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A Study of Replacement Ratios Among a Sample of Unemployed Workers†

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Abstract: This study reports the findings of an examination of the actual benefits to earnings (replacement) ratio experience among a sample of unemployed workers. Previous Irish studies in this area have been at the macro-economic level and have estimated hypothetical replacement ratios for various categories of unemployed workers, based on an individual's dependency status and an assumed level of pre-unemployment earnings. This study points to a marked correlation between the actual replacement ratios calculated for the sample and the hypothetical values in the earlier studies. Some of the policy implications of the findings are discussed.

I INTRODUCTION

There is a growing literature on the work incentive effects of unemployment and similar insurance schemes. Much of the empirical work on this topic revolves around the impact of the ratio of unemployment benefits (UB) to net income from employment (usually referred to as the replacement ratio, R) on the duration of unemployment. In most studies R is not directly observed but rather calculated on the basis of information of an individual's status and hypothetical entitlement to benefits relative to assumed levels of earnings. The two published Irish studies are at the macro-economic level and utilise a time-series for R constructed as a weighted average of the hypothetical Rs for various categories of unemployed workers (Walsh, 1978;

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Hughes, 1981). Dowling (1977) calculates effective tax rates defined as the ratio of benefits plus income taxes to gross income in the same hypothetical manner.

The calculations performed on Irish data using this methodology reveal high values of R (or high effective tax rates) for most categories of the unemployed. The work disincentive effects are then explored using these hypothetical Rs in regression analyses. These studies are open to the objection, however, that actual UB paid may be considerably lower than the maxima specified in official publications of the Department of Social Welfare. Atkinson and Flemming (1978) have been particularly critical of UK studies that rely heavily on hypothetical Rs to support the claim that "a hypothetical calculation of the replacement ratio for a supposedly typical case may provide little guide to the actual levels of income of the people actually unemployed" (p. 8). If this claim is accepted, it undermines much of the material that has been advanced as evidence of insurance-induced unemployment.

This paper reports the results of a survey of a random sample of the registered unemployed in one Labour Exchange, designed to collect data that facilitated the calculation of *actual* Rs. It will be seen that the actual Rs calculated in this manner tend to confirm the hypothetical replacement ratio calculations in the manner that has been used in previous studies. These findings suggest that Atkinson and Flemming's criticism is not relevant to the Irish data.

In Section II, hypothetical replacement ratios for the Irish labour force are examined and the problems involved in attempting to derive a single R as being representative of the actual Rs facing the unemployed are discussed. In Section III, measures of the actual replacement ratios facing a sample of unemployed workers are presented, and the average R derived is compared with hypothetical Rs used in previous time-series studies. Finally, in Section IV, there is a brief discussion of the policy implications of the study's findings.

II HYPOTHETICAL REPLACEMENT RATIOS

In Table 1, the 1981 distribution of unemployed persons (the Live Register) by unemployment scheme and family circumstances is set out. It should be noted from the table that only a little over one-third of those in receipt of UB also qualify for the additional pay-related benefit (PRB). This might suggest that a large proportion of those in receipt of UB had previously worked on a part-time basis, working sufficient hours to ensure receipt of the necessary social welfare "stamp", but whose total earnings in the relevant tax year would not have exceeded the £1,250 minimum necessary for the receipt of PRB.

Table 1: *1981 (average) Live Register distribution per unemployment insurance scheme and dependency status*

Unemployment Benefit only	*Percentage of total*
Single Male	12
Single Female	4.5
Adult Dependent only	7
Dependent Children	11.5
Unemployment and Pay-Related Benefit	
Single Male	8
Single Female	3
Adult Dependent only	4
Dependent Children	5
Total UB	55
Unemployment Assistance	
Single Male	19
Single Female	3
Adult Dependent only	9
Dependent Children	14
Total UA	45

Source: Central Statistics Office – Monthly Return of Live Register Statistics.

Table 2 calculates hypothetical Rs for four different categories of claimant. In calculating the various benefits to earnings ratios, cognisance is taken of the revised PRSI contributions together with the 1 per cent Youth Employment Levy announced by the Minister for Social Welfare in March, 1982, along with the revised tax rates and personal allowances (including children's allowances) announced in April 1982. Increases in the levels of unemployment benefit (UB) and unemployment assistance (UA) at that date are also taken into account.

The table assumes that the individual meets all requirements for the receipt of the maximum benefits available in each particular instance. The various weekly durations outlined in the table reflect changing levels of PRB with the 67th week indicating the individual's transfer to UA. Where appropriate, payments of PRB are reduced (or cut out altogether) to ensure the preservation of the statutory 85 per cent ceiling on the benefits to earnings ratio. However, in no case is the flat-rate benefit reduced because of the application of this rule.

The majority of the replacement ratios are very high. However, some qualifications of the data are necessary. First, the table has assumed, as stated, full entitlement of the receipient to the maximum rates available of both flat-rate and pay-related benefit. In Table 1, however, we have seen that a little over one-third of the claimants for UB qualify for the additional

Table 2: *Hypothetical replacement ratios by earnings levels, family type and unemployment duration: April, 1982*

Family type	*Duration (weeks)*	*Weekly gross earnings while at work (£)*									
		50	*60*	*70*	*80*	*90*	*100*	*110*	*120*	*130*	*140*
		Per cent									
Single Person	3 – 27	85	85	85	85	85	85	85	85	85	85
	28 – 40	85	85	82	79	77	75	74	73	72	72
	41 – 53	85	81	77	75	73	70	68	67	66	65
	54 – 66	85	77	71	70	67	64	62	61	60	59
	67	58	51	45	41	38	35	32	30	29	27
Claimant with Dependent Wife	3 – 27	113	94	85	85	85	85	85	85	85	85
	28 – 40	113	94	85	85	85	85	85	85	85	83
	41 – 53	113	94	85	85	85	85	83	81	79	77
	54 – 66	113	94	85	85	85	81	78	76	73	71
	67	98	81	70	62	57	53	50	47	44	42
Couple with one Child	3 – 27	129	107	92	85	85	85	85	85	85	85
	28 – 40	129	107	92	85	85	85	85	85	85	83
	41 – 53	129	107	92	85	85	85	85	85	85	77
	54 – 66	129	107	92	85	85	85	84	83	80	72
	67	112	93	80	71	65	60	56	53	50	42
Couple with four Children	3 – 27	177	148	127	111	101	93	88	85	85	85
	28 – 40	177	148	127	111	101	93	88	84	85	85
	41 – 53	177	148	127	111	101	93	88	85	85	85
	54 – 66	177	148	127	111	101	93	88	85	85	85
	67	153	128	109	96	87	81	76	71	67	64

Note: For the purposes of calculation, pay-related benefit was based on income in the tax year 1980/81 (the relevant tax year for persons claiming unemployment benefit in 1982) with gross earnings for 1982 reduced by 15 per cent to arrive at a comparable figure for 1981, as required.

PRB. Furthermore, although the average industrial wage in 1981 was about £115, the table places equal likelihood on the occurrence of all possible wage levels between £50-£140. Finally, we have seen that as few as 16 per cent of the unemployed population drawing UB are in the category of "married man with dependent children" (of which only one-third receive PRB). Accordingly, the last two rows of Table 2 should not be awarded greater significance than their weighting in the distribution of the Live Register would merit.

The lesson to be drawn from both Tables 1 and 2, therefore, is that a hypothetical calculation of the R value for a supposedly typical case may provide little insight into the real-life situation of the unemployed. A better

attempt at an evaluation of more realistic replacement ratios would be to combine, broadly speaking, the information supplied in both tables and, by using weights based on the given distribution of the Live Register, arrive at a single, average replacement ratio for the unemployed as a whole. Such an attempt was made by Walsh (1978) who evaluated a single R index for the period 1954-75. The table has been updated, using similar calculations, by Hughes (1981).

These hypothetical Rs have, as noted, been criticised by Atkinson and Flemming as being possibly unrepresentative of the actual Rs facing the unemployed. They also suffer from the defect of taking no account of tax rebates or means-tested Local Authority rents. Under our present system of Pay-As-You-Earn (PAYE) income taxation, an individual who loses his job during the tax year will, in all probability, be entitled to a refund of withheld tax. Secondly, in estimating the various replacement ratios, no account is taken of the effect of unemployment on the rents payable by tenants of Local Authority housing stock under the national differential rents scheme. About one-third of the urban population, and probably a much higher proportion of the unemployed, live in dwellings provided under this scheme. Given the operation of the scheme (the tenant's rent is calculated as a proportion of his assessable income from all sources), the reduction in income in going from employment to unemployment is accompanied by a reduction in the individual's liability for differential rent.

Another factor, hitherto ignored in the calculation of post-unemployment income, is the lump-sum payment available to many unemployed workers under the Redundancy Payments Scheme. The proportion of the unemployed who qualify for payments under this scheme has been growing consistently since the inception of the scheme in 1968. The entitlement to weekly redundancy payments ended in 1979, but spreading the value of the lump-sum payment over a 52 week period would serve to raise the benefits to earnings ratio of the individual. Of course, any calculation of an individual's replacement ratio ignores the possibility that an unemployed person can supplement his UB or UA with income from odd jobs, "nixers", etc. Given that to admit receiving additional income from such sources would automatically disqualify the individual from receiving any further social welfare payments, any attempt to allow for this variable in a study of Irish replacement ratios, no matter how comprehensive the approach, would be doomed to failure. The possibility of this supplementary income for the unemployed should, however, be kept in mind.[1]

1. The suggestion that the unemployed can supplement their income by doing "nixers" is not supported by any evidence that they do so. Investigations of alleged abuses by the Fisher Committee in the UK (HMSO (1973)), and by independent researchers (see Tipping (1982)) indicate that the level of abuse is statistically fairly low.

Finally, a somewhat arbitrary adjustment could be made to take account of the individual's job-related expenses, particularly with regard to transportation costs to and from work, which would, of course, cease with unemployment. In addition, children's allowances could be included in both the calculations of pre-unemployment and post-unemployment "income". These allowances are paid to those with dependent children regardless of their labour force status or income.[2] An examination of the replacement ratios of the Irish unemployed, taking all of these additional factors into account, would surely give a more realistic basis for any effort to evaluate job-disincentives amongst the unemployed. There is, therefore, an obvious need to explore *actual* Rs, defined to take account of the widest possible range of relevant considerations, and to compare these with the hypothetical Rs presented in Table 2.

III ACTUAL REPLACEMENT RATIOS

A random sample of 224 individuals in receipt of either flat-rate unemployment benefit, flat-rate benefit plus pay-related, or unemployment assistance was taken from the register of unemployed persons in the Dun Laoghaire Employment Exchange for the week ending 10th April, 1982. The sample was stratified in accordance with the distribution of the Live Register in 1981 to ensure that such a sample would be representative of the national distribution of the unemployed. The Employment Exchange itself was considered sufficiently representative, with its own register of approximately 3,000 unemployed including claimants from such areas as Ballybrack, Shankill, Sallynoggin and Dun Laoghaire itself. In addition, a random sample of 25 short-time workers on the Exchange Register was also taken. Of course, it is important to emphasise that any conclusions drawn from a study of this sample must have regard to the necessarily restricted nature of the sample. Apart from its size, the sample related to the Greater Dublin Area only. Nevertheless, it is considered that the sample is sufficiently stratified and representative to give a good general picture of the situation and to enable reasonable conclusions to be drawn.

For each individual sampled, the disposable income before and after unemployment was calculated on the basis set out in Appendix A. To arrive at net disposable income when fully employed, the weekly value of children's allowances (where payable) was added to gross weekly earnings and the appropriate deductions made for social welfare contributions, income

2. Although Walsh (1978) excludes children's allowances from his R calculations on the grounds that "this payment is not directly relevant to the work/leisure price", they are included here to ensure completeness in the calculations of both pre- and post-unemployment income from all sources.

taxation, housing costs (rent/mortgage) and estimated job expenses. Net disposable income when unemployed was arrived at by adding children's allowances (where payable) to the individual's entitlement to UB and PRB (if applicable), or UA, as supplied by the Employment Exchange, together with the weekly value of tax-rebates or lump-sum redundancy payments (again, if applicable) and making the appropriate deductions for housing and travel costs. Some of the assumptions used in arriving at the required replacement ratios for the sample are set out, in some detail, in Appendix B. The main results of the analysis are summarised in Table 3.

The evidence from the sample suggests that, on average, an unemployed person with dependants suffers only a slight drop in disposable income during the first 15 months of unemployment compared with his situation while at work; excluding short-time workers, 14 (or 6 per cent) of those sampled were found to be literally "better off on the dole". During this period the individual may, of course, have the opportunity of raising his disposable income above that of his previous employment through odd jobs, "nixers" etc. After his period of UB has been exhausted, the individual may then receive an inexhaustible supply of UA at a level close to two-thirds of his pre-unemployment income, with, of course, the same options for "malingering" remaining. The R value for the single person, while not so high in the long run, is considerable in the short term, with four-fifths of pre-unemployment income available in benefits to the single female, and slightly less for

Table 3: *Analysis of sample survey*

Fully unemployed person	*R*	*Range of R*	*Weights*	*R (Weighted average)*
	Per cent	*Per cent*		*Per cent*
UB Single Male	77.5	59 – 93	.20	
UB Single Female	81	54 – 99	.075	
UA Single Male	41.5	31 – 53	.19	
UA Single Female	45.5	28 – 67	.03	71
UB Married Man	94	72 – 115	.275	
UA Married Man	62	49 – 92	.23	
Short-time Worker	121	98 – 135		

Note: Although the sample was stratified in accordance with the known distribution of the unemployed labour force, lack of information on duration of unemployment prevented any further stratification within the given categories. Hence, it could be argued that the sample chosen for those in receipt of UB and PRB may overrepresent the true proportion of short-duration categories of unemployed workers. With short-duration categories in receipt of higher levels of PRB, the implication is that the derived Rs for these categories of UB and PRB may be biased upwards. Given the weighting of recipients of PRB in the sample, however, such a bias, if it exists at all, is probably very slight.

the single male. In the long run, however, UA amounts to a little over two-fifths of the single person's pre-unemployment income.

Using weights in accordance with the data supplied in Table 1, the sample estimates an average replacement ratio for the Irish unemployed labour force of 71 per cent. This *actual* average R can now be compared with an average *hypothetical* replacement ratio which can be estimated from the information given in Table 2. Average weekly earnings in 1981 were £113.69,[3] so the most appropriate comparison with the hypothetical ratios is for gross earnings of £110 per week. Hence, using the weights given in Table 3, and applying these to the data in Table 2 for a single person and a married person with four children, weighted average hypothetical replacement ratios of 72 per cent and 66 per cent are calculated for the periods 3-27 weeks' and 54-66 weeks' duration on UB respectively. The hypothetical figure for the duration category 3-27 weeks is almost identical with, and that of the duration category 54-66 weeks is only slightly less than, the actual R for all durations. The empirical studies of Walsh (1978) and Hughes (1981) derived weighted Rs by using the average industrial wage for males and females and assuming that unemployment had lasted from 3-27 weeks. Their approach, therefore, gives hypothetical Rs that are highly correlated with the actual Rs.

The size of the replacement ratio estimated from the sample for short-time workers points to an obvious anomaly. A worker must be unemployed for at least three days out of six in order to be entitled to UB. A worker on a three-day short-time working week would accordingly qualify, although a worker on a four-day short-time week would not. Hence, the three-day short-time worker is in receipt of net pay for his three day working week plus the daily value of unemployment and possibly pay-related benefit to which his status entitles him. A benefit limit is imposed by the Department of Social Welfare in an effort to stifle this financial bonanza for the short-time worker, the proviso being that the combined total of gross wages, flat-rate benefit, and pay-related benefit may not exceed an individual's reckonable weekly earnings while in full employment. However, as before, in no circumstances will the flat-rate benefit be reduced because of the application of the benefit limit. Hence the average replacement ratio of 121 per cent for short-time workers in Table 3.[4]

3. As given by Table 15 of the *Economic Review and Outlook*, Summer, 1982.

4. One of the provisions of the plan of the recent Fianna Fail government, *The Way Forward* (Stationery Office, 1982, Pl. 1061) was to limit the amount of unemployment benefit payable to short-term workers "to ensure that it will be related to a five day working week, and pay-related benefit for those workers will be withheld." Applying this method of payment to the short-time workers in the sample would result in an average replacement ratio for this category of 97 per cent, a considerable improvement from a work disincentive point of view, on the present situation facing the short-time worker.

In assessing the implications of the average disposable income available during unemployment compared with disposable income while at work, it may be useful to consider the composition of the post-unemployment disposable income for various categories of claimants, as is set out in Table 4. The table shows that the inclusion of both the tax rebate and redundancy payment (where applicable) in the calculations has a small but none the less significant effect on the level of the individual's replacement ratio. In the main, however, the actual magnitude of the social welfare payment to the recipient is, in itself, *the* determinant of the individual's R value following unemployment.

Finally, in Table 5 we examine the composition of the average disposable income of short-time workers as a percentage of their disposable income when in full employment. In 22 out of 25 cases examined, PRB was not paid to

Table 4: *Components of sample replacement ratios*

	Value of Individual Components of R
	Per cent
UB Married Man	
Unemployment and Pay-Related Benefit	97
Children's Allowances	4
Tax Rebate/Redundancy Payment	4.5
Housing Costs	-10.5
Other costs	-1
Total	94
UA Married Man	
Unemployment Assistance	64
Children's Allowances	6
Housing Costs	-7
Other Costs	-1
Total	62
UB Single Man	
Unemployment and Pay-Related Benefit	75
Children's Allowances	—
Tax Rebate/Redundancy Payment	8
Housing Costs	-4.5
Other Costs	-1
Total	77.5

Note: The individual components of post-employment income are shown as percentages of the individual's net weekly disposable income prior to unemployment. For expositional purposes, housing and other costs are shown as negative percentages in the table to facilitate the calculation of the overall average R in each category.

Table 5: *Composition of replacement ratio for short-time worker*

Short-time worker	*Value of individual components of R*
	Per cent
Gross Wage	93
Unemployment and Pay-related Benefit	62
Children's Allowances	4
Tax Rebate	1
Social Welfare Contributions	-7
Income Tax	-9
Housing Costs	-17
Other Costs	-6
Total	121

the individual concerned in accordance with the benefit rule outlined earlier. Yet the value of the flat-rate unemployment benefit was, on average, almost 60 per cent of the individual's previous disposable income (as derived from Appendix A) when in full-time employment. This figure and that of the gross wage component of R of 93 per cent following the switch to a three-day working week, are the main reasons for the rather exhorbitant (according to the sample) average replacement ratio of 121 per cent facing the short-time worker in Ireland today.

IV IMPLICATIONS FOR POLICY

How impressive one finds the arguments against the notion of unemployment insurance (UI) either inducing, or, at least, prolonging unemployment is probably highly correlated with one's attitudes towards a wide range of socio-economic policy issues. However, empirical evidence is far more important than dogma, and, from an examination of the available studies, the evidence would seem to suggest that current unemployment insurance schemes tend to increase both the rate and duration of unemployment. However, the exact order of magnitude of these induced unemployment effects are difficult to establish with any degree of precision. Furthermore, even if it is felt that the inducement effects of a particular UI scheme are significant, the ensuing social costs must be weighted against such social benefits as income redistribution, etc., before any decision is taken to alter the scheme.

Since any proposals to reduce the induced unemployment effects could impose hardships on some of the unemployed, the total impact of such

changes on overall social welfare could be negative. Clearly, one way of reducing job disincentives amongst the unemployed without producing a harmful, overall negative effect, would be to make unemployment benefits reckonable for tax purposes. This is a matter that has been the focus of much public debate in Ireland in recent years, with the government's decision to tax short-term social welfare benefits in its ill-fated Budget of February, 1982 being followed by a statement by the subsequent Minister for Finance, in his Budget speech, that "such a tax would impose an unfair burden on many who are unfortunate enough to be made redundant".

In Table 6, the effect of imposing regular taxation rates on the range of benefits received by the sample population is examined, having regard, of course, to the respective entitlements to tax free allowances for the various classes of claimants. As can be seen from a comparison with Table 3, the effect of imposing normal taxation on the various social welfare payments had, for example, no effect whatsoever on the R value of those in sole receipt of UA, the levels of assistance never exceeding the various tax-free allowances in each particular case. Such a result would be socially favourable, given the general characteristics and social standing of those in receipt of UA. The effect on the various unemployment benefit categories, although to all appearances negligible, was quite considerable in some cases sampled, particularly in the "married and on UB" category, with some reductions in R of up to 12 per cent; but, on the whole, only served to reflect the relatively low levels of income (irrespective of their employment incomes) being received by the unemployed.[5] A significant reduction in R for short-time

Table 6: *Effect of tax imposition on sample replacement ratio*

Fully Employed Person	*R*	*Weights*	*R as Weighted Average*
	Per cent		*Per cent*
UB Single Male	75.5	.20	
UB Single Female	76	.075	
UA Single Male	41.5	.19	
UA Single Female	45.5	.03	69
UB Married Man	89	.275	
UA Married Man	62	.23	
Short-time Workers	103		

5. The weighted average pre-unemployment earnings of the sample as a whole was £81.56, compared with average weekly earnings for the labour force of £113.69 in 1981. This supports the view that those in the labour force with the highest propensity to becoming unemployed would be involved in low-skilled areas of the work force in receipt of earnings well below that of the average industrial wage.

workers, however, (from 121 per cent to 103 per cent) was recorded, suggesting, perhaps, that applying a system of taxation on short-term social welfare payments would, far from "imposing an unfair burden" on recipients, rather serve as an insurance device for the scheme against the incidence of obviously anomalous cases arising, thereby reducing the possibility of job disincentive effects occurring within the system. Including unemployment benefits in taxable income would reduce these adverse incentives and direct a large share of the total net benefits to families with lower incomes. The yield to the Exchequer of such an arrangement (the February, 1982 Budget estimated a yield of £10.5 million for the 1982 tax year) could be used very profitably, and with full support, to raise the levels of assistance payments to the longer-term unemployed.

Such a progressive operation, no matter how restricted its effect, would be far more acceptable as a proposal towards reducing job disincentives in this country than a direct attack on the implied subsidy to non-employment for the unemployed person through either indiscriminately reducing the average benefit payment or reducing the duration of benefit entitlement. Cuts in social welfare payments to the unemployed would necessarily involve hardship for some groups, chiefly the long-term unemployed. The problem with unemployment insurance in Ireland, particularly with the advent of pay-related benefit in 1974, is that the system is regressive in nature with perhaps not a sufficient level of payments available for those who really need it, and too much for those who probably do not.

V CONCLUSION

This study has examined the actual replacement ratio experience of a small, albeit representative, section of the Irish unemployed workforce. The values of R described for the sample may be considered high, but whether or not these values, of themselves, constitute serious job disincentives for the unemployed is a matter for further research. Furthermore, since the recent changes in our taxation system together with an across-the-board increase of 25 per cent in all social welfare payments has reinforced the upward trend in the ratio of income of the unemployed relative to the employed, such research on this topic is badly needed.

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APPENDIX A

ILLUSTRATION OF THE METHOD OF CALCULATION OF SAMPLE REPLACEMENT RATIOS

Name –

Address –

Revenue and Social Insurance No. (R.S.I. No.) –

Sex Male *Age* 33

Marital status Married

Number of children 4

Employer –

Occupation Forklift driver

Fully employed	£
Normal weekly wages (gross)	132.30
+ Children's allowances	8.25
+ Other additions (if any)	–
– PRSI	6.28
– Income tax	18.16
– Housing costs (rent of local authority or mortgage of private house)	13.50
– Other deductions (if any)	4.50
Net weekly disposable income – A	98.11

Unemployed	
Unemployment/Disability benefit	80.80*
+ Gross wage (short time)	–
+ Pay-related benefit	9.80
+ Weekly redundancy pay	–
+ Children's allowance	8.25
+ Tax rebate	4.65
+ Other additions (if any)	–
Unemployment Assistance	–
– Housing costs	11.15
– Social welfare contributions (short time)	–
– Income tax (short time)	–
– Other deductions (if any)	.75
Net weekly disposable income – B	91.6

Replacement ratio (B/A) *93%*

*reduced rate

APPENDIX B

SOURCE DETAILS OF COMPONENTS OF SAMPLE REPLACEMENT RATIOS (INCLUDING UNDERLYING ASSUMPTIONS)

Each case was analysed on the lines of the example in Appendix A. The normal weekly wages for all cases were derived from Revenue records. These records also provided details of income tax paid and tax rebates received. Details of lump-sum redundancy payments, where applicable, were supplied by the Department of Labour. Social Welfare contributions and children's allowances entitlement were calculated on the basis of Autumn, 1981 statutory rates.

For the purposes of the calculations, those in receipt of unemployment assistance had their pre-unemployment income (earned in 1980) updated in value by 15 per cent so as to relate the resultant R values to current wage rates.

The relevant amounts of unemployment benefit, pay-related benefit, and unemployment assistance being received in the cases sampled were supplied by the employment exchange (April, 1982 rates).

As far as housing expenses were concerned, the cases sampled were classified as living in Local Authority or private housing on the basis of their addresses and with the help of the Department of the Environment. Approximately 70 per cent of those sampled were tenants, principal or subsidiary, of Local Authority housing. For such cases the rents payable were calculated in accordance with the terms of the Department's 1981/82 Differential Rents Scheme. For married persons in private housing, it was assumed that there would be a £20 a week liability for rent/mortgage whether or not the person concerned was at work. It was assumed that single persons would be living at home and would be paying one-sixth of their income in rent, whether in employment or not. Travel costs were computed on the basis of the cost of a monthly commuter ticket in December, 1981, giving weekly travel costs as follows:

fully employed:	£4.50
partly employed:	£3.00 (3 days to work and 1 day to the exchange)
fully unemployed:	£0.75 (travel to the exchange)

Finally, it was assumed that all short-time workers would work a three-day week. The sample was chosen accordingly.