

**MINIMUM INCOME STANDARDS WORKING PAPER**

**A NEW EQUIVALENCE SCALE**

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Two people sharing their expenses can live more cheaply in one household than if they lived in separate households. This is called economy of scale. However the more people there are in the household the bigger the resources they need to maintain a living standard. When family or household income is estimated for the calculation of, for example a poverty rate, an equivalence scale is used to adjust the incomes to take account of differences in the size and type of family or household. This is in order to take account of their differing needs and economies of scale.

Similarly the scale rates of benefits and tax credits vary with the family type and the number (and sometimes ages) of children – they have an implied equivalence scale. The implied equivalence scales in benefits and tax credits have their origins in the scale rates of minimum subsistence benefits proposed by the Beveridge Report in 1942, which in turn were influenced by Rowntree's poverty standard in his 1936 survey of poverty in York. But these original relativities have been altered by successive ad hoc upratings of benefits since then. They have never been rebased against a MIS or any other evidence or understanding of what families need.

The equivalence scales used in research on income poverty in Britain have recently changed. Originally, from the 1970s onwards, the McClements scale was used, named after the government economist who derived it using econometric analysis of household expenditure data (McClements, 1978). The equivalence scale most commonly used outside the UK was the OECD scale, which was originally derived as a consensus of scales used by national governments<sup>1</sup>. It had no basis in science. As if to underline this, when economists at OECD and working on the Luxembourg Income Study noticed that the square root of the number of people in the household produced very similar results (and was easy to compute), they adopted this as the preferred

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<sup>1</sup> See [www.oecd.org/dataoecd/61/52/35411111.pdf](http://www.oecd.org/dataoecd/61/52/35411111.pdf)

option Meanwhile, for reasons that remain obscure, the Statistical Office of the European Union (EUROSTAT) decided that their original scale was too generous to children and modified it (Hageraars et al., 1994). In order to bring their practice in line with EU conventions, from 2005/6 the DWP began to use the modified OECD scale in their *Households Below Average Income* poverty analysis poverty analysis based on the Family Resources Survey.

Table 1 summarises the existing equivalence scales with the base as a couple = 1.00 (sometimes scales are presented with a single person = 1.00). It can be seen that there are important differences between the scales that have been used. The change from the OECD to the modified OECD scale shifted the composition of the population in poverty in most countries from children to the elderly - because it is less generous to children (Burniaux et al., Bradshaw 2007). The introduction of the modified OECD in place of the McClements scale in the UK resulted in a slight increase in the child poverty rate - because the McClements scale was less generous to young children.

**Table 1: Existing equivalence scales: before housing costs**

	McClements <sup>2</sup>	OECD	Modified OECD	Square root on N	Income Support
First adult	0.61	0.58	0.67	0.71	0.63
Two adults	1.00	1.00	1.00	1.00	1.00
Two adults +1 child	1.20	1.29	1.20	1.22	1.73*
Two adults + 2 children	1.40	1.58	1.40	1.40	2.28
Two adults + 3 children	1.60	1.87	1.60	1.56	2.83
One adult +1 child	0.81	0.87	0.87	1.00	1.36
One adult +2 children	1.01	1.16	1.07	1.22	1.92
One adult + three children	1.21	1.45	1.27	1.40	2.47

\*Includes family premium

<sup>2</sup> The McClements scale was much more detailed than the other scales providing a breakdown for children in different age bands (varying between 0.06 and 0.26) and before and after housing costs. In this table we have taken the before housing costs scale and an average of the children's bands.

So equivalence scales matter – they may be arcane but they can make a difference to the number and composition of people assessed as being in poverty. The implied equivalence scales make a difference to the actual amount of money that different people receive in benefit. Yet neither the equivalence nor the implied equivalence scales have a basis in evidence of what families of different sizes and compositions need to obtain an equivalent living standard. Or if they once had some link to needs it has been lost through the passage of time.

It was therefore one of the objectives of the MIS project to derive a new set of equivalence scales. The MIS is based on transparent and systematic methods that establish what families of different compositions need to reach a reasonable basic standard of living. The MIS has been established through the consensus of ordinary people and supported by expert judgement. We have derived budgets for pensioners who have different needs to non pensioners, a fact not recognised in the existing scales. They enable us to estimate a prevalence scale for families with children with and without childcare costs, and to distinguish adult needs in such families from the needs of childless adults. The MIS is a minimum standard. It is thus, arguably, more appropriate to use for adjusting income for poverty measurement than a scale based, however loosely on the consumption patterns of all households.

In Table 2 the MIS equivalence scales are presented in two ways – with a childless couple as the base and with a working age single as the base. The comparison is with the modified OECD scale. It can be seen that with the working-age couple as the base the MIS equivalence scale (before housing costs) is higher than the modified OECD scale for singles, couples with two or more children the MIS equivalence scale is higher than the modified OECD for childless couples, and couples with two or more children and all lone parents, and lower for pensioner singles and couples and couples with one child. If childcare costs are included in the MIS then the MIS equivalence scales are much higher for all the families with children. With singles as the base the MIS equivalence scale is higher for couples with two or three children and all lone parents, and lower for working age couples, single and couple pensioners and couples with one of four children. Again if childcare is included the MIS scale is higher for all families with children.

The results after housing costs are broadly similar.

It is clear from these results that the modified OECD equivalence scale is underestimating the relative needs of singles of working age and most families with children. It therefore underestimates their poverty rates, and overestimates the poverty rates of childless couples and single and couple pensioners. In fact the original OECD scale was a closer fit with MIS.

**Table 2 MIS Equivalence scales compared with modified OECD**

	MIS £ per week		Equivalence scales					
	Without childcare	With childcare	Couple=1.00			Single=1.00		
			MIS	MIS with childcare	Modified OECD	MIS	MIS with childcare	Modified OECD
<b>Before housing costs</b>								
Single	197		0.69		0.67	1.00		1.00
Couple	287		1.00		1.00	1.46		1.49
Single pensioner	176		0.61		0.67	0.89		1.00
Couple pensioner	248		0.86		1.00	1.26		1.49
Couple+1 (aged 1)	330	465	1.15	1.62	1.20	1.68	2.36	1.79
Couple+2 (aged 3/8)	419	606	1.46	2.11	1.4	2.13	3.08	2.09
Couple+3 (aged 3/8/14)	523	706	1.82	2.46	1.73	2.65	3.58	2.58
Couple +4 (aged 1/3/8/14)	556	809	1.94	2.82	1.93	2.82	4.11	2.88
Lone parent+1 (aged 1)	259	398	0.90	1.37	0.87	1.31	2.00	1.30
Lone parent+2 (aged 3/8)	337	524	1.17	1.83	1.07	1.71	2.66	1.60
Lone parent +3 (aged 3/8/14)	440	627	1.53	2.18	1.40	2.23	3.18	2.09
<b>After housing costs</b>								
Single	158		0.66		0.58	1.00		1.00
Couple	241		1.00		1.00	1.53		1.72
Single pensioner	137		0.57		0.58	0.87		1.00
Couple pensioner	201		0.83		1.00	1.27		1.72
Couple+1 (aged 1)	286	421	1.19	1.75	1.20	1.81	2.66	2.07
Couple+2 (aged 3/8)	370	557	1.54	2.31	1.40	2.34	3.53	2.41
Couple+3 (aged 3/8/14)	468	655	1.94	2.72	1.82	2.96	4.15	3.14
Couple +4 (aged 1/3/8/14)	502	755	2.08	3.13	2.02	3.18	4.78	3.48
Lone parent+1 (aged 1)	210	345	0.87	1.43	0.78	1.33	2.18	1.34
Lone parent+2 (aged 3/8)	283	470	1.17	1.95	0.98	1.79	2.97	1.69
Lone parent +3 (aged 3/8/14)	380	567	1.58	2.35	1.40	2.41	3.59	2.41

Table 3 compares the MIS budgets and equivalence scale with the implied equivalence scale for Income Support and Pension Credit. As Chapter 4 of the MIS Report shows the MIS budget for pensioners are fairly close to the Pension Credit

scale rates. However the MIS amounts for working age singles and couples and families with children are consistently higher than the Income Support scales. The result is that with a working aged childless couple equal to 1.00 the equivalence scales of MIS and Income Support for singles is very similar but for pensioners and families with children the implied equivalence scales in Income Support and Pension Credit are much higher than in MIS. The relativities in Income Support and Pension Credit do not any longer represent relative needs – in part this is because the single and couple working age Income Support scales have been frozen in real terms since the 1970s while the scales for families with children and pensioners have more often been increased with earnings and in the case of Child tax Credit and Pension credit they are actually linked to an earnings index.

**Table 3: Comparison of MIS and the Income Support and Pension Credit implied equivalence scales**

	<b>MIS budgets excluding rent and council tax £ per week</b>	<b>MIS couple= 1.00</b>	<b>Income Support/ Pension Credit £ per week</b>	<b>Income Support/ Pension Credit implied equivalence scale couple of working age=1.00</b>
Single	144.51	0.65	60.50	0.64
Couple	222.84	1.00	94.95	1.00
Single pensioner	123.27	0.55	127.89*	1.34
Couple pensioner	183.72	0.82	193.19*	2.03
Couple + 1	265.72	1.19	164.29	1.73
Couple + 2	349.32	1.56	216.88	2.28
Couple + 3	444.98	1.99	269.47	2.83
Couple + 4	487.45	2.18	322.06	3.39
Lone parent + 1	194.76	0.87	129.84	1.36
Lone parent + 2	267.11	1.19	182.43	1.92
Lone parent + 3	363.35	1.63	235.02	2.47

\*Includes £200 winter fuel allowance per pensioner averaged over 52 weeks.