

## 5. Measures of Income and Expenditure as Criteria of Poverty \*

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Statements about the extent of poverty in a society usually depend on obtaining information about living standards from a sample of households in that society. First, this information is difficult to collect, particularly (though for different reasons) from the poorest and from the richest households. Second, the living standards of a disturbingly large number of households seem to be understated or overstated, whichever criteria are adopted. Again, this seems to be true more often of the richest and of the poorest households than of those households around the median of wealth. Third, different criteria of living standards tend to lead to different results. Some households that would be classed in poverty on the basis of their expenditure would not be classed in poverty on the basis of their income, and vice versa. Finally, the financial resources of households fluctuate and at any single time there will be some whose resources are unusually low and others whose resources are unusually high. On what grounds, and after what period, would it be justifiable to categorize some of these households as temporarily in poverty, and others as temporarily out of poverty?

I shall try to illustrate and discuss these various problems with the aim of making specific recommendations for a future survey of living standards. In doing so I shall describe some of the results of income and expenditure surveys in the United Kingdom.

### *The Family Expenditure Surveys*

The Family Expenditure Survey (as it is called) is a continuing annual inquiry into the expenditure of private households in the United Kingdom which was started in 1957. The first national survey of this kind to be undertaken after the war was carried out

\* Based on a draft paper prepared for a meeting of the International Committee on Poverty Research, Paris, 30th September, 1965.

in 1953–4. The Ministry of Labour (now the Department of Employment and Productivity) is responsible for the inquiry, though the fieldwork is carried out by the Government Social Survey. Between 1957 and 1966 about 5,000 addresses were selected each year and eventually about 3,500 households provided information. In 1967 the sample was increased to about 11,000 addresses. Information is based upon interviews and budget records (for which each adult member of the household is paid £ 1). The objects of the survey are to help the task of compiling official estimates of national expenditure; to provide information to allow the weights of the Retail Price Index to be reviewed; to allow demand analyses to be carried out and (more recently) to allow the redistributive effects on income of taxation and social benefits to be studied. Further accounts of the methods are given elsewhere.<sup>1</sup>

### *The Phenomenon of the Expenditure Surplus*

Serious efforts are made in the Family Expenditure Survey to obtain accurate data on income. Care is taken, it is said, to cover all sources.

The first part of the income schedule asks for information about employment status, occupation and industry in which the member of the household is employed; the remainder is devoted to income and covers all sources. The 1953 survey used a relatively simple income schedule which, in the light of experience, has gradually been expanded to ensure that all sources are covered, including income from investments and benefits from the State. The part of this schedule now devoted to income takes up three pages. It includes questions about income tax so that income can be calculated both net and gross of tax, and also questions about income of any member of the household under 16 to ensure that the income of the whole household is covered. Windfall payments such as legacies or paid up insurance policies are excluded.<sup>2</sup>

Expenditure information is gained partly by interview (chiefly to cover annual or quarterly payments, such as rates and payments for gas and electricity bills) but also by each adult member of a

1. See the Reports of the Family Expenditure Survey published by HMSO. See also Kemsley, W. F. F., 'Expenditure Surveys: Descriptions of the Sample, Fieldwork Procedure and Response Rate', in the *Report of the Committee of Inquiry into the Impact of Rates on Households* (The Allen Report), Cmnd. 2582, London, HMSO, Appendix 2.

2. Kemsley, W. F. F., *op. cit.*, p. 151.

household completing a diary record book over a period of fourteen days.

Yet expenditure exceeds income for all income groups. Table 1 compares gross income with gross expenditure for 1967, the latest year for which data exist.<sup>3</sup> With the exception of the highest group, it will be seen that the excess of expenditure over income tends to be greatest for the lowest income groups.<sup>4</sup> For the income groups falling in the ranges of £20–£60 per week, nearly two-thirds of the households in the sample, the excess ranges from only 2 to 10 per cent.

TABLE 1  
*Average Gross Income and Average Gross Expenditure of  
Different Household Income Groups in the U.K., 1967*

Income per week	Average gross income in shillings	Average gross expenditure in shillings	Expenditure as % of income
Under £6	10340	128.56	124
£6 but under £8	137.09	198.77	145
£8 but under £10	17905	209.62	117
£10 but under £15	250.75	283.29	113
£15 but under £20	352.90	417.52	118
£20 but under £25	450.19	494.61	110
£25 but under £30	549.64	599.78	109
£30 but under £35	647.03	686.97	106
£35 but under £40	747.97	779.69	104
£40 but under £50	887.42	950.77	107
£50 but under £60	1,088.97	1,115.04	102
£60 or more	1,666.12	2,028.55	122

3. Department of Employment and Productivity, *Family Expenditure Survey Report for 1967*, London, HMSO, 1968, Table 2.

4. There are of course fluctuations in the pattern from year to year. Generally the excess is considerable for the lowest one or two income groups and is least for the highest income groups. For 1963, for example, there was an excess of expenditure over income of 67 per cent for the lowest income group, but an excess of income over expenditure of 3 per cent for the highest income group. Ministry of Labour, *Family Expenditure Survey, Report for 1963*, London, HMSO, 1965, Table 2.

TABLE 2  
*Average Gross Income and Average Gross Expenditure of  
 Different Household Income Groups, Cambridgeshire, 1953-4*

Income per annum	Average gross income £	Average gross expenditure £	Expenditure as % of income
Under £150	117	181	155
£151-£260	208	275	132
£261-£420	366	480	131
£421-£620	518	633	122
£621-£830	720	869	121
£831-1,040	941	1,061	113
£1,041-£1,560	1,242	1,527	123
£1,561 or more	2,469	2,458	100

The phenomenon of a surplus of expenditure over income is neither new nor peculiar to the United Kingdom. It was observed in England by Sir Frederick Eden at the end of the eighteenth century,<sup>5</sup> and by Rowntree and others at the end of the nineteenth century.<sup>6</sup> It was discussed in an important paper by Cole and Utting, published in 1956, which also gave the results of a survey of a sample of over 3,000 households in Cambridgeshire which had established household expenditure, income and saving with particular care.<sup>7</sup> Table 2 gives an extract from their data. The total expenditure figures for the Cambridgeshire Survey, unlike those for the Family Expenditure Survey, were reduced to allow for dissaving. For the lowest income group dissaving represented about 12 per cent of total expenditure. Even so, expenditure for the lowest income group exceeded income by 55 per cent.

#### *Implications for Surveys of Poverty*

In the late 1950s social scientists in the United Kingdom began to take greater interest in contemporary poverty. The possibility of re-analysing the data collected by the Ministry of Labour seemed to be an economical first step before a special survey needed to be

5. Eden, Sir F. M., *The State of the Poor*, abridged edition by Rodgers, London, Routledge, 1928.

6. Rowntree, B. S., *Poverty: A Study of Town Life*, London, Macmillan, 1901.

7. Cole, D., and Utting, J. E. G., 'Estimating Expenditure, Saving and Income from Household Budgets', *Journal of the Royal Statistical Society*, Series A, General, Vol. 119, Part IV, 1956, pp. 371-307.

commissioned. A special analysis of the data collected in 1953-4 and in 1960 was undertaken by Professor Abel-Smith and myself.<sup>8</sup> When a first draft of this secondary analysis was prepared and sent to readers some were inclined to dispute the cautious conclusion that poverty as defined by national assistance standards had increased between 1953-4 and 1960 in the United Kingdom.

We had been advised by the Ministry of Labour that the income data for 1953-4 were incomplete and unreliable and hence we depended primarily upon expenditure data for conclusions reached about the distribution of standards of living. But a similar procedure was difficult to apply to 1960. Total expenditure was extraordinarily difficult to compile. Total expenditure and sub-totals of expenditure were not given for each household in the Ministry records but only itemized expenditure for large aggregates of households. To compile individual household expenditure meant recording each item of expenditure by hand from special sheets. The individual household's serial number had to be traced from sheet to sheet. Not surprisingly we chose instead to analyse the income data for that year in order to reach conclusions about the distribution of standards of living. We believed that comparisons could be drawn between the results for the two years, although careful reservations had to be made.

Our critics, however, were not convinced that data for the two years could be compared with any confidence. As a consequence we carried out the laborious task of tracing tiny amounts of expenditure for a small sub-sample of households. The Ministry was able to provide information for all 60 households in the sample with an income of under £3. In addition we analysed data for 212 households drawn at random from the households included in relatively low income groups. The overall results were within the limits we had predicted but the individual distribution caused us to begin thinking seriously about some questions involving the measurement of household resources. This chapter arises from our belief that there needs to be a thorough-going review of the methods by which the financial resources of the poor are measured.

Table 3 shows how many persons in the United Kingdom were living below a 'national assistance' standard of living in 1960, on

8. Abel-Smith, B., and Townsend, P., *The Poor and Poorest*, London, Dell, 1965. See also preliminary reports: Townsend, P., 'The Meaning of Poverty', *British Journal of Sociology*, Vol. XIII, No. 3, September, 1962; Wedderburn, D., 'Poverty in Britain Today—The Evidence', *The Sociological Review*, Vol. X, No. 3, Autumn, 1962.

the basis of the data in the Ministry of Labour survey about income. The national assistance standard may be regarded as the government's definition of a 'poverty line'. Its use for research into poverty is discussed elsewhere.<sup>9</sup>

Table 4 shows, for a sub-sample of households investigated in that year, how many had an expenditure, and how many an income, which was below the national assistance standard. Comparable definitions were used. It is evident that if an expenditure rather than

TABLE 3

*Percentage of Households and of Persons with Low Income, 1960*

Total income as percentage of national assistance scales plus housing cost	Households %	Persons %	Estimated nos. in the U.K. (thousands)
Under 100	4.7	3.8	1,990
100 but under 140	13.3	10.4	5,140
140 and over	82.0	85.8	44,945
Total	100	100	52,383
N =	3,510	10,765	—

TABLE 4

*Number of Households in Different Income Groups with Low Income and Low Expenditure (Sub-sample, 1960)*

Total income or expenditure as assistance scales plus housing cost	Household income					
	Under £3	£1-£6	£6-£8	£8-£10	£10-£14	All under £14
	Total inc exp	Total inc exp	Total inc exp	Total inc exp	Total inc exp	Total inc exp
Under 100	6 10	7 9	6 6	3 2	0 2	22 29
100 but under 140	54 27*	22 18	18 16	10 6	6 4	110 71
140 and over	0 23*	9 11	26 28	20 25	25 25	80 112
Total	60 60	38 38	50 50	33 33	31 31	212 212

\* Estimated on basis of information supplied by the Ministry of Labour.

9. Abel-Smith, B., and Townsend, P., *op. cit.*

an income basis is used for measuring poverty, a smaller proportion of households and of persons will be found to be in poverty. Instead of 18 per cent of households, and 14.2 per cent of persons, living below or just above the national assistance standard in the United Kingdom (see Table 3) there would have been 15.9 per cent and 12.4 per cent respectively, if expenditure instead of income had been taken as the criterion. Instead of nearly 7.5 million persons being in poverty or on the margins of poverty there would have been about 6.5 millions.

How disturbing is it to find such a discrepancy in the numbers in poverty, if expenditure instead of income is used as the criterion? Is one more accurate than the other? Or is one more *appropriate* than the other for exploring the dimensions of poverty? I shall first describe the results for the special sub-sample in a little more detail and then discuss the relationship between income and expenditure.

#### *Income and Expenditure Distributions*

We have already seen that 132 of the 212 households in the sub-sample (see Table 4) had an *income* and 100 an *expenditure* below the national assistance scales or less than 40 per cent above those scales. Much of the difference is in fact accounted for by those with an income of under £3 per week and Table 5 shows the results only for those in the £3–£14 income groups. In fact only 45 households had both income and expenditure below the scales, as Table 5 shows. Another 45 were below the scales according to *one* criterion.

TABLE 5

*Number of Households in Sub-Sample with Income and Expenditure Below National Assistance Scales, 1960*

Relationship of income and expenditure to National Assistance Standard	£3–£6	£6–£8	£8–£10	£10–£14	AH groups £3–£14
Income only below national assistance standard	7	10	9	1	27
Expenditure only below standard	5	8	4	1	18
Income and expenditure below national assistance standard	22	14	4	5	45
Total	34	32	17	7	90

Table 6 shows, for the sub-sample, the relationship between mean income and mean expenditure. Expenditure exceeded income for each of the income groups but the proportionate excess was considerably higher for the £6–8 and £8–10 income groups than the £3–6 and £10–14 income groups. However, the small numbers comprising the sub-sample should again be borne in mind.

TABLE 6  
*Mean Income and Mean Expenditure (Sub-Sample, 1960)*

Income per week	Mean income	Mean expenditure	Expenditure as % of income	Number in sub-sample
£3–£6	£4 4 1	£4 7 4	104	38
£6–£8	£6 15 2	£8 17 6	131	50
£8–£10	£8 16 3	£12 16 6	146	33
£10–£14	£11 15 11	£12 15 9	108	31

Table 7 also presents rather disturbing information. It shows the number of households in the sub-sample, according to the percentage by which expenditure exceeds or falls short of income. There is rather less extreme variation in the £10–14 income group than in the lower income groups but expenditure still differs from income by more than 50 per cent for one household in six.

Tables 5, 6 and 7 deal with small numbers of households but have been included in this analysis because it is unusual for such information to be published. They raise important questions for expenditure and income surveys in general and for poverty surveys in particular.

#### *Explanations of the Phenomenon of Expenditure Surplus*

Cole and Utting concluded that expenditure tends to be overstated and income understated. In the Cambridgeshire inquiry they estimated that expenditure was too high by about 5 per cent and income too low by about 10 per cent. Houthakker also concluded that expenditure figures tend to be overstated.<sup>10</sup> The most common reasons for overstatement of expenditure are as follows. Individuals keeping records or reporting information tend to try to impress

10. Houthakker, II. S., 'The Econometrics of Family Budgets', *Journal of the Royal Statistical Society, A*, Part 1, 1952, Vol. CXV, pp. 1–26.



TABLE 7

*Number of Households in Sub-Sample, According to the Percentage by which their Expenditure Exceeds their Income (Sub-Sample, 1960)*

Expenditure exceeds income by	£3-£6	£6-£8	£8-£10	£10-£14	All groups
100 per cent or more	1	6	3	1	11
50-99 per cent	4	6	5	3	18
40-49	1	3	2	0	6
30-39	3 20	4 32	4 19	1 18	12 89
20-29	2	2	1	2	7
10-19	3	6	0	2	11
0-9	6	5	4	9	24
-0-9	10	5	7	6	28
-10-19	1	5	3	2	11
-20-29	5	5	3	4	17
-30-39	2 18	1 18	1 14	0 13	4 63
-40-49	0	1	0	0	1
-50-99	0	1	0	1	2
-100 or more	0	0	0	0	0
Total	38	50	33	31	152

and provide as many positive answers as possible. They also telescope time and attribute expenditure to the more recent past than the facts justify. If records are kept for at least two weeks, expenditure in the first week is always higher, on average, than in the second, third or fourth weeks. This is called 'the end-period effect'.<sup>11</sup> There appears to be some exaggeration of expenditure on 'necessities' and under-reporting of expenditure on 'luxuries'—especially drink, but also cigarettes and tobacco, meals out, ice cream, chocolates and sweets. (There is some reason for supposing that expenditure incurred by children is not always reported.) There may also be some unwitting double counting of expenditure by husband and wife (each of whom separately keep records for the Ministry of

11. Kemsley found that expenditure in the first week was about 7 per cent higher than in the second and third weeks. Kemsley, W. F. F., 'The Household Expenditure Enquiry of the Ministry of Labour: Variability in the 1953-4 Enquiry', *Applied Statistics*, Vol. X, 1961, pp. 117-135. See also Kemsley, W. F. F., 'Interviewer Variability in Expenditure Surveys', *Journal of the Royal Statistical Society*, Series A, General, Vol. 128, Part 1, 1965, p. 136.

Labour) which cannot always be picked up during clerical checks. There is the further possibility that behaviour changes while records are kept. Finally, estimates of some expenditure incurred irregularly over the year may be inflated by extrapolation from the last payment (e.g. a quarterly fuel bill). When wages and prices are changing rapidly it is difficult to put together information referring to different periods over a year.<sup>12</sup>

Income tends to be understated for a variety of reasons. First of all, it is difficult to trace certain sources of income—particularly windfalls. Money given to children and adults by their relatives, income from goods sold, occasional earnings in evenings or at weekends, lump sums paid on certain insurance policies, return of money on overpaid bills and rebates from slot meter payments for gas and electricity are a few examples. Possible sources of income are so various that it is difficult in an interview to cover them all. Small sources of income can easily be overlooked. Second, the definition of income may be relatively narrow and details of some types of income may not be collected. In the annual surveys carried out by the Ministry of Labour income does not include withdrawals from past savings, proceeds from the sale of houses, cars, furniture or other capital assets, or receipts from legacies, maturing insurance policies or other windfalls.<sup>13</sup> Third, certain kinds of income appear to be considerably understated, particularly by the highest income groups. Income from rent, dividends and interest and from self-employment are examples. However, although part of the problem may be due to the same kind of deliberate under-reporting that might be encountered by the tax authorities some of it seems to be due to the difficulty of establishing accurate figures without elaborate inquiry. Finally, income information usually relates to periods further in the past than expenditure information. For example, professional income and the weekly equivalents of weekly bonuses paid to employees are based on the previous twelve months. Since expenditure information mainly relates to the previous 14 days it is

12. There may be other reasons for error. For example, interviewers collecting information in the Ministry of Labour's surveys are instructed not to allow records of expenditure to be kept until all members of a household are present. Holidays at the expense of relatives or friends (with a saving of expenditure during certain days or weeks of the year) are not allowed for. Yet, this kind of hospitality is common.

13. Ministry of Labour, *Family Expenditure Survey, Report/or 1963*, London, HMSO, 1965. See also Department of Employment and Productivity, *Family Expenditure Survey, Report for 1967, op. cit.*, Appendix 2.

evident that in a period of rising prices the income given for a particular household may appear to fall short of its expenditure.

I have given only a brief summary of the factors involved in relating income to expenditure. It would be useful if a comparative analysis of the results of surveys in different countries could be made to find whether the phenomenon reported here is of the same kind and magnitude outside the United Kingdom.

### *Special Problems Affecting the Poor*

The poor tend to be under-represented in income and expenditure surveys.<sup>14</sup> They have difficulties in keeping records. Their educational level may be low, their homes and their days may be crowded with children, or they may be old or sick.

There is the further problem of deciding whether 'current' or 'normal' income or expenditure is the best criterion of their living standards. A man who is unemployed may have a low income but his expenditure may still nearly reflect the wage he was receiving, say, five weeks previously. His weekly wage may have been spread out over the first two or three weeks of unemployment. He may have received an income tax rebate and payments from a trade union, and he may have relied on various forms of temporary 'credit' or loans. Yet he is also using up the financial and psychological 'reserves' which most other people in society retain, and in certain important senses is much worse off. It is now customary in the Ministry of Labour surveys not to treat income in unemployment or sickness as 'normal' unless it has been received for at least 13 weeks. In a survey of poverty it is necessary to distinguish between temporary and long-term poverty, but it seems important not to assume that high income can be averaged with low income over certain periods for purposes of calculation unless families not only have the powers (whether formal or informal) to redistribute fluctuating income in this way but also reasonable fore-knowledge that income is in fact going to fluctuate.

### *Conclusions*

This paper is destructive rather than constructive. It produces evidence to show that in household income and expenditure surveys

14. In the survey carried out in 1953-4 by the Ministry of Labour the aged were under-represented by 20 per cent and the sick by about 40 per cent. Abel-Smith, B., and Townsend, P., *op. cit.*, p. 20.

a big discrepancy between total income and total expenditure is found for (i) all income groups except, sometimes, the highest groups, and (ii) a high proportion of individual households. The discrepancies are sufficiently serious to justify a review of the general technical direction of such surveys but also the special problems that are involved in carrying out future surveys of poverty. In particular we need to reconsider the nature and size of the financial resources that are to be measured.

Until further pilot research is undertaken the conclusions that can be reached must be highly provisional. First, it seems desirable to concentrate on improving income information rather than expenditure information. There is reluctance among some sections of the public to provide this information, but for most households it is a less complex matter to obtain, though new techniques must be developed if it is to be reliable. If an accurate representation of levels of living is to be reached, expenditure information cannot be confined to limited periods of the recent past. For some items the time period must be fairly extensive.<sup>15</sup> This means that accuracy is almost as difficult, if not as difficult, to ensure for expenditure as for income.

Second, the widest possible definition of income must be used. 'No concept of income can be really equitable that stops short of the comprehensive definition which embraces all receipts which increase an individual's command over the use of society's scarce resources—in other words, his "net accretion of economic power between two points of time".'<sup>16</sup> For low-income households special efforts will have to be made to trace fluctuations in income during the previous year (carefully noting the changes in sources and size of income during sickness, unemployment and so on).

Third, supporting measures of other resources such as assets, private gifts and income in kind from the social services, will need to be worked out.

At this stage research on small groups of households is likely to be of greater value than large-scale surveys. In particular, studies with follow-up interviews which seek to 'explain' discrepancies between expenditure and income *or* which otherwise seek to check

15. For example, see the exchange between Durant and Cole and Utting in the *Journal of the Royal Statistical Society*, Vol. 120, Part 1, 1957, pp. 86–07.

16. Memorandum of dissent by a minority of the Royal Commission on Taxation, *Report of the Royal Commission on Taxation*, Cmmd. 9474, 1955, p. 8.

measures of household resources are strongly recommended.<sup>17</sup> Until such work is completed it will be difficult to use family expenditure survey data to define the scope and nature of poverty or low levels of living in modern society with any confidence.

17. Some research on these lines is at present being carried out at the University of Essex and the London School of Economics under the auspices of the Joseph Rowntree Memorial Trust.