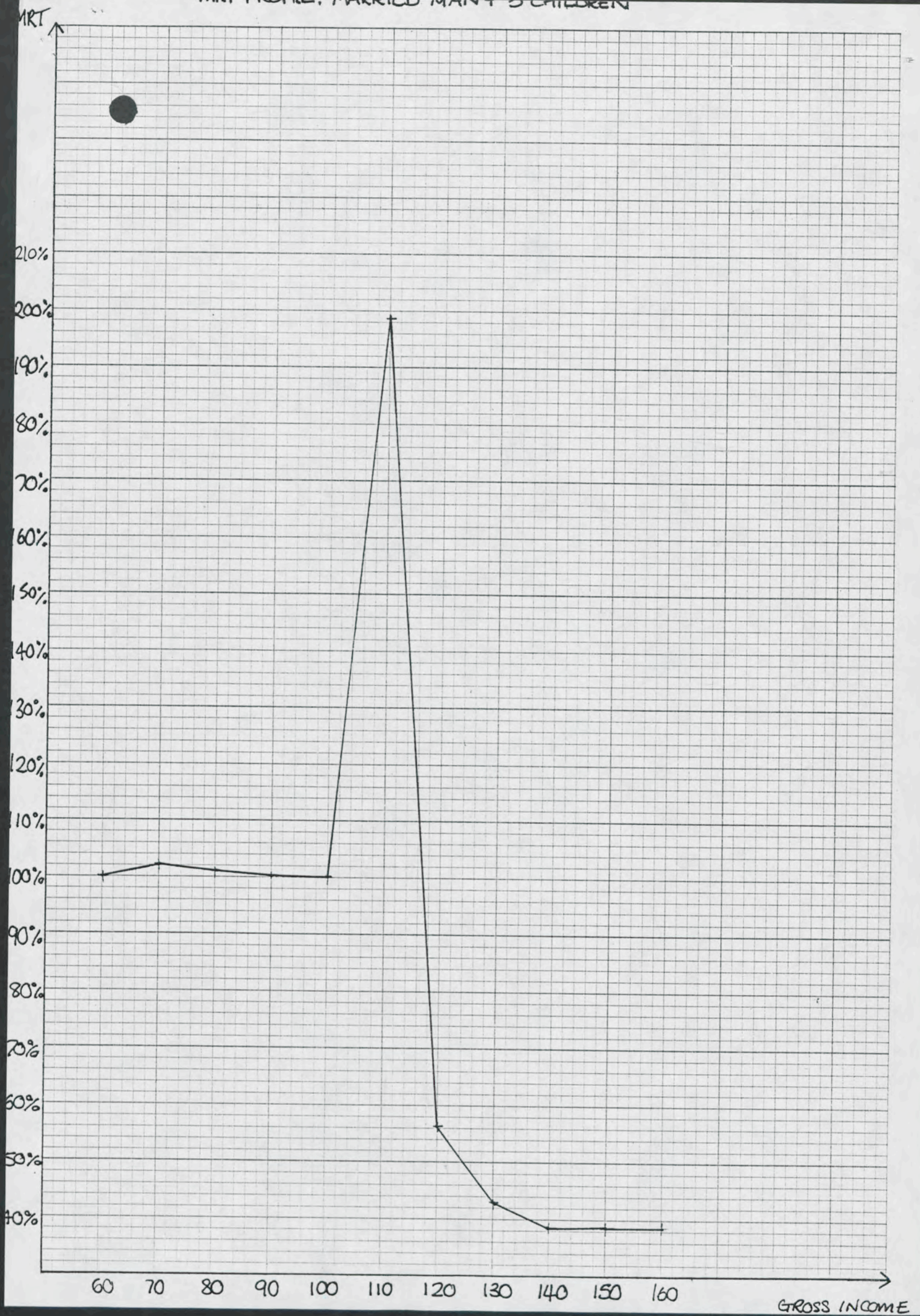


STATUS	EARNINGS P.W.	TAX DUE	N.I.	CHILD BENEFIT	FIS	RENT REBATE	RATE REBATE	OTHERS	WORK EXPENSES	NET INCOME	DIFFERENCE	MRT		A(v)
MARRIED + 3 CHILDREN	50	0.89	4.40	17.55	25.00	8.31	2.51	13.50 "passported"	8.25	103.33				
"	60	3.89	5.27	17.55	20.30	7.25	2.14	13.50	8.25	103.33	0.00	100.0%		
"	70	6.89	6.15	17.55	15.30	6.25	1.78	13.50	8.25	103.09	-0.24	102.4%		
"	80	9.89	7.02	17.55	10.30	5.28	1.44	13.50	8.25	102.91	-0.18	101.8%		
"	90	12.89	7.90	17.55	5.30	4.42	1.14	13.50	8.25	102.87	-0.04	100.4%		
"	100	15.89	8.77	17.55	0.30	3.58	0.84	13.50	8.25	102.86	-0.01	100.1%		
"	110	18.89	9.65	17.55		1.93	0.31		8.25	93.00	-9.86	198.6%		
"	120	21.89	10.52	17.55		0.48			8.25	97.37	4.37	56.3%		
"	130	24.89	11.40	17.55					8.25	103.01	5.64	43.6%		
"	140	27.89	12.27	17.55					8.25	109.14	6.13	38.7%		
"	150	30.89	13.15	17.55					8.25	115.26	6.12	38.8%		
"	160	33.89	14.02	17.55					8.25	121.39	6.13	38.7%		

NET

GROSS INCOME : NET INCOME . MARRIED MAN WITH 3 CHILDREN.

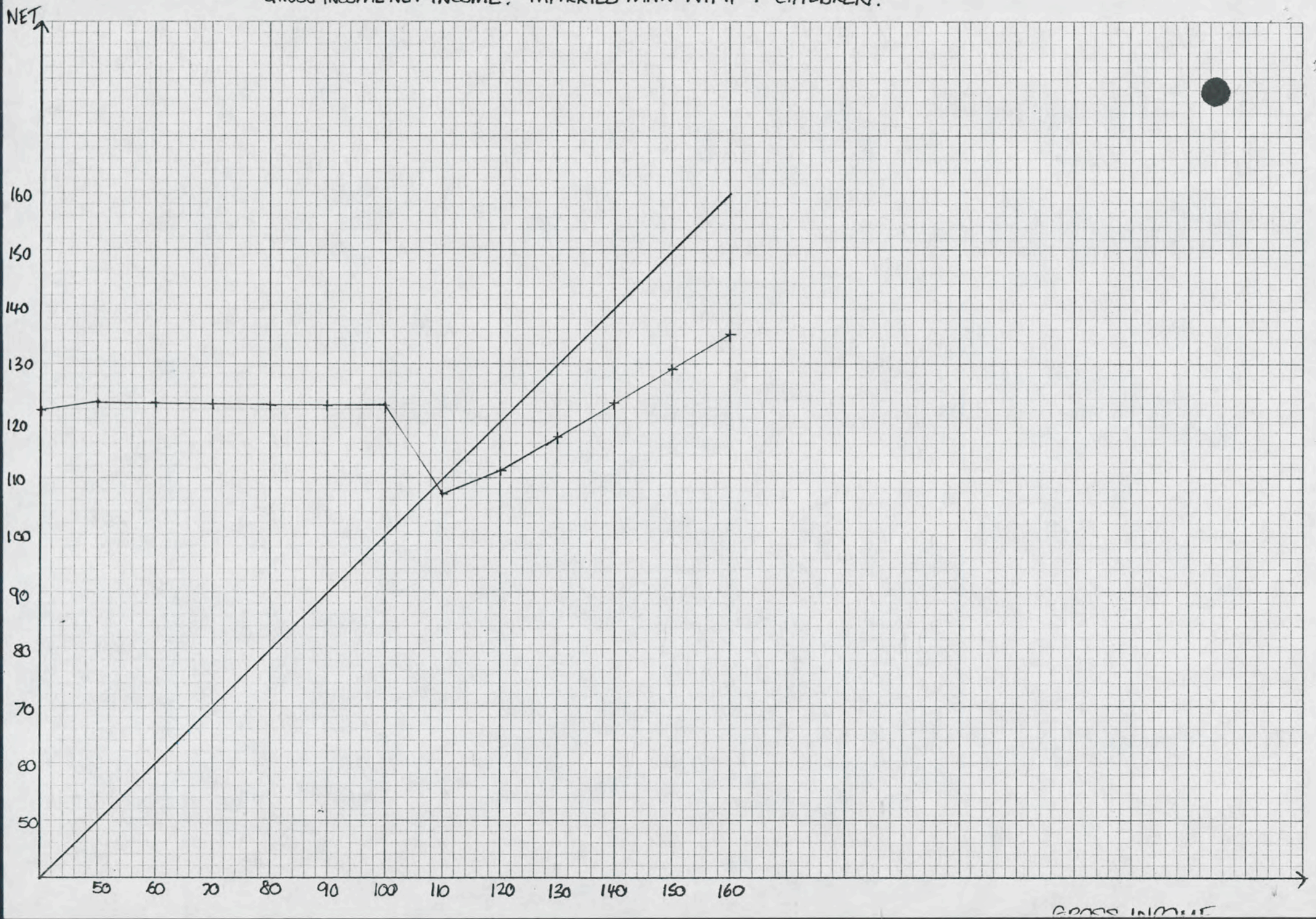


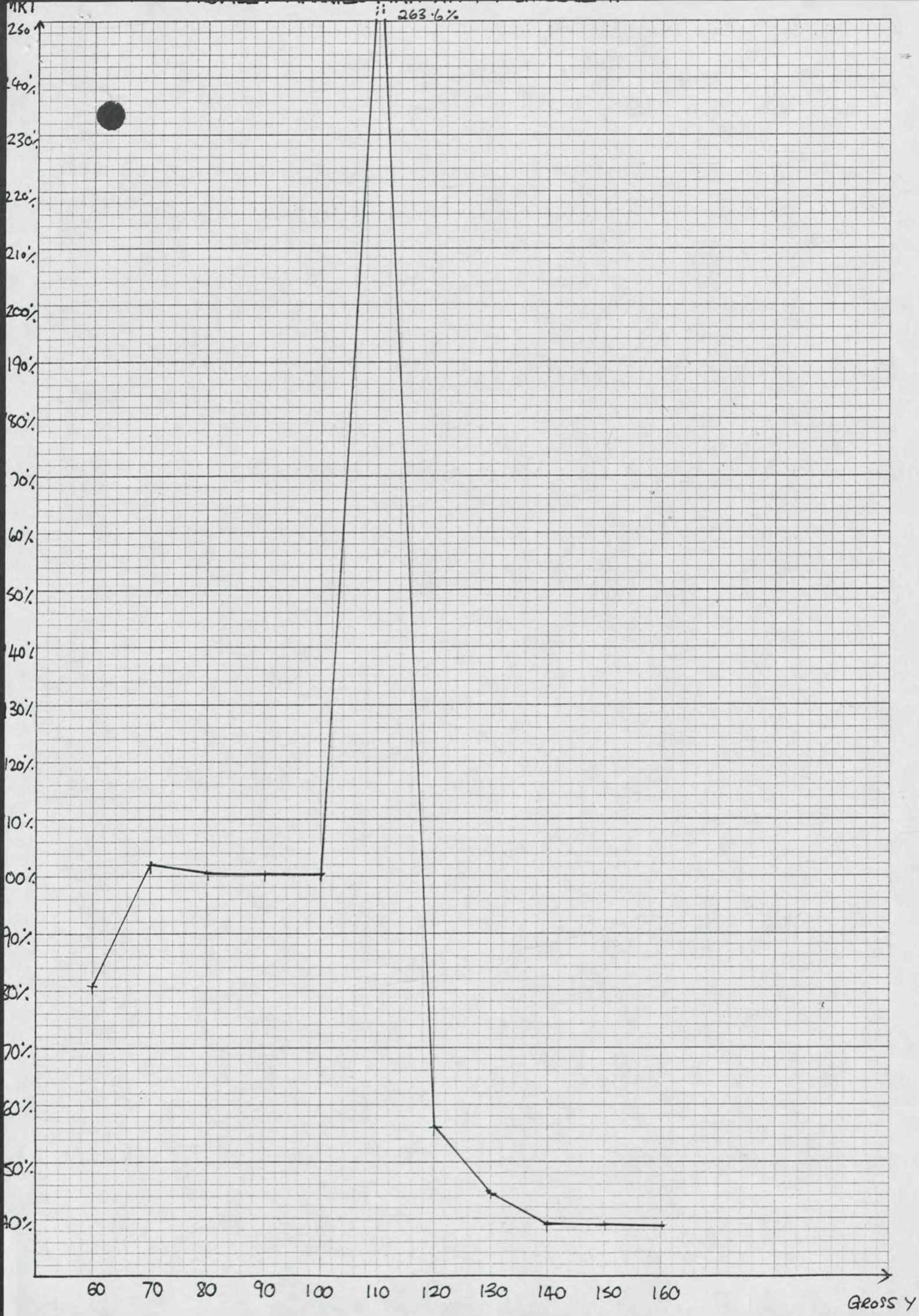


A(vi)

STATUS	EARNINGS P.W.	TAX DUE	N.I.	CHILD BENEFIT	FIS	RENT REBATE	RATE REBATE	OTHERS	WORK EXPENSES	NET INCOME	DIFFERENCE	MRT		
MARRIED + 4 CHILDREN	50	0.89	4.40	23.40	27.00	7.74	2.65	16.50 "passported"	8.25	113.75				
"	60	3.89	5.27	23.40	24.80	6.18	2.11	16.50	8.25	115.58	1.83	81.7%		
"	70	6.89	6.15	23.40	19.80	5.22	1.75	16.50	8.25	115.38	-0.2	102.0%		
"	80	9.89	7.02	23.40	14.80	4.37	1.42	16.50	8.25	115.33	-0.05	100.5%		
"	90	12.89	7.90	23.40	9.80	3.52	1.12	16.50	8.25	115.30	-0.03	100.3%		
"	100	15.89	8.77	23.40	4.80	2.65	0.82	16.50	8.25	115.26	-0.04	100.4%		
"	110	18.89	9.65	23.40	—	1.78	0.51	—	8.25	98.90	-16.36	263.6%		
"	120	21.89	10.52	23.40	—	0.49	0.07	—	8.25	103.30	4.4	56.0%		
"	130	24.89	11.40	23.40	—	—	—	—	8.25	108.86	5.56	44.4%		
"	140	27.89	12.27	23.40	—	—	—	—	8.25	114.99	6.13	38.7%		
"	150	30.89	13.15	23.40	—	—	—	—	8.25	121.11	6.12	38.8%		
"	160	33.89	14.02	23.40	—	—	—	—	8.25	127.24	6.13	38.7%		

GROSS INCOME: NET INCOME. MARRIED MAN WITH 4 CHILDREN.





Tables B and C

Table B shows how Supplementary Benefit entitlement is calculated for each of the five family groups, given our stated assumptions. In calculating the benefit entitlement of those claimants with dependent children it is important to note that the amount of S.B. child allowance (not to be confused with child benefit is payable to all persons with children) depends on the age of the child. As such we have tried to provide a family profile where the "first" child is aged under 5 years thereby entitling the claimant to £8.75 child allowance and £1.90 extra heating allowance. Where there is a second child, the age assumed is between 11 and 15 years resulting in a further £13.15 per week entitlement where there are three children the "third" child is assumed to be between the ages of 5 and 11 giving rise to a further £8.75 per week. And finally in a four child family we have assumed one child under 5 years, one under 11 years and two children aged between 11 and 15 years. Clearly if the age assumptions are changed then the benefit entitlement may also change, but having stated our assumptions expressively and noted that the type of family structure here envisaged is not particularly unrealistic our results appear reasonable and representative of actual entitlements.

Table C shows how the "longer term" replacement ratio is calculated for each of the five family groups. It will be remembered that this ratio represents the benefit entitlement available if unemployed as compared with the net earnings which such a person may reasonably expect in employment. The former figure is taken from Table B; and the latter figure shows net income entitlement as determined by Table A, on the assumption

that the claimants previous earnings (and hence potential present earnings) are the same gross amounts as shown in Table A. The vital observations to look for in the replacement ratio table when and under what circumstances it succeeds or approximates unity for in this event benefit entitlement exceeds net earnings potential so that an individual who seeks to financially optimise his position will remain unemployed - here we are in the unemployment trap. For single persons and married couples it will be seen that the ratios fall from amounts in excess of unity (those who formerly worked at the lowest gross income levels) to relatively low levels for those who formerly enjoyed higher earnings. In general terms the lower the former earnings the more worthwhile (or less costly) will be unemployment, both in absolute terms and relative to those who formerly enjoyed higher earnings. As for families with children the general observation is as the number increases the replacement ratio remains close to unity for increasingly higher levels of gross income.

TABLE B

TOTAL " LONG TERM" BENEFITS FOR DIFFERENT FAMILY TYPES

B.

STATUS	SUPPLEMENTARY BENEFIT SCALE RATE	CHILD ALLOWANCE	HOUSING COSTS (local authority based)	HEATING ALLOWANCE (for child under five years old)	FREE MILK + VITIMINS (for child under five years old)	FREE SCHOOL MEALS	FREE DENTAL, OPTICAL AND PRESCRIPTIONS PER ADULT	TOTAL BENEFITS	
SINGLE	25-70	—	15-00	—	—	—	1-50	42-20	
MARRIED	41-70	—	15-00	—	—	—	1-50 1-50	59-70	
MARRIED + 1 child under 5 years old ①	41-70	8-75	15-00	1-90	1-50	3-00	1-50 + 1-50	74-85	
MARRIED + 1 child under 5 1 child 11-15 ②	41-70	8-75 + 13-15	15-00	1-90	1-50	6-00	1-50 + 1-50	91-00	
MARRIED + 1 child under 5 1 child under 11 1 child 11-15 ③	41-70	17-50 + 13-15	15-00	1-90	1-50	9-00	1-50 + 1-50	102-75	
MARRIED + 1 child under 5 1 child under 11 2 children 11-15	41-70	17-50 + 26-30	15-00	1-90	1-50	12-00	1-50 + 1-50	118-90	

TABLE C

REPLACEMENT RATIOS FROM TABLES A AND B

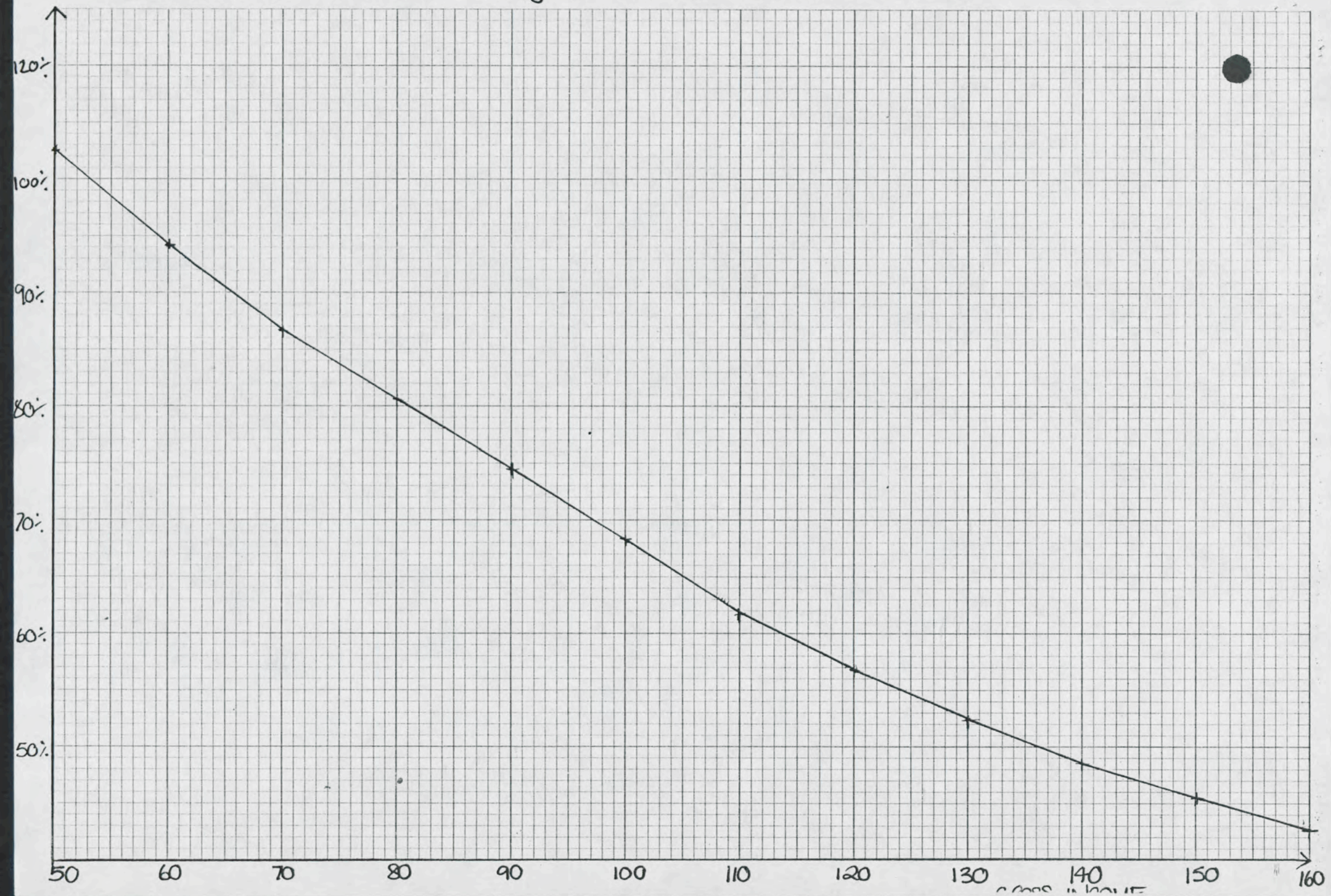
TABLE C

* WIFE NOT WORKING

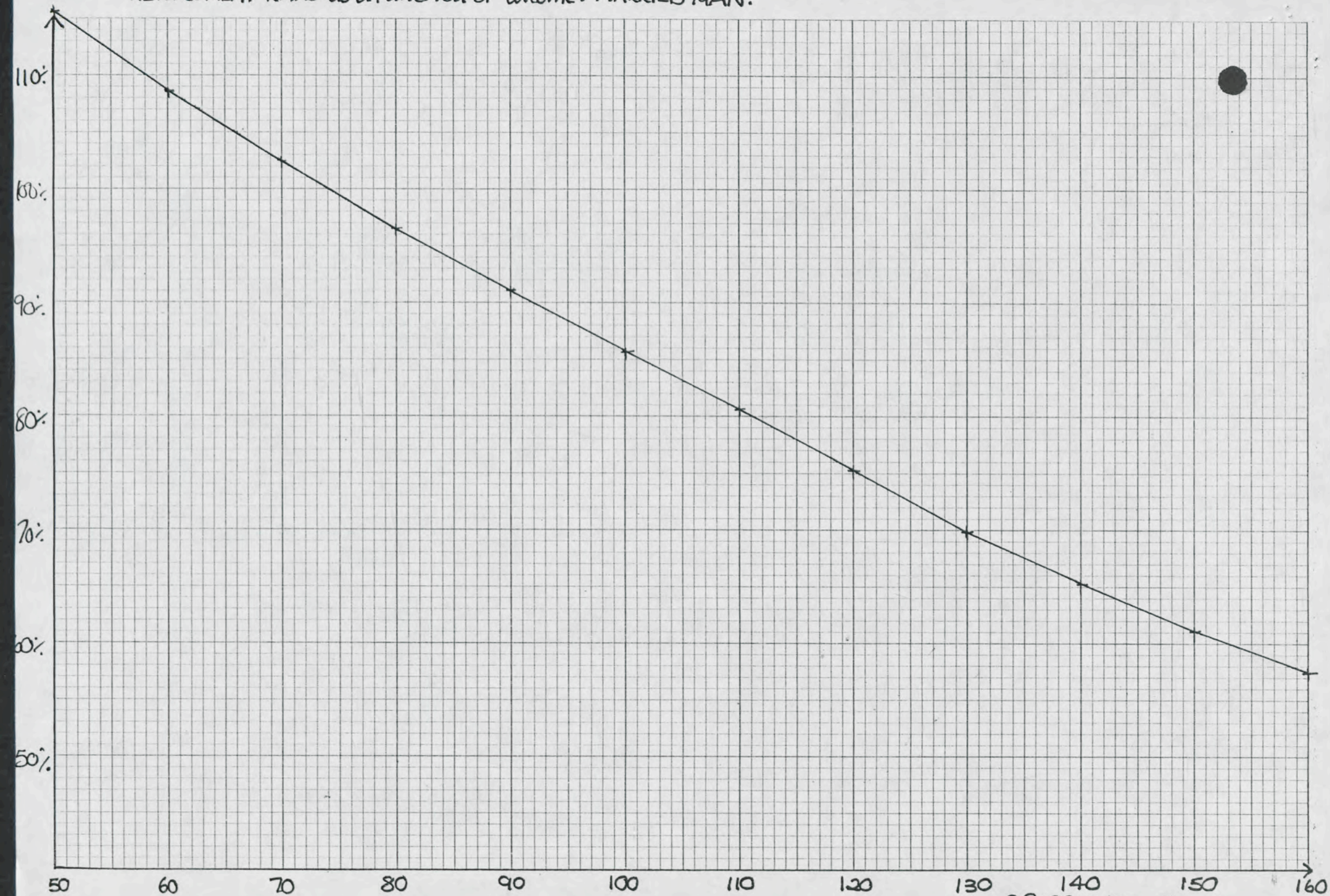
REPLACEMENT RATIOS FOR DIFFERENT FAMILY TYPES. NET INCOME FROM TABLE A. BENEFITS FROM B.

GROSS INCOME	SINGLE PERSON	MARRIED MAN *	MARRIED MAN* + 1 CHILD	MARRIED MAN* + 2 CHILDREN	MARRIED MAN* + 3 CHILDREN	MARRIED MAN* + 4 CHILDREN
50	102.7%	116.3%	95.9%	99.6%	99.4%	104.5%
60	94.2%	108.6%	96.5%	99.9%	99.4%	102.9%
70	86.8%	102.6%	96.8%	100.2%	99.7%	103.0%
80	80.4%	96.7%	96.9%	100.4%	99.8%	103.1%
90	74.4%	91.1%	103.3%	100.6%	99.9%	103.1%
100	68.1%	85.8%	98.1%	109.4%	99.9%	103.2%
110	61.9%	80.8%	93.0%	104.4%	110.5%	120.2%
120	56.8%	75.2%	87.8%	99.9%	105.5%	115.1%
130	52.5%	69.9%	81.9%	93.7%	99.7%	109.2%
140	48.8%	65.2%	76.8%	88.1%	94.1%	103.4%
150	45.5%	61.1%	72.3%	83.2%	89.1%	98.2%
160	42.7%	57.5%	68.2%	78.8%	84.6%	93.4%

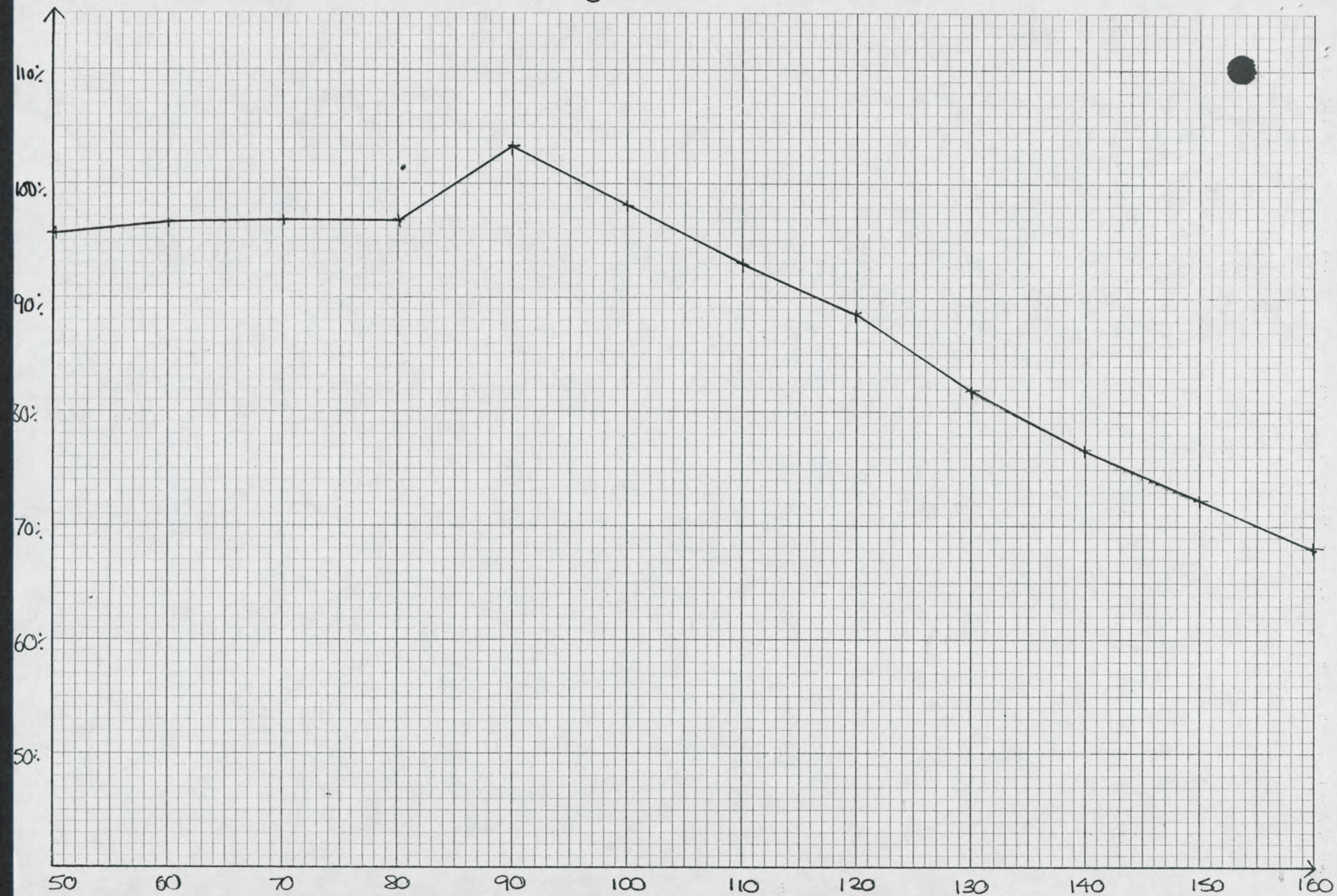
REPLACEMENT RATIO as a function of gross income. SINGLE PERSON.



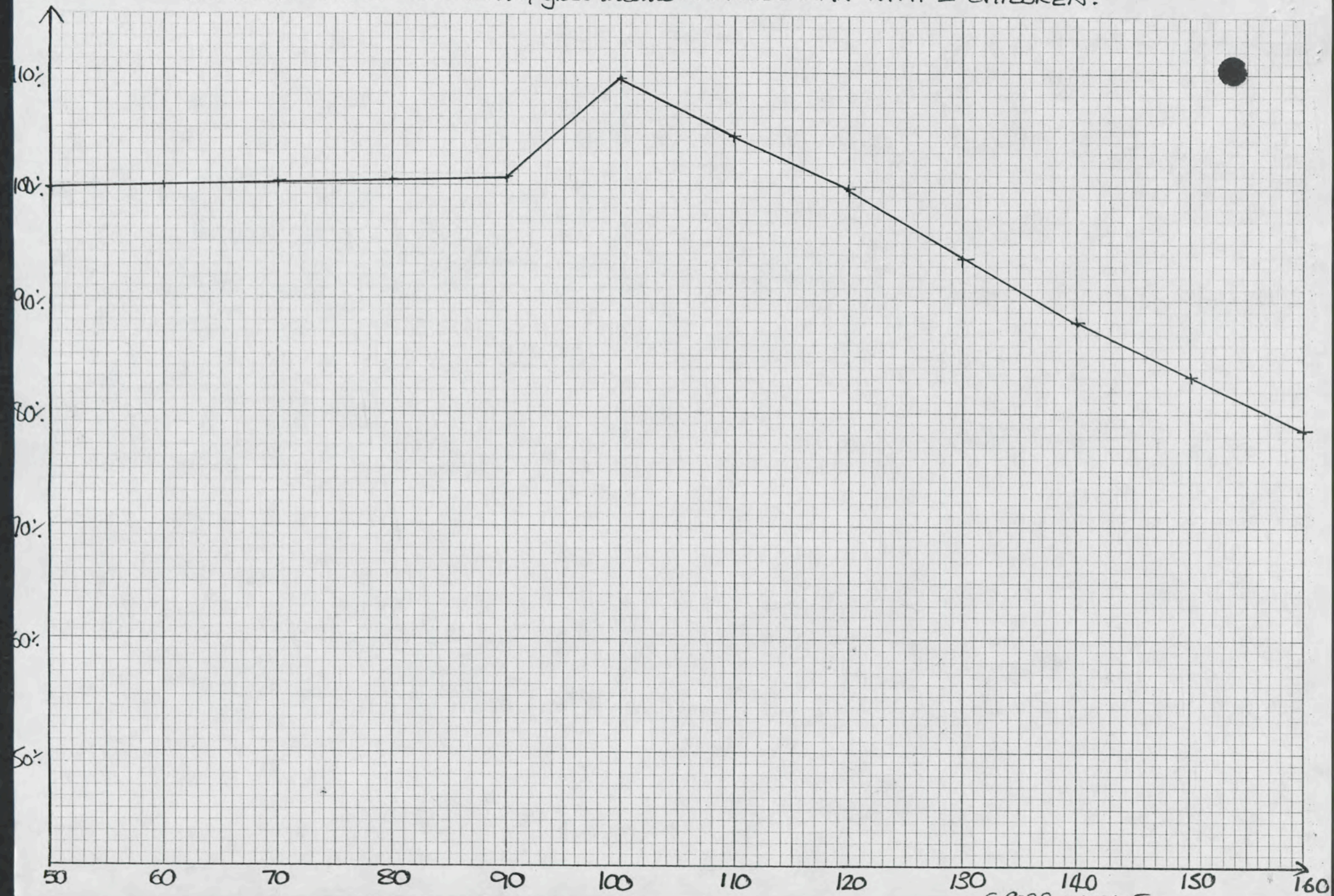
REPLACEMENT RATIO as a function of income. MARRIED MAN.



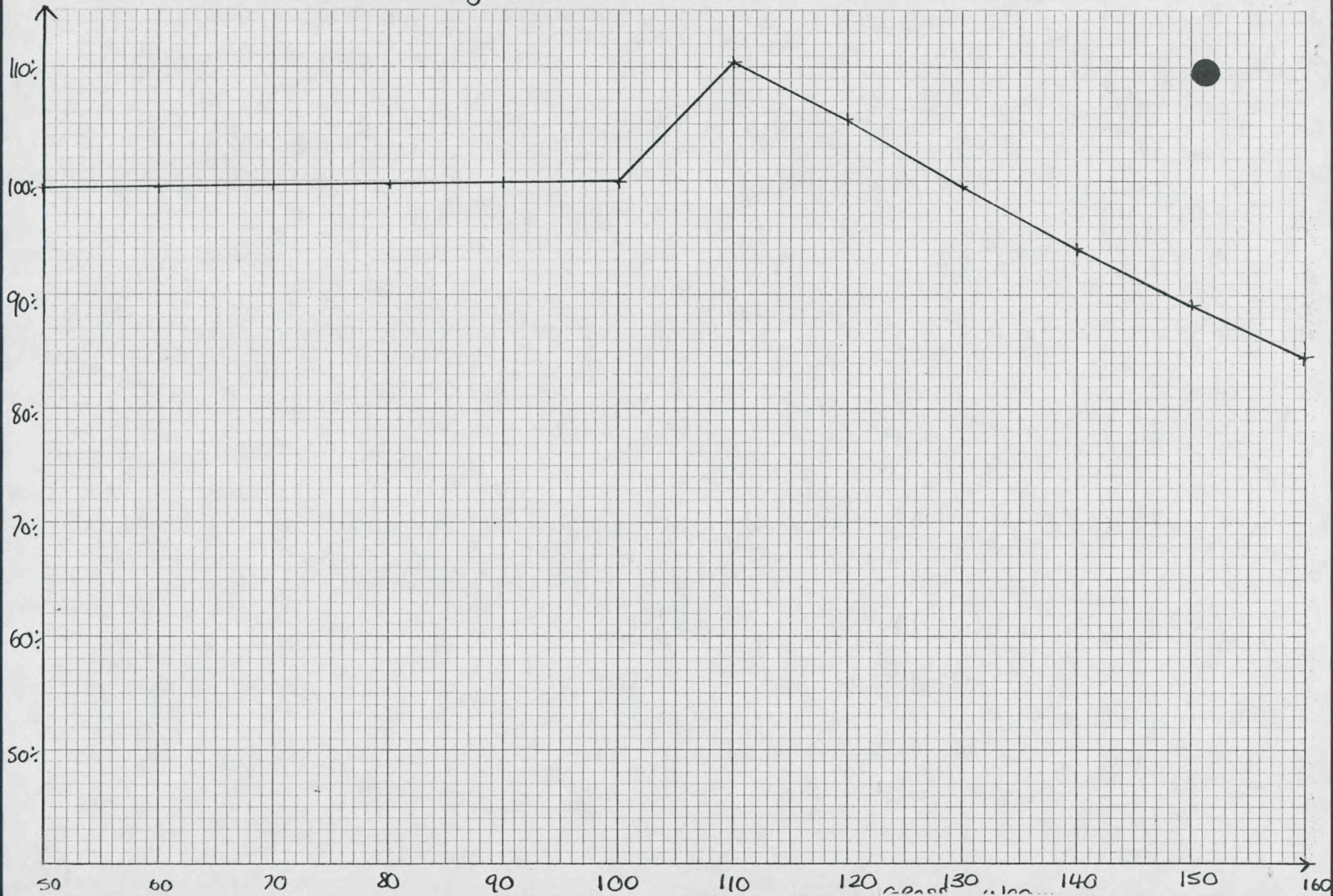
REPLACEMENT RATIO as a function of gross income. MARRIED MAN WITH 1 CHILD.



REPLACEMENT RATIO as a function of gross income. MARRIED MAN WITH 2 CHILDREN.



REPLACEMENT RATIO as a function of gross income. MARRIED MAN WITH 3 CHILDREN.



REPLACEMENT RATIO as a function of gross income. MARRIED MAN WITH 4 CHILDREN.

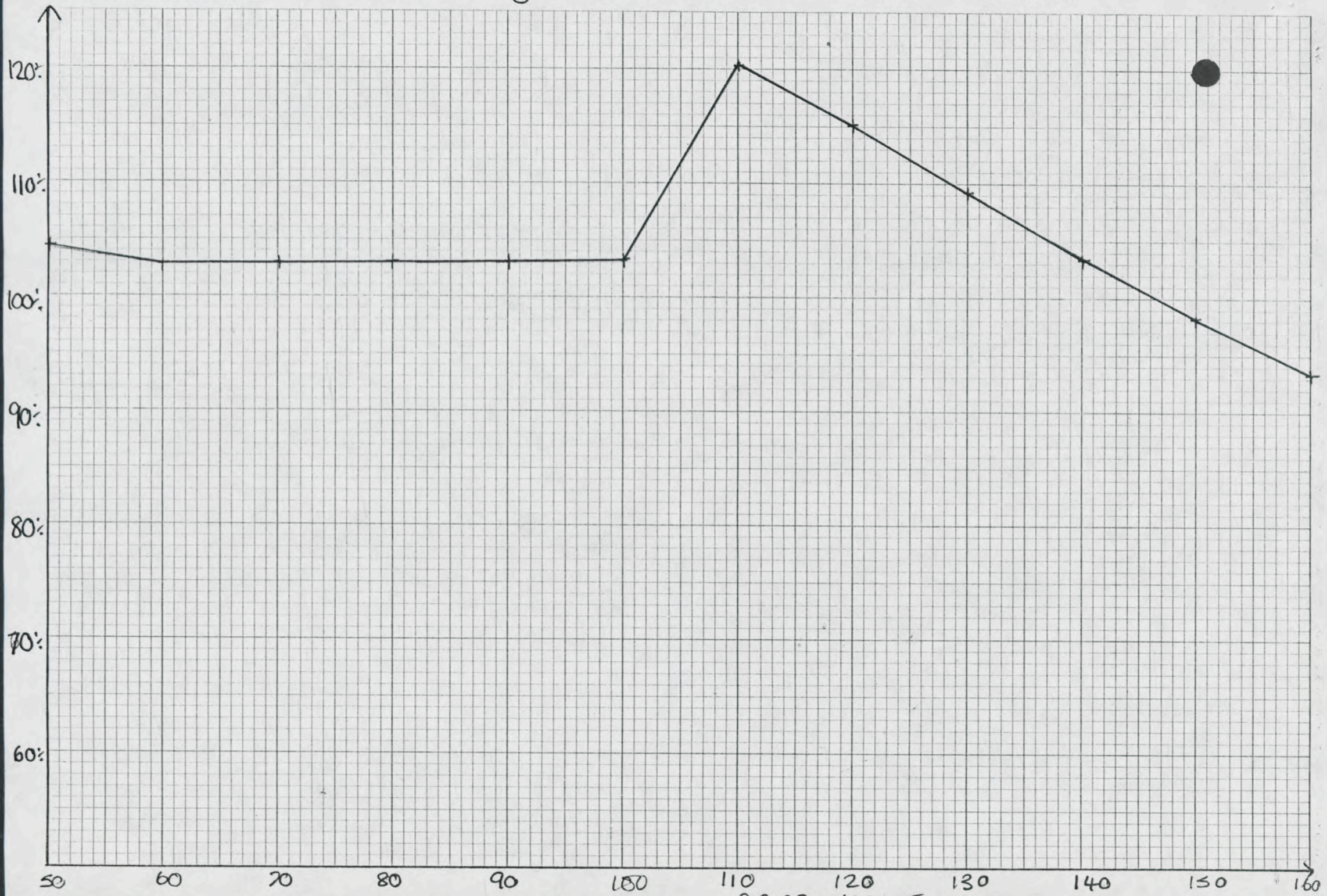


TABLE D

This compares the position of those who are initially working for six months and then become unemployed for the remaining six months with those who are working for the whole of the year. As unemployment benefit now represents taxable income we have considered the work incentive profile on the assumption that the tax allowances are set off against the first 6 months of the financial year so that only the excess allowances may be set off against income arising in the latter half of the year.

This enables us to more clearly understand the effects of the taxation of unemployment benefit upon the incentive to supply labour services.

In table D(i) We depict the position of a single person in receipt of various levels of pre-unemployment income and our general conclusion is that the lower these earnings the higher the replacement ratio so that persons with higher income levels are less liable to benefit as a result of unemployment.

In table D (ii) We look at the position of married couples and much the same profile is exhibited but replacement ratios are significantly higher at the same pre-employment earnings as those illustrated in table D(i).

Similarly, tables D (iii) to D(Vi) where we have considered families with one to four children, say that once again the replacement ratios tend to be correspondingly higher as the number of dependent children increase.

TABLES D (i) to D (vi)

SHORT RUN REPLACEMENT RATIOS

D1)

STATUS	EARNINGS P.W.	EARNINGS AFTER 6 MONTHS	TAX ALLOW	RESIDUAL ALLOW- -ANCE.	UBEN ----- EARN	TAX ----- TAX+NI	NET unemployed in work	DEP BEN	CHILD BEN	RENT REBATE	RATE REBATE	TOTAL (LESS WORK EXPENSES)	REPLACEMENT RATIO	
SINGLE	50	1300	1565	265 = 10.20 pw	25.00	4.44	20.56	—	—	9.30	2.77	32.63	92.9	
					50.00	11.94 44	33.66			7.65	2.03	35.09		
"	60	1560	"	5 = .20 pw	25.00	7.44	17.56	—	—	9.30	2.77	29.63	82.7	
					60.00	17.94 5.27	36.79			5.93	1.36	35.83		
"	70	1820	"	—	25.00	7.50	17.50	—	—	9.30	2.77	29.57	74.7	
					70.00	21 6.15	42.85			4.23	0.75	39.58		
"	80	2080	"	—	25.00	7.50	17.50	—	—	9.30	2.77	29.57	67.9	
					80.00	24 7.02	48.98			2.53	0.23	43.49		
"	90	2340	"	—	25.00	7.50	17.50	—	—	9.30	2.77	29.57	62.0	
					90.00	27 7.90	55.10			0.83	—	47.68		
"	100	2600	"	—	25.00	7.50	17.50	—	—	9.30	2.77	29.57	55.8	
					100.00	30 8.77	61.23			—	—	52.98		
"	110	2860	"	—	25.00	7.50	17.50	—	—	9.30	2.77	29.57	50.3	
					110.00	33 9.65	67.35			—	—	59.10		
"	120	3120	"	—	25.00	7.50	17.50	—	—	9.30	2.77	29.57	45.3	
					120.00	36 10.52	73.48			—	—	65.23		
"	130	3380	"	—	25.00	7.50	17.50	—	—	9.30	2.77	29.57	41.4	
					130.00	39 11.40	79.60			—	—	71.35		
"	140	3640	"	—	25.00	7.50	17.50	—	—	9.30	2.77	29.57	38.2	
					140.00	42 12.27	85.73			—	—	77.48		
"	150	3900	"	—	25.00	7.50	17.50	—	—	9.30	2.77	29.57	35.4	
					150.00	45 13.15	91.85			—	—	83.60		
"	160	4160	"	—	25.00	7.50	17.50	—	—	9.30	2.77	29.57	32.9	
					160.00	48 14.00	97.00			—	—	89.77		

STATUS	EARNINGS P.W.	EARNINGS AFTER 6 MONTHS	TAX ALLOW	RESIDUAL ALLOW- -ANCE.	UBEN EARN	TAX TAX NI	NET unemployed in work	DEP BEN + child allow	CHILD BEN	RENT REBATE	H=housing allowance RATE REBATE	PB=public benefits OTHER BENEFITS	TOTAL (LESS WORK EXPENSES)	D(IV) REPLACEMENT RATIO
MARRIED + 2 CHILDREN	50	1300	2445	1145 44.04 pw	25.00 50.00	— 1.79 4.40	25.00 43.81	16.05 —	11.70	12.00 9.46	3.00 2.49	H 1.90 SUR 10.85 PB 10.50 FIS 20.80 PB 10.50	91.00 90.51	100.5
"	60	1560	"	885 34.04 pw	25.00 60.00	— 7.79 5.27	25.00 46.94	16.05 —	11.70	12.00 8.31	3.00 2.14	1.90 off 10.85 10.50 15.80 10.50	91.00 87.14	104.4
"	70	1820	"	625 24.04 pw	25.00 70.00	0.29 13.79 6.15	24.71 50.06	16.05 —	11.70	12.00 7.30	3.00 1.78	1.90 off 10.85 10.50 10.80 10.50	90.71 83.89	108.1
"	80	2080	"	365 14.04 pw	25.00 80.00	3.29 19.79 7.02	21.71 53.19	16.05 —	11.70	12.00 6.28	3.00 1.44	1.90 off 10.85 10.50 5.80 10.50	87.71 80.66	108.7
"	90	2340	"	105 4.04 pw	25.00 90.00	6.29 25.79 7.90	18.71 56.31	16.05 —	11.70	12.00 5.34	3.00 1.14	1.90 off 10.85 10.50 .80 10.50	84.71 77.54	109.2
"	100	2600	"	—	25.00 100.00	7.50 30 8.77	17.50 61.23	16.05 —	11.70	12.00 3.77	3.00 0.59	1.90 off 10.85 10.50 —	83.50 69.04	120.9
"	110	2860	"	—	25.00 110.00	7.50 33 9.65	17.50 67.35	16.05 —	11.70	12.00 2.07	3.00 0.13	1.90 off 10.85 10.50 —	83.50 73.00	114.4
"	120	3120	"	—	25.00 120.00	7.50 36 10.52	17.50 73.48	16.05 —	11.70	12.00 —	3.00 —	1.90 off 10.85 10.50 —	83.50 76.93	108.5
"	130	3380	"	—	25.00 130.00	7.50 39 11.40	17.50 79.60	16.05 —	11.70	12.00 —	3.00 —	1.90 off 10.85 10.50 —	83.50 83.05	100.5
"	140	3640	"	—	25.00 140.00	7.50 42 12.27	17.50 85.73	16.05 —	11.70	12.00 —	3.00 —	1.90 off 10.85 10.50 —	83.50 89.18	93.6
"	150	3900	"	—	25.00 150.00	7.50 45 13.15	17.50 91.85	16.05 —	11.70	12.00 —	3.00 —	1.90 off 10.85 10.50 —	83.50 95.30	87.6
"	160	4160	"	—	25.00 160.00	7.50 48 14.02	17.50 97.98	16.05 —	11.70	12.00 —	3.00 —	1.90 off 10.85 10.50 —	83.50 101.42	82.3

STATUS	EARNINGS P.W.	EARNINGS AFTER 6 MONTHS	TAX ALLOW	RESIDUAL ALLOW- -ANCE.	UBEN EARN	TAX TAX NI	NET unemployed in work	DEP BEN +child allow	CHILD BEN	RENT REBATE	11 = heating allow 8 RATE REBATE	OTHER BENEFITS	TOTAL (LESS WORK EXPENSES)	DEV) REPLACEMENT RATIO
MARRIED + 3 CHILDREN	50	1300	2445	1145 44.04pw	25.00 50.00	— 1.79 4.40	25.00 43.81	16.35 —	17.55	12.00 8.31	1.90H 3.00 R 2.51	SUP PB 13.45 13.50 FIS PB 5.00 13.50	102.75 102.43	100.3
"	60	1560	"	885 34.04pw	25.00 60.00	— 7.79 5.27	25.00 46.94	16.35 —	17.55	12.00 7.25	1.90H 3.00 2.14	13.45 13.50 20.30 13.50	102.75 99.43	103.3
"	70	1820	"	625 24.04pw	25.00 70.00	0.29 13.79 6.15	24.71 50.06	16.35 —	17.55	12.00 6.25	1.90H 3.00 1.78	13.45 13.50 15.30 13.50	102.46 96.19	106.5
"	80	2080	"	365 14.04pw	25.00 80.00	3.29 19.79 7.02	21.71 53.19	16.35 —	17.55	12.00 5.28	1.90H 3.00 1.44	13.45 13.50 10.30 13.50	99.46 93.01	106.0
"	90	2340	"	105 4.04pw	25.00 90.00	6.29 25.79 7.90	18.71 56.31	16.35 —	17.55	12.00 4.42	1.90H 3.00 1.14	13.45 13.50 5.30 13.50	96.46 89.97	107.2
"	100	2600	"	—	25.00 100.00	7.50 30 8.77	17.50 61.23	16.35 —	17.55	12.00 3.58	1.90H 3.00 0.84	13.45 13.50 0.30 13.50	95.25 88.75	107.3
"	110	2860	"	—	25.00 110.00	7.50 33 9.65	17.50 67.35	16.35	17.55	12.00 1.93	1.90H 3.00 0.31	13.45 13.50 —	95.25 78.89	120.7
"	120	3120	"	—	25.00 120.00	7.50 36 10.52	17.50 73.48	16.35 —	17.55	12.00 0.48	1.90H 3.00 —	13.45 13.50 —	95.25 83.26	114.4
"	130	3380	"	—	25.00 130.00	7.50 39 11.40	17.50 79.60	16.35 —	17.55	12.00 —	1.90H 3.00 —	13.45 13.50 —	95.25 88.90	107.1
"	140	3640	"	—	25.00 140.00	7.50 42 12.27	17.50 85.73	16.35 —	17.55	12.00 —	1.90H 3.00 —	13.45 13.50 —	95.25 95.03	100.2
"	150	3900	"	—	25.00 150.00	7.50 45 13.15	17.50 91.85	16.35 —	17.55	12.00 —	1.90H 3.00 —	13.45 13.50 —	95.25 101.15	94.1
"	160	4160	"	—	25.00 160.00	7.50 48 14.01	17.50 97.98	16.35	17.55	12.00	1.90H 3.00	13.45 13.50	95.25 107.70	88.8

STATUS	EARNINGS P.W.	EARNINGS AFTER 6 MONTHS	TAX ALLOW	RESIDUAL ALLOW- ANCE.	UBEN EARN	TAX TAX NI	NET unemployed in work.	DEP BEN	CHILD BEN	RENT REBATE	H=heating allowance RATE REBATE	OTHER BENEFITS	TOTAL (LESS WORK EXPENSE)	D(VI) REPLACEMENT RATIO
MARRIED + CHILDREN	50	1300	2445	1145 44.04pw	25.00 50.00	— 1.79 4.40	25.00 43.81	16.65 —	23.40	12.00 7.74	1.90H 300 2.65	SUP 20.45 16.50 FIS PB 27.00 16.50	118.90 112.85	105.4
"	60	1560	"	885 34.04pw	25.00 60.00	— 7.79 5.27	25.00 46.94	16.65 —	23.40	12.00 6.18	1.90H 3.00 2.11	20.45 16.50 24.80 16.50	118.90 111.68	106.5
"	70	1820	"	625 24.04pw	25.00 70.00	0.29 13.79 6.15	24.71 50.06	16.65 —	23.40	12.00 5.22	1.90H 3.00 1.75	20.45 16.50 19.80 16.50	118.61 108.48	109.3
"	80	2080	"	365 14.04pw	25.00 80.00	3.29 19.79 7.02	21.71 53.19	16.65 —	23.40	12.00 4.37	1.90H 3.00 1.42	20.45 16.50 14.80 16.50	115.61 105.43	109.6
"	90	2340	"	105 4.04pw	25.00 90.00	6.29 25.79 7.90	18.71 56.31	16.65 —	23.40	12.00 3.52	1.90H 3.00 1.12	20.45 16.50 9.80 16.50	112.61 102.40	109.9
"	100	2600	"	—	25.00 100.00	7.50 30 8.77	17.50 61.23	16.65 —	23.40	12.00 2.65	1.90H 3.00 0.82	20.45 16.50 4.80 16.50	111.40 101.15	110.1
"	110	2860	"	—	25.00 110.00	7.50 33 9.65	17.50 67.35	16.65 —	23.40	12.00 1.78	1.90H 3.00 0.51	20.45 16.50 —	111.40 84.79	131.4
"	120	3120	"	—	25.00 120.00	7.50 36 10.52	17.50 73.48	16.65 —	23.40	12.00 0.49	1.90H 3.00 0.07	20.45 16.50 —	111.40 89.19	124.9
"	130	3380	"	—	25.00 130.00	7.50 39 11.40	17.50 79.60	16.65 —	23.40	12.00 —	1.90H 3.00 —	20.45 16.50 —	111.40 94.75	117.6
"	140	3640	"	—	25.00 140.00	7.50 42 12.27	17.50 85.73	16.65 —	23.40	12.00 —	1.90H 3.00 —	20.45 16.50 —	111.40 100.88	110.4
"	150	3900	"	—	25.00 150.00	7.50 45 13.15	17.50 91.85	16.65 —	23.40	12.00 —	1.90H 3.00 —	20.45 16.50 —	111.40 107.00	104.1
"	160	4160	"	—	25.00 160.00	7.50 48 14.02	17.50 97.97	16.65 —	23.40	12.00 —	1.90H 3.00 —	20.45 16.50 —	111.40 112.12	98.5

TABLE E

Here the position of working wives is considered. The marginal rates of tax (as in Tables A(1) to A(VI)) are calculated for two situations; firstly wife working, husband working (earning £130 pw) and secondly wife working, husband unemployed (earning unemployment benefit). For the latter calculation it is assumed the husband transfers his residual (unconsumed) tax allowance to his wife. In the first instance the marginal tax rate for all levels and categories of income earners is constant at the basic rate of income tax, normally 38.75%. As such there is no disincentive effect for those persons who seek higher earnings. By contrast, where the husband is in receipt of unemployment and related benefits a high marginal rate of tax is encountered at the lowest level of earnings and only gradually is the basic rate of income tax encountered. The reason for this has already been considered in relation to Table A, namely it is the withdrawal of means tested benefits which exacerbates the position of the lowest income earners.

TABLES E (i) to E (X)

MARGINAL TAXRATES FOR MARRIED WOMEN (1)

STATUS	EARNINGS P.W.	NET EARNINGS	HUSBAND'S EARNINGS OR U BEN	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE + RENT REBATES	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL	difference	to MRT
MARRIED WOMAN	50	39.63	130	93.71	—	—	—	—	16.50	—		116.84		
"	60	45.76	130	93.71	—	—	—	—	16.50	—		122.97	6.13	38.7
"	70	51.88	130	93.71	—	—	—	—	16.50	—		129.09	6.12	38.8
"	80	58.01	130	93.71	—	—	—	—	16.50	—		135.22	6.13	38.7
"	90	64.13	130	93.71	—	—	—	—	16.50	—		141.34	6.12	38.8
"	100	70.26	130	93.71	—	—	—	—	16.50	—		147.47	6.13	38.7
"	110	76.38	130	93.71	—	—	—	—	16.50	—		153.59	6.12	38.8
"	120	82.51	130	93.71	—	—	—	—	16.50	—		159.72	6.13	38.7
"	130	88.63	130	93.71	—	—	—	—	16.50	—		165.84	6.12	38.8
"	140	94.76	130	93.71	—	—	—	—	16.50	—		171.97	6.13	38.7
"	150	100.88	130	93.71	—	—	—	—	16.50	—		178.09	6.12	38.8
"	160	107.01	130	93.71	—	—	—	—	16.50	—		184.22	6.13	38.7

STATUS	EARNINGS P.W.	NET EARNINGS	HUSBAND'S EARNINGS OR U BEN	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE + RENT REBATES	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL	difference	E (ii) MRT
MARRIED WOMAN	50	45.60	25.00 u ben	—	—	—	—	1.56 6.50	8.25	—	—	70.41		
"	60	52.42	25.00	—	—	—	—	0.95 4.79	8.25	—	—	74.91	4.50	55.2%
"	70	58.54	25.00	—	—	—	—	0.35 3.09	8.25	—	—	78.73	3.82	61.8%
"	80	64.67	25.00	—	—	—	—	— 1.39	8.25	—	—	82.81	4.08	59.2%
"	90	70.79	25.00	—	—	—	—	— —	8.25	—	—	87.54	4.73	52.7%
"	100	76.92	25.00	—	—	—	—	— —	8.25	—	—	93.67	6.13	38.7%
"	110	83.04	25.00	—	—	—	—	— —	8.25	—	—	99.79	6.12	38.8%
"	120	89.17	25.00	—	—	—	—	— —	8.25	—	—	105.92	6.13	38.7%
"	130	95.29	25.00	—	—	—	—	— —	8.25	—	—	112.04	6.12	38.8%
"	140	101.42	25.00	—	—	—	—	— —	8.25	—	—	118.17	6.13	38.7%
"	150	107.54	25.00	—	—	—	—	— —	8.25	—	—	124.29	6.12	38.8%
"	160	113.67	25.00	—	—	—	—	— —	8.25	—	—	130.42	6.13	38.7%

STATUS	EARNINGS P.W.	NET EARNINGS	HUSBAND'S EARNINGS OR U BEN	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE + RENT REBATES	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL	difference	E(ii) MR T
MARRIED WOMAN + 1 CHILD	50	39.63	130	93.71	—	5.85	—	—	16.50	5.00		117.69		
"	60	45.76	130	93.71	—	5.85	—	—	16.50	5.00		123.82	6.13	38.7%
"	70	51.88	130	93.71	—	5.85	—	—	16.50	5.00		129.94	6.12	38.8%
"	80	58.01	130	93.71	—	5.85	—	—	16.50	5.00		136.07	6.13	38.7%
"	90	64.13	130	93.71	—	5.85	—	—	16.50	5.00		142.19	6.12	38.8%
"	100	70.26	130	93.71	—	5.85	—	—	16.50	5.00		148.32	6.13	38.7%
"	110	76.38	130	93.71	—	5.85	—	—	16.50	5.00		154.44	6.12	38.8%
"	120	82.51	130	93.71	—	5.85	—	—	16.50	5.00		160.57	6.13	38.7%
"	130	88.63	130	93.71	—	5.85	—	—	16.50	5.00		166.69	6.12	38.8%
"	140	94.76	130	93.71	—	5.85	—	—	16.50	5.00		172.82	6.13	38.7%
"	150	100.88	130	93.71	—	5.85	—	—	16.50	5.00		178.94	6.12	38.8%
"	160	107.01	130	93.71	—	5.85	—	—	16.50	5.00		185.07	6.13	38.7%

STATUS	EARNINGS P.W.	NET EARNINGS	HUSBAND'S EARNINGS OR U BEN	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE + RENT REBATES	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL	difference	E (iv) MRT.
MARRIED WOMAN + CHILD	50	45.60	25.00	-	3.75	5.85	.30	1.59 6.63	8.25	-	7.50 passported	87.97		
"	60	52.42	25.00	-	-	5.85	.30	1.21 5.53	8.25	-		82.06	-5.91	159.1%
"	70	58.54	25.00	-	-	5.85	.30	0.61 3.80	8.25	-		85.85	3.79	62.1%
"	80	64.67	25.00	-	-	5.85	.30	0.15 2.13	8.25	-		89.85	4.00	60.0%
"	90	70.79	25.00	-	-	5.85	.30	- 0.62	8.25	-		94.31	4.46	55.4%
"	100	76.92	25.00	-	-	5.85	.30	-	8.25	-		99.82	5.51	44.9%
"	110	83.04	25.00	-	-	5.85	.30	-	8.25	-		105.94	6.12	38.8%
"	120	89.17	25.00	-	-	5.85	.30	-	8.25	-		112.07	6.13	38.7%
"	130	95.29	25.00	-	-	5.85	.30	-	8.25	-		118.19	6.12	38.8%
"	140	101.42	25.00	-	-	5.85	.30	-	8.25	-		124.32	6.13	38.7%
"	150	107.54	25.00	-	-	5.85	.30	-	8.25	-		130.44	6.12	38.8%
"	160	113.67	25.00	-	-	5.85	.30	-	8.25	-		136.57	6.13	38.7%

STATUS	EARNINGS P.W.	NET EARNINGS	HUSBAND'S EARNINGS OR U BEN	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE + RENT REBATES	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL		EM
MARRIED WOMAN + 2 CHILDREN	50	39.63	130	93.71	—	11.70	—	—	16.50	5.00		123.54		
"	60	45.76	130	93.71	—	11.70	—	—	16.50	5.00		129.67	6.13	38.7%
"	70	51.88	130	93.71	—	11.70	—	—	16.50	5.00		135.79	6.12	38.8%
"	80	58.01	130	93.71	—	11.70	—	—	16.50	5.00		141.92	6.13.	38.7%
"	90	64.13	130	93.71	—	11.70	—	—	16.50	5.00		148.04	6.12	38.8%
"	100	70.26	130	93.71	—	11.70	—	—	16.50	5.00		154.17	6.13	38.7%
"	110	76.38	130	93.71	—	11.70	—	—	16.50	5.00		160.29	6.12	38.8%
"	120	82.51	130	93.71	—	11.70	—	—	16.50	5.00		166.42	6.13	38.7%
"	130	88.63	130	93.71	—	11.70	—	—	16.50	5.00		172.54	6.12	38.8%
"	140	94.76	130	93.71	—	11.70	—	—	16.50	5.00		178.67	6.13	38.7%
"	150	100.88	130	93.71	—	11.70	—	—	16.50	5.00		184.79	6.12	38.8%
"	160	107.01	130	93.71	—	11.70	—	—	16.50	5.00		190.92	6.13	38.7%

STATUS	EARNINGS P.W.	NET EARNINGS	HUSBAND'S EARNINGS OR U BEN	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE + RENT REBATES	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL	difference	Em) MRT
MARRIED WOMAN + 2 CHILDREN	50	45.60	25.00 u ben		8.30	11.70	.60	1.56 6.67	8.25	—	10.50 passported	101.68		
"	60	52.42	25.00		3.30	11.70	.60	1.26 5.66	8.25	—	10.50 passported.	102.19	0.51	94.9
"	70	58.54	25.00		—	11.70	.60	0.86 4.52	8.25	—	—	92.97	-9.22	192.2
"	80	64.67	25.00		—	11.70	.60	0.30 2.82	8.25	—	—	96.84	3.87	61.3
"	90	70.79	25.00		—	11.70	.60	— 1.12	8.25	—	—	100.96	4.12	58.8
"	100	76.92	25.00		—	11.70	.60	—	8.25	—	—	105.97	5.01	49.9
"	110	83.04	25.00		—	11.70	.60	—	8.25	—	—	112.09	6.12	38.8
"	120	89.17	25.00		—	11.70	.60	—	8.25	—	—	118.22	6.13	38.7%
"	130	95.29	25.00		—	11.70	.60	—	8.25	—	—	124.34	6.12	38.8%
"	140	101.42	25.00		—	11.70	.60	—	8.25	—	—	130.47	6.13	38.7%
"	150	107.54	25.00		—	11.70	.60	—	8.25	—	—	136.59	6.12	38.8%
"	160	113.67	25.00		—	11.70	.60	—	8.25	—	—	142.72	6.13	38.7%

STATUS	EARNINGS P.W.	NET EARNINGS	HUSBAND'S EARNINGS OR U BEN	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE+ RENT REBATES	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL	diff	Envil MRT
MARRIED WOMAN + 3 CHILDREN	50	39.63	130	93.71	—	17.55	—	—	16.50	5.00	—	129.39		
"	60	45.76	130	93.71	—	17.55	—	—	16.50	5.00	—	135.52	6.13	38.7%
"	70	51.88	130	93.71	—	17.55	—	—	16.50	5.00	—	141.64	6.12	38.8%
"	80	58.01	130	93.71	—	17.55	—	—	16.50	5.00	—	147.77	6.13	38.7%
"	90	64.13	130	93.71	—	17.55	—	—	16.50	5.00	—	153.89	6.12	38.8%
"	100	70.26	130	93.71	—	17.55	—	—	16.50	5.00	—	160.02	6.13	38.7%
"	110	76.38	130	93.71	—	17.55	—	—	16.50	5.00	—	166.14	6.12	38.8%
"	120	82.51	130	93.71	—	17.55	—	—	16.50	5.00	—	172.27	6.13	38.7%
"	130	88.63	130	93.71	—	17.55	—	—	16.50	5.00	—	178.39	6.12	38.8%
"	140	94.76	130	93.71	—	17.55	—	—	16.50	5.00	—	184.52	6.13	38.7%
"	150	100.88	130	93.71	—	17.55	—	—	16.50	5.00	—	190.64	6.12	38.8%
"	160	107.01	130	93.71	—	17.55	—	—	16.50	5.00	—	196.77	6.13	38.7%

STATUS	EARNINGS P.W.	NET EARNINGS	HUSBAND'S EARNINGS OR U BEN	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE + RENT REBATES	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL	difference	E (viii) MRT.
MARRIED WOMAN + 3 CHILDREN	50	45.60	25.00 uben		12.80	17.55	.90	1.54 5.55	8.25	—	13.50 passport	114.19		
"	60	52.42	25.00		7.80	17.55	.90	1.24 4.70	8.25	—	13.50	114.86	0.67	93.3
"	70	58.54	25.00		2.80	17.55	.90	0.94 3.85	8.25	—	13.50	114.83	-0.03	100.5
"	80	64.67	25.00		—	17.55	.90	0.51 2.66	8.25	—	—	103.04	-11.79	217.0
"	90	70.79	25.00		—	17.55	.90	0.07 0.93	8.25	—	—	106.99	3.95	60.5
"	100	76.92	25.00		—	17.55	.90		8.25	—	—	112.12	5.13	48.7
"	110	83.04	25.00		—	17.55	.90		8.25	—	—	118.24	6.12	38.8
"	120	89.17	25.00		—	17.55	.90		8.25	—	—	124.37	6.13	38.7
"	130	95.29	25.00		—	17.55	.90		8.25	—	—	130.49	6.12	38.8
"	140	101.42	25.00		—	17.55	.90		8.25	—	—	136.62	6.13	38.7
"	150	107.54	25.00		—	17.55	.90		8.25	—	—	142.74	6.12	38.8
"	160	113.67	25.00		—	17.55	.90		8.25	—	—	148.87	6.13	38.7

STATUS	EARNINGS P.W.	NET EARNINGS	HUSBAND'S EARNINGS OR U BEN	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE + RENT REBATES	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL	difference	E(ix) MRT
MARRIED WOMAN + 4 CHILDREN	50	45.60	25.00 u ben		17.30	23.40	1.20	1.50 4.59	8.25	-	16.50 passport	126.84		
"	60	52.42	25.00		12.30	23.40	1.20	1.20 3.74	8.25	-	16.50	127.51	0.67	93.3
"	70	58.54	25.00		7.30	23.40	1.20	0.90 2.89	8.25	-	16.50	127.48	-0.03	100.3
"	80	64.67	25.00		2.30	23.40	1.20	0.60 2.04	8.25	-	16.50	127.46	-0.02	100.2
"	90	70.79	25.00		-	23.40	1.20	0.23 0.73	8.25	-	-	113.10	-14.36	243.6
"	100	76.92	25.00		-	23.40	1.20	- 0.04	8.25	-	-	118.31	5.21	47.9
"	110	83.04	25.00		-	23.40	1.20	-	8.25	-	-	124.39	6.08	39.2
"	120	89.17	25.00		-	23.40	1.20	-	8.25	-	-	130.52	6.13	38.7
"	130	95.29	25.00		-	23.40	1.20	-	8.25	-	-	136.64	6.12	38.8
"	140	101.42	25.00		-	23.40	1.20	-	8.25	-	-	142.77	6.13	38.7
"	150	107.54	25.00		-	23.40	1.20	-	8.25	-	-	148.89	6.12	38.8
"	160	113.67	25.00		-	23.40	1.20	-	8.25	-	-	155.02	6.13	38.7

STATUS	EARNINGS P.W.	NET EARNINGS	HUSBAND'S EARNINGS OR U BEN	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE + RENT REBATES	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL	difference	Ex MR
MARRIED WOMAN + 4 CHILDREN	50	39.63	130	93.71	—	23.40	—	—	16.50	5.00		135.24		
"	60	45.76	130	93.71	—	23.40	—	—	16.50	5.00		141.37	6.13	38.7
"	70	51.88	130	93.71	—	23.40	—	—	16.50	5.00		147.49	6.12	38.8
"	80	58.01	130	93.71	—	23.40	—	—	16.50	5.00		153.62	6.13	38.7
"	90	64.13	130	93.71	—	23.40	—	—	16.50	5.00		159.74	6.12	38.8
"	100	70.26	130	93.71	—	23.40	—	—	16.50	5.00		165.87	6.13	38.7
"	110	76.38	130	93.71	—	23.40	—	—	16.50	5.00		171.99	6.12	38.8
"	120	82.51	130	93.71	—	23.40	—	—	16.50	5.00		178.12	6.13	38.7
"	130	88.63	130	93.71	—	23.40	—	—	16.50	5.00		184.24	6.12	38.8
"	140	94.76	130	93.71	—	23.40	—	—	16.50	5.00		190.37	6.13	38.7
"	150	100.88	130	93.71	—	23.40	—	—	16.50	5.00		196.49	6.12	38.8
"	160	107.01	130	93.71	—	23.40	—	—	16.50	5.00		202.62	6.13	38

TABLES F

This represents an extension of table E in that the husband is now unemployed for more than 12 months so that his entitlement to unemployment benefit is exhausted. Given our assumptions as to the wife's earnings and the full transference of his tax allowance to her, together with the welfare benefit entitlements available (e.g.F1S, child benefit and rebates) the husband will not be entitled to any supplementary benefit. Moreover although the wife's post tax earnings are enhanced as a result of the tax allowance transference, because the means tested benefits are calculated on a gross income basis high marginal rates of tax are still encountered. The tables, as may be expected, therefore, exhibit the highest marginal rates of tax at the lowest levels of wife's earnings and only reach the basic marginal tax rate out income levels of about £130 p.w., so that once again the greatest disincentive to work supply exists at the lower levels of income.

TABLES F (i) to F (v)

MARGINAL TAX RATES FOR MARRIED WOMEN (2)

STATUS	WIFE'S EARNINGS P.W.	NET EARNINGS	HUSBAND'S SUPPLEMENTARY BENEFIT	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE + RENT REBATE	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL	difference	Fi) MRT
MARRIED	50	45.60	—	—	—	—	—	3.00 11.88	8.25	—		52.23		
"	60	52.42	—	—	—	—	—	9.73 2.66	8.25	—		56.56	4.33	56.7
"	70	58.54	—	—	—	—	—	1.91 7.58	8.25	—		59.78	3.22	67.8
"	80	64.67	—	—	—	—	—	1.25 5.64	8.25	—		63.31	3.53	64.7
"	90	70.79	—	—	—	—	—	3.94 0.65	8.25	—		67.13	3.82	61.8
"	100	76.92	—	—	—	—	—	0.18 2.24	8.25	—		71.09	3.96	60.4
"	110	83.04	—	—	—	—	—	0.71 —	8.25	—		75.50	4.41	55.9
"	120	89.17	—	—	—	—	—	—	8.25	—		80.92	5.42	45.8
"	130	95.29	—	—	—	—	—	—	8.25	—		87.04	6.12	38.8
"	140	101.42	—	—	—	—	—	—	8.25	—		93.17	6.13	38.7
"	150	107.54	—	—	—	—	—	—	8.25	—		99.29	6.12	38.8
"	160	113.67	—	—	—	—	—	—	8.25	—		105.42	6.13	38.7

STATUS	WIFE'S EARNINGS P.W.	NET EARNINGS	HUSBAND'S SUPPLEMENTARY BENEFIT	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE + RENT REBATE	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL	difference ●	F (ii) MRT.
MARRIED + 1 CHILD	50	45.60	—	—	16.30	5.85	—	2.50 9.46	8.25	—	7.50 passported	78.96		
"	60	52.42	—	—	11.30	5.85	—	2.14 8.21	8.25	—	7.50	79.17	0.21	97.9
"	70	58.54	—	—	6.30	5.85	—	1.78 7.11	8.25	—	7.50	78.83	-0.34	103.4
"	80	64.67	—	—	1.30	5.85	—	6.23 1.30	8.25	—	7.50	78.60	-0.23	102.3
"	90	70.79	—	—	—	5.85	—	— 4.71	8.25	—	—	73.10	-5.5	155.
"	100	76.92	—	—	—	5.85	—	— 3.01	8.25	—	—	77.53	4.43	55.7
"	110	83.04	—	—	—	5.85	—	— 1.42	8.25	—	—	82.06	4.53	54.7
"	120	89.17	—	—	—	5.85	—	—	8.25	—	—	86.77	4.71	52.9
"	130	95.29	—	—	—	5.85	—	—	8.25	—	—	92.89	6.12	38.8
"	140	101.42	—	—	—	5.85	—	—	8.25	—	—	99.02	6.13	38.7
"	150	107.54	—	—	—	5.85	—	—	8.25	—	—	105.14	6.12	38.8
"	160	113.67	—	—	—	5.85	—	—	8.25	—	—	111.27	6.13	38.7

STATUS	WIFE'S EARNINGS P.W.	NET EARNINGS	HUSBAND'S SUPPLEMENTARY BENEFIT	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE + RENT REBATE	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL	difference	F (M) MRT
MARRIED + 2 CHILDREN	50	45.60		—	20.80	11.70	—	2.49 9.46	8.25	—	10.50 passported	92.30		
"	60	52.42		—	15.80	11.70	—	2.14 8.31	8.25	—	10.50	92.62	0.32	68.0
"	70	58.54		—	10.80	11.70	—	1.78 7.30	8.25	—	10.50	92.37	-0.25	102.5
"	80	64.67		—	5.80	11.70	—	1.44 6.28	8.25	—	10.50	92.14	-0.23	102.3
"	90	70.79		—	0.80	11.70	—	1.14 5.34	8.25	—	10.50	92.02	-0.12	101.2
"	100	76.92		—	—	11.70	—	0.59 3.77	8.25	—	—	84.73	-7.29	172.0
"	110	83.04		—	—	11.70	—	0.13 2.07	8.25	—	—	88.69	3.96	60.4
"	120	89.17		—	—	11.70	—	—	8.25	—	—	92.62	3.93	60.7
"	130	95.29		—	—	11.70	—	—	8.25	—	—	98.74	6.12	38.8
"	140	101.42		—	—	11.70	—	—	8.25	—	—	104.87	6.13	38.7
"	150	107.54		—	—	11.70	—	—	8.25	—	—	110.99	6.12	38.8
"	160	113.67		—	—	11.70	—	—	8.25	—	—	117.12	6.13	38.7

STATUS	WIFE'S EARNINGS P.W.	NET EARNINGS	HUSBAND'S SUPPLEMENTARY BENEFIT	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE + RENT REBATE	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL	difference	Firm MRT
MARRIED + 3 CHILDREN	50	45.60		—	25.00	17.55		2.51 8.31	8.25	—	13.50	104.22		
"	60	52.42		—	20.30	17.55		2.14 7.25	8.25	—	13.50	104.91	0.69	93.1
"	70	58.54		—	15.30	17.55		1.78 6.25	8.25	—	13.50	104.67	-0.24	102.4
"	80	64.67		—	10.30	17.55		1.44 5.28	8.25	—	13.50	104.49	-0.18	101.8
"	90	70.79		—	5.30	17.55		1.14 4.42	8.25	—	13.50	104.45	-0.04	100.4
"	100	76.92		—	0.30	17.55		0.84 3.58	8.25	—	13.50	104.44	-0.01	100.1
"	110	83.04		—	-	17.55		0.31 1.93	8.25	—	—	94.58	-9.86	198.0
"	120	89.17		—	-	17.55		— 0.48	8.25	—	—	98.95	4.37	56.3
"	130	95.29		—	-	17.55		—	8.25	—	—	104.59	5.64	43.6
"	140	101.42		—	-	17.55		—	8.25	—	—	110.72	6.13	38.7
"	150	107.54		—	-	17.55		—	8.25	—	—	116.84	6.12	38.8
"	160	113.67		—	-	17.55		—	8.25	—	—	122.97	6.13	38.7

STATUS	WIFE'S EARNINGS P.W.	NET EARNINGS	HUSBAND'S SUPPLEMENTARY BENEFIT	HUSBAND'S NET EARNINGS	FIS	CHILD BENEFIT	CHILD ALLOWANCE	RATE + RENT REBATE	WORK EXPENSES	CHILD MINDING	OTHERS	TOTAL	difference	F(v) MRT
MARRIED + 4 CHILDREN	50	45.60		—	27.00	23.40		2.65 7.74	8.25	—	16.50 passported	114.64		
"	60	52.42		—	24.80	23.40		2.11 6.18	8.25	—	16.50	117.16	2.52	74.8
"	70	58.54		—	19.80	23.40		1.75 5.22	8.25	—	16.50	116.96	-0.2	102.
"	80	64.67		—	14.80	23.40		1.42 4.37	8.25	—	16.50	116.91	-0.05	100.
"	90	70.79		—	9.80	23.40		1.12 3.52	8.25	—	16.50	116.88	-0.03	100.
"	100	76.92		—	4.80	23.40		0.82 2.65	8.25	—	16.50	116.84	-0.04	100.
"	110	83.04		—	—	23.40		0.51 1.78	8.25	—	—	100.48	-16.36	26.3
"	120	89.17		—	—	23.40		0.07 0.49	8.25	—	—	104.88	4.40	56.0
"	130	95.29		—	—	23.40		—	8.25	—	—	110.44	5.56	44.4
"	140	101.42		—	—	23.40		—	8.25	—	—	116.57	6.13	38.7
"	150	107.54		—	—	23.40		—	8.25	—	—	122.69	6.12	38.8
"	160	113.67		—	—	23.40		—	8.25	—	—	128.82	6.13	38.

TABLE G

Here we are considering the position of a married couple with both parties working throughout the tax year and comparing this with the situation where (a) the husband becomes unemployed at the beginning of the tax year, but the Wife remains employed, and

(b) the man remains working throughout the year but the wife becomes unemployed at the beginning and

(C) Where both parties are unemployed from the beginning of the tax year.

One important difference between the circumstances, depicted in (a) and (b) is that if the husband becomes unemployed he can transfer his residual tax allowances to his wife - if the wife becomes unemployed she cannot transfer her unconsumed tax allowances to her husband. This arises from the fact that whereas the lower personal allowance may be set off against total income generally the wife's earned income relief is only available against her own earnings. So that if those earnings exceed the W.e.i.r. there can be no transference of the unconsumed allowance.

The top part of the table depicts the situation where the wife is receipt of average female manual earnings (£85p.w) and the husband average male manual earnings (£140 p.w). The bottom part of the table depicts the position where both parties are in receipt of 75% of their respective average earnings. It will be observed that in all cases that the couple will be

financially better off if the husband remains working and the wife becomes unemployed than if the converse situation were to occur and that the worse situation will be where both parties remain unemployed throughout the financial year.

TABLE^c G (i) to G (V)

MARRIED COUPLE, BOTH INITIALLY WORKING (1)

* WORK EXPENSES = 8.25/ADULT
CHILD MINDING = 5.00/WEEK

Gin

STATUS	EMPLOYMENT SITUATION	WIFE'S EARNINGS	Wife's earn after tax+NI	HUSBAND'S EARNINGS	Husb. earn after tax+NI	RENT REBATE	RATE REBATE	FIS	CHILD BENEFIT	WIFE'S UNEMPLOYMENT BENEFIT	HUSBAND'S UNEMPLOYMENT BENEFIT	WORK AND CHILD MINDING EXPENSES *	TOTAL NET INCOME	Row
MARRIED	BOTH WORKING	85	61.08	140	99.84	-	-	-	-	-	-	16.50	144.42	1
"	WIFE WORKING MAN UNEMP.	85	67.68	-	-	.71	-	-	-	-	25.00	8.25	85.14	2
"	WIFE UNEMP. MAN WORKING	-	-	140	99.84	-	-	-	-	25.00	-	8.25	116.59	3
"	BOTH UNEMPLOYED	-	-	-	-	8.60	2.25	-	-	25.00	25.00	-	60.85	4
MARRIED	BOTH WORKING	64	48.21	105	78.41	-	-	-	-	-	-	16.50	110.12	1
"	WIFE WORKING MAN UNEMP.	64	54.81	-	-	4.11	0.71	-	-	-	25.00	8.25	76.38	2
"	WIFE UNEMP. MAN WORKING	-	-	105	78.41	-	-	-	-	25.00	-	8.25	95.16	3
"	BOTH UNEMPLOYED	-	-	-	-	8.60	2.25	-	-	25.00	25.00	-	60.85	4

* WORK EXPENSES = 8.25/ADULT
CHILD MINDING = 5.00/WEEK

G(ii)

STATUS	EMPLOYMENT SITUATION	WIFE'S EARNINGS	Wife's earn after tax+NI	HUSBAND'S EARNINGS	Husb. earn after tax+NI	RENT REBATE	RATE REBATE	FIS	CHILD BENEFIT	WIFE'S UNEMPLOYMENT BENEFIT	HUSBAND'S UNEMPLOYMENT BENEFIT	WORK AND CHILD MINDING EXPENSES *	TOTAL NET INCOME	Ro
MARRIED + 1 CHILD	BOTH WORKING	85	61.08	140	99.84	—	—	—	5.85	—	—	21.50	145.27	1
"	WIFE WORKING MAN UNEMP.	85	67.68	—	—	—	—	—	5.85	—	25.00 .30 child	8.25	90.58	2
"	WIFE UNEMP. MAN WORKING	—	—	140	99.84	—	—	—	5.85	25.00	—	8.25	122.44	3
"	BOTH UNEMPLOYED	—	—	—	—	9.65	2.56	—	5.85	25.00	25.00 .30	—	68.36	4
MARRIED + 1 CHILD	BOTH WORKING	64	48.21	105	78.41	—	—	—	5.85	—	—	21.50	110.97	1
"	WIFE WORKING MAN UNEMP.	64	54.81	—	—	4.82	0.37	—	5.85	—	25.00 .30	8.25	82.90	2
"	WIFE UNEMP. MAN WORKING	—	—	105	78.41	—	—	—	5.85	25.00	—	8.25	101.01	3
"	BOTH UNEMPLOYED	—	—	—	—	9.65	2.56	—	5.85	25.00	25.00 .30	—	68.36	4

* WORK EXPENSES = 8.25/ADULT
CHILD MINDING = 5.00/WEEK

G(ii)

STATUS	EMPLOYMENT SITUATION	WIFE'S EARNINGS	Wife's earn after tax+NI	HUSBAND'S EARNINGS	Husb. earn after tax+NI	RENT REBATE	RATE REBATE	FIS	CHILD BENEFIT	WIFE'S UNEMPLOYMENT BENEFIT	HUSBAND'S UNEMPLOYMENT BENEFIT	WORK AND CHILD MINDING EXPENSES *	TOTAL NET INCOME	Row
MARRIED + 2 CHILDREN	BOTH WORKING	85	61.08	140	99.84	—	—	—	11.70	—	—	21.50	151.12	1
"	WIFE WORKING MAN UNEMP.	85	67.68	—	—	1.97	—	—	11.70	—	25.00 .60 child	8.25	98.70	2
"	WIFE UNEMP. MAN WORKING	—	—	140	99.84	—	—	—	11.70	25.00	—	8.25	128.29	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00	3.00	—	11.70	1.90 heat 25.00 +1.30 sup	3.00 dental 1.50 milk 25.60 6.00 meals	—	91.00	4
MARRIED + 2 CHILDREN	BOTH WORKING	64	48.21	105	78.41	—	—	—	11.70	—	—	21.50	116.82	1
"	WIFE WORKING MAN UNEMP.	64	54.81	—	—	5.32	0.54	1.30 10.50 pp	11.70	—	25.00 .60	8.25	101.52	2
"	WIFE UNEMP. MAN WORKING	—	—	105	78.41	—	—	—	11.70	25.00	—	8.25	106.86	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00	3.00	—	11.70	1.90 heat 25.00 1.30 sup	3.00 dental 1.50 milk 25.00 6.00 meals	—	91.00	4

* WORK EXPENSES = 8.25/ADULT
CHILD MINDING = 5.00/WEEK G.(iv)

STATUS	EMPLOYMENT SITUATION	WIFE'S EARNINGS	Wife's earn after tax+NI	HUSBAND'S EARNINGS	Husb. earn after tax+NI	RENT REBATE	RATE REBATE	FIS	CHILD BENEFIT	WIFE'S UNEMPLOYMENT BENEFIT	HUSBAND'S UNEMPLOYMENT BENEFIT	WORK AND CHILD MINDING EXPENSES *	TOTAL NET INCOME	Row
MARRIED + 3 CHILDREN	BOTH WORKING	85	61.08	140	99.84	—	—	—	17.55	—	—	21.50	156.97	1
"	WIFE WORKING MAN UNEMP.	85	67.68	—	—	1.78	0.27	—	17.55	—	25.00 .90 child	8.25	104.93	2
"	WIFE UNEMP. MAN WORKING	—	—	140	99.84	—	—	—	17.55	25.00	—	8.25	134.14	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00	3.00	—	17.55	3.90 sup 25.00 9.00 meab	3.00 adult 1.50 v. claims 25.00 .90 1.90 heat	—	102.75	4
MARRIED + 3 CHILDREN	BOTH WORKING	64	48.21	105	78.41	—	—	—	17.55	—	—	21.50	122.67	1
"	WIFE WORKING MAN UNEMP.	64	54.81	—	—	4.51	1.17	5.80 13.50p	17.55	—	25.00 .90	8.25	114.99	2
"	WIFE UNEMP. MAN WORKING	—	—	105	78.41	—	—	—	17.55	25.00	—	8.25	112.71	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00	3.00	—	17.55	3.90 sup 25.00 9.00 meab	3.00 adult 1.50 v. claims 25.00 .90	—	102.75	4

* WORK EXPENSES = 8.25/ADULT
CHILD MINDING = 5.00 / WEEK

G(V)

STATUS	EMPLOYMENT SITUATION	WIFE'S EARNINGS	Wife's earn after tax+NI	HUSBAND'S EARNINGS	Husb. earn after tax+NI	RENT REBATE	RATE REBATE	FIS	CHILD BENEFIT	WIFE'S UNEMPLOYMENT BENEFIT	HUSBAND'S UNEMPLOYMENT BENEFIT	WORK AND CHILD MINDING EXPENSES %	TOTAL NET INCOME	Row
MARRIED + 4 CHILDREN	BOTH WORKING	85	61.08	140	99.84	—	—	—	23.40	—	—	21.50	162.82	1
"	WIFE WORKING MAN UNEMP.	85	67.68	—	—	1.58	0.44	—	23.40	—	25.00 1.20 child	8.25	111.05	2
"	WIFE UNEMP. MAN WORKING	—	—	140	99.84	—	—	—	23.40	25.00	—	8.25	139.99	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00	3.00	—	23.40	meals = 12.00 adult = 3.00 25.00 vit = 1.50 heat = 1.90	10.90 sup 25.00 1.20	—	118.90	4
MARRIED + 4 CHILDREN	BOTH WORKING	64	48.21	105	78.41	—	—	—	23.40	—	—	21.50	128.52	1
"	WIFE WORKING MAN UNEMP.	64	54.81	—	—	3.40	1.08	10.30 16.50 pp	23.40	—	25.00 1.20	8.25	127.44	2
"	WIFE UNEMP. MAN WORKING	—	—	105	78.41	—	—	—	23.40	25.00	—	8.25	118.56	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00	3.00	—	23.40	meals = 12.00 adult = 3.00 25.00 heat = 1.90	10.90 sup 25.00 1.20	—	118.90	4

TABLE H

This is analogous to table G in that the same employment situations are considered, save that we have considered table G (a) (b) and (c) in the context of longer term unemployment benefits. Unemployment benefit having been exhausted after one year the relevant basis of entitlement being supplementary benefit. Once again the husband who is unemployed may transfer his tax allowance to his wife but not vice versa so that the same conclusions hold as for G above.

TABLES H (i) to H (V)

MARRIED COUPLE; BOTH INITIALLY WORKING (2)

LONG TERM SITUATION

* WORK EXPENSES = 8.25/ADULT
CHILD MINDING = 5.00 / WEEK

Hij

STATUS	EMPLOYMENT SITUATION	WIFE'S EARNINGS	Wife's earn after tax+NI	HUSBAND'S EARNINGS	Husb. earn after tax+NI	RENT REBATE	RATE REBATE	FIS	CHILD BENEFIT	WIFE'S SUPPLEMENTARY BENEFIT	HUSBAND'S SUPPLEMENTARY BENEFIT	WORK AND CHILD MINDING EXPENSES *	TOTAL NET INCOME	Row
MARRIED	BOTH WORKING	85	61.08	140	99.84	—	—	—	—	—	—	16.50	144.42	1
"	WIFE WORKING MAN UNEMP.	85	75.18	—	—	4.79	.95	—	—	—	—	8.25	72.67	2
"	WIFE UNEMP. MAN WORKING	—	—	140	99.84	—	—	—	—	—	—	8.25	91.59	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00 (sup)	3.00 (sup)	—	—	—	41.70 3.00 pass ported	—	59.70	4
MARRIED	BOTH WORKING	64	48.21	105	78.41	—	—	—	—	—	—	16.50	110.12	
"	WIFE WORKING MAN UNEMP.	64	58.38	—	—	8.87	2.34	—	—	—	—	8.25	61.34	
"	WIFE UNEMP. MAN WORKING	—	—	105	78.41	1.39	—	—	—	—	—	8.25	71.55	
"	BOTH UNEMPLOYED	—	—	—	—	12.00 (sup)	3.00 (sup)	—	—	—	41.70 scale 3.00 pass- ported	—	59.70	

* WORK EXPENSES = 8.25/ADULT

CHILD MINDING = 5.00/WEEK

H(ii)

STATUS	EMPLOYMENT SITUATION	WIFE'S EARNINGS	Wife's earn after tax+NI	HUSBAND'S EARNINGS	Husb. earn after tax+NI	RENT REBATE	RATE REBATE	FIS	CHILD BENEFIT	WIFE'S SUPPLEMENTARY BENEFIT	HUSBAND'S SUPPLEMENTARY BENEFIT	WORK AND CHILD MINDING EXPENSES *	TOTAL NET INCOME	Row
MARRIED + 1 CHILD	BOTH WORKING	85	61.08	140	99.84	—	—	—	5.85	—	—	21.50	145.27	1
"	WIFE WORKING MAN UNEMP.	85	75.18	—	—	5.58	1.22	—	5.85	—	—	8.25	79.58	2
"	WIFE UNEMP. MAN WORKING	—	—	140	99.84	—	—	—	5.85	—	—	8.25	97.44	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00	3.00	—	5.85	—	41.70 scale 7.50 pass 1.90 heat 2.90 child	—	74.85	4
MARRIED + 1 CHILD	BOTH WORKING	64	48.21	105	78.41	—	—	—	5.85	—	—	21.50	110.97	1
"	WIFE WORKING MAN UNEMP.	64	58.38	—	—	7.71	2.00	9.30 +7.50 passp.	5.85	—	—	8.25	82.49	2
"	WIFE UNEMP. MAN WORKING	—	—	105	78.41	2.17	.16	—	5.85	—	—	8.25	78.34	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00	3.00	—	5.85	—	41.70 scale 7.50 pass 1.90 heat 2.90 child	—	74.85	4

* WORK EXPENSES = 8.25 / ADULT
CHILD MINDING = 5.00 / WEEK

H(ii)

STATUS	EMPLOYMENT SITUATION	WIFE'S EARNINGS	Wife's earn after tax+NI	HUSBAND'S EARNINGS	Husb. earn after tax+NI	RENT REBATE	RATE REBATE	FIS	CHILD BENEFIT	WIFE'S SUPPLEMENTARY BENEFIT	HUSBAND'S SUPPLEMENTARY BENEFIT	WORK AND CHILD MINDING EXPENSES *K	TOTAL NET INCOME	Row
MARRIED + 2 CHILDREN	BOTH WORKING	85	61.08	140	99.84	—	—	—	11.70	—	—	21.50	151.12	1
"	WIFE WORKING MAN UNEMP.	85	75.18	—	—	5.77	1.29	3.30 10.50 pass paesp	11.70	—	—	8.25	99.49	2
"	WIFE UNEMP. MAN WORKING	—	—	140	99.84	—	—	—	11.70	—	—	8.25	103.29	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00	3.00	—	11.70	—	41.70 scale 10.50 pass 1.90 heat 10.20 child	—	91.00	4
MARRIED + 2 CHILDREN	BOTH WORKING	64	48.21	105	78.41	—	—	—	11.70	—	—	21.50	116.82	1
"	WIFE WORKING MAN UNEMP.	64	58.38	—	—	7.91	1.99	13.80 10.50 pass paesp	11.70	—	—	8.25	96.03	2
"	WIFE UNEMP. MAN WORKING	—	—	105	78.41	2.92	0.32	—	11.70	—	—	8.25	85.10	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00	3.00	—	11.70	—	41.70 scale 10.50 pass 1.90 heat 10.20 child	—	91.00	4

* WORK EXPENSES = 8.25 / ADULT
 CHILD MINDING = 5.00 / WEEK

H(IV)

STATUS	EMPLOYMENT SITUATION	WIFE'S EARNINGS	Wife's earn after tax + NI	HUSBAND'S EARNINGS	Husb. earn after tax + NI	RENT REBATE	RATE REBATE	FIS	CHILD BENEFIT	WIFE'S SUPPLEMENTARY BENEFIT	HUSBAND'S SUPPLEMENTARY BENEFIT	WORK AND CHILD MINDING EXPENSES *	TOTAL NET INCOME	Ro
MARRIED + 3 CHILDREN	BOTH WORKING	85	61.08	140	99.84	—	—	—	17.55	—	—	21.50	156.97	1
"	WIFE WORKING MAN UNEMP.	85	75.18	—	—	4.85	1.26	7.80 13.50 paap	17.55	—	—	8.25	111.89	2
"	WIFE UNEMP. MAN WORKING	—	—	140	99.84	—	—	—	17.55	—	—	8.25	109.14	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00	3.00	—	17.55	—	41.70 scale 13.50 paap 1.90 heat 13.10 child	—	102.75	4
MARRIED + 3 CHILDREN	BOTH WORKING	64	48.21	105	78.41	—	—	—	17.55	—	—	21.50	122.67	1
"	WIFE WORKING MAN UNEMP.	64	58.38	—	—	6.82	1.99	18.30 13.50 paap	17.55	—	—	8.25	108.29	2
"	WIFE UNEMP. MAN WORKING	—	—	105	78.41	2.78	0.66	—	17.55	—	—	8.25	91.15	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00	3.00	—	17.55	—	41.70 scale 13.50 paap 1.90 heat 13.10 child	—	102.75	4

* WORK EXPENSES = 8.25/ADULT
CHILD MINDING = 5.00/WEEK

Hv

STATUS	EMPLOYMENT SITUATION	WIFE'S EARNINGS	Wife's earn after tax+NI	HUSBAND'S EARNINGS	Husb. earn after tax+NI	RENT REBATE	RATE REBATE	FIS	CHILD BENEFIT	WIFE'S SUPPLEMENTARY BENEFIT	HUSBAND'S SUPPLEMENTARY BENEFIT	WORK AND CHILD MINDING EXPENSES *	TOTAL NET INCOME	RO
MARRIED + 4 CHILDREN	BOTH WORKING	85	61.08	140	99.84	—	—	—	23.40	—	—	21.50	162.82	1
"	WIFE WORKING MAN UNEMP.	85	75.18	—	—	3.94	1.27	12.30 16.50 paarp	23.40	—	—	8.25	124.34	2
"	WIFE UNEMP. MAN WORKING	—	—	140	99.84	—	—	—	23.40	—	—	8.25	114.99	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00	3.00	—	23.40	—	41.70 scale 16.50 paarp 1.90 heat 20.40 child	—	118.90	4
MARRIED + 4 CHILDREN	BOTH WORKING	64	48.21	105	78.41	—	—	—	23.40	—	—	21.50	128.52	1
"	WIFE WORKING MAN UNEMP.	64	58.38	—	—	5.73	1.97	22.80 16.50 paarp	23.40	—	—	8.25	120.53	2
"	WIFE UNEMP. MAN WORKING	—	—	105	78.41	2.24	0.67	2.30 16.50 paarp	23.40	—	—	8.25	115.27	3
"	BOTH UNEMPLOYED	—	—	—	—	12.00	3.00	—	23.40	—	41.70 scale 16.50 paarp 1.90 heat 20.40 child	—	118.90	4

Table I

This table presents the replacement ratios derived from tables G and H.

Column 1 gives the short run replacement ratios calculated by dividing row 3 by row 1 in tables G(i) to G(v) for the different family types initially earning both average and 75% of average earnings. This shows the percentage of total income lost as a result of the wife becoming unemployed by the husband still working. Similarly, the column 2 ratios are calculated in the same way except here from tables H(i)

to H(v) hence depicting the long run situation - that is, comparing total net income as if both husband and wife were working to where the wife is employed but the husband is in his second year of unemployment - his unemployment benefit has been exhausted.

Column 3 ratios are calculated by dividing row 4 by row 2 in tables G(i) to G(v) hence comparing total net income for the family types where the wife is unemployed, husband employed, to total net income where both are unemployed. This shows the percentage of total income lost as a result of the husband becoming unemployed. The same method has been employed for column 4. Here the ratios are derived from tables H(i) to H(v) illustrating the long term situation - that is comparing wife unemployed for greater than one year husband employed with both parties unemployed for longer than one year.

The above table helps to emphasise the disparities in treatment between those situations in which the husband becomes unemployed and those where the wife also becomes unemployed under both the tax and benefit system.

TABLE I

REPLACEMENT RATIOS FROM TABLES G AND H

TABLE I

STATUS	INITIAL EARNINGS	REPLACEMENT RATIO IF HUSBAND WORKING		REPLACEMENT RATIO IF HUSBAND UNEMPLOYED	
		COL 1 80.7% 1st YEAR	COL 2 63.4% THEREAFTER	COL 3 71.5% 1st YEAR	COL 4 82.2% THEREAFTER
MARRIED	HUSBAND 140 WIFE 85				
MARRIED	HUSBAND 105 WIFE 64	86.4% 1st YEAR	64.9%	79.7% 1st YEAR	97.3%
MARRIED + 1 CHILD	HUSBAND 140 WIFE 85	84.3% 1st YEAR	67.1%	75.5% 1st YEAR	94.1%
MARRIED + 1 CHILD	HUSBAND 105 WIFE 64	91.0% 1st YEAR	70.6%	82.5% 1st YEAR	90.7%
MARRIED + 2 CHILDREN	HUSBAND 140 WIFE 85	84.9% 1st YEAR	68.3%	92.2% 1st YEAR	91.5%
MARRIED + 2 CHILDREN	HUSBAND 105 WIFE 64	91.5% 1st YEAR	72.8%	89.6% 1st YEAR	94.8%
MARRIED + 3 CHILDREN	HUSBAND 140 WIFE 85	85.5% 1st YEAR	69.5%	97.9% 1st YEAR	91.8%
MARRIED + 3 CHILDREN	HUSBAND 105 WIFE 64	91.9% 1st YEAR	74.3%	89.4% 1st YEAR	94.8%
MARRIED + 4 CHILDREN	HUSBAND 140 WIFE 85	85.9% 1st YEAR	70.6%	107.1% 1st YEAR	95.6%
MARRIED + 4 CHILDREN	HUSBAND 105 WIFE 64	92.3% 1st YEAR	89.7%	93.3% 1st YEAR	98.6%

Empirical Evidence on the Effect of Taxation Upon Labour Supply

There are two major approaches which have been used in estimating the effects of income tax upon the supply of labour services. First, the survey approach in which a randomly selected group are asked questions about their work behaviour and implicitly/explicitly about the perceived effect of taxation upon their supply of labour. The second approach involves econometric techniques here the relevant elasticities are measured from actual work - leisure decisions of workers; the chief advantage being that the researcher is not so much concerned about workers' statements on the perceived effects of taxation upon their supply decisions, but with their actual (observed) behaviour in response, inter alia, to taxation or changes therein.

The Survey Evidence

For purposes of expositional clarity and elucidation of the evidence underlying the proposed reforms we can usefully distinguish between the impact of taxation upon lower income (or manual worker) families and higher income groups.

Lower Income Families

A number of interesting studies carried out in the 1950-60's have to be ignored since the tax rate structure and other factors affecting labour supply decisions have so altered as to make them at best of historical interest and at worst positively misleading.

Brown and Levin (1974) collected and analysed data from more than 2,000 weekly paid workers and after a large number of factual and attitudinal questions about work in which tax was not mentioned by the interviewer (so as not to elicit only desired answers), the respondents were asked if income tax had made them work more or less overtime, or whether it had no effect on their supply decisions. The results were as follows:

		<u>More O/time</u>	<u>No Effect</u>	<u>Less O/time</u>
Replies for men	=	15%	74%	11%
Replies for women	=	2%	93%	6%

To check the plausibility of these claims, B/Levin examined how many actual hours overtime the respondents had worked. To simplify the matters we will consider the position of men only:

<u>Claim</u>	<u>All Men</u>	<u>Actual Average O/Time Worked</u>
Neither	74%	4.2
Work less	11%	3.5
Work more	15%	9.0

Those who claimed they worked more as a result of tax did indeed work more overtime than average; and those who claimed less overtime did work less than the average. In addition to

plausibility there is also the question of constraints. First the authors recognised that employees may not be free to choose the amount of overtime they would like to work e.g. employment may stipulate a shorter/longer working week as a condition of employment and some 30% of the men in the sample were estimated constrained in this way. Secondly pay constraints - 9% of men had such a constraint, and thirdly personal constraints e.g. work supply determined by health or family commitments etc - 6% of men were

estimated to have such a constraint. The re-estimated figures show:

<u>Claim</u>	<u>All Men</u>	<u>Highly Plausible</u>	<u>H.P. & Unconstrained</u>
Neither	74	79	69
Work more	15	14	22
Work less	11	7	9

The most dramatic change coming in the increased number of those prepared to work more, if unconstrained - this was particularly true of married men with children who had formerly claimed to be unaffected by tax. B/Levin concluded the aggregate effect of tax on supply of overtime hours amounts to about 1% of the total hours worked - tax inducing slightly more people to work.

Survey On Higher Income Groups

There are two surveys in the U.K of the effects of income tax on higher paid individuals, they are particularly interesting since both study the same professions - self employed, solicitors and accountants. Break (1957) randomly selected 306 self employed solicitors and accountants, this group being chosen as "tax sensitive" categories in that first being self-employed, they determined their own hours of work, and so were less constrained than other workers, and secondly professionally they would be more aware of tax rates than less informed workers. The generally reported result is that 13% of the sample reported definite disincentive effects, whilst 10% of the sample reported definite incentive effects. As for those experiencing disincentive effects nearly half said they had turned down work offered to them in the past. Of this group a third (i.e one sixth total disincentive) reported tax had been a

crucial factor - all these individuals had faced tax rates of 60% or more. However, those in the lowest income bracket did not regard the tax as being paramount. The middle income group tended to take on all work which came their way but reported being less actively involved in seeking new business than they would have been under lower tax rates. A third type of disincentive practice was to shift the workload to other persons within the firm; about one quarter of those experiencing disincentives turned over work to partners or staff because of their own tax rates. Of those experiencing definite incentive results, about half reported tax considerations were the chief reason for delaying their retirement. The other half found themselves having to work harder on a day to day basis, because of high taxes prevented them from being able to employ further staff to reduce their own work load. Break then went on to consider whether higher marginal tax rates increased the disincentive effect, and reported as follows:

	<u>Total Taxable Income</u>		
Reaction	Under £2000	£3000 - 5000	Over £5000
Disincentive	6%	14%	30%
Incentive	11%	10%	13%

Whilst this indicates higher marginal rates increased the disincentive, for lower income groups the results are less convincing.

Indeed, taken overall the net disincentive effect is "not large enough to be of great economic or sociological importancethe chorus of complaints against penal taxation echoed by the vast majority of respondents was surprisingly infrequently translated into action." Fields & Stanbury (1972) attempted to repeat Break's survey with a random sample of 285 solicitors and accountants. On average, 19% of the sample experienced disincentives (rising to 30% for those on top rates), whilst 11% experienced incentive effects. Unlike Break they find the net effect is statistically significant and suggest the disincentive effect is growing stronger over time. Moreover, there appears to have been a substantial shift in the type of disincentive effect. However, there are important differences between the two survey studies, especially the interviewing techniques so the two studies may not be directly comparable as at first appears.

As for the methodological difficulties which may be encountered using this approach see Moser & Kalton (1971). The principal difficulties lie in a number of areas. First in framing the questionnaire in as objective a form as possible, so as not to elicit only "desired" answers, and even if steps are taken to mitigate implausible answers, there is still the difficulty of interpreting and evaluating the importance of the variables under consideration. We have seen Break's point about the chorus of complaints against penal taxation being infrequently translated into action. The plausibility aspect also arises in so far as non-tax factors play a part in the supply of labour

services. The isolation and quantifications of those factors causes difficulty, and cannot really be satisfactorily dealt with by simplifying assumptions, as in Break's survey. The second area of difficulty already noted concerns whether the interviewers determine their own hours of work. Note the Brown and Levin estimates of unconstrained workers and Break's choice of self employed workers. The third question concerns how "representative" the sample is. Some researchers have pointed out that those who are really dissuaded may already have emigrated and chosen less demanding occupations, so the tax induced distortions come out in career choice, rather than sampling means (see O.R.C. Survey 1976). As a result of these and other problems, Fields and Stanbury concluded future research seems to be in the direction of econometrics, and it is to this area that we shall now confine our attention.

The Econometric Evidence

The earliest estimates of the relations between working hours and hourly earnings were made by Douglas (1934). Using annual time series data from 1890-1926 for a 15 industry sample, he found a strong negative correlation between the two - there was only one weak positive correlation; similar results followed on an inter - industry cross-sectional basis. Douglas concluded the elasticity of supply with respect to the wage lay between -0.1 and -0.2, implying a 1% increase in hourly earnings would tend to cause a decrease of between 0.1% - 0.2% in hours normally worked. Subsequently a number of studies using time series data tested the relationship between working hours and hourly

earnings using regression techniques and in most cases the elasticity of labour supply with respect to hourly earnings was confirmed negative. However, as Feldstein (1968) has pointed out the problem is one of identifying a labour supply curve from such observations; to overcome this difficulty he suggests two methods. First, we should include variables in addition to wages in the supply equation so that if these were included eg in an inter-industry study and if these were the only systematic facts that caused inter-industry differences in the supply function - including this in the regression would have the same effect as using a sample of observations which related to a single supply curve. This leads to his second suggestion namely to sample observations from a single labour market in which it is more likely to be a single supply curve. (For a criticism of this approach see Rayner 1969). His results were on the whole insignificant, only 4 out of 11 regression coefficients on hourly earnings were significantly negative and he concluded that had a more homogeneous sample been taken a positively supply curve would have been estimated.

A second difficulty arises from the progressive nature of taxation. We have seen the effect of a tax is to alter the budget constraint, but as progressive tax rates are banded, we must maximise our utility function subject to a non - linear budget constraint. Cain and Watts (1973) reviewed many of the earlier studies and have commented on the notable lack of unanimity in the signs of the income and substitution effects, and as Haveman and

Watts point out this lack of agreement weakens confidence in any of their findings. However, as a result of improved techniques (eg Kosters pioneering work) and specifications, more general agreement has been reached in later studies. To give a general idea of the gross uncompensated wage elasticities which have been obtained in the U.S we can refer to the table below.

Study	Uncompensated Wage Elasticity			Data
Finnegan 1962	- 0.25	$\bar{0}$	- 0.35	Inter Occupational
Rosen 1966	- 0.07	"	- 0.30	Inter-Industry
Owen 1971	- 0.11	"	- 0.24	Time Series
Abbot and Ashtenfelter	- 0.07	"	- 0.14	Time Series

This later study is particularly interesting since Abbot and Ashenfelter have provided compensated elasticities for prime age married males - the substitution elasticity being +0.12 and the income elasticity being -0.27. This clearly points to a backward bending supply curve with the income effect dominant, as the income elasticity has a larger absolute value than the substitution elasticity. The relatively small substitution elasticity implies that higher marginal tax rates may have only a small disincentive at least on the supply of hours for all but the higher wage earners. Moreover, as many of the studies point to the income elasticity having a much larger value than the substitution elasticity this is consistent with the observed secular decline in the supply of hours offered by males as real wages have increased. However this observation needs to be qualified in a number of ways; in particular we must consider the effects of Trade Unions on shortening the standard working week - which to some extent has

generated a black economy and secondary working systems (see Board of Inland Revenue Reports). The disincentive effects may well have increased over recent years, as the real burden of taxation has increased. From a policy implication viewpoint, if these estimates of a small substitution elasticity are accepted, then high marginal rates (given our assumption of no social security) may only have a weak disincentive effect on the supply of hours for the majority of the labour force (lower-income end).

Up to now, we have been looking at US evidence; let us consider the leading study in the UK carried out by Brown, Levin and Ulph (1976). They regressed actual hours worked on net marginal wage rate and other factors hypothesised to shift the supply schedule. It will be seen from the article that as the net marginal wage rate rises, the supply of hours fall. But whilst the authors reported a negative elasticity with respect to the marginal wage, their model implies that this elasticity varies with the wage rate and because their model is quadratic the elasticity eventually becomes positive. The overall implication is that the income effect dominates the substitution effect for lower paid workers, and conversely for the higher paid.

Comments and Evidence on the Negative Income Tax Proposals

We have already surveyed the empirical evidence on the Benefits - Earnings literature and considered the impact of income tax upon labour supply decisions but these are in a policy prescription context mere preliminaries to the central question as to how to induce increased supply of services given the existing or proposed tax-transfer systems.

It is widely recognised that both the tax and benefits system have failings in their own right and whilst these need not detain us here, it should be noted that some of the main problems, such as the question of low take up rates, multiple benefit entitlements and claims as well as low tax thresholds are considered in the main body of the report. Here we are primarily concerned with the additional and what may be considered the central problem which arises from the inter-action between the Social welfare system and the present system of taxing low paid workers. In the present context this is illustrated most clearly in poverty trap situations where individuals who desire to render additional labour services are dissuaded both by the high marginal rates of tax on extra earnings and by the withdrawal of means tested benefits (eg FIS) at an implicit rate starting at 50% or considerably more, so that the worker as a result of additional work effort can end up with a lower disposable income than formerly. The reasons are that the positive rate of income tax when coupled with the (implicit) rate of benefit withdrawal occasions a total marginal tax rate on the extra earnings in excess of 100%.

The causes of this 'excessive' marginal tax rate are seen as arising principally from the low level of tax threshold when compared with the level of welfare benefits and in particular from the level of prescribed income for FIS; the fact that FIS is calculated on 'gross' rather than net income basis and the exacerbation of these by the 'passported' benefits scheme. The case for a better integrated and more co-ordinated tax-transfer scheme has been recognised and recommended for many years and is overwhelming, yet the means of achieving it are far from agreed.

The Tax Credit Proposals 1972

The aims of the 1972 proposals were to simplify the tax system and in particular the allowances scheme by replacing it with a system of tax credits (and also changing the collection of income tax under the PAYE provisions), and
secondly to

to harmonise the tax transfer system by reducing avoidable complexities and duplications, and at the same time providing an automatic minimum level of income support. The scheme was intended to cover a wide variety of income recipients including those employees earning over £8 per week (at that time representing one quarter average earnings) all those in receipt of the main National Insurance Benefits and old age pensions (etc). It was estimated that the scheme would cover 90% of the working population but specifically excluded were those earning less than £8p.w, the self-employed and those in receipt of supplementary benefit. By excluding those on the lowest earnings the proposals came in for severe criticism - indeed it seemed that whilst income maintenance schemes sought to provide a minimum income level, these proposals excluded the very groups who would most need income support.

The proposed income tax changes need not detain us since most of them have already been effected or are about to be implemented. Moreover the tax simplification would not, per se, improve the interaction of the tax-benefits system. However, the numerous tax allowances which were then available would be replaced by three tax credits, illustrated in the green paper as:

A single persons credit	=	£X per week
Married couples credit	=	£Y " "
For each child	=	£Z " "

Such amounts being calculated as corresponding to just over the equivalent tax allowance at that time. The significance of the

tax credit as an instrument of co-ordinating the

tax-transfer system lay in the fact that if the credits exceeded the tax due on other income, the excess would be immediately and automatically repayable. For example, a single man on a weekly income of £10 (in 1972 terms) would be entitled to a tax credit of £4 and liable to income tax at 30%, so that:

tax payable on £10 @ 30% = £3

tax actually paid = £3 less Tax Credited £4

= £1 refund

so the taxpayers disposable income is £10 plus £1 cash refund, namely £11 - as such the tax credit provides a

rational tax-transfer system for those covered by the scheme. Moreover by bringing into charge all the main national insurance benefits, unemployment and sickness benefit were now to be brought into charge to tax. Once again this aspect of the reforms has been superseded by the government's taxation of these benefits since July 1982.

However appealing these changes may appear there were a number of difficulties which were apparent even at that time. As Polanyi and Polanyi (1974) noted the scheme was not comprehensive in scope; leaving aside those on S.B, those on less than one quarter average earnings were excluded. In evidence given to the Select Committee it was estimated that about half a million people with incomes below the poverty line would not receive tax credits since they would have insufficient earnings. By comparison our own scheme of negative income tax with the exception of supplementary Benefit claimants will cover all those on low incomes and so is more

comprehensive in nature than the scheme formerly advocated. This will therefore obviate many of the complexities and inefficiencies perpetuated by the 1972 type proposals and results in reduced administrative and compliance costs. Apart from the coverage aspect, the other major objection to the earlier scheme as a means of low income support for those covered by it, lies in the fact that there was only one level of tax and one level of credit for a given size of family, irrespective of income. As such the scheme represented an insensitive instrument by which to concentrate help where it was most needed. For example, if it was intended to reduce the burden of taxation for those with low earnings the tax credit would have to be increased significantly and whilst this may raise the poor out of poverty, it would also assist everyone else. The proposal would result in a combination of credits inadequate to raise the poor out of poverty and benefits widely dispersed over "non-poor" households, resulting in excessive costs if the credits were to be raised to more adequate levels. Polanyi and Polanyi (1974) have quantified the distributional ineffectiveness of the proposals in the following terms - although the scheme distributes some £1,300 million of net benefits per annum, this goes mainly to "non-poor" recipients. Only about £155 million (12%) actually goes to people who can broadly be classified as poor. Moreover of the 2.8 million persons regularly receiving S.B. only 1 million would have their incomes raised to the level at which they no longer needed this support. This means that about 3 million people (including claimants dependents) would still be relying on this form of assistance. In addition a further 2 million (including dependents) who at present fail or are ineligible to claim S.B. will remain in poverty.

The general structure of the 1972 proposals are such that they fail to concentrate income support on those who most need it; as such its cost effectiveness is in doubt. In considering the cost-effectiveness of the proposals we may also note from an efficiency viewpoint that tax credits, being a lump sum rather than an allowance against earnings, may actually have a disincentive effect for low income earners, since they receive less cash refund the higher their earnings. Although the green paper stated that the marginal rates would be reduced for the low paid, calculations show that they could be significant. (see: Lees (1967) Lloyds Bank Review; Beckerman (1979) E.J. pp 261-79.

By comparison, our own proposals for alleviating poverty amongst low income families provides a far more sensitive and concentrated means of income support. Being based upon the existing schemes of poverty support in both child benefit and FIS terms we have widely accepted base criteria upon which to build. Moreover, whereas the 1972 proposals operated solely through the 30% basic rate for all income groups occasioning spillover effects, our proposals concentrate solely on those in the lower income groups thereby minimising this consequence. The present proposals represent a more sensitive means of support in several respects, for example, whereas the 1972 proposals with the insensitivity to variation in regional housing costs (etc) could only be remedied by increased complexity or excessive and indiscriminate expenditure, our proposals are based on the existing means tested criteria of FIS, thereby concentrating assistance where it is most needed.

In addition to the difficulties which were evident in the Tax Credit proposals at that time, there are a number of additional difficulties which would be encountered if such a scheme were to be introduced at the present time. Perhaps the most interesting in the present context concerns the means of quantifying the tax credit, and level of qualifying income. Coverage apart, what values should be given to the tax credit. Clearly if we were to use the value of present tax allowances, this would not only provide an inadequate level of income support but also represent a serious inconsistency with current levels of social security; as such the value of tax allowances cannot be used. Clearly the S.B. scale could be used if a highly restricted coverage were accepted, but this defeats the main objective of negative income tax schemes. Clearly if the type of proposals put forward in 1972 were to be applied to the existing tax-transfer scheme an entirely new and arbitrary basis of quantification would be required. In contrast, our proposals for a negative income tax builds upon the existing structure and requires only minor technical adjustments. In particular, whereas the 1972 proposals lead us back to the problem of lack of synchronisation between benefit levels and the value of tax allowances, our proposals directly confront this problem in such a way as to emphasise work incentives rather than income support, thereby encouraging workers to help themselves back into prosperity.

We have already seen that if tax thresholds are so low that tax is levied on families which are officially acknowledged as having inadequate income to meet their needs, then increased tax thresholds vis a vis benefit levels will be one way of alleviating the difficulties associated with low wage earners. And from an equity viewpoint the

increase in thresholds will, in itself, take many poor families out of tax altogether. Whilst this may be an expensive and not particularly cost-effective means of directing relief to those in most need, if some greater degree of cohesion between thresholds and benefit levels is not sought the problem of the poverty trap (and unemployment trap) is likely to increase as the gap between the two enlarges. If social security benefits are indexed whilst tax allowances are eroded there will be an increasing overlap between the tax and social security system exacerbating the existing difficulties.

More positively our proposals for calculating Family Income Supplement on a 'net' rather than a 'gross' incomes basis obviates the tax induced distortions for those in receipt of welfare benefit; in essence it breaks the principal characteristic of the poverty trap, namely its additive nature resulting from the coupling of positive tax rates with the implicit tax rates of Welfare withdrawals. In effect we have an integrated tax-transfer scheme for those in work or business.

The proposed increases in child benefit may be linked up similarly, for under the existing scheme those in work receive substantially less financial support than those out of work; by increasing non taxable child benefit those in work would benefit relative to those out of work since the latter would receive a pro tanto reduction in the child allowance element of supplementary benefit.

It may be thought that calls for an extension of the existing NIT element in the present system represent calls for disincentives to be increased. We would reject this contention given the exact nature of the proposals we have formulated, but for purposes of completeness we may be interested to review the empirical evidence on other Negative Income Tax Schemes, which are particularly different from our own.

Evidence of NIT Experiments

One of the main obstacles to adopting NIT is the popular fear that the provision of higher incomes might lead to a fall in willingness to work. The theory behind this is similar to that put forward in our analysis of the Benefits-Earnings Survey. To test this, negative income tax schemes were introduced experimentally in several places in the US. - perhaps the best known being that carried out in New Jersey.

The 'New Jersey' Experiment

To be eligible a family must have an able bodied male of working age and an income not in excess of 150% of the official poverty line. Nearly 1400 people were enrolled - 724 were classified as 'experimental' families, and 650 as 'controlled'.

The former were allocated to one of 8 separate NIT schemes combining four guarantee levels (at 125%, 100% 75% and 50% of the poverty line) and three tax rates (30%, 50% and 70%).

Before considering the results, some of the weaknesses of the scheme should be mentioned.

How can inferences about a permanent NIT be drawn on the basis of a 3 year experiment; the breaking up of families and people dropping out of the plan meant 41% of the experimental families and 45% of the control families lacked continuous structure and data throughout the experimental period. This high attrition rate was in part the result of New Jersey instituting a welfare programme (AFDC-UP) that produced higher benefits than several of the programmes. Another unexpected factor was that different ethnic groups behaved very differently. These and other difficulties mean the results should be treated with caution. The size of the payment received varied between the various experimental groups and Haveman and Watts have concluded that ' there are no findings here to indicate a significant reduction in labour supply'.

As an example the hours by (white) husbands were in the

Pre-experimental period:	Experimental Group	34.1	Controls	34.8
During experimental period:	Experimental Group	31.8	Controls	34.4

We can see little difference in the pre-experiment period, but during the experiment the difference between the two groups is largely accounted for by reduced accurate working in the case

of the experimental group.

Hall (1975) , disagreeing with earlier conclusions has argued that the results for white husbands do in fact show a significant reduction in labour supply, pointing to the 2.3 fewer hours worked by the experimental group after the experiment came into force; and an increased differential between the two groups, amounting to some 2.6 hours during the experiment compared with 0.7 before it. These and other measures he argues all show a significant reduction in hours for the experimental group.

The Seattle and Denver Experiments

Unlike the New Jersey experiments, these results are consistent with the predictions of economic theory, and are broadly in agreement with the econometric estimates of the effects of taxation on labour supply.

These experiments provided for 3 levels of guaranteed income - \$3800, \$4,800 and \$5,600 (1971 dollars) and four tax rates. The researchers estimated the effects of the experiment by comparing hours worked prior to the experiment with those worked in the second year of the experiment.

Details of the results are not given here, but they imply a total reduction in hours of 5.3% for husbands and 22% for wives, and 11.2% for female heads of households.

These results lend support to Hall's interpretation of the New Jersey Experiment, and tend to cast doubt on Haveman and Watts' interpretation of the results.

We have seen in the New Jersey experiment, the NIT programme ran for 3 years and the question is whether on this basis inferences can be made about a permanent NIT. In the Seattle and Denver experiments some enrolled for three years, others for 5 years - there were no significant differences in the labour responses between the two groups in the second year of the experiment.

Conclusions

There can be little doubt that income tax does have disincentive effects on the supply of labour services; more accurately, these effects increase, the higher marginal rate of tax encountered at each level of earnings.

Whilst the evidence is most apparent when explicit tax rates are considered as in the case of higher income groups, the distortionary effect will in all probability be encountered in its most severe form by those at the lowest income levels, since it is here that the very highest marginal rates of tax are encountered. We have considered the failings of the previous Conservative administration's tax credit scheme and drawn out lessons used in our own proposals, which are a practical move towards Negative Income Tax utilising existing mechanisms. While the US evidence of NIT experiments confirms some disincentive effects of NIT, the social objectives involved are better met by NIT than by the present nexus of tax/benefit provisions which yield the poverty trap.

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ANNEX D

HISTORY AND PRESENT STATE OF UNION LEGISLATION

- I Trade Union Immunities
- II The Closed Shop
- III Labour Monopolies Legislation

ANNEX D

The History and Present State of Union Legislation

The purpose of this article is to examine British trade union power in relation to its effect on employment (Minford 1982)¹, and the extent to which it impinges on the efficient operation of the labour market (Kochin, 1980)². We attempt to do this by examining the two major areas of union power. These are trade union immunities and the closed shop. We consider how far Norman Tebbit's Employment Bill³ will modify these powers, and finally suggest some possible alternatives and extensions to existing legal procedures to deal with these issues.

(A) Trade union immunities

The law governing strikes and other industrial action is based on legal immunity (as opposed to positive rights) which protect those who organise and participate in trade disputes from certain action which would otherwise be unlawful. In the greater part of the last century trade union activity was governed by the criminal law. Workers who struck or were involved in other industrial action did so under the penalty of prosecution for such offences as intimidation and conspiracy. The Trade Union Act 1871 and the Conspiracy and Protection of Property Act 1875, save for picketing, removed criminal liability for criminal conspiracy, in restraint of trade, if a combination of two or more persons acted in contemplation or furtherance of a trade dispute.⁴

Following this legislation a succession of civil

liabilities in tort, (ie. civil wrongs, not being contractual, as opposed to criminal wrongs, which are redressed by an injunction restraining the action and/or compensated by damages for the loss suffered), were developed by the common law judges. Examples were a) the tort of inducing (by union officials) breach of contracts of employment (by workers) enabling the employer to seek the above redress, and b) the tort of civil conspiracy whereby a person (an employer) could sue any other person (a worker or union official) who had conspired with others to cause damage (eg. resulting from strike) which the courts perceived as other than in pursuance of their legitimate interest.

The development of civil liabilities in industrial relations culminated in the famous Taff Vale case⁵ in which the highest appellate court in the land (The House of Lords) held, for the first time, that a trade union as a distinct and separate entity from its officials could be liable for the unlawful action of its members. The Taff Vale decision, on trade union liability, was rendered redundant by the provision of immunity in the Trade Disputes Act 1906 (hereinafter referred to as the 1906 Act) from which flowed the underpinnings of the present day legal structure of trade union immunities. The Act was repealed by the Industrial Relations Act 1971 (hereinafter referred to as the 1971 Act) but its provisions form the basis of the Trade Union and Labour Relations Act 1974 (hereinafter referred to as the 1974 Act) as amended by the Trade Union and Labour Relations (Amendment) Act 1976, Section 4 gave trade unions complete immunity from actions in

tort.

Individuals (union officials and workers) were afforded immunity if they acted in contemplation or furtherance of a trade dispute, from actions in civil conspiracy and interference with a person's freedom to use his capital and labour. In addition S3 stated that an act done by a person (for example the leader of a strike calling out workers) in contemplation or furtherance of a trade dispute would not be actionable (by the employer) on the ground that it induced some other person (the workers called out) to break their contracts of employment. The workers actually breaking their contracts could however, be sued (as they can to the present date) by their employer in contract for damages, but the section afforded immunity to any person, whether an official or not, for inducing that breach, which but for the immunity would be actionable in tort.

The Act also provided the first definition of lawful picketing. Immunity was not furnished for inducing breach of commercial contracts, that is, a direct inducement by a worker or union official persuading his employer to break his commercial contract with his supplier or customer. There was some judicial confusion concerning whether indirect inducement to break a commercial contract had S3 immunity. Indirect inducement occurred when a person (a union official) had immunity for calling out workers on strike, in breach of their contracts of employment, but where such action had the indirect effect of causing the employer of the strikers to break his

commercial contracts.

In the case of *Rookes v Barnard* 1964⁶ the House of Lords held that S3 did not confer immunity on union officials who threatened that there would be strike action if a non-union member was not dismissed. The union officials were sued for the tort of intimidation, which constitutes the threat of an unlawful act, the unlawful act being that contracts of employment would be broken. S3 of the 1906 Act only gave protection to a person inducing a breach of a contract of employment and not the actual threatening or intimidation of an employer that the same would occur.

The Trades Disputes Act 1965 enlarged the protection in the 1906 Act to cover the tort of intimidation by conferring immunity on threats to break a contract of employment or of a threat to induce others to do the same.

The Donovan Commission reporting in June 1968⁷ concluded that the immunities conferred by the 1906 Act through judicial interpretation constituted a legal maze. The report recommended that one of the methods of clarifying the law was by extending immunity, for inducing breach of contracts of employment, to all contracts.

The Labour Government's White paper "In Place of Strife" 1969⁸ endorsed the above recommendation. The papers other proposals were however more contentious ie. the resolution of recognition disputes between unions for compulsory ballots in official strikes, for union registration and for a statutory cooling-off period where unconstitutional stoppages or

unofficial action occurred. In each case there was to be provision for the Secretary of State to refer cases to a newly constituted industrial board which would have had power to impose financial penalties on individuals, trade unions and employers in breach of its orders. There was hostility from unions and under pressure the government withdrew its proposals at the same time obtaining an undertaking from the TUC that it would intervene in official strikes. The government subsequently introduced a Bill stripped of its penal clauses but the Bill was overtaken by a General Election which returned a Conservative Government who enacted the 1971 Act; an innovatory and wide ranging statute which changed the face of industrial law and sought to bring industrial relations within the scope of positive judicial control. The Act repealed the 1906 Act returning to the Taff Vale position, in that a trade union as distinct from its members or officers could once again be liable under the provisions of the Act. Immunity was furnished, however, if the union was registered under the Act, and it acted in contemplation or furtherance of a trade dispute. Its members and officials had additionally to act with the authority or on behalf of the registered trade union to attract immunity. These provisions had the direct effect of making unofficial strikes unlawful. In 1980 about 90% of strikes were unofficial.⁹ The 1971 Act also gave individual rights to workers such as the right to belong or not to belong to a trade union. The Act also introduced an implied legal presumption that written collective agreements were to have contractual status (ie. legally binding on both parties) unless the agreement expressly

excluded the same. The 1971 Act encountered severe union opposition. The TUC instructed trade unions not to register under the Act, thereby foregoing the provisions or immunity contained therein. The 1971 Act led to a number of fierce and controversial court cases¹⁰ before being repealed by the Labour Government's 1974 Act.

The Present Law

At this point it may be useful to distinguish between a worker breaking his contract of employment with his employer, (which does not attract immunity), by striking or other industrial action, and the legal immunities granted to trade unions, members and officials for organising the same and thereby inducing that breach; which but for the immunities would be actionable by the employer as an unlawful tortious act.

Striking or other industrial action by an employee or breach of a specific term of his contract, such as a procedural agreement, will entitle his employer to sue him for damages and/or to dismiss him, without notice.

The giving of sufficient strike notice has in the past been construed by the courts as a suspension of the contract during the duration of the strike.¹¹ In a more recent case,¹² however, it was held that strike notice did not have the effect of suspending the contract of employment thus enabling the employer to dismiss without notice a striking employee.

Under Section 62 of the Employment Protection

(consolidation) Act 1978 (hereinafter referred to as the 1978 Act) an employer may leave himself open to face a claim of unfair dismissal if he dismisses an employee who has been engaged in a strike or other industrial action, or where the employer has enforced a lock out, and one or more employees who were taking part in that action (even if they have subsequently returned to work), have not been dismissed, or have been re-engaged by their employer. Although S62 does not affect the employers right to dismiss all employees strike without notice, he may be faced with the choice of dismissing all striking employees, including those who have returned to work, or none at all if he does not want to face unfair dismissal claims for what amounts to 'victimisation'.

The Immunity of Individual Union Officials against Actions in Tort.

The current law on trade union immunities is contained in the 1974 Act as amended but its scope is restricted by the 1980 Act(Post) S13 substantially re-enacted the immunities in the 1906 Act in an extended form. Section 13 (1) states that an act done by a person in contemplation or furtherance of a trade dispute shall not be actionable in tort on the ground only that:-

- (i) the act induces another person to break a contract
or
- (ii) induces a person to interfere, with the performance
of a contract
or
- (iii) threatens that a contract (whether he is a party to
the contract or not) will be broken or its performance
interfered with
or
- (iv) threatens that he will induce another person to break

a contract or to interfere with its performance. S13 (1), in effect, extends immunity to a 'person', (whether an official of the union or not thereby providing immunity for organisers of unofficial strike action), for inducing whether directly or indirectly the breach of a contract (commercial in addition to contracts of employment) and restores the immunity furnished in The Trades Disputes Act 1965 in relation to threats of breach of contract or intimidation as noted in *Rookes v Barnard*.

S13 (2) provides immunity in tort for an act done by a person in contemplation or furtherance of a trade dispute which interferes with the trade business or employment of another, or with the right of a person to dispose of his capital or labour.

S13 (3) stated (S13(3)) is now repealed by the 1980 Act S17 (8) post), that breach of contract in contemplation or furtherance of a trade dispute should not be regarded as the doing of an unlawful act or the use of unlawful means for the purposes of establishing liability in tort. It has been argued that the repeal of S13 (3), may remove protection from torts not given immunity by S13 (1). This arises because although immunity is afforded to persons under S13 (1) for inducing breach of contracts and intimidation as explained in *Rookes v Barnard* that case also established that breach of contract was an unlawful act for the purpose of establishing unlawful means for other torts, e.g interference with a persons right to carry on his lawful trade or calling, or a conspiracy to commit some unlawful act.

In a recent case in the House of Lords,¹³ however, Lord Diplock described S13 (3) as being superfluous to the breadth of immunity in S13 (1) and has said of the Court of Appeals decision in the same case, (i.e. that although inducing a breach of contracts is not actionable by an employer, breach of contracts of employment are unlawful means for the purpose of establishing liability for other torts which are not protected by S13). "It seems to me that such a conclusion could never be reached by applying any of the accepted principles of statutory construction".

S13 (4) affords immunity against the tort of civil conspiracy, where two or more persons are acting in combination, in contemplation or furtherance of a trade dispute, and the act if done by one person, such as striking, (which is actionable as an unlawful breach of contract, but not a tort) is not actionable in tort if done by a combination of strikers.

A common example of the immunity afforded to organisers of industrial action under S13 is where a union official calls out his members on strike in contemplation or furtherance of a trade dispute with their employer. The workers on strike are in breach of their contracts of employment. As a result of the strike, the employer may not be able to fulfil his contractual commercial obligations and may incur substantial financial losses. If it were not for the immunity conferred in S13 the employer could sue the union officials

in tort, for inducing the breach of his workers contracts of employment, for damages or seek an injunction to restrain the inducement.

2. Trade Union Immunity

S14 of the 1974 Act is based upon and re-instates the immunity originally conferred on trade unions by S4 of the 1906 Act. S14 confers almost total immunity on trade unions for actions in tort whether or not action was taken in contemplation or furtherance of a trade dispute, or was taken on its behalf or instruction by its officials or members. The limited liability of a trade union in tort only applies to negligence, nuisance or breach of duty, and such liability only attaches if there is personal injury to a person. A trade union is also liable in tort for the breach of any duty imposed in connection with the ownership occupation control or use of property. Such liability of a trade union as there is in tort will not attach, (so that a trade union has total immunity), if it arises from an act done in contemplation or furtherance of a trade dispute. This led the Donovan commission to comment "no other person or organisation not even the crown has comparable immunity in this country".⁷

3. Acts "In Contemplation or Furtherance of a Trade Dispute"

The immunity conferred on individuals under S13 is dependent on the acts being done in contemplation or furtherance of a trade dispute. If there is no trade dispute the

protection is lost. If there is a trade dispute, but a person is deemed not to be acting in contemplation or furtherance of the same, immunity is also lost. Section 29 of the 1974 Act defines a trade dispute as a dispute between employers and workers or between workers and workers which is connected with one or more of the following matters:-

(a) terms and conditions of employment or the physical conditions in which any workers are required to work; (b) engagement or non-engagement, or termination or suspension of employments or the duties of the employment, of one or more workers; (c) allocation of work or the duties of employment as between workers or groups of workers; (d) matters of discipline; (e) The membership or non membership of a trade union on the part of a worker; (g) machinery for negotiation or consultation and other procedures relating to the foregoing matters. A trade dispute can relate to matters occurring outside Great Britain. A dispute to which a trade union is party is treated as a dispute to which workers are party, and worker in relation to a dispute to which the employer is party includes any worker even if not employed by that employer. Prior to S29 of the 1974 Act the 1971 Act had a similar definition of trade dispute save that the dispute had to relate "wholly or mainly" to the matters in the act and not merely be "connected". If a dispute falls outside these prescribed categories then no immunity is afforded under S13. In the case of *Express newspapers v MacShane* (1980)¹⁴ the National Union of Journalists (NUJ) instructed its members, in general support of striking provincial newspaper journalists, amongst other things, not

to deal with material from the Press Association (the Press Association not being in dispute with the NUJ). The House of Lords held that the test for "in furtherance" of a trade dispute was subjective and that if a person genuinely believes, that he is acting in furtherance of that dispute then he has immunity under S13. Union officials had as a result of the interpretation of "in furtherance", widespread immunity for secondary and sympathetic action even if it effected parties unconnected with the original dispute.

The Effects of the Employment Act 1980 in Curbing Trade Union Immunities

1. Secondary Picketing

Section 16 of the 1980 Act restricts the effect of S13 immunity by declaring nothing in S13 of the 1974 Act shall prevent an act done in the course of picketing from being actionable in tort unless it is done in the course of attendance declared lawful by S15 of that act (S16 substitutes a new S15 in the 1974 act). S15 now states that lawful industrial picketing may only be undertaken in contemplation of furtherance of a trade dispute and may only be carried out by a person at or near his own place of work or, if he is an official of a trade union, at or near the place of work of a member of that union whom he is accompanying and whom he represents¹⁵ for the purpose only :- of peacefully obtaining or communicating information, or peacefully persuading any person to work or abstain from working.

S16 takes away the previous immunity given to pickets to attend lawfully other than at their own place of work in a trade dispute. This applies even where employees at the other place of work are employed by the same employer. An employer may seek redress from the courts for damages if pickets, outside the ambit of S16, induced his employees not to attend work in breach of their contracts or more probably he would seek an injunction to prevent the continuing unlawful picketing. Although the words "at or near his own place of work" are not defined in the 1980 Act the code of practice on picketing¹⁶ (hereinafter referred to as the picketing code), states lawful picketing normally involves attendance at an entrance to or exit from the factory, site or office at which the picket works. It does not enable a picket to attend lawfully at an entrance to or exit from any place of work which is not his own, even if those who work there are employed by the same employer or covered by the same collective bargaining arrangements. paras 31 and 36 state pickets and their organisers should ensure that in general the number of pickets does not exceed six at any entrance to a workplace, frequently a smaller number will be appropriate.

Para 21 of the picketing code states, in relation to an injunction against unlawful pickets, "an organiser of picketing cannot avoid liability by for example changing the members of the picket line each day if a person knows that such an order has been made against someone and yet aids and abets him in breaking it, he may be in contempt of court himself and liable to be punished by the court". The picketing code does not impose legal obligations, however under S3 of the 1980 Act any provisions of the code are admissible in evidence and must

be taken into account in determining a relevant question in any proceedings before any court (including a criminal court) or an industrial tribunal. It should be noted that a picket is liable to be prosecuted for any criminal offence he may commit during the course of his picketing and for any torts such as nuisance and trespass to which immunity under S13 of the 1974 does not attach.

2. Immunity and Secondary Industrial Action

Secondary industrial action is commonly understood to be action by employees not in dispute with their own employer but acting in contemplation or furtherance of trade dispute between other workers and their employer. Such action may take the form of a sympathy strike, blacking or secondary picketing (which has been curtailed by S16 of the 1980 Act ante).

Section 17 of the 1980 Act was enacted as a result of the wide immunity conferred in the McShane case.¹⁴ S17 has the effect of removing immunity for secondary industrial action, under S13 of the 1974 Act as amended, where a person induces the breach of a commercial contract unless the secondary action takes a form permitted under S17. The complex provisions of S17 may be summarised as follows: There is only secondary action when a person (a) induces another to break a contract of employment or interferes or induces another to interfere with its performance or (b) threatens that a contract of employment under which he or another is employed will be broken or its performance interfered with, or (c) threatens that he will induce another to break a contract of employment or interfere with its performance, and the employer under the contract of employment is not a party to the trade dispute. An example of secondary action would be if employees of X (who is not in dispute) take industrial action in

breach of their contracts which was induced by a union official in support of employees of Y (who is in dispute). Such secondary action will only retain immunity, under S13 of the 1974 Act as amended, if the principle purpose of the secondary action was directly to prevent or disrupt the supply, during the currency of the dispute only, of goods or services, and is likely to achieve that purpose, between an employer who is party to the dispute and the employer (not in dispute) but whose employees are taking secondary action in breach of their contracts. (S17 (3)). The secondary action must be directly targeted to interfere with the supply of goods or services to the employer in dispute from his immediate suppliers or from his immediate customers. It must not prevent or disrupt the supply of goods or services by or to any other person. The indiscriminate blacking of goods by a first supplier to the employer in dispute will not be afforded protection under S17 where it interferes with any other employers commercial contract.

There must be a contract subsisting at the time the secondary action is taking place between the employer not in dispute and against whom the secondary action is in breach of contracts of employment and the employer who is in dispute and against whom that secondary action is targeted. If such a contract is not subsisting or there is no contract, then any secondary action will lose immunity.¹⁷

Similar provisions apply to an associated employer¹⁸ of an employer who is a party to the dispute save that the secondary action against an associated employer not in dispute may only be taken, as outlined, where the associated employer is substituting

goods or services which would, if not for the dispute, have been supplied to or by the employer who is in dispute, and such secondary action is taken by the workers of the associated employer or by the workers of the first suppliers or customers to the associated employer (S17 (4)). The effect of S17 is to severely curtail immunity for organisers of secondary industrial action and more especially 'sympathy strikes' and 'blacking'. Another implication of S17 is that disputes between workers and workers not involving an employer e.g a demarcation dispute is by definition secondary action and, if it interferes with a commercial contract, would lose immunity being outside the ambit of protection in S17.

3. Picketing and S17 of the Employment Act 1980

S17 of the 1980 Act retains S13 immunity for the purposes of secondary action in breach of commercial contracts if it is done in the course of attendance declared lawful by section 16 of the 1980 Act: i.e. in contemplation or furtherance of a trade dispute, at or near his own place of work for the purpose only of peacefully obtaining or communicating information or peacefully persuading any person to work or abstain from work. S16 however, does not state that the picket must be in dispute with his employers, only that he attends at or near his own place of work in contemplation or furtherance of a trade dispute. But S17 states that such protection for secondary action during the course of lawful picketing applies only to "a worker employed ... by a party to the dispute" (S17,5(a)). It is logical to suggest therefore that pickets who attend at their

own place of work in contemplation or furtherance of a trade dispute between another employer and his workers must further satisfy the requirements in S17 (3) or (4) above, in relation to secondary action, with the effect that the secondary picketing must be aimed directly to prevent or disrupt the supply of goods and services between the pickets employer and the employer in dispute to retain immunity.

S17 (8) of the 1980 Act repealed S13 (3) of the 1974 Act. The rationale of the repeal is that S13 (3) may have circumvented the provisions of S17 in relation to secondary action where breach of commercial contracts were indirectly induced by breaches of contracts of employment.

4. Acts to Compel Trade Union Membership

S18 of the 1980 Act was enacted as a direct consequence of the Leggatt Report¹⁹ which investigated the coercive practices of the Society of Lithographic Artists, Designers, Engravers and Process Workers (SLADE) who compelled workers in the industry to join the union by such methods as blacking and the imposition of the closed shop. S18 removes the immunity conferred by S13 of the 1974 Act as amended from persons who induce breach of, or interfere with, contracts of employment or interference with commercial contracts by such means, with the intention of compelling workers to become members of a trade union. e.g. A union official instructs his members to black goods going from

employer X to employer Y in contemplation or furtherance of a trade dispute, with the intention of compelling the employees of Y to become members of a trade union. Such action by the official would normally have immunity under S13, or S17 of the 1980 Act, but it is removed by S18 rendering the official liable to be sued in tort. Immunity is restored however if there is a common employer or if the workers being compelled work at the same place as those taking the action.

5. Summary of trade Union Immunities

An individual who is in breach of his contract of employment by taking strike, or other industrial action may be sued by his employer and dismissed without notice. But he has limited statutory recourse if such a dismissal was an act of 'victimisation'. Legal immunity is not granted to a worker in breach of his contract of employment, rather the organisers (who may or may not be officials of the union) who induced that breach, by calling a strike or other industrial action, have immunity from being sued by an employer for what would otherwise be an actionable civil wrong or tort redressed by damages and/or an injunction. Immunity also extends to other industrial torts:- civil conspiracy, inducing breach of commercial contracts, intimidation and interference with trade, business or employment of another. Such immunity however is only conferred if a person is acting in contemplation of furtherance of a trade dispute. Immunity is also removed from pickets unless they picket at their own place of work; from most forms of secondary industrial

action, unless it is targeted specifically to interfere with the supply of goods or services to or from the employer in dispute, with his first supplier or first customer; and from industrial action to compel trade union membership except where employees work for the same employer or at the same work place as those taking such action.

Organisers of primary industrial action (ie A dispute between an employer and his employees) retain widespread immunity and a trade union as a separate entity from its members has immunity for industrial torts carried out on its behalf or instruction.

B. The Employment Bill 1982 in Relation to Trade Union Immunities

The Employment Bill is certain to reach the statute book in its amended form probably in Autumn 1982.

1. The Immunity of Trade Unions

The Bill has radically reformed the liability of a trade union for actions in tort.

Clause 14 repealed S14 of the 1974 Act thereby removing the anomalous blanket immunity enjoyed by trade unions thus far. Henceforth trade unions may be sued for such torts as nuisance, negligence or breach of duty and if such torts result in personal injury or if the union is sued for breach of duty in connection with the ownership, occupation, possession, control or use of

property, the damages claimable are unlimited. If however no personal injury results only limited damages may be claimed. Trade union liability in this respect will be brought into line with that of the individual, save that an individual always faces unlimited damages.

In addition a trade union will be liable in tort where proceedings are brought against it on certain grounds specified in S13 of the 1974 Act, as amended, e.g. inducing breach of contracts, intimidation and civil conspiracy, if the acts in question do not attract immunity (so a trade union now has the parallel immunities of an individual), under S13. An example of when a trade union is liable might be where an act is not in contemplation or furtherance of a trade dispute, or where union officials have induced breach of contracts of employment for the purpose of secondary action not permitted by S17 of the 1980 Act. However for the purpose of determining in proceedings whether a trade union (as distinct from its officials) is liable in respect of the act (or tort) in question that act (under clause 14) shall be taken to have been done by the union only if it was authorised or endorsed by a responsible person. A union will only be liable, therefore, for the unlawful and unprotected acts of its officials under S13 where such acts have been authorised or endorsed by (a) the principal executive committee of the union or (b) by any person empowered by the written rules of the union to authorise or endorse acts of the kind in question or (c) the president or general secretary; defined as officials of the union

who hold office in that position or, if there is no such office, who hold the office which is equivalent or nearest equivalent to the said offices or (d) by an employed official of the union or (e) by any committee of the union to whom an employed official regularly reports. But an act endorsed or authorised by an employed official or by any committee to which he regularly reports will not be taken to have been authorised or endorsed by a responsible person, thereby freeing the union from liability, if:-(1) the employed official or any committee to which he regularly reports, at the time in question, was prevented by the written rules of the union from authorising or endorsing acts of the kind in question or (2) the act has been repudiated by the principal executive committee or by the president or general secretary. However such an act will not be treated as repudiated unless it is repudiated as soon as is reasonably practicable after the purported authorisation or endorsement of the act has come to the knowledge of the principal executive committee or the president or general secretary, and the person who purported to authorise or endorse the act has been notified in writing without delay that it has been repudiated. In any event an act will not be treated as repudiated if at any time after the union concerned purported to repudiate it, the principal executive committee, the general secretary or the president has behaved in such a manner which is inconsistent with the purported repudiation.

Example of the Workings of Clause 14

An employed official of a union authorises or endorses a strike, which induces workers to breach their contracts of employment, but which loses the immunity in S13 of the 1974 Act as amended, because the action is not in contemplation or furtherance of a trade dispute. At this stage the union is liable. If the authorisation or endorsement of the action is repudiated by the principal executive committee of the union as soon as is reasonably practicable after the said act became known and the employed official is notified without delay in writing that his purported authorisation or endorsement has been repudiated, then the union is not liable. If the above procedure is not complied with the union is liable. Finally notwithstanding compliance with the above procedure the union would be liable, if at any time after it purported to repudiate the action the principal executive committee, the president or the general secretary, has behaved in a manner which is inconsistent with the purported repudiation, perhaps by supporting verbally or by other means the continuing industrial action. It should be noted that clause 14 is in the main concerned with the vicarious liability of a trade union, ie where it is being sued, for actions carried out on its behalf or instruction by its members or officials. This does not mean that an employer must only sue the trade union, he may still sue the individuals or officials concerned as he could prior to the Bill. Such a course of action would obviously be prudent where the union is not deemed responsible, for its officials unlawful acts, under

clause 14. An employer may also sue both the union and the officials in a joint action. It should also be noted that in future trade disputes must be "between workers and their employer" (see clause 17 post) with the effect that a dispute purely between a union and an employer not involving any of the employers workers, will no longer have immunity conferred for the industrial torts of its officials under S13. Therefore, a trade union could be liable in these circumstances under clause 14, having lost immunity under repealed S14 and S13 immunity not applying.

Clause 15 limits the amount of damages which may be awarded against a trade union in an action in tort, except in the following cases where the damages may be unlimited:- negligence, nuisance or breach of duty resulting in personal injury or breach of duty in connection with the ownership, occupation, possession control or the use of property. For all other torts (including industrial torts) the limits in any one action are:-

<u>Trade Union Membership</u>	<u>Maximum Limit of Damages £</u>
Less than 5,000	10,000
5,000 - 25,000	50,000
25,000 - 100,000	125,000
100,000 or more	250,000

In deciding on the size of union membership, where a trade consists wholly or mainly of organisations or their representatives, the members of such organisations as have their head-quarters or

main office in Great Britain shall be treated as members of the union.

Under Clause 16 damages costs and expenses awarded against a trade union in any proceedings cannot be recovered from certain "protected" union property e.g property comprise in a political fund or a provident benefits fund. In general terms a unions fund will only be at risk if the union is responsible by procuring or supporting action which is unlawful and in any event it is for an aggrieved employer to institute legal proceedings. He is under no legal compulsion to do so, and in many cases may prefer to 'keep the peace' and abrogate his rights. The underlying government policy on clause 14 (apart from removing the blanket immunity previously conferred on unions) can be gleaned from the Green Paper^{9(a)} as curbing unofficial strikes and persuading unions to use more power at a central level by changing their "rule books".

Summary of the Practical Implications of Clause 14

Clause 14 removes the blanket immunity hitherto enjoyed by trade unions in tort leaving individuals free to sue them for unlawful tortious acts. In the case of industrial torts, however, a trade union will have the same immunities as those conferred on individuals, under S13 of the 1974 Act as amended. The scope of such immunity was reduced by SS. 16 and 17 of the 1980 Act and is further cut back by clause 17 (restricting the ambit of a "trade dispute") and clause 13 (removing immunity where there is pressure to impose union membership or recognition requirements). Where an action in tort is brought against a trade union, for

inducing a breach of contract, intimidation or civil conspiracy then, in broad terms, a union will only be deemed liable if a "responsible person" authorises or endorses such action, or such action is not repudiated by the union or not forbidden by the union rules. Where a union is liable an employer may jointly sue the official (or individual) and the union or alternatively any of the forementioned alone. In all other torts (e.g negligence) it will be for the courts to determine when a union is responsible for the unlawful acts of its officials or members.

2. Trade Disputes

Clause 17 amends and restricts the meaning and ambit of a "trade dispute" in S29 of the 1974 Act, with an attendant reduction in immunity for individuals and trade unions, which may be explained in the following manner:-

(A) A "trade dispute" henceforth will be restricted to cover only disputes "between workers and their employers". This change in definition has two implications; (i) A dispute purely between an employer and a union will fall outside the definition of a trade dispute thereby, in such circumstances, removing any immunity previously available, under S13 of the 1974 Act as amended, for the tortious acts of the unions' officials. (ii) A union its officials or workers cannot fall within the definition of "a trade dispute" where they are in 'actual' dispute

dispute with an employer other than their own. It is still lawful for secondary action to be taken, which is permitted by S17 of the 1980 Act, where another employer is in dispute with his workers. But, where no such dispute exists, a union its officials, or workers employed by a different employer cannot 'create' a trade dispute with that other employer and then take secondary action under the umbrella of S17, in contemplation or furtherance of the same. This provision therefore further curtails the restricted immunity furnished by S17 of the 1980 Act to take secondary industrial action. The employment secretary said of this change²⁰ "a trade union outside the company cannot declare that it is in dispute with that company because it does not like the way that company runs its business or because none of the employees is in a trade union. The effect will be that they cannot organise blacking or other secondary action against him".

(B) Disputes "between workers and workers" is also omitted from the definition of a trade dispute thereby removing immunity from disputes which do not involve an employer, e.g demarcation disputes and disputes between unions relating to union membership. As we previously mentioned 17 (8) of the 1980 Act was thought to have brought about the above effect at least in relation to immunity for interfering with commercial contracts. This is now extended to inducing breaches of all contracts and all other industrial torts.

(C) Clause 17 also substitutes "relates wholly or mainly to" in place of "is connected with" into the definition of a trade dispute. The rationale of this change, (which as in B above is a return to the wording of the 1971 Act) is to remove immunity from disputes which only have a tenuous connection with the prescribed subject matter of a trade dispute in S29. e.g. In the "Nawala" case²¹ which concerned the blacking of a ship by a union in support of its campaign against flags of convenience, the House of Lords held that if there was a genuine connection, which was not ostensible between the dispute and the matters listed in S29, then predominance of subject matter (such as political or personal disputes) is irrelevant. Purely political strikes such as the TUC's day of action against government policy on 14th May 1980 have always been outside the ambit of S29 and lost immunity.²² The substitution of "relates wholly or mainly to" will put many disputes, which are political or personal in content, outside the definition of trade dispute, thus removing immunity from tortious acts relating to the same.

(D) Clause 17 also restricts the definition of a trade dispute in S29 relating to matters occurring outside the United Kingdom. The clause will in effect exclude immunity from disputes relating to matters occurring outside the UK unless the action, taken in the UK in contemplation or furtherance of a trade dispute, is likely to affect by the outcome of the dispute, the persons carrying out the action in the UK in respect of one or more matters specified in S29 (ante).

(E) Clause 17 narrows the definition of "a worker" in a trade dispute with the effect that worker in relation to a dispute with an employer means; (a) a worker employed by that employer or (b) a person who has ceased to be employed by that employer where:- (i) his employment was terminated in connection with the dispute; or (ii) the termination of his employment was one of the circumstances giving rise to the dispute. Formerly any worker not employed by an employer could be party to a dispute. But henceforth, there cannot be a trade dispute between an employer and workers not employed by him except in the limited circumstances outlined above. The provisions in clause 17 relating to trade disputes will further squeeze the scope of immunity available to trade unions their officials and individuals.

3. The Repeal of S13 (2) Of The Trade Union and Labour Relations Act 1974

Clause 19 repeals S13 (2) which states "for the avoidance of doubt it is hereby declared that an act done by a person in contemplation or furtherance of a trade dispute is not actionable in tort on the ground only that it is an interference with the trade, business or employment of another person, or with the right of another person to dispose of his capital or his labour as he wills".

S13 (2) is repealed and immunity thereunder removed. It should be noted however that there has been judicial doubt about whether such a 'tort' has ever actually existed and S13 (2) appeared in any event to be declaratory only in nature.

4. Dismissal In Connection With a Lock-Out, Strike or Other Industrial Action

Clause 8 substantially amends S62 of the 1978 Act (ante). As we explained earlier an employer has the right to dismiss, without notice, all his employees who are on strike. Hitherto however, under S62, an employer could leave himself open to claims for unfair dismissal for "victimisation" if he dismissed only certain workers on strike and kept 'the others' in his employ (and this applied even where "the others" were employees who had returned to work before the employer dismissed those continuing the strike) or he re-engaged a worker(s) who had been on strike but not others. Another difficulty in this area was highlighted in a recent court of appeal case²³ where it was held that an industrial tribunal was entitled to hold that an employee intending to go to work, but then withholding her labour by refusing to pass pickets because she did not wish to be abused by them, was herself taking part in the strike. This decision was crucial as she was the only employee not to be dismissed, thus entitling other strikers to pursue claims for unfair dismissal.

Clause 8 has now made substantive amendments to S62 with the following consequences:- An employer may henceforth dismiss all strikers (or those engaged in other industrial action). From his "establishment" at or from which the strikers work" who were taking part in the action" at the date of dismissal (as opposed to the wording "who took part" previously in S62).

In effect an employer will not leave himself open to face unfair dismissal claims if some strikers have returned to work, and he keeps them in his employ but dismisses those still "taking part" in the strike. An employer will therefore be able to give an ultimatum to his striking workforce that those who do not return to work by a certain date will be dismissed and, in such circumstances, he can continue to employ those who return and dismiss those continuing the strike without being subsequently liable to face unfair dismissal claims. It should be noted however that an employer could still be in risk of facing such claims if he dismissed only some of those actually "taking part" in the strike.

Clause 8 Further amends S62 with the effect that an employer may re-engage an employee(s) who was "taking part" in a strike, where he has not re-engaged others, without facing unfair dismissal claims, provided he re-engages that employee(s) after the expiry of a period of three months following the date of dismissals. If he re-engages some strikers only within a three month period of dismissal he would again leave himself open to unfair dismissal claims. The amendments made by clause 8 will have a substantial impact in future industrial relations, for although on employers common law right to dismiss workers on strike without notice has remained intact despite S62, henceforth the ability of employers to take such a course of action without having to consider the

the compensation element of unfair dismissals will obviously have significant implications in situations such as that pertaining in the recent ASLEF drivers strike.

5. Pressure To Impose and Prohibition of Union Membership
and Recognition Requirement In Contracts

S18 of the 1980 Act (acts to compel trade union membership) is repealed and replaced by more extensive provisions in the 1982 Bill. These complex provisions are examined in more detail in relation to 'the closed shop and related practices' (Post) but a brief summary of the new provisions are as follows. (1) Clause 11 renders void (and without legal effect) any term or condition of a contract for the supply of goods or services in so far as it requires that work under the contract is performed only by union (or non union) labour. Similarly a term or condition is void if it requires a party to the contract to recognise a trade union (whether or not named in the contract) for the purposes of negotiating on behalf of workers or to negotiate or consult with any official of a trade union (clause 12). (2) A new (non criminal) statutory duty is created, which is actionable in tort by an aggrieved party, where in broad terms a person on the grounds of union membership (or non union membership) or union exclusion, (i.e. where a person's ground of action is that the person against whom it is taken does not, or is not likely to, recognise negotiate or consult as outlined in clause 12).

(a) Fails to include a person in a maintained list of approved supplies or tender lists.

(b) Terminates a contract for the supply of goods or services.

(c) Excludes a person from a group of tenderers or fails to permit a person to submit tender.

3. Clause 13 (1) removes immunity (in tort), conferred under S13 of the 1974 Act as amended, from persons (e.g. a trade union or its officials induce the inclusion by another person (e.g. an employer) of a term or condition rendered void by clauses 11 or 12 or induces a person to contravene the new statutory duties.

Clause 13 (2) in general terms removes immunity (in tort under S13) from persons (e.g. a trade union or officials) who induce certain industrial action, (e.g. inducing breach of contracts of employment or threats of same etc), which interferes with the supply of goods or services (whether or not under a contract), where the reason for such action is; (i) work done or to be done in connection with the supply of goods or services, has or is likely to be performed by persons (other than persons employed by the employer of those taking the industrial action) who are not (or who are) members of a trade union; or (ii) the supplier of the goods or services (not being the employer of those taking industrial action in breach of their contracts etc) does not or is not likely to recognise negotiate or consult as outlined in clause 12. It should be noted that immunity is retained under clause 13(2), in the circumstances outlined, where such action is aimed against the employer (of those taking the action) on the grounds that fellow employees are not members of a trade union (etc). Clause 13(2) in effect restricts the ambit of immunity conferred on tortious acts in two areas:-

1) Primary industrial action....disputes between workers and their employer . An example might be where workers are induced to black the supply of goods to a firm, ("and one of the reasons for so doing" is that work in connection with the supply of those goods will be done by non-union labour), in "furtherance" of a primary dispute with their own employer concerning for example the "facilities for officials of trade unions" (see S29 of the 1974 Act). 2) Secondary industrial action (which is the area where S13 (2) will mainly apply) where such action is taken by employees (not in dispute with their own employer) but in contemplation or furtherance of a dispute between another employer and his workers. The severely curtailed immunity for the organisers of such action in tort under S17 of the 1980 Act is totally removed where clause 13(2) pertains.

Conclusion

The immunity of trade unions, officials and individuals against actions in tort were enshrined in the Trade Disputes Act 1906. These immunities were cut back by the Industrial Relations Act 1971 but subsequently re-emerged and were re-enacted in a more extended form in the 1974 Act as amended. The Employment Act 1980 took the first major step in curbing these immunities by removing immunity in tort from pickets, unless they picket at their own place of work, and from the organisers of secondary industrial action unless it is directly targeted, against the immediate suppliers or customers of the employer in dispute, to prevent or disrupt the supply of goods or services under a contract subsisting between them.

The provisions in the Employment Bill 1982 have taken another major step in curbing these immunities. The hitherto blanket immunity enjoyed by trade unions in tort is removed. Unions henceforth may be sued on the same terms as any other individual save for certain limits on the amount of damages recoverable. In addition a trade union will be liable in tort and their funds put in jeopardy where they are deemed legally responsible for certain specified (unprotected) industrial tortious acts of their officials. S13(2) of the 1974 Act is repealed and the immunity conferred thereunder is removed for the 'tort' of "...an interference with the trade business or employment of another", though it should be noted that there has been judicial doubt whether such a tort has in fact ever actually existed.¹³ Henceforth a "trade dispute" is restricted to cover only disputes "between workers and their employer". A trade union and its officials will lose immunity in tort where the dispute is solely between a trade union and an employer. The limited immunity to take secondary industrial action is further curbed in that a union its officials or individuals who organise (induce) secondary action against an employer, not in dispute with his own employees, cannot 'create' a 'dispute' with that employer; and as a consequence have no

immunity for secondary action even if it is 'permitted' by S17 of the 1980 Act. Nor is immunity conferred on tortious acts where certain secondary action is taken on the grounds of non union membership (or union membership) and "union exclusion".

Disputes between workers and workers (e.g. a demarcation dispute) are now excluded from the ambit of tortious immunity, as are specified workers who have ceased to be employed by an employer and certain disputes occurring outside the U.K. Wide immunity is still furnished in tort for organisers of workers taking primary industrial action against their own employer, e.g., strikes, blackings, work to rule "a go slow".

The Bill will, however, curb immunity in tort for organisers of primary action where a dispute is not taken to relate wholly or mainly to the prescribed industrial matter in S29 of the 1974 Act. Thus disputes which are political or personal or any other dispute not relating wholly or mainly to the matters prescribed will not attract immunity. In addition those who organise primary action on the grounds of non union membership (or union membership) and "union exclusion", subject to certain exceptions, will also lose immunity for tortious acts.

Finally, in general terms, an employer will be able to dismiss striking employees without facing unfair dismissal claims for 'victimisation' where some strikers have returned to work and have been retained in employment prior to such dismissals. The efficacy of the Bills provisions as with those contained in the 1980 Act depend entirely on an employers, (a firm, a company a nationalised industry), willingness to pursue his legal rights. This is especially relevant in the light of recent utterances 24

by trade union leaders which suggest that the provisions in the Act and the Bill offer little deterrent to those intent on flouting them.

Could the Employment Bill 1982 Have Gone Further?

S1 of the 1980 act enabled the Secretary of State for Employment to set up a scheme whereby payments may be made to trade unions to defray expenditure incurred in holding secret postal ballots on certain issues i.e. (i) decisions or views of members on calling or ending strikes or other industrial action; (ii) to carry out an election under the rules of a trade union; (iii) amending the rules; (iv) to elect a trade union representative; and (v) obtaining a decision on a merger, and such other purposes as the Secretary of State may by order specify. Trade unions are under no compulsion to accept such payments or to hold such ballots, the funds being available on request. These provisions in any event have been boycotted by unions on the TUC's recommendations.

The 1971 Act enabled the Secretary of State to apply to the NIRC for an order that a ballot must be held where industrial action was underway or anticipated, in a major dispute, where the national interest was threatened and where the workers concerned had not expressed their views or supported the industrial action. The Labour Government White Paper "In Place of Strife" proposed that the Secretary of State should have a power to order unions to secret ballot their members before any proposed strike, where in his opinion the strike would involve a serious threat to the public interest or economy. We believe that the Bill should have extended the provisions in S1 of the 1980 Act into the area of compulsory secret ballots for industrial disputes along the lines

expounded in the White Paper and the Industrial Relations Act 1971. However, the Prime Minister recently said in the House of Commons,²⁵ in answer to a question concerning the lessons to be learned from the rail strike, that the Government hoped to introduce before the general election legislation compelling trade unions to hold secret postal ballots before strike action is taken. Other opinion has centred on more radical changes. Walter Goldsmith, Director of the Institute of Directors, said he predicted a third employment bill within the life of this Parliament to introduce compulsory secret ballots and make union immunities conditional on observing voluntary agreed disputes procedures.²⁶

The Engineers Employers Federation amongst others have proposed a statutory right to 'lay off' in response to disputes elsewhere. The Secretary of State said of the statutory right to 'lay off' that he had not been persuaded that the case has been made for "such a radical change in the law ... to give employers the right to break their contracts at will". *ibid*

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2. See Levis A. Kochin "The Social Cost of Union Gains". From the Statsvetenskaplig Tidskrift (The Swedish Journal of Political Science) 1980, 5.
3. The provisions of the Employment Bill discussed in this paper are those contained in the Bill, as amended during its passage through Parliament, and are unchanged at the time of writing (27th July, 1982) see Employment Bill (as

amended in Committee) House of Lords 13th July, 1982 205

H.M.S.O. It is not thought that any further substantive amendments will be made before the Bill passes into Law.

4. See section 1 of the Criminal Law act 1977 for the present law pertaining to criminal conspiracy.
5. Taff Vale Railway Co. v. Amalgamated Society of Railway Servants 1901 AC426 HL.
6. Rookes v. Barnard 1964 AC1129, 1 ALLER 367 HL (E).
7. "Royal Commission on Trade Unions and Employers' Associations Report" June 1968 Cmnd 3623 HMSO.
8. "In Place of Strife a Policy for Industrial Relation" January 1969 Cmnd 3888 HMSO.
9. "Trade Union Immunities" January 1981 Cmnd 8128 HMSO para. 15.9(a) para. 125.
10. See for example: churman and others v. Port of London Shop Stewards' Committee and others 1972 IRC 222 CA; Con-Mech 'Engineers' Ltd. v. AUEW 1973 IRC 620 NIRC; Heatons Transport (St. Helens)Ltd. v. TGWU 1972 ICR 308 HL (E); Midlands Cold Storage Ltd. v. Turner and others 1972 ICR 230 NIRC.
11. e.g. Morgan v. Fry (1968) 2 Q.B. 710 (CA) 7183
12. Simmons v. Hoover Ltd. (1977) ICR 61
13. Hadmor Productions Ltd. v. Hamilton 1982 ICR HL(E) 114
14. Express Newspapers Ltd. v. Macshane 1980 AC672 ICR 42 1 ALL ER 65 HL(E).
15. There are two exceptions in S16: (i) "mobile workers" who may picket at any premises of his employer from which he works or from which his work is administered, and (ii) a person, whose employment was terminated in connection with the trade dispute, may picket at his former place of work.
16. Code of Practice "Picketing" which came into effect on 17th December, 1980 - see Encyclopedia of Labour Relations Law 2,

B.A. Hepple, P. O'Higgins.

17. See *Marina Shipping Ltd. v. Laughton* 1982 ICR CA215.
18. "any two employers are to be treated as associated if one is a company of which the other (directly or indirectly) has control, or if both are companies of which a third person (directly or indirectly) has control ..." (S30 (5) of the 1974 Act).
19. "Report of Inquiry into certain Trade Union Recruitment Activities" October 1980, Cmnd 7706, HMSO.
20. House of Commons: Parliamentary Debates (Hansard) 8th February, 1982 Vol. 17 No. 52 HMSO at page 745.
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22. See for example *BBC V. Hearn* 1978 ICR 685, 1 ALL ER 111 CA, and *Express Newspapers Ltd. v. Keys* 1980 IRLR 247 Q.B.O.
23. *Coates and another v. Modern Methods and Material Ltd.* 1982 CA reported July 7th, 1982, The Times.
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THE CLOSED SHOP AND RELATED PRACTICES

A. The Extent of the Closed Shop in the British Economy

A closed shop is generally understood to mean an agreement or some form of arrangement whereby employees or potential employees can only obtain or continue in employment if they become or remain members of a specified trade union. In a recent survey¹ it was found that a minimum of 5.2 million employees in Great Britain were covered by closed shop arrangements in the period 1978-1979 representing about 1 in 4 of the total workforce and approximately 2 in 5 of the unionised sector. These results reveal the increasing growth of the closed shop as a feature of Britain's economy, when compared to an earlier survey² held in the period 1962-64. In this first survey the closed shop was shown to cover about 3.76 million workers representing approximately 1.6 of the total workforce, or an increase over a 15 year period of 1.44 million employees additionally subject to closed shop agreements.

There has been a significant spread of penetration of the closed shop into white collar employment. In 1979 1.1 million non-manual employees or 22% of the closed shop population were subject to closed shop agreements compared to 300,000 or 8% in 1964. Manual workers however are still the dominant class of members, amounting to 4.1 million of the overall total. 1 in 3 blue collar workers were involved in closed shop practices compared with 1 in 10 of white collar employees. The

growth of manual and non manual membership of closed shop agreements in the public sector is also apparent in the 1978-79 survey.^{1(a)}

Closed shops may for practical purposes be divided into two categories 'pre-entry closed shops'-where a union controls the supply of labour to employers by restricting entry to those, who hold the 'appropriate union card' prior to their application. In 1979 16% of those covered by closed shop arrangements fell into this category, the remaining 84% fell into the second category of 'post-entry' closed shops. In a 'post-entry' closed shop the union does not control the supply of labour by making membership a precondition of entry into employment, rather the employee must agree to join a particular trade union at some specified time thereafter.

B. Summary of previous legislation pertaining to the closed shop.

Closed shops have existed in one form or another since the latter part of the 19th century, though there was no statutory law dealing with the same until the Conservative Government's Industrial Relations Act of 1971. The Act, for the first time, provided a statutory right not to join a trade union and also introduced statutory protection against unfair dismissals. Where an employee was dismissed for refusing to become a member of a union subject to a closed shop, that dismissal was automatically unfair, entitling the employee to

be redressed by compensation or re-engagement. Pre-entry closed shop agreements were declared void.³

However, a trade union, registered under the Act, could enter into a voluntary 'agency shop' with an employer. If the employer refused to co-operate, an 'agency shop' could be enforced against his wishes, if a ballot of the relevant employees showed that either 2/3rds of those voting or a majority of those eligible to vote were in favour.

Where an 'agency shop' was implemented, a workers right not to join the trade union was extinguished. Consequently he could be dismissed without redress unless, whilst remaining a non-member of the union he paid union dues or, if he objected on the grounds of conscience to making such contributions, he paid the same to charity. In addition a registered trade union was permitted to implement an 'approved closed shop'. Such approval was only forthcoming if certain labourious provisions in the Act were strictly adhered to. In an 'approved closed shop' a worker only had his right not to be a member of a trade union reinstated if he was a conscientious objector.

The crux of the efficacy of the provisions dealing with 'approved closed shops' 'agency shops' and legal immunities, within a controlled framework, depended on trade unions registering under the Act. The TUC instructed unions not to register (those who did were subsequently expelled) and led an orchestrated campaign against the Act rendering many of

its provisions inoperable.

In retrospect the Act, during its relatively short lifetime of 3 years, appeared to have little or no impact on either existing closed shop practices or in abating the growth and implementation of new closed shop agreements. This result is thought to be largely attributable to unions and employers acting in concert to circumvent the Act's provisions.⁴ The 1971 Act was repealed by the Labour Government's 1974 legislation.

It should be noted that the formation and implementation of a closed shop is a purely voluntary agreement or arrangement reached by employers and unions in which the law does not directly intervene.

The Law pertaining to closed shops is, in the main, concerned with an individual's statutory rights not to be unfairly dismissed or to have action short of dismissal taken against him for refusing to join or remain a member of a union. Under the provisions of the 1974 Act where a 'Union Membership Agreement' (U.M.A.), being a statutorily defined closed shop agreement or arrangement, was operating under which it was the practice of all employees to belong to a specified trade union, an employer could fairly dismiss an employee (so he had no legal redress) if he refused to become or remain a member of that union. However, protection was available if he genuinely objected on grounds of "religious belief" to being a member of any trade union whatsoever or 'on any reasonable grounds' to being a member of a particular trade union. Where a worker's employment was terminated under these circumstances the dismissal was regarded as unfair and the employee could seek redress.

The 1976 Amendment Act curtailed the limited protection afforded to individuals who objected to joining a closed shop, to that based upon 'religious belief' only.

The Labour Government's legislation of 1974-76 was seen as a fundamental attack on individual freedom and has been referred to as 'vicious legislation' 'an utterly deplorable situation which eliminated the conscience clause and led to several hundred non union employees being dismissed without compensation.' ⁵ (see the Employment Bill, 1982, Clause 1 post).

Following the introduction, in 1975, of a closed shop agreement between British Rail and the N.U.R, in excess of 40 British Rail employees were subsequently dismissed, in 1976, without redress for refusing to join the trade union. Their objections were not being on grounds of 'religious belief', the only protection afforded under the 1976 Amendment Act.

Three dismissed employees took their case to the European Commission of Human Rights who found that the Labour Government's 1976 Amendment Act had breached the European Convention on Human Rights by furnishing restricted protection

for employees who objected to joining a closed shop. The matter was then referred to the European Court of Human Rights and in the case of Young, James and Webster v United Kingdom⁶ the Court delivered judgment on August 13th 1981 and held by a majority vote of 18:3 that there had been a breach of Article 11⁷, of the Convention, by the UK Government. In addition the court was of the opinion that although the proximate cause of the dispute was the 1975 agreement between British Rail and the unions. The nub of the complaint was 'the domestic law' (The 1976 Amendment Act).!and hence the UK was responsible for any violation of the rights and freedoms under the Convention which were thus made lawful.' The Court also held, on the assumption that Article 11 does not guarantee a right not to be compelled to join a particular union and would not necessarily infringe the rights and freedoms guaranteed by the Convention....." A threat of dismissal involving a loss of livelihood, particularly when directed against employees engaged before the closed shop was introduced, constitutes a most serious form of compulsion which strikes at the very substance of the freedom guaranteed by Article 11 pluralism tolerance and broadmindedness are hallmarks of a democratic society." The outcome of the case may be interpreted as a castigation of the 1976 Amendment Act's provisions, on the closed shop, as being undemocratic and impinging on individual freedom.

C. The present law: The Employment Act 1980

At the same time as the European Court of Human Rights was delivering ^{its} judgment, the law had already been radically changed by the 1980 Act, which made substantial and innovatory amendments to the previous law pertaining to the closed shop. This law had been consolidated in The Employment Protection (Consolidation) Act 1978 (hereafter referred to as the 1978 Act).

The 1980 Act has to a large extent restored and widened an individual's rights not to be unfairly dismissed, where he objects to being a member of a union subject to a closed shop agreement. In general a dismissal is still fair and without redress if--(a) it is the practice, in accordance with a U.M.A. ⁸ for employees for the time being, of the same class as the dismissed employee, to belong to a specified independent trade union, or to one of a number of specified independent trade unions; and (b) the reason for the dismissal was that the employee was not a member of the specified union or has refused or proposed to refuse to become or remain a member of that union or one of those unions (S58(3) of the 1978 Act). S7 of the 1980 Act has, however, added three new sections to S58 with the following consequences. Where an employee is dismissed in the circumstances of S58(3) such dismissal will automatically be unfair and entitle the employee to seek redress. If: (1) S58(3A) an employee genuinely objects on the grounds of conscience or other deeply-held personal conviction (hereafter referred to as 'a genuine

objection') to being a member of any trade union whatsoever or of a particular trade union. S7 has substantially increased the ambit of objection, under previous legislation, from that of 'religious belief' only, and widened its scope by extending 'a genuine objection' to being a member of "any trade union whatsoever" to include a 'genuine objection' to being a member "of a particular trade union". Thus protection is extended to employees who may not be against trade unionism per se but have 'a genuine objection' to joining a 'particular trade union' perhaps as a result of its political motives, ideology or leadership.

The protection is available, not only where a new closed shop is implemented but also, where an employee is a member of an existing closed shop and he subsequently has 'a genuine objection' to 'remain' a member of his 'particular' trade union. This might result, for example, from the implementation, or change, in a union's political ideology. However, the burden of proving 'a genuine objection' lies with the employee. Such a burden may prove somewhat difficult to discharge in these circumstances.

OR (2) S58(3B) if an employee belongs to a class of workers prior to the implementation of a closed shop agreement, relating to that class of workers, and he has not at any time since the introduction of the closed shop been a member of a trade union in accordance with that agreement. In more simple terms an existing member of the class of workers which the closed shop subsequently covers may refuse to become or remain a member of that trade union. A dismissal in these circumstances

would be automatically unfair. The employee need not prove or show any reason at all for not joining the closed shop agreement (cf S58 (3A)). He merely has to disassociate himself from it and he may, at the same time, be a member of different trade union not subject to the closed shop agreement. However, the protection afforded under this section is only available to those existing members of the class covered before the closed shop was implemented and not to those subsequently employed, or moving into that class thereafter (see clause 58 (3C) below) OR 3) S58 (3C) where a union membership agreement takes effect after 14th August 1980, (cf S58 (3B), which applied to closed shops pre and post this date), in relation to the employees of any class of an employer, and an employee of that class is dismissed by the employer in circumstances set out in S58 (3) that dismissal shall be regarded as unfair if _____

(a) the agreement has not been approved in relation to those employees in accordance with S58A. For the agreement to be approved a ballot must be held on the question whether or not the agreement should apply, and not less than 80% of those entitled to vote⁹ in the ballot must be in favour of the agreement's application. S58 (3C (a)) complements and extends protection where a closed shop takes effect after 14th August 1980. If the agreement is not approved by 80% of those entitled to vote on the issue, any employee may refuse to join the trade union or may leave the trade union at any time and for whatever reason. If he is dismissed for so doing such dismissal will be automatically unfair. Protection is also afforded to

those individuals who subsequently join a closed shop which has been introduced after 14th August 1980, and has not had the requisite approval in accordance with S 58 A. This situation is likely to be relevant to employees seeking employment where a post-entry closed shop agreement exists. Once in employment they may refuse to join the trade union without reason, and still have the protection against being unfairly dismissed.

Or 4) S58 (3C) (b) If a union membership agreement has been approved in a ballot in which the dismissed employee was entitled to vote, but, he has not at any time since the day on which the ballot was held been a member of a trade union, in accordance with the agreement, then he has statutory protection if dismissed. In effect where a new closed shop agreement receives the requisite approval, in a ballot, protection is still available for existing employees if they resign from the union on the day of the ballot or refuse to become members of the union subject to the closed shop agreement. The above provisions on the closed shop have widened the 'conscience clause' and given substantial protection to employees (in the ultimate form of compensation) where a new closed shop agreement is implemented. The provisions in no way 'outlaw' the closed shop, rather they are aimed at protecting the individual and democratising the introduction of new closed shops. However, a new closed shop which is introduced after 14th August 1980 and is not balloted with the requisite majority, although not being unlawful, would confer wider protection, on those not wishing to be a member of that

U.M.A., and unions would be unable to enforce 100% membership. The non-observance, or failure to acquire the requisite majority in accordance, with S58A taken together with the provisions in the code of practice on closed shops (post) may render S58(3) (ante in relation to fair dismissals) redundant in that all dismissals for non membership of a trade union subject to a U.M.A. agreement would be unfair. Thus the introduction of new closed shops would be deterred, in these circumstances, as they could prove inoperable. Existing closed shops, however, are not effected by the balloting provisions of the 1980 Act, and the protection afforded only pertains where there is a 'dismissal'. This may theoretically, at least, encourage applicants for employment, in a pre-entry closed shop, to join the union (although being apposed to trade unionism) for the sole reason that it is a pre-requisite of obtaining that job. Such a person might refuse to 'remain a member of that union' as a consequence of a "genuine objection" under S58 (3A).

It is an open question how an industrial tribunal would interpret such a course of action.^{4a}

D) The Code of Practice on Closed Shop Agreements and Arrangements

The 'Code' came into effect ¹⁰ by order of the Secretary of State on December 17th 1980 and complements the provisions in the 1980 Act pertaining to U.M.A.s. Like the Picketing Code it imposes no legal obligations, and failure to observe it does not by itself render anyone liable in proceedings. But in any proceedings before a court or industrial tribunal'-

(a) the 'Code shall be admissible in evidence, and

(b) any provision of the Code which appears to the court, tribunal or committee to be relevant to any question arising in the proceedings' (eg. a claim for unfair dismissal under S58 (3A), (3B) or (3C)) ' shall (must) be taken into account in determining that question'.

Section C and D provide practical guidance concerning the operation of closed shops and related matters. Section C deals in some details with procedure before a new closed shop agreement is introduced, on the scope and content of such an agreement and procedure for secret balloting. Section C also deals with the operation of new and existing closed shops and reviews of the same.

A few of the many pertinent provisions of the Code may be mentioned:-

para 20 - Employers are under no obligation to agree to a closed shop.

Para 22 - Employers should expect a union to show a 'very high' level of membership before agreeing to consider the introduction of a closed shop.

para 35 - while 80% is the minimum support necessary under

the Employment Act to provide a defence against claims of unfair 'dismissal' in a new closed shop, this does not prevent an employer from deciding that there should be a higher percentage in favour before he agrees to such a radical change in his 'employees terms and conditions of employment' (see clause 2 Employment Bill Post).

para 42 - All closed shop agreements whether new or existing or whether covering a firm or an industry should be subject to a periodic review (also see clause 2 Employment Bill Post).

Section D - deals with union treatment of members and applicants.

para 47 - states that union decisions on exclusion or expulsion from membership in a closed shop should only be taken after all rules and procedures have been fully complied with. This section of the code is highly relevant to S4 of the Employment Act (post) which affords protection to a person who is subject to unreasonable exclusion or expulsion from a trade union where a U.M.A. is operating.

Section E - deals with 'The Closed Shop and the Freedom of the Press.' A charter on Freedom of the Press was initially contained in S1A of the 1976 Amendment Act. S1A was repealed by the Employment Act 1980 and Section E of the code now deals with the issue:-

para 58 - states individual journalists may genuinely feel that membership of a trade union is incompatible with their need to be free from any serious risk of interference with

their freedom to report or comment. This should be respected by employers and unions.

para 60 - states Editors should be free to decide whether to become or remain a member of any trade union.

paras 58 and 60 - would obviously be highly relevant where journalists or editors have been dismissed for non-membership of a closed shop agreement and are claiming unfair dismissal on the grounds of ' a genuine objection' under S58 (3A)(ante.)

para 59 states a journalist should not be disciplined by a trade union for anything he has researched or written for publication in accordance with generally accepted professional standards.

para 61 - states an editor should not be subjected to improper pressure, that is, any action or threat to induce him to distort news and comment or criticism or, contrary to his judgment, to publish, suppress or modify news, comment or criticism.

' The editor should be free to decide whether or not to publish any material submitted to him from any source.....'.

Section E of the code deals with the possible conflict of freedom of the press by editors and journalists, where a closed shop is in operation, and the potential pressure which could result on this freedom as a consequence. It should obviously be read in close conjunction with S58 (3A) (ante, on ' a reasonable objection').

Section E is particularly relevant when one bears in mind that, in 1979, just under half of all employees who were members of closed shop agreements, in "paper, printing and publishing", were in pre- entry closed shops.¹

E) THE CLOSED SHOP AND RELATED ISSUES.

Other provisions in the 1980 Act pertaining to closed shops will be mentioned briefly as substantial amendments and repeals extending the scope of these 'provisions and rights' have been made in the Employment Bill 1982.

S18 - which has already been considered earlier in relation to trade union immunities removes immunity in tort when certain industrial action is taken for the purpose of compelling workers to become members of a particular trade union unless those workers work at the same place or for the same employer as those taking the industrial action.

S10 - in simple terms, provides that an employer who is induced to dismiss an employee by pressure which a trade union or other person exercised on him by calling, organising, procuring or financing a strike or other industrial action (hereafter referred to as 'pressure'), and the 'pressure' was exercised because the complainant was not a member of any trade union, then the employer has a "joinder remedy". In any subsequent complaint by the employee to an industrial tribunal that he has been unfairly dismissed (eg. under S58 (3A), (3B) or (3C) the employer may join the union as a party to the proceedings and the tribunal may order the union to pay a contribution to the employer in respect of that compensation, which may constitute a complete indemnity. S10 also enables a subcontractor to join a contractor in proceedings where an employee of the sub-contractor has made a complaint of unfair dismissal and the subcontractor claims:

- (1) the contract between them was a 'union only' contract,

(2) The dismissed employee could not work under that contract; e.g. if employees of the subcontractor were in a closed shop and the complainant refused to become or remain a member of that closed shop but the subcontractor had to dismiss him, when the contractor stipulated 'union only' in the contract the employee basing his claim for unfair dismissal on S58(3A), (3B) or (3C).

(3) That he the subcontractor had requested the contractor to consent to his employing the employee

(4) That no suitable alternative work was available and that he would not have dismissed his employee but for the 'labour only' requirement. If such requirements in 1-4 are well founded the Tribunal must order the contractor to pay the subcontractor the 'whole' amount of compensation awarded against him. The contractor may however join in the proceedings a trade union or other person who have exercised 'pressure' on him which induced him not to give his 'consent' as required above. The tribunal may then order the union to make a contribution to the contractor which may amount to a complete indemnity.

Action Short of Dismissal

Under S23(1) of the 1978 Act as amended by S.15 of the 1980 Act, an employee has a right not to have action 'short of dismissal' taken against him, by his employer, for the purpose

of compelling him to become a member of a trade union. This right is only applicable where a closed shop exists, if the action did amount to a dismissal, it would be unfair by virtue of S58 (3A), (3B) or (3C).

In simple terms S23 affords parallel protection to an employee, where a closed shop operates, if he has action taken against him which stops short of dismissal to compel him to become a member of a trade union. Action short of dismissal might include such forms of pressure as disciplinary action - demotion, or transfer or threats of a similar nature. An employee in these circumstances may complain to an industrial tribunal who may award compensation against his employer. The provisions as to joinder in S10 apply equally to S15, so that, the employer may 'join in' a trade union, which has induced him by 'pressure' to take the action. The tribunal may then order the union to make a contribution to the employer which may amount to a complete indemnity.

The above provision on 'joinder', which do not relate solely to closed shop agreements, enhance the right not to associate at the risk of financial penalty to an employer, contractor or trade union.

EXCLUSION FROM TRADE UNION MEMBERSHIP

It should be noted that since the 1971 Act there has been statutory protection of rights to belong to a trade union the exact scope of which has varied with successive legislation. In essence, however, the protection afforded, is that an employee is entitled to compensation if he is dismissed or penalised or deterred or prevented from being or seeking to become a member of, or of taking part in the activities of, a trade union.¹¹

S4 of the 1980 Act (which remains unaltered by the Employment Bill) introduced a new parallel right pertaining solely to the closed shop whereby every person who is, or is seeking to be, in employment has the right. (a) not to have an application for membership of a specified trade union covered by a U.M.A. unreasonably refused; (b) not to be unreasonably expelled from a specified trade union covered by a U.M.A. S4 affords some protection against union's arbitrarily refusing an individual's application for membership of a union where a pre-entry closed shop is in operation and as a consequence depriving him of a 'right to work'. The protection extends equally to post-entry closed shops and to existing members of either form. Where a trade union is in breach of S4 an individual may complain to an industrial tribunal and compensation may be awarded. On the question of 'reasonableness' S4 states '..... in particular a union shall not be regarded as having acted reasonably only because it has acted in accordance with the requirements of its rules or unreasonably only because it has acted in contravention of them.' Compensation may be awarded whether or not a complainant has been admitted or re-admitted to the trade union. It is of interest to note that para. 36 of the Picketing Code states that 'everyone has the right to decide for himself whether he will cross a picket line. Disciplinary action should not be taken or threatened by a union against a member on the grounds that he has crossed a picket line which is not authorised or which was not at the members place of work'. Under S4 of the

Employment Act 1980 exclusion or expulsion from a union in a closed shop on such grounds may be held to be 'unreasonable.'

(F) SUMMARY OF THE PRESENT LAW RELATING TO THE CLOSED-SHOP.

The provisions of the Employment Act 1980 together with the Code of Practice or Closed Shop Agreements and Arrangements have substantially widened the scant protection afforded to individuals under previous legislation. A worker dismissed for refusing to be a member of a closed shop agreement, or alternatively where action is taken against him which stops short of dismissal, is afforded considerably increased statutory redress, which will result in a decrease in 'fair' dismissal where a U.M.A. pertains.

The provisions relating to balloting are likely to curb the introduction of new closed shops, or at the very least reduce the efficacy of the same from achieving their aims. The 'joinder' provisions are primarily aimed at dissuading unions from pressuring an employer to dismiss, or to take action short of dismissal against, an employee for not being a member of a trade union, particularly where a closed shop pertains. Similar provisions apply to contractors, who insist on 'union only' clauses in contracts.

S13 is aimed at removing immunity from industrial action taken to compel trade union membership in other companies or industries and S4 provides protection against unreasonable exclusion or expulsion from a trade union where a closed shop operates.

The Employment Bill 1982

The Under Secretary of State for Employment has said when¹² referring to the railwaymen's case before the European Court of Human Rights⁶ '..... as a result of the 1980 Act we are now in compliance with article 11'.^{1 2a} If there were any doubts about the validity of this assertion or of the Governments view that 'the 1980 Act had put matters right...',^{12b} then the provisions in the Employment Bill dealing with the closed shop and related practices will allay the same.

G) Retrospective compensation for employees dismissal under previous legislation in relation to U.M.A's

Clause 1 of the Bill is unique in industrial law in that it retrospectively compensates as '....an act of belated justice to about 400 people who were dismissed between 1974 and 1980 under the Labour Government's (closed shop) legislation'.^{1 2c}

In simple terms Clause 1 empowers the Secretary of State at his discretion to make payments of compensation to persons previously dismissed from employment for non-membership of a trade union where a U.M.A. operated. To qualify for compensation an individual must have been dismissed on or after 16th September 1974, when the labour government's closed shop provisions came into force (which were so openly criticised by the European Court of Human Rights). and before 15th August 1980, when the extended rights conferred by Sec.7 of the Employment Act 1980, came into operation.

An individual must further show that between the above periods he did not bring, or brought but did not succeed in, a complaint of unfair dismissal. In addition, he must show that if the 1980 amendments had been force in relation to his dismissal, (being those discussed earlier in Sec. 58 (3A) and (3B), save for those relating to approval of U.M.A's by ballot in sec. 58 (3C)), he would have been entitled by virtue of those amendments to succeed in a complaint of unfair dismissal. The amount of compensation which may be awarded is subject to a maximum, together with interest, being that which would have been awarded at the date of dismissal had the employee brought a successful complaint.

It is a criminal offence, under Clause 1, punishable with a maximum fine of £1000, for a person to make, for the purpose of obtaining compensation for himself or another, a statement which is false in a material particular and which that person knows to be false.

It is estimated that the once and for all expenditure involved under clause 1 could be £2 million over 18 months, with total staff costs and administrative expenses of the order of £½ million.

The Employment Secretary said " Clause 1 is a direct response to the suffering caused by the last Governments

closed shop legislation" ^{12d} The clause has also been seen as an indication of the Governments "regret" that it did not enter into a friendly settlement" ⁵ with the railwaymen, provided by the rules of the European Commission on Human Rights (ante) but, instead, contested the case before the European Court of Human Rights. ⁶

Considerable controversy has reigned over whether there is a retrospective legislative element in the Clause. ^{12e} . The Employment Secretary commenting on this criticism said " It does not retrospectively declare unfair what the law then said was fair it simply provides a power to be exercised at the Secretary of State's discretion to compensate from public funds people sacked between 1974 and 1980 who would have been entitled to compensation if the main provisions of the 1980 Act had been in force". The Under Secretary in endorsing the above view said " It is not (retrospective) because it will not make any employer or individual subject to any new proceedings in respect of past dismissals." ^{12c} .

The European Court of Human Rights commenting on the railwaymen's case said " Although individual interests may on occasions be subordinated to those of a group, democracy does not simply mean that the views of the majority must always prevail. A balance must be achieved which ensures the fair and proper treatment

of minorities and avoids any abuse of dominant position".⁶ The effect of clauses 2-7 and 9-13 would now appear to strike this balance.

H) DISMISSAL FOR NON MEMBERSHIP OF A UNION
IN ACCORDANCE WITH A U.M.A.

Clause 2 extends and amplifies the protection, originally found in

Sec.7 of the 1980 Act to all closed shops.

Dismissal for non-membership of a U.M.A will automatically be unfair for all existing closed shops unless within 5 years before the dismissal a ballot has been held (in accordance with S58A) in which not less than 80% of those entitled to vote or not less than 85% of those who voted, were in favour of the U.M.A. If, however, a U.M.A came into force after 14th August 1980 and has not previously been balloted then not less than 80% of those entitled to vote must be in favour. It is clear, therefore, that pre 1980 closed shops will have a less vigorous first balloting requirement. On a second or subsequent ballot, which logically will have to be held at minimum 5 yearly periods, in what amounts to a periodic review, the balloting requirement becomes much more severe. Both a minimum 80% of those entitled to vote and 85% of those voting must be in favour of the U.M.A. Where a ballot is not held, or does not attain the requisite majority, the dismissal of an employee, who refuses to become or remain a member of the union, for whatever reason, will automatically be unfair entitling the employee to seek greatly enhanced levels of compensation (see clauses 3 and 4 post).

Where the balloting requirements are met, such a dismissal would be fair unless an employee can bring himself within one of the other categories discussed earlier in relation to Sec.7 of the 1980 Act.

Sec.7 is repealed by the Bill, but its provisions are mirrored in Clause 2, with minor amendments and, with an important addition in relation to Sec.4 of the 1980 Act. These provisions may be briefly summarised as follows:-

A) Where an employee "genuinely objects on grounds of conscience or other deeply held personal conviction...."

B) (i) Where a U.M.A. took effect after 14th August 1980 and the employee was entitled to vote in the ballot through which the agreement was approved, (if it were not approved the employee would have redress under the new provision in clause 2) and the employee has not at any time since the date of the ballot been a member of a trade union in accordance with that agreement.

C) Where an existing employee has not at any time been a member of a trade union to which a U.M.A. relates since the introduction of that U.M.A.

D) Where at the time of dismissal for non membership of a U.M.A there was a declaration made under Sec.4, of the 1980 Act, of unreasonable exclusion or expulsion from a trade union, or proceedings on such a complaint are

pending, then subject to certain conditions that dismissal is automatically unfair.

Parallel protection, to that outlined above is available to an employee, who is dismissed where a U.M.A operates, for not complying with a requirement (whether or not imposed in his contract of employment) that he will make "one or more payments" or his employer is entitled to deduct "one or more sums from his remuneration", in the event of his failure to become or on his ceasing to remain", a member of the trade union. An example might be where an employee has "promised" to pay his union dues or pay the same to charity if he does not remain a member of the union.

THE BALLOTING REQUIREMENT UNDER S 58A

The ballot must be conducted to secure that so far as is reasonably practicable all those entitled to vote, have an opportunity of voting and of so doing in secret.

The persons entitled to vote in a ballot in relation to the application of a U.M.A. to any class of an employer shall be all those who belong to that class who: (a) in the case of a ballot in which votes may be cast only on one day are in the employment of the employer and (b) in any other case are in employment on the day specified by the person conducting the ballot. In the latter case no day can be specified, which falls after the last day on which votes may be cast or so long before that date as to be unreasonable.

Enhanced rates of compensation where dismissal
for non union membership in a closed shop is held
to be unfair.

Clause 3 In broad terms where an employee is found to be unfairly dismissed by virtue of his non membership of a trade union in accordance with a U.M.A. any basic award is subject to a minimum of £2,000. The : maximum award under this head, which is calculated as if the dismissed employee was redundant is currently £4,050.

Clause 4 provides that where an employee is unfairly dismissed by virtue of his non member of a trade union in accordance with a U.M.A and requests that an order by the tribunal is made for his reinstatement or re-engagement a new special award, in addition to the basic award and compensatory award, (the maximum compensatory award is £7,000) must be made. Where no order is made for re-instatement or re-engagement the amount of the special award is subject to a minimum of £10,000 and a maximum of £20,000.. The maximum amount of compensation is.

basic award	£ 4050
compensatory award	£ 7000
Special award	£ <u>20000</u>
Max Total	£31,050

where an order is made for reinstatement or re-engagement

but the order was not complied with, then, unless the employer satisfies the tribunal that it was not practicable to comply with the order, the amount of the special award must be increased to one weeks pay multiplied by 156 or £15,000 whichever is the greater (and subject to no maximum).

An employee unfairly dismissed for non membership of a closed shop under the Bills provisions would as a minimum receive £12,000, if there was no order for reinstatement or re-engagement or £17,000, if such an order were not complied with, this contrasts against the median award for unfair dismissal in 1980 of £598,¹³

It should be noted however, that the above awards may be reduced in certain circumstances, e.g, (1) where the tribunal considers that any conduct of the complainant before the dismissal was such that it would be just and equitable to reduce or further reduce the special award it must do so; and (2) Where the tribunal finds that the complainant has unreasonably:- (a) prevented an order for reinstatement or re-engagement from being complied with or (b) refused an offer by the employer (made otherwise than in compliance with such an order) which if accepted would have the effect of reinstating the complainant as if he had not been dismissed, the tribunal must reduce or further reduce the amount of the special award as it considers

just and equitable.

Clause 5, however, sets out matter to be disregarded by a tribunal when considering the reduction of an award. The tribunal must disregard any conduct or action of the complainant, where, in broad terms, it constitutes a breach of a requirement, - (a) to become or be a member of a trade union or to cease to be or refrain from becoming a member of the same or (b) it constitutes a refusal to make payments or an objection to deductions from remuneration as outlined under clause 2.

The new provisions relating to balloting all existing closed shops., although not rendering the closed shop illegal for non compliance, will lead to fewer "fair" dismissals for non union membership. In addition, it is highly probable that there will be fewer actual dismissals bearing in mind the new special award, and the fact that compensation may in certain instances be met solely out of trade union funds (clause 6 post).

The provisions have led to criticism that high levels of compensation will encourage "bounty hunters" "Free riders" and "Free loaders". Others have countered these arguments saying that those in the closed shop "could agree to allow the individual not to belong to the union and work along side him,"^{12f} In any event, there are provisions in the Bill (ante) for compensation to be reduced in such circumstances.

It should be noted, however, that the Secretary of State may order that the new provisions, in Clause 2, relating

to existing closed shops, shall not come into operation for" such period as may be specified;" save only for a U.M.A. taking effect after 14th August 1980 (Clause 22).

An intimation of the length of period the Employment Secretary will postpone, the " review of existing closed shops", is given in his speech, at the Financial Times" Seventh Industrial Relations Conference," when he stated he was " minded to give one or two years after Royal Assent for proper preparation for ballots"¹⁴

Clause 6 Awards against third parties

Section 10 of the 1980 Act (ante) will be repealed and replaced by more extensive provisions in Clause 6. An employee, complaining to a tribunal that his dismissal was unfair (e.g from a closed shop), will have a new "right of joinder". He may require that any person (in most cases a trade union) who exerted pressure on his employer to dismiss him, for not being a member of a trade union, by calling or threatening industrial action, is joined in the proceedings. The tribunal then has power to make the award wholly against the trade union or partly against the employer and the union. It should be noted that the employer still

retains his right to 'join in' a trade union. But the nub of the new provision is that previously only the employer could 'join in' a union, which he may have been reluctant to do where there was 'a threat to good industrial relations'. In future a complainant employee, under his own volition, may 'join in' a union and recover his compensation directly from its funds.

Clause 6 is likely to dissuade unions from taking action, (outlined above), for, in the case of an unfair dismissal from a closed shop, the union might find itself ordered to pay compensation in excess of £30,000.

Clause 7 Interim Relief

Clause 7 extends the right of certain complainants to apply to industrial tribunals for interim relief; i.e. an order for the continuation of their contracts of employment until the determination of their complaint, or, with the employers approval, reinstatement or re-engagement. The relief available, under S.77 of the 1978 Act, now includes employees who claim they have been unfairly dismissed for non membership of a trade union including non membership of a closed shop agreement.

I)

THE CLOSED SHOP AND RELATED PRACTICES

Clause 11 "PROHIBITION OF UNION MEMBERSHIP
REQUIREMENTS IN CONTRACTS"

Sec.10 of the 1980 Act and its limited joinder facility in relation to "union only" contracts is repealed and replaced by greatly extended provisions in clause 11.

Clause 11 (1) provides that any terms or conditions of a contract for the supply of goods or services (hereafter referred to as a commercial contract) is void (and of no legal effect) in so far as it purports to require that the whole or part of the work done is to be done "only" by workers who are members of a trade union. It should be noted, that the provisions in clauses 11 and 13 apply equally to requirements that work is done only by non union members.

An example of the effect of clause 11(1) would be where a subcontractor signed a commercial contract with a "union only" clause. Such a clause would be void and of no legal effect. The sub contractor could use non-union labour without being in breach of contract. If the contractor then terminated the contract as a consequence of the use of non union labour, the subcontractor could sue the contractor for breach of contract, and, under clause 11 (2) (b) (post), he may

have an additional right to sue in tort for breach of statutory duty.

Clause 11 (2) (a) provides, in general terms, that it is a breach of statutory duty for a person to exclude a supplier from a list of approved suppliers, or a tender list, on the ground that work under a subsequent contract would, or would be likely to, be performed by non union labour.

Clause 11 (2) (b) provides that it is a breach of statutory duty for a person to terminate a commercial contract on the ground that work done or to be done, or which is likely to be done, is performed by non union labour.

Clause 11 (2) (c) provides in general terms, that a breach of statutory duty occurs where a person in relation to a proposed commercial contract: (1) excludes a person from a group from whom tenders are invited; (2) Fails to permit a person to submit such a tender; (3) otherwise determines not to enter into a commercial contract with that person; and the reason for the above acts is if the proposed contract were entered into, work to be done would be, or would likely to be, performed by non union labour.

The breach of statutory duty does not create a criminal offence, but an aggrieved party may sue the person responsible for damages in tort. It should also be noted that an

aggrieved party under clause 11 (2) (b) may have the additional remedy of suing in contract.

The rationale behind Clause 11 can be gleaned from the Employment Secretary's comments, when he said, in relation to union only labour requirements in contract-----

"These are widely used to extend the closed shop into firms where neither employer nor employees want it... some Labour controlled local authorities - have been most blatant in their refusal to award contract's to firms unless their work force is 100 per cent unionised. In some cases they have refused to allow non-union firms even to tender for contracts. There is no doubt also a cost to the ratepayer of deliberately stifling competition... like all un competitive practices, the end result can be only loss of jobs."^{12g}

It is interesting to note in this context, that "Aim of Industry", the advocate for private enterprise, claimed to have found a loophole, in the Bill, whereby Councils insisted " that contractors sign recognition and procedural agreements" with unions, in effect ensuring union negotiated contracts. 'Aims' quoted a letter to Contractors from East Kilbride District Council stating that from 1st October they will have to have signed a recognition and procedure agreement if they want

to remain on the councils approved list,¹⁵
The Government closed this loophole by adding a new clause, to the Bill in the committee stage of the House of Lords ,
to prevent companies or councils requiring firms
tendering for contracts to recognise or have agreements
with trade unions if they are to gain contracts.¹⁶ Lord
Mackay the Lord Advocate had told peers the move was
aimed mainly at abuse by local authorities who sought to
force contractors to recognise or negotiate with unions as
a condition of eligibility for tendering or receiving
contracts.¹⁷

These new provisions form Clause 12 , of the Bill which
mirror clause 11 and may be summarised as follows:

"Prohibition of union recognition requirements"

Clause 12 (1) States any, term or condition of a contract for
the supply of goods or services is void in so far as it
purports to require any party to the contract (a) to
recognise a trade union (whether or not named in the contract)
for the purposes of negotiating on behalf of workers,
or any class of workers employed by him.. (b) to negotiate
or consult with, or with any official of, one or more trade
unions (whether or not so named). A person is also liable
for breach of statutory duty if on the ground of "union
exclusion" he acts in a manner falling within para (a)
(b) or (c) of clause 11 (2) (above).

A person acts on the ground of union exclusion if the
ground, or one of the grounds, for his action is that the
person against whom it is taken does not, or is not likely to

recognise negotiate or consult, as mentioned in clause 12 (1) above.

PRESSURE TO IMPOSE UNION MEMBERSHIP REQUIREMENTS.

Clause 13(1) in simple terms, removes immunity from actions in tort furnished by Sec 13, of the 1974 Act as amended, from any person who attempts to induce any other person to include in a contract a provision rendered void by clause 11 and 12; or to contravene the new statutory duties. Clause 13 (1) is aimed at removing immunity from trade unions who try to frustrate the provisions in clauses 11 and 12 by putting "pressure" on their employer thereby inducing him to contravene the same. In addition clause 13(2) removes immunity in tort under Sec. 13 where, in general terms, certain industrial action is taken on the grounds of non union membership (or union membership) or union exclusion" which interferes With the supply (whether or not under a contract) of goods or services or can reasonably be expected to have such an effect---".

Clause 13 (2) takes away immunity, from both primary and secondary action, from the organisers of industrial action. The reasons for this more extensive restriction on trade union immunities than that furnished in Sec 18 of

the 1980 Act (which will be repealed by the Bill) is found in the Governments Green Paper. The paper argues that where companies are blacked, with the purpose of compelling workers to join a particular trade union, the organisers have no immunity. But blacking is commonly used, not to compel workers to join a union, but "to prevent them from doing work which has traditionally been the preserve of union members". In such cases the organisers of action would continue to have immunity. "The question is whether immunity should be removed from all industrial action of this kind".¹⁸ The Government have answered this question in their Bill. Clause 13 together with the restricted ambit of a 'trade dispute' and the extensive provisions relating to "prohibition of union membership requirements" and "union recognition requirements", have provided substantial protection, against those who take industrial action, or seek to discriminate commercially, on such grounds.

J) Summary of the Bills provisions on the Closed Shop and Related Practices

Clause 1 retrospectively compensates individuals, at the discretion of the Employment Secretary, who were dismissed between 1974 and 1980. The individuals who may claim compensation are those who were dismissed, without redress, under the Labour Governments closed shop legislation but whose dismissals would have been unfair under the provisions of the 1980 Act, save for those relating to balloting requirements.

Clause 2 provides wide-ranging rights for employees dismissed for non-union membership of a closed shop. It reinforces and extends the balloting requirement for new closed shops (in the 1980 Act), to all existing closed shops.

A dismissal, for non union membership of a closed shop will, in general, be automatically unfair unless the U.M.A. is approved by the requisite majority in a secret ballot. The closed shop must be approved, within "five years ending with the time of dismissal", by a minimum of 80% of those entitled to vote or 85% of those who voted. In effect a five yearly 'periodic review' is imposed, with the requisite approval being more severe on a second or subsequent ballot.

Clauses 3 and 4 introduce a new framework of compensation at greatly enhanced rates. A person unfairly dismissed from a closed shop could expect minimum compensation of £12,000 if the tribunal did not order re-engagement or reinstatement and a minimum of £17,000 if an employer refused to comply with such an order. The maximum claim for compensation will be in excess of £30,000.

Clause 6 extends to a complainant, in an unfair dismissal case, the right to require that there be joined in the proceedings, any person (including a trade union) who he claims exerted pressure on his employer to dismiss him, (including those unfairly dismissed where a closed shop pertains) by calling or threatening industrial action because he was not a member of a trade union. Such an employee can claim compensation directly from a trade unions funds. Hitherto "joinder" was only available to an employer.

Clause 7 extends interim relief to those unfairly dismissed for non-membership of a trade union; including those in a closed shop as well as those dismissed for membership or activities in a trade union. The relief available being reinstatement re-engagement or an order for continuation of their contracts of employment.

Clause 9 extends an employees right not to have action short of dismissal taken against him, in order to force him to become a union member, to the new provision in clause 2 (dismissal for non membership of a union).

Clause 10 introduces changes in respect of joinder in cases of action short of dismissal, which are parallel to the changes introduced by clause 6 in relation to joinder in unfair dismissal cases.

Clause 11 declares void any term in a commercial contract which requires only the use of union labour or only the use of non union labour. It makes it unlawful to exclude non union or union firms from tendering lists, and it makes it unlawful to award or terminate a commercial contract on the ground that union or non union labour will perform the work under that contract.

Clause 12 introduces parallel provisions, to those in clause 11 in relation to union recognition requirements and " union"exclusion." Clause 13 removes immunity from a person in tort (including a trade union) who induce another person (an employer) to include in a contract provisions rendered void by clauses 11 & 12 or to breach the statutory duties thereunder. Immunity is also removed where action is taken against an employer, other than an employer of those taking the action, on the grounds that work is, or is likely to be, done by workers who are, or are not, members of a trade union (or on the grounds of union recognition in defined circumstances).

The Bills' provisions have greatly increased the statutory protection afforded to an individual dismissed for non membership of a closed shop and where action short of dismissal is taken against him.

In addition enterprises employing non union labour receive protection against commercial discrimination and industrial action on such grounds.

The balloting provisions will render closed shops less efficacious in achieving their desired ends.

In some instances the closed shop may prove inoperable.

However, protection is only afforded to a person who is "dismissed;" therefore, no protection is provided for those seeking employment. The fact that no remedy is available for prospective employees is particularly pertinent where a pre-entry closed shop operates.

All closed shops remain "lawful" even if they do not have the requisite support under the Bills balloting provisions.

(K) Could the Employment Bill Have gone any further ?

The Employment Secretary said, in answer to the question why he had not made the closed shop illegal,---- that he believed in a "step by step" approach as public opinion supported it and "the best thing that we can do at present is to provide protection and redress for those damaged by it".^{12h}

We are of the opinion, however, that two new clauses should have been inserted in the Bill. These are----- (i) A clause which rendered a closed shop agreement unlawful if it did not attain the requisite support under the Bill's balloting requirements (which would be mandatory); and (ii) A clause declaring all pre-entry closed shop agreements unlawful. At the present time section 4, of the 1980 Act, affords some protection against unions arbitrarily refusing an individuals application for membership of a trade union, where a pre-entry closed shop operates. We believe this provision is inadequate in safeguarding "the right to work". As we noted earlier, section 7³ of the 1971 Act, rendered pre-entry closed shop agreements void, but offered little in the way of redress to an aggrieved prospective employee. We would therefore suggest that a clause rendering pre-entry closed agreements unlawful, should be backed by sanctions and statutory redress for those injured in a case of non compliances with the same.

The next step however would appear to be the introduction of a third Bill in this Parliament, building onto the 1980 Act and the 1982 Bill.

The Employment Secretary is seeking a change in the law which would favour mandatory election of union executives and possibly other constitutional reforms of union rules"¹⁹.

The Chancellor of the Exchequer also favours action to make unions more democratic and to "inform and de-politicise the trade union structure"²⁰. The Prime Minister also appears to be in favour of a major reform package (which is under review) including compulsory secret ballots for the election of union officials.

The final step by the Government may be to make the closed shop illegal; especially if one bears in mind the comments of The Under Secretary of State for Employment when he said during debate on the Bill-----
"we considered making the closed shop unlawful. Many of us wished to do so. However we were not encouraged by the experience between 1971 and 1974. There are well established if undesirable institutions in this country. That is the only reason why we should not pass legalisation....."^{12c}

The reform proposals we now make - i.e. the status provision - is sufficient to render all closed shop agreements strictly illegal and hence sidestep many of these difficulties. Nevertheless, there will still be a case for 'democratisation' provisions discussed above; we regard them as a desirable extension of the existing law in any case.

REFERENCES

- 1) Lennard J. Dunn, S. and Wright, M.
" The extent of closed shop arrangements in British industry" Department of Employment Gazette January 1980 Vol. 88 No.1 pp 16-22.
- 1 (a) See Tables 3 and 4 P.20.
- 2) see W.E.J. McCarthy, " The closed shop in Britain" Blackwell 1964.
- 3) Under Sec.7, of the Industrial Relations Act 1971, pre-entry closed shop agreements were declared void and a worker refused engagement due to such an agreement could seek a declaration from the National Industrial Relations Court, that such an agreement was void. Such a declaration was the only remedy available to prospective employees.
- 4) For a fuller discussion of this observation see " The closed shop" A comparative Study in Public Policy and Trade Union Security in Britain, the U.S.A. and West Germany C.G. Hanson, S.M. Jackson and D.Miller 1982 Ch.5.
- 4 (a) For an interesting analogy see Ref 14 P97; where a tribunal held, by a majority, that a genuine conscientious objector who campaigned against a U.M.A, whilst remaining a member, was entitled to use a conscience clause in the agreement when he thought his campaign hopeless. As a consequence his dismissal was held to be unfair.

5) C.G. Hanson " Labour Law, Tebbit Style"

The Journal of Economic Affairs Vol.2 No.3 April
1982 P.153.

6) European Human Rights Reports P38 Part 13,
13th January 1982.

7) Article 11 (i) States "Everyone has the freedom
of peaceful assembly and to freedom of association
with others, including the right to form and to join
trade unions for the protection of his insterests."

8) In general terms a U.M.A means an agreement or
arrangement between an independent trade union (not being
under the control, domination or liable to interference
by an employer for example by the provision of financial
or material support), and an employer which relates to
employees of an indentifiable class. A U.M.A. must have the effect in
inpractice of requiring such employees, for the time
being of that class, (whether or not there is a condition
to that effect in their contracts of employments) to be
or become a member of the union (S30 of the 1974 Act.)

9) Sec.58 A(2) The persons entitled to vote in relation
to the application of a U.M.A., to the employees of any
class of an employer, shall be all those employees who
belong to that class, and are in the employment of the
employer on the day on which the ballot is held.

A ballot shall be so conducted as to secure that,
so far as reasonably practicable, all those entitled to
vote have an opportunity of voting, and of doing so in
secret. S58 A(3)

10) Code of Practice " Closed Shop Agreements and

Arrangements" Encyclopedia of Labour Relations Law
2 B.A. Hepple, P.O. Higgins.

- 11) See the 1971 Act Sec.5, the 1974 Act Sch 1 para 64; The Employment Protection Act 1975 Sec.53, The 1978 Act SS 23 and 58.
- 12) House of Commons: Parliamentary Debates (Hansard) 8th February 1982 Vol. 17 No. 52 H.M.S.O. pp 737-832.
- 12(a) P818 12 (b) P738 12(C) The Under Secretary of State For Employment, at P817 12(d) P740 12(e)p768 12(F) pp 768-769 12(g) P743 12(h)P784.
- 13) See "Recent developments in Unfair Dismissal," Neal, A. New Law Journal Vol. 132, 8th April 1982.
- 14) The Journal of the Institute of Personnel Management "News and Notes" June 1982 No 6 Vol.14.
- 15) "Aim of Industry warns of Tebbit Bill Loophole" The Financial Times 28th May 1982.
- 16) "Union only contracts outlawed" The Times 14th July 1982.
- 17) "Ban proposed on union only contracts" The Guardian 14th July 1982.
- 18) "Trade Union Immunities" January 1981 H.M.S.O Paras 289-290. CMND 8128
- 19) "The Employment Secretary plans fresh legislation" The Financial Times 14th July 1982.
- 20) "Howe's Strategy for next Parliament" The Sunday Telegraph 4th July 1982.

A Summary of U.K. Competition Legislation with
Special Reference to "Restrictive Labour Practices"

The following summary of U.K. 'competition legislation' is not intended to be an authoritative statement of the law which, by its complex and comprehensive nature, is outside the scope of such a review. It does however seek to identify and explain the areas in which the statutory law interdicts in the U.K product market.

A) Restrictive Trade Practices

Until 1948 the legal remedy against restrictive trade practices depended upon conspiracy and contracts in restraint of trade. The present statutory law is contained in The Restrictive Trade Practices Act 1976 (a consolidation of the Restrictive Trade Practices Act 1956-1973) as supplemented by the Restrictive Trade Practices Act 1977 and the Competition Act 1980. The Act Provides for the registration and subsequent judicial investigation of agreements between two or more persons carrying on business in the U.K. in the supply of goods or services under which certain types of restriction are accepted. Section 6 defines restrictive agreements relating to goods; as agreements between two or more persons carrying on business in the production or supply of goods or the application to them of any process of manufacture under which restrictions are accepted - by two or more parties in respect of prices to be charged, resale prices to be recommended or suggested, terms or conditions on which goods are supplied or acquired, quantities or descriptions of goods to be produced, supplied or acquired, the process of manufacture, and the persons, classes of persons

or areas to be involved in transactions. 'Agreement' is widely defined to embrace written, oral or implied arrangements whether or not intended to be enforceable. 'Restrictive' includes a negative obligation whether express or implied. Recommendations by trade and services supply associations containing such restrictions are treated as agreements between the members and are similarly registrable. S7 provides for types of information agreements relating to goods, which may be made subject to registration by order, to date only those dealing with the prices and terms of supply (including processing) have been "called up" for registration.

In determining whether an agreement is one to which the Act applies no account must be taken, for example, of : (i) terms in normal contracts of sale between two persons and (ii) restrictions relating to the employment of workers.

Exempt Agreements

Any agreement expressly authorised by statute is exempt from registration. Other general exemptions (listed in Schedule 3 of the Act) include agreements relating to exclusive dealing, patents and registered designs (other than patent or design pooling agreements), trade marks and know-how. Certain agreements relating to Agricultural and Forestry co-operatives are exempt from registration.

Agreements relating only to exports are not placed on the public register but must be notified to the Director General of Fair Trading (DGFT). With regard to services, the Act substantially mirrors the provisions relating to goods. Schedule I excludes, from the requirement to register, Professional services such as legal, medical, architectural and engineering services. The 1977 Act made provision for the disregard of certain restrictions in agreements containing financing terms; thus, a large number of loan financing agreements were taken outside the scope of the legislation.

In addition the Secretary of State has discretionary powers which enable him to exempt agreements from registration in certain specified circumstances:- (i) Agreements important to the national economy (ii) Agreements holding down prices. Such exemption is strictly limited to agreements which relate exclusively to prices and are designed to prevent or restrict price increases or secure price reductions.

There is no obligation to register agreements not 'called' for registration and obviously where there is no 'agreement' the legislation does not apply.

Registration

Any agreement which contains relevant restrictions must be registered with the DGFT before the date on which any restriction under the agreement takes effect. Failure to register such an agreement makes any restrictions therein void and unenforceable.

Enforcement

There are no statutory penalties for failure to register an agreement though an aggrieved party may bring civil proceedings for breach of statutory duty, for damages suffered, in consequence of the operation of a registrable but unregistered agreement. There are no criminal sanctions but the Court upon the DGFT's application may make orders restraining the parties from giving effect to the agreement or, to other agreements unlawfully giving effect to the unregistered agreement. Failure to comply with such orders constitutes contempt of court and renders the parties liable to finer or imprisonment. In addition, where the DGFT has reasonable cause to believe that a registrable agreement is in force, he has power to require the parties to notify him whether this is the case and to furnish particulars. The DGFT may also apply to the Court to have the parties to a suspected agreement examined on oath and failure to comply with a request for information, or where a person provides misleading or false information, is an offence punishable with a fine or imprisonment.

Procedure after registration

A restrictive agreement, when notified, is placed by the DGFT on a register which is open to public inspection. The Secretary of State may direct that the agreement, or certain parts of it, is placed on the confidential section of register, where full disclosure would be contrary to the public interest or the agreement contains confidential information. The DGFT

has a general duty to refer every registered agree Restrictive Practices Court for a decision as to whether restrictions are contrary to the public interest, except the following three instances:

- a) On the representation of the DGFT, the Secretary of State may direct him not to refer an agreement to the Court on the ground that the restrictions in it are not of such significance as to warrant Court proceedings;
- b) Where, before any proceedings are begun, the parties have terminated the agreement or it has expired or, though it continues in force, all the registrable restrictions have ceased to have effect;
- c) If and for so long as the DGFT thinks appropriate he may refrain from referring an agreement having regard to the operation of any directly applicable provision of the European Communities.

Once an agreement is referred to the Court, the onus is on the parties to prove that the restrictions it contains are not contrary to the public interest, since there is a presumption that they are. Each restriction is considered separately. It is for the parties to decide whether they will seek to defend any particular restriction. If they do not, or if there is an unsuccessful defence, the Court is bound to declare that the restriction in question is contrary to the public interest.

If the parties do decide to defend the restrictions the Court, (which comprises a judge and at least two appointed members; decisions on the evaluation of a case are taken by majority verdict but the judge alone rules on matters of Law), must be

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satisfied that each restriction passes through at least one of the eight public interest 'gateways' and in addition the 'tailpiece'. The first 'gateway' is for restrictions necessary to protect the public against injury; the second for restrictions the removal of which would deny to the public specific and substantial benefits or advantages; the third and fourth are for restrictions which are necessary to counteract measures taken by anyone not party to the agreement and which are designed to restrict competition or which are necessary to enable fair terms to be negotiated with a preponderant supplier or buyer. If abandonment of the restriction would create serious and persistent unemployment or lead to a substantial reduction in exports it may pass through the fifth or sixth 'gateways'. The seventh gateway is for restrictions required for the maintenance of another restriction the court finds or has found, not to be contrary to the public interest. The final gateway is for restrictions which do not restrict or discourage competition to any material degree.

If the court decides that a restriction passes through one or more of the 'gateways' it then has to be satisfied that the restriction is not unreasonable (the 'tail piece') having regard to the balance between the matters established in connection with the gateways and any detriment to the public or other persons which arises or is likely to arise from the operation of the restriction. Only if the Court is satisfied that the restriction is not unreasonable in the light of this balance between advantage and detriment can it declare it not to be against the public interest.

S8 of the Competition Act 1980 makes certain amendments widening the scope of the gateways in the case of the restrictions, or information provisions, relating to services in an agreement.

Enforcement

Where the Court declares that a restriction is contrary to the public interest, the agreement is void, (subject to the provisions in SS25 and 26 of the Competition Act 1980 below), in respect of that restriction. The Court may make an order (or accept and undertaking) restraining the parties from giving effect to any condemned restrictions, or from enforcing or purporting to enforce them, and from making any other agreement 'to the like effect'. An order in these terms means that the parties must be especially careful in their future activities, to avoid making any agreement similar to the condemned one or, continuing to implement condemned restrictions. Breach of a Court Order, or of any undertakings given to the Court in lieu of an order, may result in proceedings for contempt of Court which may render parties liable to finer or imprisonment.

SS25 and 26 of the Competition Act 1980 provides that a declaration by the Court that a restriction is contrary to the public interest is suspended for 21 days, and any party to the agreement may before the expiry of that period submit a revised agreement. The Court may then declare that any restrictions in the revised agreements are not contrary to the public interest. If the Court does not make such a declaration the revised agreement is then considered under the normal provisions of the Act and may likewise be defended.

Where an agreement is defended (whether or not it is a revised agreement) the Court has special power to make an interim order precluding the operation of restrictions. The Court must be satisfied that the restrictions cannot be reasonably expected to pass through any of the gateways, and that their operation, in the period before any final Court order can be made, is likely to cause material detriment to the public or some particular person who is not party^{to} the agreement. Breach of an interim order is enforceable as for a final order (above). With this exception, the parties are allowed to operate the restrictions in an agreement on the Public Register until the Court has reached its decision.

B) RESALE PRICE MAINTENANCE

The Resale Prices Act 1976

Part I of the Act prohibits collective resale price maintenance (RPM) for goods. S1 makes it unlawful for two or more persons carrying on business in the U.K. as suppliers to agree to withhold supplies, to supply only on less favourable terms, or to authorise the recovery of penalties or the conduct of domestic proceedings in connection therewith, as a means of enforcing RPM. S2 makes it unlawful for two or more persons, carrying on business in the U.K. as dealers, to agree to withhold orders, to discriminate in the handling of supplies, or to authorise the recovery of penalties or the conduct of domestic proceedings as a means of compelling the enforcement of RPM. S3 makes it unlawful for a supplier or dealer to make a recommendation to another supplier or dealer (as appropriate) which, if it were an agreement, would be unlawful.

PART II prohibits individual RPM and provides for the granting of exemption where the particular class of goods has been exempted by the Restrictive Practices Court. In general terms the Court will grant exemption, where, in the absence of minimum resale prices, certain specified detriments to the public would occur which outweigh the detriments of RPM. S9 makes void any terms in a contract of sale, or an agreement relating to a sale, which purports to establish minimum prices for the resale of goods in the U.K. In addition it is unlawful to include such a term in a contract or agreement or to notify to dealers, or otherwise, to publish, a price stated, or calculated to be understood, as a minimum resale price.

SS.11 and 12 make it unlawful to withhold supplies from a dealer, or to supply him on less favourable terms, on the grounds that the dealer has sold, or is likely to sell, goods below a minimum price.

Part II of the Act - Enforcement

S25 provides that no criminal proceedings may be taken for non compliance with the Act. But the Crown may enforce, the Acts provisions, by proceedings for an injunction, or other relief. Failure to comply with an injunction may constitute a contempt of court and render a person liable to imprisonment or finer. In addition, any person injured, by contravention of a provision in the Act, may bring civil proceedings for damages.

S26 provides for the enforcement, by civil proceedings, of any

contractual provision for RPM which is not prohibited by the Act.

(C) MONOPOLIES AND MERGERS

The complex provisions relating to monopolies and mergers are contained in, the comprehensive provisions of, the Fair Trading Act 1973 (as amended).

1) MONOPOLIES

Monopoly investigations are carried out by the Monopolies and Mergers Commission. The MMC is an independent body consisting of between 10 and 20 part time members with widely-differing but relevant experience and a full-time Chairman all appointed by the Secretary of State. Monopoly references are made to the Commission either by the DGFT or the Secretary of State Acting alone, or with a minister. The reference must specify the product (goods or services) to be investigated.

The MMC then conducts an investigation into whether a statutorily defined monopoly situation exists in the market, i.e.---(1)a 'scale monopoly' where 25% or more of the market is held by a single person, firm or one group of companies;(ii) 'a complex monopoly' when a number of firms together have a minimum 25% share of the market and who so conduct their affairs, whether by agreement or not, to act so as to restrict competition. Agreements which are registrable under the Restrictive Trade Practices Act 1976 (ante) are excluded from reference.

The DGFT is under a duty to keep the U.K. market under review with a view to ascertaining the existence of monopoly situations. He decides the priority of references to the MMC on the basis of structure, conduct and performance indicators, together with an assessment of complaints received, which suggest that certain

monopolies warrant full investigation. In general terms, the DGFT may, for the purpose of assisting him in determining whether to make a monopoly reference, require any person, who supplies or produces goods or to whom such goods are supplied, to furnish him with information regarding -

- a) the value, cost, price or quantity of goods, supplied or produced by a person or the extent of services of the preceding description so supplied; or
- b) the capacity of any undertaking carried on by that person to supply, produce or make use of goods of that description; or
- c) the number of persons, employed by that person wholly or partly on work related to the supply, production or use of goods of that description or the supply or use of services (S44).

Non compliance with S44 is punishable with fines of up to £400 and, in certain circumstances, fines of £1,000 and/or imprisonment not exceeding 2 years (S46).

If, so requested in the reference, the MMC, having concluded that there is a monopoly situation, then considers whether there is anything contrary to the public interest.

The MMC has power in any investigation to require the attendance of witnesses and the production of documents (S85). Failure to comply with S85 may constitute an offence punishable in certain circumstances with fines of up to £1,000 and/or imprisonment not exceeding 2 years.

A reference must be published in the London Edinburgh and Belfast Gazettes, except where the reference is limited to certain parts of the U.K. (in which case publication is also limited).

The MMC are required to investigate and report on whether a monopoly situation exists and if so whether facts found by them operate or maybe expected to operate against the public interest (a separate procedure applies where an investigation is limited to the facts only).

PUBLIC INTEREST

S84 states that in determining whether any particular matter operates against the public interest, the Commission shall (must) take into account all matters which appear to them in the particular circumstances to be relevant and among other things shall (must) have regard to the desirability - (a) of maintaining and promoting effective competition between persons supplying goods and services in the U.K.;

b) of promoting the interests of consumers, purchasers and other users of goods or services in the U.K. in respect of the prices charged for them and in respect of their quality and the variety of goods and services supplied - c) of promoting, through competition, the reduction of costs and the development and use of new techniques and new products, and of facilitating the entry of new competitors into existing markets; -

(d) of maintaining and promoting the balanced distribution of industry and employment in the U.K.; and

e) of maintaining and promoting competitive activity in markets, outside the U.K. on the part of producers of goods, and of suppliers of goods and services, in the U.K.

If the MMC report that a monopoly exists and that facts found by them operate or may be expected to operate against the public interest subsequent action may be taken.

SUBSEQUENT ACTION

The Secretary of State has wide powers exercisable by orders (see Sch. 8 post), but before action is taken four preconditions must be met -

- i) The report must be laid before each House of Parliament and the report must be published in a manner that appears appropriate to the Minister(s). But, under S22 of the Competition Act 1980, the report cannot be laid unless the Minister(s), at least 24 hours before doing so, transmit to every person named in the report, as a person in whose favour a monopoly situation exists, a copy of the report in the form in which it is laid ;
- (ii) The Commission's conclusions must be that a monopoly situation exists- ;
- (iii) The Commission's conclusion must be that facts found operate or may be expected to operate against the public interest and
- iv) the conclusions must specify the particular affects adverse to the public interest (S56).

Where these preconditions are met the Secretary of State may make orders exercising the powers in Sch. 8 of the Act which are:-

A) Sch.8 part I powers exercisable in all cases; orders may be made to render it unlawful:-

- 1) to make or carry out any agreement specified in the orders
- 2) subject to exceptions, an order may require any party to any such agreement as may be specified or described in the order to terminate the agreement. Paras. 1 and 2 do not apply to the terms and conditions of employment of any workers or the physical conditions in which they are required to work.

- 3) To withhold, to agree to withhold or threaten to withhold, (or procure others to do the same), from specified persons, any supplies or services.
- 4). To require as a condition of supplying goods or services to any persons:-
 - (a) The Buying of any goods
 - (b) The making of any payment in respect of services other than goods or services supplied.
5. To discriminate between specified persons in the prices charged for goods or services.
6. To give or agree to give in other ways any such preference.
7. To charge, for goods or services supplied, prices differing from those in any published list or notification.
8. An order may require a person supplying goods or services to publish a list of or otherwise notify prices, with or without further information.
9. With certain exceptions an order may regulate the prices to be charged for any goods or services specified.
10. For any person, by publication or otherwise, to notify, to persons supplying goods or services, prices recommended or suggested as appropriate to be charged by those persons for goods or services.
11. An order may prohibit or restrict the acquisition by any person of the whole or part of the undertaking or assets of another person's business, or the doing of anything, which will or may have a result to which the paragraph applies, or may require that if such an acquisition is made or anything is done which has such a result, the persons concerned or any of them shall thereafter observe any prohibitions or restrictions imposed by or under the order.

AND

- B) Part II Powers exercisable in all cases except in the case of Statutory Bodies (Public Bodies including Nationalised Industries). "An order may provide for the division of any business by the sale of any part of the undertaking or assests or otherwise (for which purpose all the activities carried on by way of business by any one person or by any two or more interconnected bodies corporate may be treated as a single business), or for the division of any group of interconnected bodies corporate, and for all such matters as may be necessary to effect or take account of the division, including:-
- (a) the transfer or vesting of property, rights, liabilities or obligations; or otherwise;
 - (c) the creation, allotment, surrender or cancellation of any shares, stock or securities.
 - (d) the formation or winding up of a company or other association corporate or unincorporate, or the amendment of the memorandum and articles or other instruments regularizing any company or association, and the registration under any enactment of the order by companies or associations so affected;
 - (f) the continuation, with any necessary change of parties, of any legal proceedings".

Interim orders may be made and certain statutory procedures must be adhered to before an order has effect.

Enforcement of Orders.

No criminal proceedings may be brought but, under S93(1) any injured person may bring civil proceedings in respect of any contravention of an order. In addition the Crown may take proceedings, for an injunction or other appropriate relief, to enforce compliance with an order, Breach of an injunction may render a person liable to fines and/or imprisonment for

contempt of court. In most cases however, the order making powers are not exercised, instead, and as an alternative, 'undertakings' may be accepted. Under S88 the DGFT is under a duty, where requested by a Minister, to consult with the parties and obtain undertakings that action will be taken to remedy the adverse findings in the report. If no undertakings are forthcoming then the order making powers may be resorted to.

Where it appears to the DGFT that an undertaking "has not been or is not being fulfilled or needs to be varied or superseded", he is under a duty "to give such advice to the appropriate Minister or Ministers as he may think proper in the circumstances".

In relation to a monopoly reference it is the 'product', and not 'activities', which is investigated. The investigation of public sector monopolies is limited by provisions in the Act (SS50 (2) (3), S51 (2) and (3) and Schs 5 and 7) and such investigations are rarely undertaken. In addition no powers exist where market share is less than 25%. The competition Act 1980 (post), amongst other things, remedies the above anomalies.

2. MERGERS

The DGFT has a duty to keep himself informed of all merger situations qualifying for possible reference to the MMC.

The Secretary of State decides whether to make a reference after taking into account the DGFT's advice. References may

be made where the actual or anticipated result of the merger

(a) create or add to an existing market share of 25% or more or

(b) involve the transfer of assets exceeding £15 million.

The MMC in carrying out a merger investigation must establish that a merger situation exists, and, additionally, that it operates or may be expected to operate against the public interest. It must then specify in its report the adverse effects found. The criteria for 'public interest' are the same as those used in a monopoly reference under S84 (ante) and a similar procedure is followed. (Special procedures are used in a "Newspaper Merger").

The Secretary of State may make orders, under S73, exercising the powers in Sch. 8 (ante). The orders are enforced, under S93, in the same way as for monopoly orders (ante). Interim orders may be made, and as with monopoly references, undertakings are more commonly accepted, (under S88), and enforced in a like manner.

In relation to the Law of Defamation, both, reports on monopolies and mergers enjoy absolute privilege (S82 (2)).

D. GENERAL REFERENCES.

Under S78 of the Fair Trading Act 1973 (Part VI) the Secretary of State with, or without, other Ministers acting jointly may at any time require the MMC to submit to him a report on the general effect on the public interest-

(a) of practices of a specified class which, in his opinion are commonly adopted as a result of, or for the purpose of preserving, monopoly situations, or (b) of any specified practices which appear to him (or them) to be uncompetitive practices.

In addition the Secretary of State acting alone or jointly with a Minister may at any time require the MMC to submit to him (or them) a report on the desirability of action of any specified

description, for the purpose of remedying or preventing effects, adverse to the public interest, which result or might result from monopoly situations or from practice, mentioned in (a) or (b) above. "Uncompetitive practices" are defined as "practices having the effect of preventing restricting or distorting competition, in connection with any commercial activities, in the U.K.

There are no order making powers or means of enforcing action recommended in the report, which, must be laid before both Houses of Parliament and published. For the purposes of a reference under S78 the public interest consideration in S84 (ante) applies. The Procedure followed is exactly the same as that outlined in the case of "restrictive labour practice" references under S79 (Considered in more detail post).

E. THE CONTROL OF ANTI-COMPETITIVE PRACTICES-the Competition Act 1980.

The Competition Act covers three new major areas:- (1) 'A competition reference'; the Green Paper "A Review of Monopolies and Mergers Policy" recommended that "consideration should be given to dealing with certain uncompetitive practices by single firms outside the ambit of monopoly investigations". Such practices are now dealt with by the Act.

(2) The Secretary of State may refer specific Public undertakings to the MMC for investigation, amongst other things, of their efficiency and costs.

(3) The Secretary of State, where he is satisfied that any price is of major public concern, may require the DGFT to investigate that price. A brief summary of the Act's complex provisions may be stated as follows:-

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(1) COMPETITION REFERENCES

The Act strengthens the powers of the DGFT and the MMC, under the Fair Trading Act 1973, by providing for the selective investigation and control of practices, which are 'anti- competitive practices'; defined as -----

a person engages in an anti-competitive practice if, in the course of business, that person pursues a course of conduct which, of itself, or when taken together with a course of conduct pursued by persons associated with him, has or is intended to have or is likely to have the effect of restricting distorting or preventing competition in connection with the production, supply or acquisition of goods in the U.K. or any part of it; or the supply or securing of services in the U.K. or any part of it". The DGFT may undertake a

preliminary investigation, where it appears to him, that any person has been or is pursuing a course of conduct which may amount to an anti-competitive practice. The DGFT must, as soon as possible, publish a report where he identifies an 'anti-competitive practice' and state with reasons whether he considers it appropriate to make a 'competition reference'.

The DGFT may, at this stage, accept an undertaking from the persons concerned, which he is then under a duty to publish. If an undertaking is not given or not accepted, the DGFT may make a competition reference to the MMC.

The MMC investigates the alleged conduct and establishes and reports, amongst other things, whether---(1) the course of conduct actually pursued constituted an anti-competitive practice; (2) the practice operated or might be expected to operate against the public interest. S.84 (public interest) and S85, ("attendance of witnesses and production of documents") of the Fair Trading Act 1973, apply to the competition reference.

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Following an adverse finding the Secretary of State may request the DGFT to seek an undertaking from the persons specified-" to take or refrain from taking any action with a view to remedying or preventing those adverse effects." Where an undertaking is accepted the DGFT must notify the Secretary of State and publish the same.

If an undertaking is not given, or has not been or is not being fulfilled, the Secretary of State has discretion to make orders. He may do either or both of the following---"(a) prohibit a person named in the order from engaging in any anti-competitive practice which was specified in the report or from pursuing any other course of conduct which is similar in form and effect to that practice " and (b) For the purpose of remedying or preventing any adverse effects, specified in the report, exercise one or more of the powers specified in part I of schedule 8 to the Fair Trading Act 1973 (ante) to such extent and in such manner as the Secretary of State considers necessary for the purpose.

Enforcement of both types of orders is as noted in S93 of the Fair Trading Act 1973 (ante).

2. References of Public Bodies and Certain Other Persons to the MMC.

The Secretary of State may at any time refer to the MMC any question relating to-(a) the efficiency and costs of; or b) the service provided by; or (c) the possible abuse of a 'monopoly situation', (as defined in the Fair Trading Act 1973 (ante) with certain limitations), by a specified person in the reference, including any question whether, in relation to a matter falling withing (a) (b) or(c) above, the person is pursuing a course of conduct which operates against the public interest.

The specified persons are any body corporate:-

- (i) which supplies goods or services by way of business,
- (ii) the affairs of which are managed by its members, and
- (iii) the members of which hold office as such by virtue of their appointment to that or another office by a Minister under any enactment (Nationalised industries), and other specified public bodies, e.g. providing bus services; statutory water undertakings, any specified body corporate with a statutory duty to promote and assist in the maintenance and development of the efficient supply of goods or services.

The reference may be limited to a factual investigation only. S84 (public interest, and S85 (attendance of witnesses and production of documents, (ante) of the Fair Trading Act 1973, apply to 'public body' references. A report of the MMC investigation must

be made by the Secretary of State and must state, with reasons, any conclusions of the MMC, and where a person is pursuing a course of conduct which operates against the public interest, what action should be taken to remedy or prevent it.

The report is laid before each House of Parliament, and published, as with a competition reference. Where the report does conclude the above, the relevant Minister, after consultation with the Secretary of State, may order or direct the body to submit a plan for remedying or preventing the noted conduct (within a time limit where specified). The plan must be prepared, laid before Parliament, and published. Whether or not such an order is made or may be made, the Secretary of State may remedy the specified adverse conduct, by order, exercising one or more of the powers in Part I (excluding orders regulating prices), of schedule 8 of the Fair Trading Act 1973 (ante), to such extent, and in such a manner, as he considers appropriate. Such orders are enforced under S93 of the 1973 Act (considered ante).

3. Investigation of Prices.

S1 repealed the Price Commission Act 1977 and abolished the Price Commission. Under S13, however, if so directed by the Secretary of State, the DGFT must carry out an investigation into any price specified in the direction with a view to providing the Secretary of State with information of a description relating to that price. The investigation does not effect the power of the DGFT to initiate a preliminary investigation

of anti-competitive practices (ante). The Secretary of State cannot give a direction "unless he is satisfied that the price in question is one of major public concern" and, with a view to this, he must have regard to:-

(i) The provision or acquisition of the goods or services in question is one of general economic importance, or

(ii) Consumers are significantly affected, whether directly or indirectly, by the price.

The Secretary of State has power to vary or revoke a direction. A direction, or on varying or revoking such a direction, must be published. A direction must specify a period within which the DGFT must report to the Secretary of State - (a) stating his findings on fact which are material to the information which he is required to provide in accordance with the direction; and (b) containing such additional observations (if any) as the DGFT considers should be brought to the attention of the Secretary of State as a result of the investigation.

There are no direct enforcement provisions save that, the DGFT may, if he believes there is an "anti-competitive practice", initiate an investigation. But the report must be laid before each House of Parliament and the Secretary of State must arrange for the report to be published in such a manner as appears to him to be appropriate (as must all other reports under the Act). In addition the DGFT must arrange for the dissemination, in such a form and manner as he considers appropriate, of such information and advice as it may appear to him expedient, to give the public in the U.K. about the

operation of the Act. The Secretary of State, under powers conferred on him, may make orders excluding certain anti-competitive practices, and references to the MMC, from the ambit of the Acts provisions. Such orders have included the exclusion of Bus operators with an annual turnover of less than £1 million (references of public bodies) and persons whose annual turnover is less than £5 million (anti competitive practices).

F..Restrictive Labour Practices

Section 79, of Part VI of the Fair Trading Act 1973, is an innovatory section which introduced, for the first time, references relating to "restrictive labour practices."

S79 (1) states 'The Secretary of State, or the Secretary of State and any other Minister acting jointly, may at any time refer to the MMC the questions:-

- (a) whether a practice of a description specified in the reference exists and, if so whether it is a restrictive labour practice, and
- (b) if it exists and is a restrictive labour practice, whether it operates or may be expected to operate against the public interest and, if so, what particular effects, adverse to the public interest, it has or may be expected to have.

In determining 'public interest' the MMC must take into account S84 (ante).

S79 (2) states - a 'reference' may refer those questions to the MMC either - (a) in relation to commercial activities in the U.K. generally or (b) in relation to such commercial activities in the U.K. as consists of the supply of goods of a description specified in the reference, or of the export from the UK of goods of a description so specified.

S79 (2) permits the reference to relate to commercial activities generally in the U.K. or the reference may be confined to a 'restrictive labour practice' impact on the supply in the U.K., of goods or services of a specified description, or on the export from the UK of goods of a specified description.

S79 (3) states that the MMC shall (must) examine any question referred to them and shall (must) report to the Minister (the Secretary of State) or Ministers.

S79 (4) states that for the purposes of their functions, under S79 (3) the MMC "shall (must) disregard anything which appears to them to have been done, or omitted to be done in contemplation or furtherance of an industrial dispute within the meaning of the Industrial Relations Act 1971".

S167 of the Industrial relations Act 1971 defines an "industrial dispute" as "a dispute between one or more employers or organisations of employers and one or more workers or organisations of workers, where the dispute relates wholly or mainly to any one or more of the

following, that is to say - (a) terms and condition sof employment, or the physical conditions in which any workers are required to work; (b) engagement or non - engagement, or termination or suspension of employment, of one or more workers; (c) the allocation of work as between workers or groups of workers; (d) a procedure agreement, of any matter to which in accordance with S106 of this Act a procedure can relate.

The Commission, must, therefore, disregard, anything done by workers or employers or omitted to be done by the same in an "industrial dispute", for example "strikes"; "lockouts"; "blacking"; "working to rule"; dismissals; "go slows" and "sympathy action". It is interesting to note that the Industrial Relations Act 1971 was repealed in 1974 and S167, (and its definition of an "industrial dispute"), was superseded by S29 of the Trade Union and Labour Relations Act 1974 which widened the ambit of "industrial disputes" to a newly defined "trade dispute". S29 will be amended by clause 17 of the Employment Bill 1982, probably in October. Whether successive Governments have retained the repealed S167 by design or whether its retention is an indication of the discardment of S79 references is difficult to assess. S79(5) defines a 'restrictive labour practice' as any practice whereby restrictions or other requirements, not being restrictions or requirements relating exclusively to rates of remuneration, operate in relation to the employment of workers in any commercial activities in the UK or in relation to work done by any such workers, and are restrictions or requirements which - a) could be discontinued without thereby contravening the provisions of any enactment and,

- b) are not necessary for, or are more stringent than is necessary for, the efficient conduct of those activities.

"Commercial activities in the UK". means, under S137, any of the following:- the production and supply of goods in the U.K; the supply of services in the U.K, and the export of goods from the U.K.

Worker has the same meaning as that in section 167 of the Industrial Relations Act 1971 which in general terms (subject to exemptions) states workermeans a person who works or normally works or seeks to work"

- a) under a contract of employment; or
- b) under any other contract (whether express or implied, and if express whether oral or in writing) whereby he undertakes to perform personally any work or services for another party to the contract who is not a professional client of his;
- or (c) in employment under or for the purposes of a governmental department (other than a member of the armed forces). The S167 definition of 'worker' was repealed and replaced by a similar definition in S30 of the Trade Union and Labour Relations Act 1974. It should be noted that restrictions or requirements "relating exclusively to rates of remuneration" cannot be examined by the MMC. Where such a restriction or requirement relates only partially to rates of remuneration and also to some other relevant matter it may be examined. It is presumed that, for the purposes of S79, there is a definitional difference between a rate of remuneration and

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"rates of remuneration" so that certain practices, for example, concerned " exclusively" with enforcing a minimum weekly or monthly wage rate might be referred.

PROCEDURE

Under S81 the MMC must take into account any representations made to them by persons appearing to them to have substantial interest in the subject matter of the reference, or by workers appearing to them to represent substantial numbers of persons who have such an interest. The MMC may determine their own procedure for carrying out an investigation.

The Commision may also exercise the powers in S85 to require the attendance of witnesses and the production of documents. Failure to comply with S85 may render a person liable to fines and, in certain circumstances, imprisonment. The DGFT is under a duty (S5 (2)) to assist the MMC by giving any relevant information in his possession and any other assistance the MMC requires.

When the MMC is making its report, under S79 (3) (above), it must have regard to the need for excluding, any matter which relates to the private affairs of an individual where publication might seriously and prejudicially effect his interests. Similar provisions pertain to Companies and other bodies. The report must then be laid before each House of Parliament and must be published in such a manner as appears to the Minister or Ministers to be appropriate. So far as the law of defamation is concerned absolute privilege attaches to the report.

There are no order making powers which may be exercised when a "restrictive labour practice" is identified and the Act is impotent in dealing with the same, save that such reported practices will be open to public scrutiny.

In any event, to date, there have been no references and in consequence no "examinations" by the MMC.

CONCLUSION

The Green Paper "Monopolies and Mergers Policy" (1978) recommended a study should be carried out "To consider problems relating to the existing powers to refer restrictive labour practices to the MMC". The Green paper, "Trade Unions Immunities" (1981), in mooted a different but related problem of the unreasonable operation of the closed shop, discussed the suggestion that a new statutory right might be created to protect employees and applicants from "unreasonable operations." It was recognised however that such a right would be "ill defined" and uncertain in effect and would thrust industrial tribunals into a difficult area of deciding what was reasonable to include or exclude from agreements and "how such agreements should be operated."

We have seen, from our survey of the legislation operating in the goods market, that monopolies, restrictive trade practices and other "anti-competitive practices" are governed and regulated in accordance with, and against the yardstick of, "the public interest". Only when such "practices" pass the public interest test (as statutorily defined under the relevant Acts) are they permitted to

operate. We see no good reason why the above policy, in relation to the "goods market", should not be extended to operate in the labour market. This might be accomplished by the vigorous application of section 79; preferably amended to include power to make orders rectifying "restrictive labour practices." Such orders would be appropriate in dealing with restrictive labour practices in "the closed shop", (in addition, or as an alternative, to present and future employment legislation), and more especially the "pre-entry closed shop". Restrictive labour practices would only be permitted to continue, and the order making powers would not be invoked, if such practices were not adverse to the public interest.

We are of the opinion, however, that a more acceptable and efficacious method of investigating "Labour Monopolies" is by instituting an autonomous "Labour Monopolies Commission" (LMC). The LMC would operate independently of the Fair Trading Act 1973; (and the machinery and procedure thereunder), thus obviating, in this sensitive area, the possible charge of political bias.

However, our preferred framework, proposed, for instituting an independent LMC, the scope of its powers, functions and enforcement procedure, is expounded in the Report.

ANNEX E

NOTES ON THE EUROPEAN TAX - TRANSFER SYSTEM

- 1) Belgium
- 2) France
- 3) Germany
- 4) Italy

THE BELGIAN TAX TRANSFER SYSTEM

The Concept of Taxable Income

Impôt des personnes physiques is levied on the world-wide income of resident individuals, subject to the relevant Double Taxation Arrangements.

There is in effect a "schedular" type system whereupon income from the various sources are aggregated to arrive at total chargeable income. Confining our attention to Employment Income only the following points need be noted:- if no statement of actual expenses is produced, there is a standard deduction of up to 75,000 BF. The flat rate deduction being 20% of the income up to 150,000 BF; 10% of the income from 150,000 to 300,000; and 5% of that portion exceeding 300,000 up to the maximum. There is relief (up to certain limits) for pension and superannuation contributions, including Social Security payments. Reimbursement of travelling to and from work (max 5,000 BF). It should be noted that wages, salaries and other emoluments are paid under deduction at source - the amount so withheld is fully credited against final liability.

As indicated in our analysis of the UK tax system the treatment of dependents and housing costs is particularly important, so most of our attentions are confined to these areas.

Allowances for dependents are calculated as percentages of the tax up to fixed limits; as such the tax relief is considered in the notes on Tax Liability, rather than Tax Relief in determining taxable income.

Mortgage interest payments in connection with the acquisition or construction of a dwelling place may in certain circumstances be allowed.

Social Security Income and Contributions

Certain social security benefits (including allowances for children) are exempt from income tax. Details of the taxation of benefits are considered later.

Both employers and employees pay Social Security contributions, and two points are particularly worth noting, firstly that payments by the employer can amount to as much as 45% of the payroll cost for wage earners; and secondly payments by employees are (within limits) allowable deductions for tax purposes - being calculated on gross wages, but ceilings which vary with the cost of living.

Local Taxes

Apart from the Municipal Surcharge (taxe communale additionnelle a l'impôt de personnes physiques) which may not exceed 6% of the resident individual income tax - there are no other major local taxes on income.

Tax Rates and Liability

Although the top marginal rate is 72.00% payable on taxable income in excess of BF 4 million - there is a ceiling so that the effective tax burden cannot exceed 67.5% of taxable income.

Let us now consider the domestic rates in more detail.

No tax is payable on net income less than 100,000 BF.

For net taxable incomes up to 750,000 BF the tax tables in force from 21st January, 1981 are used. However, it should be noted that when the family's earned income does not exceed 1,050,000 BF for the year 1982 only 80% of the occupational income is taken into account for the determination of the tax rate (splitting system) provided this system is more favourable to the taxpayer.

As mentioned earlier, there are reductions for dependents based on the tax itself as follows:-

- 1 - for taxpayers with a dependent wife: BF 4.618;
- 2 - for those with one dependent child: 5 p.c. plus BF 500 with a minimum of BF 2,809 and a maximum of BF 5,118;
- 3 - for those with 2 dependent children: 15 p.c. plus BF 1,250 with a minimum of BF 8,177 and a maximum of BF 15,104;
- 4 - for those with 3 dependent children: 25 p.c. plus BF 2,250, with a minimum of BF 16,337 and a maximum of BF 30,424;
- 5 - for those with 4 dependent children: 45 p.c. plus BF 3,500, with a maximum of BF 32,772 and a maximum of BF 62,043;
- 6 - for those with 5 dependent children: 65 p.c. plus BF 4,7500, with a minimum of BF 52,804 and a maximum of BF 100,859;
- 7 - for those with 6 dependent children: 90 p.c. plus BF 6,000, with a minimum of BF 76,894 and a maximum of BF 147,788.

Unemployment Benefit

This is paid at a fixed percentage (60%) of previous average gross earnings to those who have been in full-time employment and are capable of, available and registered for work, and must not have refused suitable employment. Unemployment

must not have been due to voluntary leaving, misconduct or strike action.

The 60% of previous average gross earnings (GY) may be received indefinitely by heads of families, those who have worked for at least twenty years and those with a "33% incapacity for work". From January 1981, all other claimants have their benefit reduced to 40% of GY after one year.

The above is subject to both a minimum (600 BF a day) and a maximum (786 BF a day) for heads of households.

Family allowances are paid in addition to unemployment benefit.

There is a public assistance scheme for low income earners which is available on a local basis. Claims vary from case to case - payments are dependent on individual needs and the system is thought to be of minor significance.

There does not seem to be any benefits related to income - housing subsidies or free school meals, for example.

Unemployment benefit is not taxable.

THE FRENCH TAX TRANSFER SYSTEM

The Concept of Taxable Income

Impôt sur le revenu des personnes physiques is levied on the total (global) aggregated schedular income as described earlier, in relation to Belgium.

As regards employment income the following points may be noted:-

Leaving aside the deduction supplémentaire which applies to only certain trades, there is a deduction normale of 10% given in respect of the expenses of employment, unless the taxpayer can substantiate higher expenses - this deduction is limited to 40,000 Fr.

Secondly, there is an earned income relief of 20% (abattement special applicable au montant net des traitements et salaires) on salaries up to 360,000 Fr.

It should be noted that earned income relief is given after the deduction normale, hence the tax applies to a maximum of 72% of earnings.

In addition other deductions include pension, superannuation and Social Security contributions.

Having computed taxable earnings in this way there are a number of allowances which may be claimed.

Housing costs are allowed in the case of owner occupiers in much the same way as for Belgium; so too the tax treatment of dependents is calculated on an Income-splitting basis, as we shall see shortly.

Social Security Income and Contributions

Certain social security benefits, family and maternity allowances are exempt from income tax.

Both employees and employers pay Social Security contributions, employee 12.9%; employer 41% in 1981.

Relatives are taxed at the rate of 55% (limited to the fourth degree of family relationship) on excess over \$2,360.

Beneficiaries (related or not) who are unable to work receive a special exemption of \$47,280, which cannot be added to the other exemptions.

Non-relatives are taxed at a flat rate of 60% on excess over \$2,360.

Tax Rates and Income-Splitting

The rates of tax range from (minimum 5%, maximum 60%). For married taxpayers and those with dependents relief from tax is not given by way of relief, but by means of the income-splitting (quotient familial) system. Here the income of the family is divided into a number of parts according to the number of dependents. The tax attributable to each part is calculated and then multiplied by the total number of parts

to give the total tax payable. The number of parts into which income is divided is given by the application of the following co-efficients:

<u>Size of Family Unit</u>	<u>Number of Parts (Co-efficients)</u>
Single person (no dependents)	1
Married couple (no dependents)	2
Married with one dependent	2½
Each additional dependent child	½

The tax as computed in this way is then subjected to certain reductions (reductions) and surcharges (majorations) and marginal relief is available for those on small incomes.

Unemployment Benefit

This is available to those who are available and registered for, and capable of work and free from disqualification.

There are three types of benefit: (i) special unemployment benefit; (ii) basic unemployment benefit; and (iii) end of entitlement benefit.

(i) Special Unemployment Benefit

This is granted to those made redundant for economic reasons before the age of 60. Rates are as follows. Q denotes quarter. GY = insurable earnings

25F per day + Q1 65% GY	<u>OR</u>	Q1 75% GY
Q2 60% GY		Q2 70% GY
Q3 55% GY		Q3 65% GY
Q4 50% GY		Q4 60% GY

whichever is the more beneficial, also subject to the minimum benefit, firstly 25F + 70% of minimum wage (SMIC) or as in the second case 90% of minimum wage/SMIC, again whichever is the more beneficial.

The maximum benefit allowed is 90% of insurable earnings.

Special unemployment benefit may be claimed for 365 days (426 days if aged 50-54, 547 days for those aged over 55).

Thereafter move onto basic unemployment benefit.

(ii) Basic Unemployment Benefit

The amount payable here is 25F + 42% of insurable earnings per day, subject to the minimum 57F per day and maximum 90% of insurable earnings. For those aged under 50 this benefit may be claimed for 365 days; 50-55 year olds for 791 days; and 912 days for those over 55.

Once this benefit is exhausted, end of entitlement benefit is claimed.

(iii) End of Entitlement Benefit

This is 25F per day. Those aged over 50 may claim this for 274 days; 50-54 year olds for 365 days; and those over 55, 465 days.

Family allowances are paid in addition to all the above benefits.

Public aid is available on a local basis but there are no tied subsidies to income levels and as in Belgium, the system seems to be of negligible importance.

Unemployment benefit is taxable but at this stage we do not have details of how the system operates.

THE GERMAN TAX TRANSFER SYSTEM

Here taxable income is income from all sources except sources of income which include, inter alia, (i) compulsory Social Security payments made by employer up to certain limits; (ii) removal, travelling and other expenses subject to ceiling; and (iii) payments by the employer.

Husband and wife may elect to submit a joint return in which case the tax is calculated at twice the amount payable in half the joint income.

Allowable Deductions

In computing taxable income the following are allowable -

1. church taxes; 2. health, accident and employment insurance;
3. an earned income relief of 2,214 DM; and 4. Social Security contributions paid by employees.

This is 9.25% of employees' gross earnings up to a maximum of 52,800 DM + 1.5% unemployment insurance.

— Manual workers and other employees earning less than 39,600 DM pay health insurance premiums at between 11 to 16.4%.

Child Benefits

Upon application, a monthly cash allowance of 50 DM for the first child, 100 DM for second and 220 DM for each child is payable. This being tax free. It is not included in the total income computation.

Tax Rates and Liability

Tax is levied at progressive rates commencing at 22% and increasing to about 56%. It should be noted that the majority of religious groups pay Church tax imposed by the States at rates of between 8 and 9% of the individual's tax liability. But the amount of Church tax so paid is then allowed in finalising the individuals personal tax liability to the Government.

Unemployment Allowance (Arbeitslosengeld)

This is available to those available and capable for work and who have not refused suitable employment. Unemployment must not be due to voluntary leaving or misconduct. Claimants must have had at least six months insured work during the last three years.

The amount paid is 68% of wages after legal deductions subject to maximum wage of 980 DM (1980). Family allowances are payable in addition.

Arbeitslosengeld is payable for between 78 and 312 days according to employment record. Once this benefit is exhausted the unemployed receive unemployment assistance.

Unemployment Assistance (Arbeitslosenhilfe)

This is 58% of wages after legal deductions. The amount being payable for an unlimited period. Again family allowances are payable in addition.

Social Assistance (Sozialhilfe)

This is available in Germany. It also seems to be the closest equivalent of the supplementary benefits scheme (in the UK), to be found on the Continent. Payments from the scheme are discretionary and on a local basis and therefore there are no national indices.

Housing Allowances (Wohngeld)

These are available to low income families. Here low cost 'social' housing is built and families in such dwellings receive a housing allowance. This is available whether the bread winner is employed or unemployed. Amounts paid vary according to individual needs.

Unemployment and other associated benefits are not taxable.

At this stage we do not have details concerning other benefits such as free school meals or other "passports".

THE ITALIAN TAX TRANSFER SYSTEM

Income from all sources is liable to income tax, IRPEF, after the following allowable deductions:- interest on mortgage loans up to 4m L capital amount; Social Security and welfare contributions (the employees contributions being 7.8% of gross salary); and a flat rate deduction of 25% of employment income.

In addition, personal allowances are made directly against IRPEF rather than against taxable income. An allowance of 36,000 L is granted to each taxpayer, with a further deduction of 228,000 L for employees.

For resident individuals, a further allowance of up to 168,000 L.

Tax Rates

IRPEF is charged at progressive rates ranging from 10% on taxable income of 3m L rising to 72% on incomes exceeding 550m L.

Family allowances are not liable for tax.

Unemployment Benefit

Here there are two types of unemployment compensation, special and normal unemployment benefit.

Special Unemployment Benefit

This scheme started in 1968 and is paid to industrial workers who lose their jobs through redundancy or their firm closing

down. The rate of benefit is $\frac{2}{3}$ of basic wages net of tax and Social Security contributions and is available for six months, thereafter reviewed every three months. In practice such benefit may be claimed indefinitely. Family allowances are payable also.

Normal Unemployment Benefit

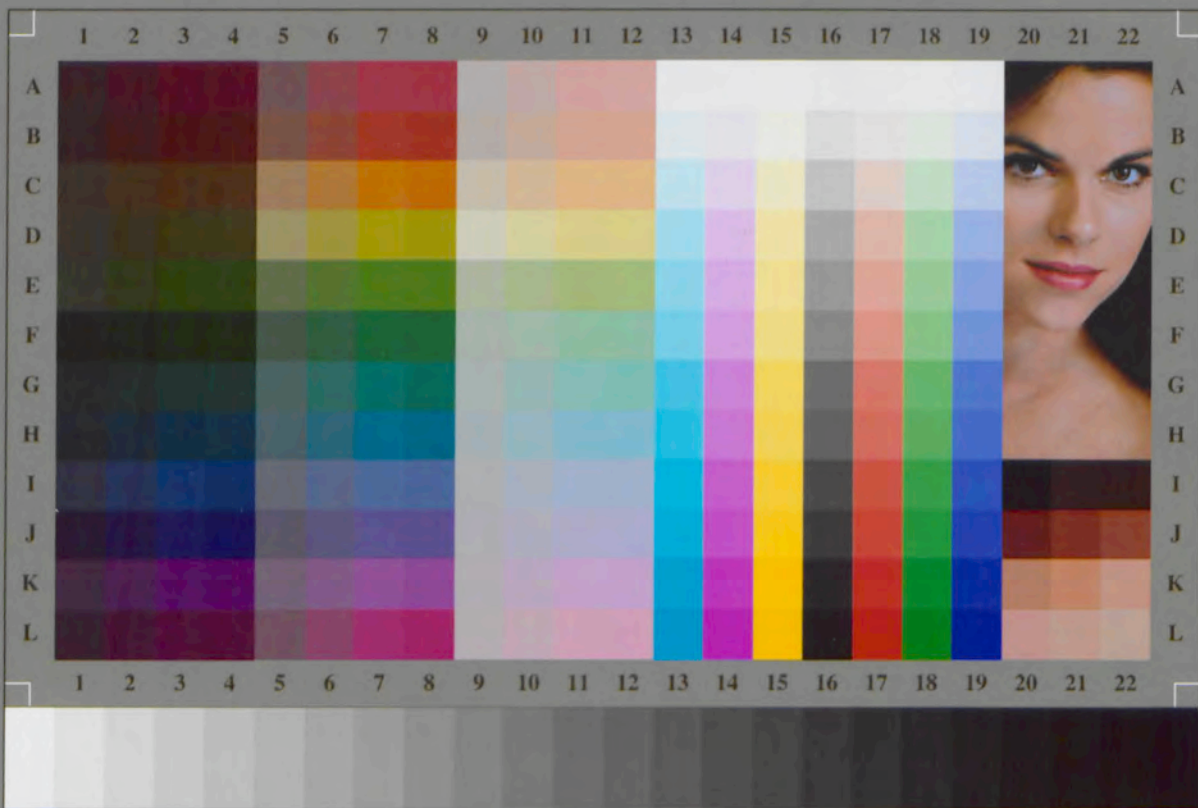
This is payable to those not entitled to special unemployment benefit. It may be claimed indefinitely but (at less than 40p per day) it may be ignored for all the unemployed, in general, are entitled to special unemployment benefit.

Social Aid

This is available on a local basis. Again it is of a discretionary basis and like the other countries it seems of little importance.

As yet we have no details of "passported" benefits such as free school meals or rent subsidies.

Unemployment benefit is not taxable.



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