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by

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Ian Manning
26 March 1984

FOREWORD

Arguments about the construction and application of equivalence scales have been a constant feature of the income security debate in Australia over the past decade. Ian Manning has written this monograph to provide a review of the attempts to derive equivalence scales from Australian data, and to try to indicate some directions for future work. In his words,

> An equivalence scale gives an estimate of the relative income required, on average, for households with different characteristics to attain the same standard of living. As such it is a precise estimate of a somewhat hazy concept, and the merits and accuracy of different equivalence scales are therefore necessarily contested. Indeed, some would say that the methodological problems in deriving a widely-accepted equivalence scale are so serious that the concept should be abandoned, but unfortunately it will not go away; the concept is fundamental to the measurement and economic inequality, and it also lies at the basis of the table of social security rates.

From the start, the Social Welfare Research Centre has sought to examine and elucidate issues involved in the measurement of poverty. The first workshop organised by the SWRC was held on June 12, 1980 and entitled The Poverty Line : Methodology and Measurement. The proceedings were published as Reports and Proceedings No.2. Now, more than 40 reports later we return to many of the issues which, as Manning says, will not go away.

Dr Ian Manning is Senior Research Fellow in the Institute of Applied Economic and Social Research, University of Melbourne. From 1972 to 1975 he was a staff member of the Commission of Inquiry into Poverty where he worked specifically on income maintenance and the development of an improved social security system for Australia. We are delighted to have so accomplished a scholar prepare this paper for the SWRC. In publishing it we are attempting to clarify some of the concepts, examine some of the assumptions and stimulate further debate.

Adam Graycar

Director
Social Welfare Research Centre

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EQUIVALENCE

The measurement of relative poverty in terms of deficiency of income depends on three main definitions: a definition of income, a definition of the income unit among which income is assumed to be shared, and an equivalence scale to adjust for the different costs of living of income units of different size (Manning 1982). Each of these definitions may be contested, with consequences for the number of people found to be poor, and for the relative incidence of poverty among different groups. Alternative equivalence scales are particularly likely to be associated with differences in the relative incidence of poverty, since a changed equivalence scale raises and lowers the relative poverty line for different sizes of family.

Equivalence scales also come under discussion in relation to the ability to pay taxes, and, more cogently, when the adequacy of social security payments is being discussed in relation to the needs of pensioners and beneficiaries. The table of social security rates incorporates an equivalence scale which has some claim to be related to needs, though it has also been influenced by the political strength of different groups and by the exigencies of government budgeting under inflation.

The idea behind equivalence scales is simple. Where different numbers of people share expenses, different levels of spending will be necessary to reach the same standard of living. As a limit case it may be possible for an extra person to be accommodated in a household without extra expense (`Two can live as cheaply as one´) while at the other extreme there may be no economies of cohabitation. The general opinion is that the cost of living of two people together as against one alone is between these extremes: generally that the costs of two are around 1.4 - 1.9 times the costs of one. The point could easily be proved if standards of living were objectively recogniseable, for then a survey could be conducted relating standards of living and household expenditures to household size, and the average cost differential calculated for a constant standard of living. However, the standard of living is a subjective concept, and there is therefore no single objective way to measure differences in the cost of a constant standard of living.

Had the quest for an equivalence scale been a purely intellectual search the matter could have stopped here. However, equivalence scales are required as a practical matter, and therefore the search continues, even if it has to be admitted that equivalence scales at best can provide a spuriously precise measure of an approximate concept. The search has taken two paths:

(1) There are those who have attempted to obtain observations of the standard of living independent of their observations of the cost. The attempt has either involved surveys asking people about the cost of a particular standard of living, somehow defined; or has involved the preparation of detailed budgets with discussions of just how much extra food, clothing and other expenditures an extra family member entails.

(2) Alternatively, there are those who are content to leave the standard of living as non-observable, but who claim that the cost of a constant standard of living can be inferred by the application of an estimating technique to data on household expenditure patterns.

The purpose of this paper is not to provide a review of the various attempts to derive equivalence scales by one or other of these methods (for which see Whiteford 1983) but to assess the scales used in recent Australian research, and to make suggestions for future work.

1. The New York 1954 scale

The equivalence scale most often used in poverty measurement in Australia, and in criticism of the social security system, is that adopted by Professor Henderson for his Melbourne survey of 1966 and subsequently for the poverty inquiry (Henderson et al 1970). The Henderson scale derived from that recommended by the Budget Standard Service of New York City, USA, in 1954 (Budget Standard Service 1955), and has drawn considerable criticism. According to David Stanton, the assumption that the New York study provided an equivalence scale valid for Australia was `heroic in 1966, but in 1973 it was astonishing'. Stanton pointed out that the Budget Standard Service issued updated studies in 1962 and 1969, and also argued that the scales had no strong theoretical or methodological basis (Stanton 1980 p. 18). Professor Henderson

himself regarded the New York scale as provisional, recommending that as soon as the results of the Household Expenditure Survey conducted in Australia in 1974-75 were available `further inquiry be instituted to derive a set of relative rates appropriate to Australian conditions' (Commisson of Inquiry into Poverty 1975 p 42). This inquiry should take the form of an `investigation of the spending patterns necessary for an average family to participate in society' following the example of the New York Bureau of the Budget studies. Professor Henderson believed that the Household Expenditure Survey would provide essential background for such a study, but that the expenditure necessary to reach a common standard of living was most reliably determined against this background by discussion among a conclave of social workers familiar with the spending patterns of a wide variety of poor families.

No attempt was made to utilise the results of the two Australian household expenditure surveys for these purposes until 1980, when the Social Welfare Policy Secretariat was asked to report on the measurement of poverty (SWPS 1981 p. 1). The Secretariat attempted to implement Professor Henderson's recommendation and prepare equivalent budgets for different sizes of poor family, but quickly encountered the problems of the approach, which assumes that observers can be found with an intimate yet disinterested knowledge of the spending patterns of poor people and of the standards of living to which these give rise; and that these disinterested observers can agree (SWPS 1981, pp 38-39). The Secretariat reported that it had found no agreement among welfare agencies and among groups of poor people as to the components of a `tolerable standard of living'. The Secretariat's attempt may have been doomed from the start, since it was widely viewed among the welfare agencies as an attempt by the Fraser government to lower the poverty line for political purposes. Again, the Secretariat was perhaps too ambitious in its use of consumer budgets, attempting to construct budgets which would both set the level of the poverty line and the equivalence scale at the same time. Had the construction of budgets focussed on the question of equivalence alone it is more likely that agreement would have been attained. Even so, it may be that the low income people of Australia are so diverse in their spending patterns that typical budgets for equivalent standards of living cannot be prepared. Some of the variation in spending patterns may be systematic, associated with differences in ethnic background or with rural/urban location, and some may be

unsystematic, generated as people make their choices among the wide variety of goods and services now available.

The difficulty of preparing equivalent budgets in Australia may thus reflect the fact that time has moved on since 1954. Equivalent budgets are most easily prepared when consumer technology is simple. There are relatively few commodities to be bought, and an ethnically and locationally homogeneous group of buyers. An increase in the variety of commodities available for purchase increases the number of ways in which a given standard of living might be attained, and also increases the difficulty of recognising that standard of living when it occurs in families with different consumption patterns. There will be cheap ways and expensive ways of attaining any given standard, and in preparing equivalent budgets contentious assumptions therefore have to be made concerning the efficiency of consumer spending. In the past budgets have been prepared either as cheaply as possible (the least-cost nutritionally-adequate food basket) or, in deference to the importance of conventional practice in consumer budgeting, have been prepared according to the conventional spending patterns of the consumer groups concerned. However, when the variety of commodities available increases it becomes less likely that there is a single conventional spending pattern. At the same time the least cost pattern becomes harder to find and less and less likely to be typical. The difficulty of making widely acceptable assumptions on patterns of behaviour therefore increases.

Similarly there are difficulties when consumer durables begin to increase as a proportion of the typical budget. The New York study of 1954 dodged the question of the place of asset purchases in consumer budgets by assuming that the services of consumer durables were obtained by rental or hiring. It was therefore assumed that the current standard of living was supported by current consumption expenditure; no more and no less. The purchase of consumer durables means that current expenditures are partly made to raise future standards of living, and equally that the current standard of living depends in part on purchases made in the past. This multiplies the ways in which a given standard of living might be attained, and increases the difficulty of preparing equivalent budgets - yet the problem must be faced, since according to the Household Expenditure Survey purchases of consumer durables (including houses) amounted to approximately 28 per cent of total household expenditure in Australia in 1975-76.

Because of these problems it is not surprising that the Social Welfare Policy Secretariat had difficulty with the budget based approach. Even so, the difficulties may not be insuperable. Ethnic and regional differences might be met by preparing separate budgets and taking a weighted average of the results, and so also with voluntarily-chosen differences of lifestyle. An agreed method of treating consumer durables might be worked out, specially if the analysis of the expenditure surveys and of consumer motivation revealed conventional patterns of consumer durable purchase. It is therefore not impossible that an organisation commanding the goodwill of the welfare agencies might be able to prepare equivalence scales by the budget method and reach a greater measure of agreement than the Social Welfare Policy Secretariat was able to attain in 1980.

Though the Secretariat can thus be accused of dismissing the budget method without due trial, it may still be argued that the dismissal was justified in that the method is no longer appropriate. Since equivalence scales were first prepared the interpretation generally given to poverty has shifted from an absolute to a relative concept. Poverty is no longer that level of spending where people are in danger of death by malnutrition and exposure, but is instead seen as a low level of spending which endangers their ability to belong to society and puts in question their participation in social activities. A simple illustration of the difference between the two approaches is that the budgets prepared to define absolute poverty have no place for alcohol, whereas it might be said that in Australia a man who has insufficient cash to stand his mates a round of drinks from time to time is in relative poverty.

In its extreme form, the relative approach simply asserts that the bottom x per cent of the population is to be counted as poor. By a (perhaps unwarranted) extension of this approach, the bottom x per cent could be calculated separately for each household composition, which would dispense with the need for an equivalence scale. However, the corollary of these calculations is that nothing can alleviate poverty, either overall or within any household composition group, short of complete equality of income. For most this is too radical a definition of relative poverty. The alternative is to define poverty incomes as being those at some fixed distance from the average, somehow defined. In this case poverty can be reduced if the lowest incomes are raised vis a vis the average. Most of the proponents of relative poverty have preferred this latter definition.

If relative poverty is defined as income insufficient to make expenditures necessary to belong to society, then perhaps the equivalence scale should be defined the same way. In his definition of a `deprivation standard´ for Britain Townsend actually did this (1979, p 248). He listed a number of common social activities, and conducted a survey in which people were questioned about their participation in these activities. Participation was found to correlate with income. More contentious, Townsend claimed to recognise a threshhold below which participation was significantly less than at higher levels of income. The set of threshholds for each household size served to set not only a poverty line (a deprivation standard) but an equivalence scale. However, the Social Welfare Policy Secretariat had neither the time nor the money to replicate this research in Australia.

A further method which has not been tried in Australia is the general interview approach, in which a random sample of the entire population is asked about the income differentials necessary to maintain a constant standard of living across families of different size. This approach is allied to the relative approach to poverty, since it recognises that the standard of living is a social construct. However, the approach is very sensitive to the precise form of the questions asked, and also makes no allowance for the vastly different familiarity of randomly-selected respondents with the standard of living of families of a composition of which they have personal experience and those of which they have no direct experience.

The methods of setting equivalence scales enumerated so far have depended on direct observation of standards of living, and have raised both conceptual problems and problems of giving content to the concepts adopted. The alternative is to derive an equivalence scale by the application of mathematical techniques to household expenditure survey data. In these studies the problem is to establish a methodology by which the cost of a constant standard of living may be extracted from data derived from families whose standards of living differ in unknown ways (Deaton and Muellbauer 1980 Ch. 8). In the process some of the conceptual problems associated with the absolute and relative approaches to poverty reappear, heavily disguised.

Perhaps because the manipulation of pre-existing expenditure survey data is cheaper than conducting a special-purpose survey for determining an equivalence scale, several studies have appeared using Australian data. Dr Podder (1971)

and Professor Kakwani (1977) applied different mathematical techniques to data from the Macquarie University survey of consumer finances of 1966 and derived two quite different equivalence scales; while the Social Welfare Policy Secretariat assisted by the Australian Bureau of Statistics applied several different techniques to the 1974-75 and 1975-76 Household Expenditure Surveys (ABS 1981). However, rather than review these studies directly we will first describe the data from the expenditure surveys.

2. The mean expenditure scale

The simplest way to set an equivalence scale from expenditure survey data is to compare the average total consumption expenditure of households of different size. If on average the households of each composition group are achieving the same standard of living, this pattern of average expenditure will provide an equivalence scale accurate for the population as a whole, though not necessarily for poor people as a specific group. However, the assumption that the households of each size group are achieving the same standard of living is prima facie ridiculous, since we have been taught that consumption depends on income, and that there is no guarantee that income will vary with family size in the same way as costs of living. If income determines consumption, and if income is unrelated to family size, we would expect that larger families would on average experience a lower standard of living than smaller families.

This presupposition that the mean expenditure scale is not suitable for use as an equivalence scale may be challenged on two grounds. The first of these takes a narrow view of the relative definition of poverty lines. When poverty lines were first drawn it was thought that they could be related to needs assessed in a quite physiological way, and that the equivalence scale could be set according to a constant standard of living defined in terms of need and determined independently of the actual expenditure patterns of households of different composition. With the abandonment of this `absolute' approach poor people have been defined as those whose incomes are not sufficient to enable them to achieve a pattern of expenditure minimally required for them to belong to society, or at least who are at risk of not being able to make such expenditures.

If the expenditure pattern required to belong to society is defined, not in terms of the household's relation to some general community standard, but in relation to the expenditures typical for households of its own particular composition, then it could be argued that the equivalence scale should be related to mean expenditures (in the sense of typical expenditures) for each group. If the distribution of expenditures for each group was of similar shape (similarly normal, or similarly skewed) it might be argued that the poverty line for each group should be a similar percentage of the mean. For example, because both income and expenditure are typically low in old age, it could be argued that the cost of belonging to elderly society is therefore low, and the poverty line for elderly people should be similarly low. If such arguments are granted the mean expenditure scale would provide at least a first approximation to the true scale.

The contrary argument is that people do not assess the pattern of expenditures necessary to belong to society only in relation to households of similar age and composition. A great deal of comparison goes on, and it is arguable that a common community standard does indeed exist, at least in nebulous form, quite apart from the actual standards of living experienced by different household groups. Again, it is sometimes argued that as a matter of principle relative poverty lines should be set with reference to a constant standard of living for the whole population.

An important reason of principle for setting relative poverty lines in relation to a constant standard of living defined independantly of the mean scale is that failure to do so can render arguments about social security circular. If social security rates for a particular population group are low, and if many of the households in that group depend on social security, then mean expenditures for that group will be low; the equivalence rating will be low and the continuation of low social security rates will be justified. For example, the use of the mean scale on the argument that the sense of belonging depends on what is happening to one's peers would recommend low social security rates for the elderly - a proposal which runs completely counter to the social security systems of all Western countries, where the rates for elderly people are at least as good as for other claimants, and are commonly better. The alternative approach is to set the equivalence scale in terms of a constant standard of living for all groups, arguing that social security rates should be increased towards this level - so enabling people in the low-income household groups to increase their expenditure and improve their rating by the mean scale.

A second defence of the mean expenditure scale as an equivalence scale suitable for use in poverty lines is that it may under certain circumstances represent a true measure of the costs of a constant standard of living. One way in which this may come about is through adjustments in workforce participation: larger households have more potential workers, and may be in a position to earn higher incomes in proportion to their higher living costs. Table 2 shows that there is indeed a positive correlation between the number of adult household members and disposable income. However children are not by and large potential income earners (indeed, they more often hinder their mother's labour force participation) so there is still no reason to believe that incomes rise with the costs of a constant standard of living when household size is increased by the addition of children rather than adults.

The remaining argument that the mean expenditure scale represents a true measure of the costs of a constant standard of living comes from the advocates of the life cycle saving hypothesis, who argue that the processes of saving and dissaving work with such efficiency that people achieve a constant standard of living despite variations in family size and income. The assumptions required to ensure that this happens are strong, but are still of interest, since they form the basis not only of a defence of the mean expenditure scale, but of attempts to adjust that scale for differences in the average standard of living between groups.

The life cycle hypothesis was not invented with its application to equivalence scales in mind. Rather, it arose out of attempts to give microeconomic backing to the Keynesian consumption function. Duesenberry (1949) argued that the consumption of any household will depend mainly on its position in the income distribution. Those with low incomes will be under pressure to spend their entire incomes in order to keep up with community standards; those with higher incomes will be able to indulge in the luxury of saving. In addition, decisions about saving would be influenced by the rate of interest, by future expected incomes and by the age of family members. On this account the consumption function would move upwards with the general level of incomes, and a high savings ratio could be taken as characteristic of households whose income was high relative to their socially-determined consumption needs. Duesenberry's arguments were congenial to the relative approach to poverty, and his hypothesis regarding savings ratios was used in subsequent work on equivalence scales.

Modigliani and Brumberg (1954) list four reasons for saving:

1. The desire to make bequests to one's heirs.

2. Precaution against uncertainty and uninsurable risks.

3. The acquisition of consumer durables, where for various reasons the services of such durables are more cheaply acquired through purchase than by hiring or renting.

4. The life-cycle motive, in two parts: saving and dissaving to iron out temporary fluctuations in income, and saving over the whole working life to finance consumption in retirement.

The first and second of these motives would lead to positive saving throughout life; the third would lead people to save in their younger years in order to acquire stocks of consumer durables, while the last would justify high savings rates in years of high income relative to the household's long-run expectation. As with Duesenberry's description of savings, this would lead to high savings in years of high relative income, though on the life-cycle hypothesis high income is defined in relation to the expectations of the particular household rather than in relation to the community average.

After these pioneering descriptions of the factors likely to influence savings, the model-builders took over and began their work of simplification. One direction taken was the development of the hypothesis that the life-cycle motive is the only reason why people save. If it were the case that the sole purpose of the accumulation of wealth is saving for one's old age, then the accumulation of wealth can be defended as a wholly desirable form of self-help - an argument not overlooked by the apologists of capitalism. More relevant to the development of equivalence scales was the promotion of a strong version of the life cycle hypothesis, by which it was argued that people aim to maintain a constant life-long standard of living, and that they achieve this by saving during those periods of their life in which current income is high relative to the expenditure necessary to maintain the constant standard of living, and by dissaving to maintain the standard when current income falls below the required

level of expenditure. The expenditure necessary to maintain the constant standard of living will not be constant in money or real terms, since it will change with changes in household size and composition. However, if people have perfect foresight, not only as to their future incomes, but as to the changes which are going to take place in the composition of the households of which they are future members (and of the future incomes of the other members of those households) they will be in a position to attempt to adjust expenditure and saving to maintain the constant standard of living despite changes in the composition of their household.

Whether people endowed with perfect foresight and wishing to maintain a constant lifetime standard of living can in fact do so will depend on the state of the capital markets. The life cycle hypothesis implies that suitable assets are available in which to hold savings, and that loans are readily available when a period of dissaving is required prior to a subsequent high-income period in which savings are possible. The hypothesis also implies that insurance can be taken out against all calamities where risk is foreseen. However, if such markets exist, and if people behave in accordance with the life cycle hypothesis, it will be possible for them to maintain a constant life-long standard of living.

If people are behaving in this way, and if, further, each household composition group within the population contains the same mix of households classified by the life-long standards of living of their members, and in the absence of any relationship between interest rates and the process of saving and dissaving, cross-section data on the average expenditure of households of different composition will give an equivalence scale accurate for the average standard of living for the whole population. In other words, if a particularly stringent form of the life cycle hypothesis is true, the mean expenditure scale will reflect relative costs of living even though incomes bear no necessary relationship to the cost of living of households of different size.

The list of assumptions necessary before the mean expenditure scale can truly reflect differences in costs of living is so stringent that we must immediately mistrust such scales. However, it is worth noticing that one aspect of the life cycle hypothesis is arguably not crucial in this matter, even though it matters a great deal to the use of the hypothesis to defend the accumulation of wealth.

This is the assumption that the sole motive for saving is the redistribution of income over the life cycle. If this assumption were true, people would run down their assets in old age. It is in fact far more common for people on average to save more than they dissave even in old age, and die leaving bequests. However, so long as a life-cycle component of savings is superimposed on the steady stream of accumulation, the life cycle hypothesis may still be true for the purpose of drawing equivalence scales.

Table 1a

The mean expenditure scale - Australia 1975-76
Income of a married couple, one working, with head aged 25-45 = 1.00 ($258)

Household composition		Age of head of household			
Adults	Children	15-24	25-44	45-64	65+
1,	0	.52	.57	.35	.21
2,	0	.71	.81	.57	.39
3,	0	-	-	.89	-
2,	1	.59	.74	.49	
2,	2		.79	.77	
2,	3		.78		
2,	4		.81		
3,	1			1.06	
3,	2			1.25	

Source: ABS tapes.

Table 1b

The mean marginal expenditure scale - Australia 1975-76
Income of a married couple, one working, with head aged 25-45 = 1.00 ($258)

Household composition		Age of head of household			
Adults	Children	15-24	25-44	45-64	65+
1,	0	.52	.57	.35	.21
2,	0	.19	.24	.22	.18
3,	0			.32	
2,	1	-.12	-.09	.08	
2,	2		.05	.18	
2,	3		-.01		
2,	4		.03		
3,	1			.17	
3,	2			.19	

Source: ABS tapes.

Given the stringency of the conditions for validity of a mean expenditure scale, it is perhaps surprising to find that the scale as derived from Australian household expenditure survey data is prima facie reasonable. In Table 1b the scale is shown in terms of the average additional expenditure associated with an additional household member. Because 1975-76 dollars no longer have much meaning, the scale is given as a proportion of the average disposable income of a household of two adults, one of whom works, with the household head aged 25-44. This facilitates comparison with tables later in the paper. In 1975-76 an average single person under 25 years old and living alone spent 52 per cent of the reference income (i.e. $135 a week in current dollars), and an average two-adult household in the same age group spent a further 19 per cent (i.e. $50 a week more) giving a total of 71 per cent (i.e. $185 a week). It can be seen from the table that the larger households generally spent more, which is in accordance with the expectation that larger households will have higher costs to achieve the same standard of living. The exception is that in the younger age groups couples with one child on average spent less than those with no children.

Yet though the mean expenditure scale is prima facie reasonable, there is no guarantee that the conditions have been met which would make it correct and reliable as an equivalence scale. Several deficiencies may be pointed out:

1. A deficiency which the mean expenditure scale shares with all scales based on the Household Expenditure Survey is that the sample size of the Australian surveys was barely sufficient to obtain significant results. Indeed, the sample was too small to provide reliable estimates for single parent families (though the Social Welfare Policy Secretariat tried) and where results were obtained they had high standard errors. It is not always possible to decide whether an irregularity in the scales is due to sample error, or to some mathematical quirk in the estimating procedure, or reflects a true difference in living costs.

2. Though it is established that maintaining living standards is one reason why people save and dissave, it is by no means established that they do so sufficiently for the life cycle hypothesis to be correct. Human shortsightedness may mean that in good times people will tend to spend more

than is necessary to maintain a constant lifetime standard of living, and in bad times they will not have the savings or creditworthiness to fall back on and so will be obliged to accept reductions in the standard. Similarly, if early in their lives they go through a period of financial stringency (say as students) they may not be able or willing to go into debt to finance a foretaste of the standard of living they will subsequently achieve. Again, in the absence of costless insurance arrangements, and in the presence of shortsightedness and uncertainty, unexpected events may force people to depart from their planned lifetime standard of living. This will be especially true when a shortage of income is brought about by an unexpected event such as unemployment, sickness or marital breakdown.

These constraints make it likely that people will maintain their standard of living constant if changes in income are anticipated, relatively temporary and follow a period when savings have been built up. The archetypical case is the fluctuating incomes of farmers, were a reasonably constant stream of consumption expenditure is generally maintained despite the vagaries of seasons and commodity prices. Similarly, when married women deliberately work for part of the year and stay home the rest of the time it is likely that their earnings will be spent more evenly through the year - though they may be set aside towards some special project, like an overseas holiday. These cases, however, are not particularly relevant to the mean expenditure scale, where what matters is the maintenance of a constant standard of living across the long haul of the family life cycle. Though young couples characteristically save towards the costs of having children, they have only a rough idea of what these costs will be, and similarly middle aged people have only a rough idea of how much they will want to spend in their old age. It is arguable that people will tend to spend less than is necessary to maintain the constant standard of living in the low-income phases of their life cycle, though it is possible that they may oversave and end their lives with a stock of hoarded wealth.

3. The mean expenditure of households of similar composition can only reflect a common standard of living, under the life cycle hypothesis, if the households of that composition are representative of the whole population of households classified according to their life-long standard of living.

If, on the other hand, they include a high proportion of households whose standard of living is below the rest, their mean expenditure will understate the amount necessary to achieve the common standard, and vice versa. It is arguable in this context that people who never have children are likely by reason of their low responsibilities to achieve, on average, lifelong living standards that are higher than those of people who go through the normal life cycle, and conversely those who have larger than normal numbers of children will achieve lower standards.

4. Finally, the existence of various rates of interest will affect savings behaviour, though there is disagreement as to the strength and even direction of these effects.

The first of these criticisms of the mean expenditure scale points out the deficiencies of the expenditure surveys, and short of conducting more, bigger and better surveys little can be done except to live with it. The second criticism argues that mean expenditure will be related to long-term income, though not in the full sense of the life cycle hypothesis. Though the mean scale is not a true equivalence scale if this argument is accepted, it may still be possible to make adjustments which will adjust for its deficiencies. The final two criticisms question whether mean expenditures can reflect a common level of costs, even if the life cycle hypothesis were correct.

Though the mean expenditure scale cannot be taken as a true equivalence scale without strong assumptions, it remains as the way in which data from the expenditure surveys is most conveniently summarised, and hence is likely to form the basis of any attempt to derive an equivalence scale from such data. Two main suggestions have been made: that the mean scale should be adjusted according to the proportion of necessities in the budget, and that it should be adjusted according to the level of saving.

The adjustment of the mean expenditure scale according to the proportion of necessities in the budget follows from the observation that some goods and services are relatively important in the spending of low-income people. An equivalence scale can be constructed by observing those kinds of expenditure which diminish relatively with increasing income, and noting the point where

they comprise an equal percentage of the budget, this percentage being arbitrarily selected. The Social Welfare Policy Secretariat applied this method to the Australian data, but found that the results were highly sensitive to the selection of the list of necessities, and also to the selection of the predetermined budget proportion (SWPS 1981 p. 103). Though the method could be made to yield sensible results, it seemed that these were more due to the prejudgements made than to any inherent logic in the method.

Work therefore concentrated on an alternative: the use of savings as an indicator of the stringency of consumer budgets. The theoretical background of this work lies either in a reversion to Duesenberry's relative income hypothesis or in the acceptance of the second of the above criticisms of the mean expenditure scale without the others. In other words, the use of average savings ratios for households of similar composition to indicate the divergence of these households' average budgets from the common standard would be valid if households set their consumption patterns relative to a community standard, or if they followed a modified version of the life-cycle hypothesis, attempting to attain a constant lifetime standard of living, but failing to save enough in their prosperous periods to do so, and consequently failing to dissave enough in their times of low income. On the other hand, average savings ratios for household composition groups would not be valid indicators of the divergence from a common standard if savings were determined at least in part in relation to the household's own life-long standard of living (ie if the life cycle hypothesis rather than the relative income hypothesis were valid) and the membership of household composition groups were not typical of households classified by lifelong standard of living. Again, they would not be valid indicators if the extent of compensation for fluctuations in income varied according to whether the fluctuations were of short or long duration. For example, it may be that short-term fluctuations are completely compensated by savings variations, and long-term only partly, in which case it would be necessary to know whether short or long term fluctuations were in question before valid savings adjustments could be made to the mean scale.

3. Savings-adjusted equivalence scales

If the life cycle hypothesis were fully true we would expect to find savings taking place at a high rate in households where current disposable income is in excess of the cost of a constant standard of living for that household, and

dissaving in the opposite situation. The cost of a constant standard of living depends on household size, and we would expect savings to adjust for this. If the process of saving and dissaving is modified by shortsightedness and by a lack of appropriate financial institutions, we would still expect to find saving and dissaving taking place, but household expenditure would overestimate the cost of achieving a constant standard of living for households experiencing good times and underestimate it for those experiencing bad times. The savings ratio could, on this reasoning, be taken as an indicator of who is experiencing good or bad times. If this were true for individual households, it would also be true for the average of households within a composition group. Further, if the households within the group were representative of the population as a whole, the savings ratio could be taken as an indicator of divergence from the common standard of living. A calculation of the expenditure necessary to achieve the common standard would thus involve increasing the expenditure of those who save less than average, and decreasing the expenditure of those who save more than average. Though the direction of adjustment is known, the extent is not, particularly if there is asymmetry - e.g. a preference for belt-tightening over dissaving - or if the savings ratio is affected by the smoothing out of short-run fluctuations in income rather than the long swings of the family life cycle.

Similarly if the relative income hypothesis is true, saving can be treated as the ultimate economic luxury, and savings ratios taken as an indicator of deviation from the common standard of living - in this case without too much need to worry about whether the household composition groups are representative. The argument then follows in the opposite form to the attempt to set equivalence scales by the proportion of necessities in the budget. Once again, the extent of the required savings adjusted is unknown and, the savings ratio will prove an unreliable indicator if it is affected differently by short and long run changes in income, and also if the savings motives other than the life-cycle or relative standard of living motive vary across household groups. IF savings due to the bequest motive, the precautionary motive or the attractions of purchasing consumer durables vary between household groups, savings will be regarded to different degrees as good in themselves; they will vary in the degree to which different household composition groups regard them as a luxury, and they will therefore not be so reliable an indicator of divergence from the common standard.

Table 2

Mean expenditure and average household disposable income - Australia 1975-76
Income of a married couple, one working, with head aged 25-44 = 100 = $258

For each household type, the following are shown:

Mean expenditure

Average disposable income

Savings ratio (%)

Household composition adults	children	Age of household head 15-24		25-44		45-64		65+	
1,	0	.52 -13	.46	.57 9	.62	.35 -1	.35	.21 10	.23
2,	0	.72 21	.90	.81 19	1.00	.57 15	.67	.38 13	.44
3,	0					.89 18	1.09		
2,	1	.21 9	.66	.72 19	.80	.65 16	.77		
2,	2			.76 6	.81	.83 9	.91		
2,	3			.75 3	.77				
2,	4			.79 4	.82				
3,	1					1.07 20	1.33		
3,	2					1.25 5	1.31		

Source: ABS tapes.

Accepting for the moment the validity of the savings ratio as an indicator of divergence from the common standard, the data in Table 2 indicates that the mean expenditure scale understated the cost of living for single people, especially the young among them and those in later middle age, and also understated the costs of families with more than one child. On the other hand, it overstated the costs of married couples and of the older single-child families (which would generally be families where only one child remained at school, the others having either taken jobs, so forming a three-adult household, or left home). These groups with high savings ratios tended to be at

high income points in the life cycle. Couples without children, and families with teenage sons and daughters who went out to work while still living at home, generally had multiple incomes. On the other hand, single people on average had low incomes - though this average was compounded of single people with jobs, whose earning capacity was not very different from other workers, and the proportion of single people who had low incomes due to their being students, widows or early retirees. Among the elderly both incomes and expenditure were low, and the savings ratio, contrary to the life cycle hypothesis, was about average - certainly not negative.

The question therefore arises whether the average savings ratio of elderly people, being about average, indicated that the mean expenditure equivalence for elderly people was about right, or, being greater than the negative ratio predicted from the life cycle hypothesis, indicated that the mean expenditure scale overstated the costs of elderly people. The savings-adjusted scales prepared by the Social Welfare Policy Secretariat made the former assumption, but given the prominence of the life cycle hypothesis in the Secretariat's arguments the latter may have been the more logical assumption. Again, it may be that the high savings ratio among elderly people was due to the strength of the precautionary motive at this age (Danziger et al 1983). Elderly people may save, not because of excess income, but due to fear that they may enter a costly nursing home. If this is the case, the fact that elderly households save is no indication that they are reaching the common standard of living, but rather the reverse.

Because income and savings depended on how many household members were at work, it is logical to prepare equivalence scales seperately according to workforce participation. Unfortunately the ABS did not publish much detail on the differences in expenditure patterns by workforce participation, perhaps because participation is hard to define: just what degree of part-time employment constitutes being `at work'? However, some information has been provided from the 1974/5 survey, and is summarised in Table 3.

Table 3

Mean expenditure and average household disposable income by workforce participation: Australia 1974-75, excluding households with head aged 65 and over.

Income of a married couple, one working, with head aged under 35, = 1.00 = $141

Household composition		1 worker households			2 worker households		
Adults	Children	Total expend.	Disposable income	Savings ratio%	Total expend.	Disposable income	Savings ratio%
2	0	.89	1.02	12	1.15	1.62	29
2	1	.98	1.06	8	1.18	1.56	24
2	2	1.05	1.13	7	1.29	1.60	19
2	3	1.12	1.17	4	1.30	1.62	20
2	4	1.18	1.32	10	1.33	1.66	20
		0 worker households			1 worker households		
1	0	.44	.38	-17	.73	.92	21

Source: Household Expenditure Survey 1974-75, courtesy Social Welfare Policy Secretariat

By far the greatest number of no-worker families were elderly, and it was therefore difficult to compare the average incomes and expenditures of no-worker households with those of one-worker households. However, a somewhat precarious comparison was possible between single people aged under 65 who were at work and those who were not - precarious because of small sample numbers in the not at work category. According to this comparison, being at work more than doubled income, the extra resources being divided more or less equally between saving and extra expenditure. The behaviour of the savings ratio indicated that the mean expenditure scale underestimated the costs of living of people out of the workforce, and overestimated the costs of those with jobs.

Similarly among married couples. The wife's work generally added substantially to the family income - 58 per cent extra on average, for couples without children, but diminishing as family size increased. The savings ratios of single-worker families were low, but the addition of a second income increased savings more than it increased expenditure. It is tempting to speculate in this instance that many of the second incomes were temporary, and that many of the single income households had had second incomes in the recent past, so that

much of the high savings rate of two-earner families arose in the course of their maintaining a constant standard of living despite fluctuating labour force participation. If this were the case, the high savings ratios of two-earner families may not indicate that the mean expenditure scale overstated the cost of a constant standard of living. It is at least likely that the overstatement was less than in the case of long term variations in household composition.

4. The extended linear expenditure system scale

Even this brief review of the pattern of savings ratios is sufficient to raise doubts as to their usefulness as indicators of differences between the mean expenditure scale and the costs of a constant standard of living. However, despite these doubts, and despite further doubts as to the accuracy of the savings estimates gathered by the Household Expenditure Survey, the Social Welfare Policy Secretariat, following a methodology set out by Professor Kakwani, produced an equivalence scale based on the argument that high average savings ratios identify groups of households whose mean expenditure is greater than that required to attain the common average standard of living (SWPS 1981 p. 109). The hypothesis was that households behaved as though their expenditure was in two parts: precommitted expenditure and discretionary expenditure. Precommitted expenditure provided a basic standard of living which they would try to maintain whatever their income, but if income exceeded that necessary to cover precommitted expenditure, they would choose between spending it on extras or saving it. Professor Kakwani argued that the equivalence scale should be set in terms of relative levels of precommitted expenditure (Kakwani 1977). Given his choice of savings as an indicator of non-necessary consumption, that income where savings were zero and all income was spent, that is, the level of precommitted expenditure, gave equal utility to families of different size.

The method proposed for estimating precommitted expenditure was to estimate a straight-line consumption function from cross-section household expenditure survey data. The point on the function where consumption equalled disposable income was taken as precommitted expenditure. It was then possible, by means of a linear expenditure system, to fill in the consumer budget at this level of expenditure, hence the name extended linear expenditure system approach, but

this added refinement did not affect the estimation of precommitted expenditure or of the equivalence scale. The upshot of this procedure was that high equivalence scale ratings were given to household types where (1) average expenditure was high (this determined the level of the consumption function) and (2) where the slope of the consumption function was small.

As it turned out from the 1974-75 survey (edited to exclude the self-employed and some others who reported savings inconsistent with their income and expenditure) the slopes of the consumption functions were similar, and therefore the adjustment from total to precommitted expenditure was virtually proportional to the amount of savings. Chart 1 shows the relationship, which gives an r2 of 0.96. High rates of saving were reported for single workers aged 35-64 and for two-worker couples without children. Precommitted expenditure for a single worker aged 35-64 was therefore but 74 per cent of the mean. Even more noticeable was the reduction for a second worker in a household with head under 35: the increase in precommitted expenditure was only 46 per cent of the increase in the mean. Otherwise precommitted expenditure followed the pattern of the mean, with some small increases in the differentials for children. These differentials, however, remained low, apart from stray cases bringing home the low statistical reliability of the estimates.

The results of the Social Welfare Policy Secretariat's calculations are shown on Table 4, along with the savings and disposable income figure for each household group. It is noticeable that single people under 35 appeared to have high expenses, spending most of their incomes and saving little. On the other hand, single people aged 35-64 spent much less than the younger singletons, and saved much more: this resulted in their precommitted expenditure being much less than the mean. This age difference in savings ratios was not nearly so pronounced for couples; therefore the difference in precommitted expenditure between a single person and a childless couple was marked in the older age group, but quite small among those under 35. The overall equivalence scale for the difference between single persons and childless couples, disregarding age, averaged these two observations, and therefore concealed as much as it revealed. If anything the calculations argued for treating age groups separately in poverty calculations, with a different equivalence scale for each age group.

Table 4

The Extended Linear Expenditure System Equivalence Scale-Australia 1974-75

Income of a married couple, one working, with head aged <35, = 100 = $141

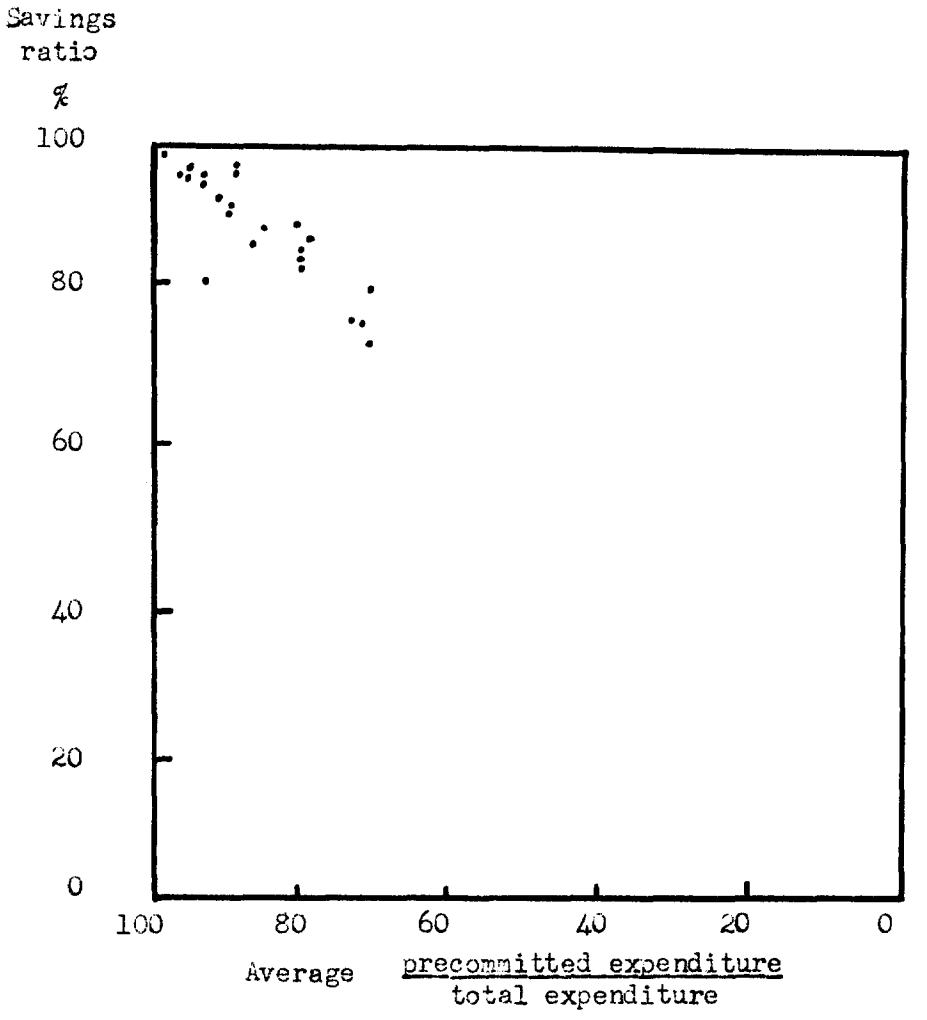
For each household type the following are shown:

	Additional precommitted expenditure		Additional discretionary expenditure	
	additional savings		additional net income	

Household composition	Head works, wife works				Head works, wife at home				Neither work	
age of head	<35		35-64		<35		35-64		65+	
adults, children										
1, 0	.79	.04	.48	.17	.79	.04	.48	.17	.26	.03
	.11	.93	.27	.92	.11	.93	.27	.92	.04	.33
2, 0	.16	.19	.35	.09	.13	-.01	.28	-.06	.23	.01
	.38	.74	.16	.60	-.06	.07	-.12	.11	.08	.25
2,1	.11	-.07	.04	0	0	.01	.16	-.03		
	-.16	-.11	.01	.05	.02	.04	-.04	.10		
2,2	.04	-.02	.24	-.06	.04	.01	.09	-.01		
	-.04	-.03	-.11	.08	.01	.06	-.01	.08		
2,3	-.04	-.01	.02	-.01	.06	-.01	.11	-.04		
	0	-.04	0	.01	-.03	.02	-.05	.02		
2,4			0	.01			-.04	.06		
			.02	.04			.07	.09		

Source: ABS 1981, and supplementary information.

Chart 1 The precommitted expenditure ratio and the savings ratio



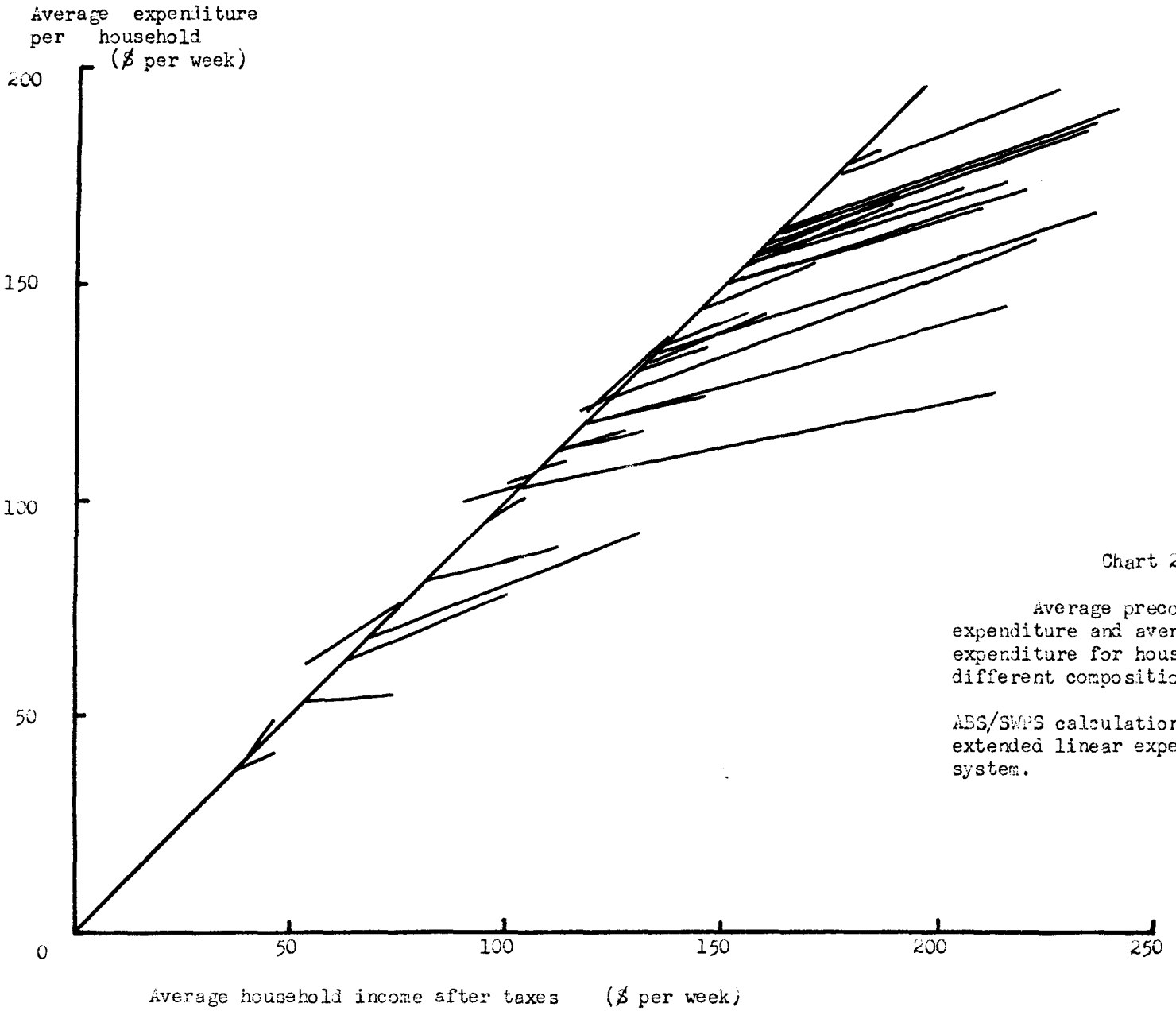


Chart 2

Average precommitted expenditure and average total expenditure for households of different composition, 1974-75.

ABS/SWPS calculations from the extended linear expenditure system.

Similarly there was a marked difference between households with one breadwinner and those with two. In Table 4 this can be seen by comparing the differential between a single person and a two-worker couple with that between a single person and a one-worker couple. In the former case the high savings rate resulted in high estimates of discretionary expenditure, but even after this had been subtracted from mean expenditure the average level of precommitted expenditure was noticeably higher than for a one-worker couple. The estimate for households as a whole was a weighted average of these two, which once again concealed as much as it revealed. This was even more the case if, as argued above, the mean equivalence scale was likely to be reasonably accurate for the difference in costs between single-worker and two-worker couples, in which case the extended linear expenditure system calculations would have overadjusted for the difference in costs.

However, the main question is not whether different scales should be applied to different age and workforce groups, but whether the precommitted expenditure scales have a valid claim to measure differences in the cost of an average standard of living. Several points may be noted:

1. The role of savings is ambiguous. They are the means by which continuity of consumption expenditure is achieved, and also the indicator of the amount of discretionary consumption in consumers' budgets. They are the means by which short-term fluctuations in income due to changes in the workforce participation of married women are ironed out, but equally the means by which the long swings in standards of living due to changed family responsibilities are supposedly dampened. They are the means by which assets are accumulated for use in old age, but the elderly do not on average dissave - an inconvenient aspect of behaviour which is disregarded when the precommitted expenditure of the elderly is estimated according to the same rules as for a young family. The method seems to be trying to assume the life cycle hypothesis, and at the same time to deny it.

2. In its practical operation the method is almost as sensitive to income constraints as the mean expenditure scale. In the high cost phases of the life cycle, particularly if they are not preceded by low cost phases during which savings can be built up, people are likely to be constrained in their

attempt to maintain a constant standard of living by the inability to arrange the necessary dissaving. Indeed, the desire to live within income is strong in many people, and combined with the high cost of credit may persuade them to reduce consumption standards rather than dissave. Not only will this result in mean expenditure lower than required for the maintenance of a constant standard of living; the whole consumption function will be lowered and with it the estimate of precommitted expenditure.

3. The methodology assumes either that the relative income hypothesis gives a complete account of saving decisions, or to the extent that the life cycle hypothesis applies, assumes that each household group contains a representative sample of all individuals classified by life-long standard of living. These assumptions are unlikely to be true of some household groups, particularly the single parents and the large families. In the first case by reason of low incomes, and in the second by reason of high costs, these groups are likely to be experiencing lower standards of living than the average for the population, and their consumption functions are likely to be depressed below the true equivalence level. The same will be true of the consumption function of the elderly if precautionary saving is more important for them than for other groups, and may be true for some young households if they are saving up to buy consumer durables.

For these reasons the equivalence scales developed by the extended linear expenditure system method are not to be trusted. However, it might be replied that the objections can be met by redefining `saving'. As defined in the Household Expenditure Survey, `saving' is a statistical residual - recorded income less recorded expenditure. It is therefore liable to misstatement due to any failures to record either income or spending. It is at the mercy of whatever people have admitted concerning their gambling activities, or their purchases of alcohol and tobacco (which in the aggregate are understated). It is affected by misstatements of income, particularly by the self-employed who are so used to understating their incomes for tax purposes that they do not notice when they give the statistician implausible income estimates which do not tally with their expenditures. It is also arguable that saving as defined for the household expenditure survey excludes a wide variety of savings in the form of current purchases of household capital goods.

Little can be done to rectify the deficiencies of `saving' as recorded in the expenditure surveys, but it is possible to redefine saving to add to `saving' as recorded the saving represented by the current purchase of capital goods. For these calculations we return to the 1975-76 survey. Unfortunately, due to the lack of estimates of the marginal propensity to consume of respondents in this survey, it was not possible to apply the full extended linear expenditure survey method to saving as redefined. Table 6 is therefore confined to the pattern of current versus capital expenditure, and the associated changes in savings broadly defined. Similarly, for lack of published data, it is not possible to distinguish households by the number of workers. For comparative purposes Table 5 provides data for the same group using the narrower definition of savings.

5. Current and capital expenditure

A comparison between Tables 5 and 6 shows that the pattern of saving, broadly defined, if anything accentuated the pattern of saving narrowly defined. Single person households saved rather little, while two-adult households saved a great deal except in the oldest age groups. Families with children generally saved less than couples without, and generally also spent less on capital goods, though they might spend more, or about the same, on current consumption.

The question now is how the savings adjustment should apply. Should it modify mean total expenditure, or merely current expenditure? On the permanent income hypothesis it should presumably modify neither, but be applied to current expenditure plus the value in current consumption terms of the benefits flowing from the household's stock of capital goods. However, no information is available on this flow; therefore for illustration we resort to applying the savings adjustment to mean expenditure, as before. Though the information to calculate consumption functions has not been released by the ABS, the relationship reported in Chart 1 between savings and discretionary expenditure should be sufficiently strong to provide an estimate of how mean expenditure was divided between precommitted and discretionary expenditure. Estimates of precommitted expenditure were therefore prepared from Tables 5 and 6 on this basis, with the further assumption that the changed definition of saving in Table 6 caused no change in the relationship between saving and precommitted

Table 5

Relative Income and expenditure - Australia 1975-76

Income of a married couple aged 25-44 = 100 ($258)

For each household group the following average estimates are shown:

Additional expenditure — Additional disposable income

Additional savings

Household composition Adults, children	Age of household head 15-24	25-44	45-64	65+
1, 0	.52 .46 -.06	.57 .62 .06	.35 .35 0	.21 .23 .02
2, 0	.19 .44 .25	.24 .38 .14	.22 .32 .10	.18 .21 .03
3, 0			.32 .43 .10	
2, 1	-.12 -.25 -.12	-.09 -.20 -.11	.08 .10 .02	
2, 2		.05 -.01 -.03	.18 .14 -.03	
2, 3		-.01 -.04 -.03		
2, 4		.03 .05 .02		
3, 1			.17 .24 .10	
3, 2			.19 -.02 .07	

Source: ABS tapes.

Table 6

Relative current and capital expenditure
Australia 1975-76

Income of a married couple aged 25-44 = 100 ($258)

For each household group the following average estimates are shown:

Additional current expenditure	Additional capital expenditure
Additional extended savings	

Household composition Adults, children	Age of head of household 15-24	25-44	45-64	65+
1, 0	.38 .14 .08	.46 .11 .17	.28 .06 .06	.18 .03 .05
2, 0	.14 .05 .31	.10 .14 .28	.16 .07 .16	.16 .02 .05
3, 0			.24 .09 .19	
2, 1	-.08 -.04 -.17	-.03 -.05 -.16	.09 -.01 .02	
2, 2		.03 .01 -.03	.13 .05 .02	
2, 3		.01 -.02 -.06		
2, 4		.05 -.02 0		
3, 1			.17 0 .07	
3, 2			.06 .12 -.08	

Source: ABS tapes.

Table 7

Savings adjusted equivalence scales
Australia 1975-76

Married couple aged 25-44 = 1.00

Household Composition	ELES definition of saving Age of household head				Broad definition of saving Age of household head			
Adults, children	<25	25-44	45-64	65+	<25	25-44	45-64	65+
1, 0	.79	.77	.50	.29	.72	.84	.56	.30
2, 0	.09	.23	.23	.23	.12	.16	.25	.16
3, 0			.37				.39	
2, 1	-.09	-.06	.10		-.07	-.02	.12	
, 2		.10	.29			.11	.30	
, 3		.03				.04		
, 4		.03				.05		
3, 1			.16				.23	
, 2			.21				.39	

Source: Calculated from ABS tapes.

expenditure. This simple assumption would not be correct, but the differences likely to follow from its relaxation (using data available) would probably not be sufficient to modify the savings-adjusted equivalence scales presented in Table 7 sufficiently to change the conclusion that the substitution of savings broadly defined for savings narrowly defined had very little effect on the estimated scale.

As with previous calculations, it is noticeable from Table 7 that the precommitted expenditure for elderly people was much less than for those who were younger. Given that assets, particularly housing and consumer durables, are typically accumulated with age, this difference would have been much less marked had expenditure been defined as current consumption plus the annual value of the services of household capital goods. According to calculations by Danziger et al (1983) the services of housing and consumer durables added an average of 17 per cent to the value of the consumption of American households with head aged 65 and over, whereas there was no net addition for households with head aged under 65. Unfortunately it is not possible to make such a calculation for Australia (the American calculation involved marrying information from income and wealth surveys, and there have been none of the latter in Australia). However, the calculation raises the question as to whether it is sufficient to measure poverty in terms of income alone, and the further question as to whether poverty refers only to current expenditure, or whether poor people should be thought of as carrying out a poor person's version of the accumulation of consumer durables which is undertaken by the population as a whole. These questions are elided in the extended linear expenditure system approach, but should be faced directly. At the very least they would require that a distinction be made between current and capital expenditure by consumers.

More generally, our investigation of the extended linear expenditure system approach casts doubt on the proposition that trustworthy equivalence scales can be imputed from the manipulation of a limited amount of household expenditure data - in this case the pattern of mean expenditure and savings ratios. The attempt to impute the inobservable without any check from direct observation is bound to fail - though in the failure we have learnt a great deal about the pattern of household expenditures.

Having cast doubt on examples of equivalence scales drawn up by both the budget-based and the mathematical approach, it should perhaps be time to stop, but unfortunately the practical need for a workable scale spurs us onwards. The path ahead would seem to lie between the two approaches: neither the approach of detailed budget-building (which is too specific to be representative) nor the application of ready made mathematical techniques. No more than preliminary work can be done towards this next phase, but that work needs to be done. It consists of an examination of how spending patterns vary by household composition.

6. The varieties of consumer expenditure

Economists have developed a number of classifications of goods and services in the course of their investigations of consumer expenditure patterns. A common classification is into necessities and luxuries according to the income elasticity of demand. Investigations of price elasticities have revealed patterns of substitutability and complementarity, and led to the characteristics approach to consumer demand by which goods and services are classified according to the fundamental needs and wants they meet. Consumer expenditure can also be classified according to the physical characteristics of the items purchased, be they services or goods, and if goods whether they be durable or for immediate consumption. However, none of these typologies was developed specifically for the investigation of how budgets vary with household composition. Our task is to develop such a classification.

Theoretical approaches to the development of a classification are readily available. The economic operations of households have been likened to those of firms, complete with production function and inputs of labour, capital (consumer durables) and purchased raw materials (goods and services). The outputs are the satisfaction, to varying degrees, of the main wants of the household, with the problem that wants are not precisely definable, and nor are levels of satisfaction observable - hence the difficulty in calculating equivalence scales. Even so the concept of a production function is helpful, for it puts us on the watch for economies and diseconomies of scale, attatching properly to the non-observable output, but quite possibly discernable in the pattern of purchase of inputs. Again, it makes us aware of the role of consumer durables, the purchase patterns of which may be quite different from current consumption goods.

Not only is the household production function likely to exhibit economies of scale in some inputs, and to have a role for capital goods; the outputs required are likely to vary not only with the tastes of the household members (and with the power accorded to each in internal household decision-making) but are likely to depend systematically on household composition. There are some items which children need or like and adults do not, and vice versa; there are some items which are of more interest to young adults and less to old, and vice versa; there are some items which are needed more by members of the workforce than by those who do not go out to work, and so on. Systematic variation is to be expected in the pattern of inputs for these reasons, and contributes to the difficulty of assessing equivalent outputs.

Though it is thus possible to hazard various theoretical expectations, there is no substitute for an empirical investigation to fill out the empty boxes. For this purpose a preliminary classification of consumer expenditure has to be made, both to reduce the very great variety of goods and services to a comprehensible number of categories, and to obtain groupings of expenditures large enough for the household expenditure surveys to produce statistically significant patterns. For present purposes the following categories were defined:

1. Mortgage payments
2. Rents
3. Other housing payments (rates, repairs, insurance)
4. Fuels for stoves and heating (ie excluding transport fuels)
5. Foods for home preparation
6. Take-away foods and eating out
7. Alcohol and tobacco
8. Clothing
9. Household capital equipment (eg furniture, crockery, floor coverings, white goods)
10. Household current supplies (e.g. repairs, soaps, domestic services)
11. Medical
12. Vehicle purchase
13. Current transport (fuel, fares, repairs, motoring taxes, communication)
14. Entertainment equipment (purchase of TV, radio, musical instruments, sporting goods etc)
15. Current entertainment (repairs to the above, theatres etc., books, education expenses)
16. Miscellaneous (hairdressing, cosmetics, jewellery, holidays, charity).

The above categories attempt to distinguish consumer durables from current consumption expenditure, and to separate the main groupings for which different degrees of necessity are commonly claimed. Inevitably it is not only the miscellaneous category which is somewhat mixed, but in most cases of mixing (e.g. the inclusion of education with current entertainment) the expenditures involved are small. It is quite possible that subdivision of these primary categories might result in the observation of differences of pattern between some of the subdivided items, but it is less likely that items would appear which have such highly distinctive patterns of expenditure that they do not fit into the classification developed from the present investigation.

For each type of consumption expenditure a table was developed showing the increase in average spending associated with increases in household size, according to the age of the household head. Unfortunately the tapes of the 1975-76 Household Expenditure Survey, from which the data was drawn, did not make any distinction between no-worker, one-worker and multiple-worker households, nor did they distinguish renters, home purchasers and owner occupiers. The unavailability of data according to these distinctions limits the conclusions which can be drawn from the present study. A further limitation is the sample size of the Household Expenditure Survey, which may be blamed for some of the inconsistencies in the estimates, and which introduces uncertainty about the classification of some expenditure groups.

In a two-way table comparisons can be made either across or up and down; in this case across the life cycle and between household sizes. The classification of expenditure groups thus depends on life-cycle factors and on the scale factors associated with household size as well as on the consequences of income differences between households of different composition, and differences in tastes and needs between them. Across the life cycle, trends can be identified mainly in the figures for single adult households without children. For some groups of goods there is no, or little, trend; for others there is a declining trend, with the peak in either the youngest or the second-youngest age group. Because of the low incomes of older single-person households it is necessary that there be a general trend towards less expenditure with increasing age, but it is significant that the cuts are made in some heads of expenditure and not others.

Table 8

Patterns of commodity expenditure
Australia 1975-76

Married couple aged 25-44 = 1.00 (= $258)

Household composition	Age of head of household				Age of head of household			
	15-24	25-44	45-64	65+	15-24	25-44	45-64	65+
	Capitation goods				Flagfall goods			
1, 0	.09	.12	.11	.09	.33	.37	.19	.10
2, 0	.07	.06	.08	.07	.06	.03	.10	.09
3, 0			.06				.16	
2, 0	.01	.04	.05		-.11	-.08	.02	
2		.03	.05			.02	.12	
3		.01				0		
4		.04				0		
3, 1			.05				.12	
2			.06				0	
	Vehicle purchase				Home purchase			
1, 0	.07	.03	.02	0	.04	.06	.03	.02
2, 0	-.02	0	.02	.02	.07	.13	.03	.01
3, 0			.04				.02	
2, 1	.03	.01	0		-.05	-.06	0	
2		0	-.01			0	.02	
3		0				-.03		
4		.01				-.01		
3, 1			-.03				.03	
2			.11				.02	

Table 8 continued

Flagfall goods

Household composition	Age of head of household				Age of head of household			
	15-24	25-44	45-64	65+	15-24	25-44	45-64	65+
	Current transport				Current entertainment			
1, 0	.10	.07	.04	.02	.03	.03	.02	.01
2, 0	0	.05	.05	.02	.01	.01	.01	.01
3, 0			.05				.02	
2, 1	-.02	-.03	0		-.01	-.01	.02	
2		.02	.02			.01	.02	
3		0				.01		
4		.01				0		
3, 0			.04				.03	
1			.02				.01	
	Alcohol and tobacco				Miscellaneous			
1, 0	.03	.04	.02	.01	.02	.05	.03	.02
2, 0	.01	0	.02	.01	.02	0	.02	.02
3, 0			.02				.02	
2, 1	-0.1	0	-.01		-.02	-.01	0	
2		-.01	0			0	.05	
3		0				0		
4		0				0		
3, 1			.02				.03	
2			0				-.02	
	Entertainment equipment				Eating out			
1, 0	.03	.02	.01	.01	.03	.03	.02	.01
2, 0	0	0	.01	0	.01	.01	0	0
3, 0			.03				.02	
2, 1	-.02	0	0		-.02	-.02	.01	
2		0	.03			0	0	
3		0				0		
4		-.01				0		
3, 1			0				.02	
2			0				0	

Table 8 continued

Flagfall goods

Household composition	Age of head of household				Age of head of household			
	15-24	25-44	45-64	65+	15-24	25-44	45-64	65+
	Rent				House repairs, rates etc.			
1, 0	.07	.07	.02	0	0	.05	.03	.02
2, 0	0	-.02	-.01	0	.02	-.02	0	.02
3, 0			0				.02	
2, 1	0	0	0		-.01	-.01	0	
2		-.01	.01			0	0	
3		-.01				0		
4		0				0		
3, 1			-.01				0	
2			0				0	
Home purchase	Household capital goods				Mortgages			
1, 0	.02	.03	.03	.02	.02	.03	.01	0
2, 0	.03	.09	.02	.01	.04	.05	.01	0
3, 0			.01				0	
2, 1	-.02	-0.4	0		-.02	-.02	.02	
2		0	.01			0	.02	
3		-.02				-.01		
4		0				-.01		
3, 1			.03				-.03	
2			0				.02	

Table 8 continued

Household composition	Age of head of household 15-24	25-44	45-64	65+	Age of head of household 15-24	25-44	45-64	65+
Capitation goods					Clothing			
Fuels								
1, 0	.01	.01	.01	.01	.03	.04	.03	.02
2, 0	0	0	.01	.01	.02	0	.02	.01
3, 0			0				.05	
2, 1	0	0	0		-.01	.02	.02	
2		0	0			0	.02	
3		0				0		
4		0				.01		
3, 1			0				.01	
2			0				.02	
Current household supplies					Medical			
1, 0	0	.01	.01	.01	.01	.01	.01	.01
2, 0	.01	.01	0	.01	.01	.01	.01	.01
3, 0			0				.01	
2, 1	0	0	0		0	0	.01	
2		0	.01		0	0		
3		0				0		
4		0				0		
3, 1			0				0	
2			0				0	
Food								
1, 0	.04	.05	.05	.04				
2, 0	.03	.04	.04	.03				
3, 0			.05					
2, 1	.02	.02	.03					
2		.02	.02					
3		.01						
4		.03						
3, 1			.03					
2			.03					

Source: ABS tapes.

As regards returns to scale, the pattern can differ by age group. Where economies of input use are present, they are shown by the additional expenditure for additional household members being small or even negative. This is more likely where single-person households have heavy expenditure, and therefore tends to be more easily manifested in the younger than in the older age groups. Two main comparisons can be made: between single person households and couples without children, and between couples without children and those with. The latter comparison is most easily made in the tables by looking at the additional expenditure for a couple with one child vis a vis a couple without children. For many commodity groups this marginal expenditure is negative, and spending by families with children is less than for households without.

Based on the life cycle trends and the economies of input use exhibited in the data the following classes of consumption were distinguished:

1. House purchase
2. Capitation goods
3. Flagfall goods and
4. Vehicle purchase.

The characteristics of each are as follows.

1. House purchase

In the data available amounts paid for house purchase are averaged over all households whether they are buying houses or not, while capital payments for houses are not shown - they were too infrequent for reliable estimates to be gathered by the expenditure survey technique. Accordingly the amounts spent on house purchase are underestimated, and the pattern of payments is not sufficiently peaked in the years when capital payments are made which would, in general, be the earlier years of the family life cycle. Even so, the pattern of average expenditure on house purchase was distinctive in several ways, most particularly the fact that in the younger age groups two-adult households without children on average spent more than twice the amount that single adults spent on this item. Spending by households with children was less than by childless couples, and the amounts paid fell away rapidly with age. All this is

in accord with common knowledge about house purchase: it is usually undertaken by young couples, and the heaviest expenditure occurs before they have children.

The same pattern applied to household capital equipment, which could therefore be included in the same category.

2. Capitation goods

Some consumption expenditures seemed to be made on an individual basis, and hence the amounts spend varied little with age and increased steadily with the number of household members. Thus food, fuel, current household supplies and medical services were bought throughout the life cycle, with two-adult households spending generally about 70-80 per cent more than a single adult household, and children adding to expenditure by say half the cost of an extra adult - rather less when little, and more in older families. Clothing may also be placed in this group, though it was something of a borderline case. Unlike other capitation goods spending on clothing tended to decline with the age of the household head, while the increases with household size were more subdued than with the typical capitation good. However, the decline with age was not pronounced, while increases with household size were definitely present, particularly among the older families. Though on the borderline of flagfall goods clothing was therefore classified as a capitation good. It may be that it could be subdivided in such a way as to remove the ambiguity, but that is not attempted here.

3. Flagfall goods

Just as some goods and services seemed to be purchased on an individual basis, so others were bought in similar amounts per household. Spending by two-adult households on these goods and services was not very much more than for single person households, while households with young children on average spent less than childless couples. Households with older children were a little less constrained for income, and might on average spend a little more, but the amount was not much. This lack of relationship with household size was associated with lower spending among older households, particularly single

person households. The items of expenditure following this pattern included rent, other housing costs, eating out, alcohol and tobacco, current transport costs, entertainment (both capital and current) and other miscellaneous goods and services. Current transport and current entertainment could perhaps be distinguished from other goods and services in this category in that the amounts spent by two-adult households tended to be around 50 per cent greater than for one-adult households; in the other cases the addition was much less.

4. Vehicle purchase

Finally, vehicle purchase had a pattern of expenditure similar to a flagfall good, except that the amounts spent by young married couples with children were greater than spending by childless couples. The explanation of this pattern might be that young couples in the heroic stages of house purchase deferred car buying, but once the children started to arrive they were likely to be through the worst stages of their mortgage, and so were able to buy a new car, or perhaps a second car to help with the children. Whether this difference of pattern is sufficient to justify a separate major category is doubtful, and it may be enough for some purposes to consolidate vehicle purchase with flagfall goods.

The above classification of commodity groups into four categories was done on the basis of patterns of average dollar expenditures. It can be argued that this would be the correct way of recognising expenditure patterns if the permanent income hypothesis were correct, and average expenditure for each household composition reflected the amounts necessary to achieve a common standard of living despite differences in household composition. However, it was also argued that expenditures are limited by income; that incomes do not necessarily vary so as to maintain standards of living when there are changes in household size, and that savings and dissavings do not necessarily compensate. If this is the case it might be better to classify goods and services according to the pattern of differences in proportions of total expenditure. Accordingly tables were prepared on this basis and comparisons were made, as before, between single-person households of different age, and between similar-age households of different composition, noting whether the weight of each commodity group in the budget increased, decreased or remained much the same. This analysis identified the same four categories of goods and services, but the borderline cases were somewhat different.

Capitation goods and flagfall goods were opposites. Spending on capitation goods as a proportion of the budget of a young single consumer was low, but the proportion increased both with age and household size. Flagfall goods were the reverse: their proportion in the budget of a young single consumer was high, and diminished with age and household size.

As was to be expected, there was room for intermediate cases between these extremes, whether due to real differences in pattern or simply reflecting the unreliability of the statistics. Even so, two expenditure groups almost completely met the requirements for an archetypical capitation good: medical services and food. Fuel for heating also came close: the difference was that the increase in the budget proportion for a two-adult over a single-adult household was small. Clothing increased as a proportion of the budget with age, but not generally between one-person and two-person households. However, it followed the pattern for capitation goods in that households with children (particularly older children) devoted a greater part of their budget to clothing than those without children. Household supplies similarly increased as a proportion of the budget with age, and except in the case of households with head aged 45-64 the proportion increased with household size.

Among the grouped goods and services there was none which completely fulfilled the archetype of a flagfall good with maximum proportions in the budget of young single people. The nearest examples were rent and eating out, which diminished with both age and household size, but with several instances of equality. Spending on vehicle purchase and on current transport expenses also diminished with age as a proportion of the budget of single person households, reflecting their considerable importance in the budgets of the young and single. They differed from the archetypical flagfall good, however, in that curent transport expenses tended to increase as a proportion of the budget for two-adult households, even though they diminished again when children were added, while vehicle purchase was more significant for two adult as against single adult households in the higher age groups, and for households with children in the lower. We have already referred to the distinctiveness of the latter pattern, and explained it as possibly related to the stress mortgages place on the budgets of young couples. The higher proportion of the budget devoted to vehicle purchase by two-adult rather than one-adult households in

Table 9 Changes in proportions of household budgets
Read across the top row for age differences
Read down the columns for (1) 2nd adult and (2) children

Mortgage				Home repairs and rates				Fuel				Food			
x	+	-	-	x	+	=	=	x	+	+	+	x	+	+	+
+	+	+	=	+	-	-	+	=	=	=	=	+	+	+	=
-	-	-		-	=	=		+	+	+		+	+	+	
Eating out				**Alcohol**				**Cloth**				**Household equipment**			
x	=	-	-	x	+	-	-	x	+	+	+	x	+	+	-
=	-	-	=	-	-	+	+	+	-	-	-	+	+	=	-
-	-	=		=	=	-		=	+	+		-	-	-	
Household current supplies				**Medical**				**Vehicle purchase**				**Current transport**			
x	+	+	+	x	+	+	+	x	-	=	-	x	-	-	-
+	+	-	=	+	+	+	+	-	-	+	+	-	+	+	+
+	+	-		+	+	+		+	+	-		-	-	-	
Entertainment equipment				**Current entertainment**				**Miscellaneous**				**Rent**			
x	-	-	+	x	+	-	-	x	+	-	+	x	-	-	-
-	-	+	-	+	-	-	=	+	-	+	-	-	-	-	-
-	+	-		-	-	+		-	-	-		=	=	-	

Average patterns for total expenditure in each category

Vehicles				Home purchase				Capitation				Flagfall			
x	-	=	-	x	+	=	-	x	+	+	+	x	=	-	-
-	=	=	+	+	+	+	=	+	=	=	=	-	-	-	=
+	=	=		-	-	=		+	+	+		-	-	=	

Archetypical patterns

Vehicles				Home purchase				Capitation				Flagfall			
x	-	-	-	x	+	-	-	x	+	+	+	x	-	-	-
-	-	-	-	+	+	+	+	+	+	+	+	-	-	-	-
+	+	+		-	-	-		+	+	+		-	-	-	

Source: ABS tapes.

the older age groups, like the higher proportion spent on current transport and also on alcohol, might also be related to sex differences. In the higher age groups single person households tend to be female, while two-adult households generally include a man who is more likely than a single woman to spend on motoring, drink and tobacco.

The alternative pattern of variation with age exhibited by flagfall goods was for an increase in the proportion of budget spent to occur between single people aged under 25 and those aged 25-44, followed by a decline in the older age groups. Items following this pattern included alcohol and tobacco, rent and other housing, current entertainment and miscellaneous goods and services. Entertainment equipment provided a further pattern, in which the proportion of the budget declined through middle life, but kicked up in old age. In each of these cases the budget proportion tended to decline with household size, but not always reliably so - perhaps because some of the items concerned were bought relatively infrequently, and therefore generated statistics with high standard errors.

Mortgages and household capital goods were as distinctive in this analysis as they were in the version relying on dollar differentials. Unlike capitation goods they exhibited some decline in proportion with age, and were less for households with children than for those without, but unlike flagfall goods they were a larger proportion of the budget for two-adult than for single adult households.

This account still leaves unresolved the question as to whether vehicle purchase should be included among the flagfall goods or kept separate. The distinctive feature which differentiated it from flagfall purchase was the higher expenditure by young households with children compared to those without. It was possible that this difference was not statistically significant: the sample numbers in the relevant household composition group were not large, and cars are an infrequent purchase where chance events in the expenditure survey may have caused wide differences of estimate. On the other hand, the observed differences were not entirely without rationale. Accordingly, we will treat vehicle purchase separately if the context requires it, but will otherwise include it as a flagfall good.

The redescription of the groups of commodities in terms of proportions of expenditure rather than dollar amounts thus elucidates but does not upset the identification of categories. However, it can be argued that the patterns would be different, and perhaps the categories also, if additional distinctions could be made between household types. The suggested distinctions include those between no-worker, one-worker and two-worker households, between tenants and those owning or buying their housing, and between car owners and non-owners. None of these distinctions could be pursued with the data to hand, and the best that can be done is to speculate on the difference the distinction might have made.

We have already seen from the analysis of patterns of average total expenditure and savings that important differences exist between one-worker, two-worker and no-worker households, and it is likely that these differences would extend to the composition of expenditure, and particularly the pattern of flagfall spending. Transport and eating out, in particular, are likely to be worker's goods rather than non-worker's. The pattern of capitation goods purchases might also be affected, in that some would argue that workers have to spend more on clothing than others.

If tenants were distinguished from purchasers and owner occupants an obvious difference would arise in the pattern of housing payments, with significance for the relative weight of flagfall goods (which include rent) and house purchase costs. However it is unlikely that the pattern of flagfall goods would be much different for tenants than for home owners (average rent paid per renting household declines with the age of the household head, and the decline reported in the expenditure survey is not therefore solely due to the diminishing proportion of tenants in each age group) while the pattern of house purchase costs would be similar, but restricted to owners and buyers (except in so far as tenants buy furniture and pay maintenance costs).

The separation of households into motorists and non-motorists would likewise have obvious effects in increasing the importance of motoring expenditure for the one group, and reducing it for the other - who would be on average of lower income. However it is questionable whether much change would be made to patterns of expenditure, and hence to the classification of expenditure groups.

We thus remain content with the four groups: capitation goods, flagfall goods, vehicle purchase and house purchase. The relative importance of the four categories of expenditure in total spending reported in the Household Expenditure Survey 1975-76 was flagfall goods 49 per cent, capitation goods 32 per cent, house purchase 13 per cent and motor vehicle purchase 6 per cent. Had capital payments for houses been included the proportion of expenditure spent on house purchase would have been approximately 18 per cent with corresponding downward adjustments for the other categories.

The classification thus developed differs in various ways from the more conventional typologies of goods and services. It might be expected from an analogy with the cost functions of industrial firms that economies of scale in household expenditure will come from the more intensive utilisation of capital equipment by the larger households. If this is so, there should be a close correspondence between flagfall goods and capital goods. This correspondence indeed exists in so far as no capital goods come into the capitation goods category, but the correspondence is not complete. First, a number of flagfall goods are of a current consumption nature. Second, house purchase and motor vehicle purchase, the two major capital items in household budgets, have a pattern rather different from the typical flagfall good.

The flagfall goods which are of a current consumption nature include current transport, current entertainment, eating out, alcohol and tobacco and miscellaneous goods and services. All of these are likely to be unimportant in children's consumption, so the lack of extra purchases with the addition of children to the household is easily explained. The lack (or relative lack) of extra purchases as a second adult is added to the household is less easily explained. It may be that the pattern would be clearer if extra distinctions could be made between family types. For example, current transport costs are likely to be associated with going to work, and the small addition to current transport costs for a second adult in the household would thus reflect the number of second adults who do not have jobs. Again, it may be that within each age group the couples are on average older than the singles, and their lower per-capita expenditure on such young person's goods as current entertainment and eating out reflect their jaded tastes. On the other hand, they may also reflect the lower standard of living of people whose budgets are constrained by house purchase costs.

Among the capital goods, entertainment equipment has a pattern of expenditure typical of flagfall goods - which is perhaps because such equipment can be bought in small quantities in conjunction with expenditure on current entertainment. Not so house or vehicle purchase, especially the former, with its great prominence in the budgets of young couples.

Similarly for the usual distinction between necessities and luxuries. Necessities, in the sense of goods and services with low expenditure elasticities of demand, are to be found among both capitation goods (food, fuel, medical expenses) and flagfall goods (rent, alcohol and tobacco). Similarly items with relatively high expenditure elasticities of demand are included among capitation goods (clothing, household supplies) and flagfall goods (entertainment activities and equipment). This suggests that an examination of the pattern of spending on necessities or luxuries, without recognising that they can be either flagfall or capitation goods, is likely to confuse the study of equivalence. It is not surprising, therefore, that the Social Welfare Policy Secretariat found that the Canadian method of setting equivalence scales according to the proportion of necessities in the average household budget was highly sensitive to the prejudgements incorporated into the calculations.

7. The New York scale and expenditure categories

Having developed a robust classification of commodities into categories according to the way expenditure patterns change with household composition, we must face the question as to the consequences of the classification for the development of equivalence scales. It is scarcely possible to ignore the differences between flagfall and capitation goods in preparing scales, or to avoid making assumptions about housing costs, but the way the categories are to be employed in arguments about equivalent living costs is far from obvious. At this point it may be helpful to return to the New York budgets of 1954, observing how they deal with the three main commodity groups.

A comparison between the budgets prepared by the New York Budget Standard Service with the pattern of mean expenditures from the Household Expenditure Survey is of interest not only because the New York figures were the basis of

the equivalence scale used in the Henderson poverty line; the comparison is of interest because it sets a set of budgets prepared in a deliberate and self-conscious attempt to define the expenditure necessary for a constant, low-level standard of living, in a distant place a distant time, side by side with local and relatively current spending patterns which contain no judgement that a constant standard of living has been reached. The patterns of expenditure may thus differ because of differences in taste, technology and income between the two sources; because the Australian figures do not pretend to maintain a constant standard of living and the New York ones do, or indeed because the New Yorkers might have been wrong about the spending necessary to attain a constant standard there.

The first comparison is between the relative importance of the various commodity categories between the two sources. This is readily obtainable from the Australian survey from the all-households return, but for New York had to be obtained by constructing a set of budgets for households of representative types, and calculating an overall average weighted to reflect the relative importance of each household type in the Australian population. Such calculations are inevitably approximate, and are reported in Table 10. The obvious and major difference between the two sources is that the New York budgets assumed that all housing was rented, and that only a modicum of furniture was purchased. Payments for house purchase were therefore small. Likewise it was assumed that all travel was by public transport; payments for vehicle purchase were therefore nil. On these assumptions, given that rents and public transport fares are both flagfall expenditures, one would expect that the weight given to flagfall commodities would have been high; however in the 1954 budgets it was approximately the same as for the Australian survey. The difference was made up by the prominence of capitation goods, which took up a much larger proportion of the typical New York budget than the Australian average. This of itself would lead us to expect that the New York budgets would show higher equivalence scale differences for larger households than the Australian mean expenditure scale.

Table 10

Approximate percentage of expenditure for all households

	Australian Household Expenditure Survey 1975-76 Overall	New York Budget Studies 1954
Flagfall	49	48
Capitation	32	50
House purchase	13	3
Vehicle purchase	6	-

Source: ABS HES bulletins, Budget Standard Service 1955.

A second comparison may be made between the distribution of capitation and flagfall expenditure in the 1954 New York budgets and in the Australian Household Expenditure Survey. Because the New York budgets differ considerably according to the number of workers in the household it would be desirable to make the comparison separately according to this characteristic, but data on this basis was not available for Austalia. It was therefore necessary to prepare average New York budgets by assuming the number of workers per household. The following assumptions were made:

Head of household aged 15-24: single people: all working.
two person households: both working.
parents: one working, child aged 3.

Head of household aged 25-44: single person households: all working
two person households: both working.
parents: 1.5 working, average age of children 7.6 years.

Head of household aged 45-64: single person households: 0.75 working
two person households: 1.5 working
parents: 1.5 working, average age of children 12.5 years.

Head of household aged 65 and over: nobody working.

These assumptions are not strictly accurate for the Australian population with which they are compared, precise proportions not being available (and even if they were, the New York budgets do not explicitly allow for part time work). The assumptions about workforce participation are responsible for the lower level of budgeted expenditure on flagfall goods by one child households with head aged under 45 compared with two-adult households, while the assumed age distribution of children gives heavier increases in capitation expenditure with family size in the older age groups. Had different assumptions been made the budget patterns could have been noticeably different. Similarly the mean expenditure figures are subject to sampling variability. The present comparison is therefore no more than tentative.

The data from both sources is sufficiently detailed to allow a fully comparable definition of capitation goods. However, with flagfall goods alternative definitions are possible. The New York budgets include no allowance for alcohol, but this is included in Australian mean expenditure Again, the New York budgets do not allow for car purchase or for house purchase (expect for a modicum of furniture) and the question therefore arises whether flagfall goods on the New York definition should be compared with their counterparts on a strict Australian definition, on a definition including rent, or on a definition further including all housing costs. The table allows all three comparisons to be made.

When allowance is made for the sampling variability of the Household Expenditure Survey, the differences between the New York and the mean scales of spending on capitation and flagfall goods are impressively small. Because of the variability of the mean estimates, it is unwise to be dogmatic about differences, but the following may be observed:

1. The additions to capitation expenditure in the mean scale associated with children mimic the New York budgets in that they are larger in the older families, but differ in that they are generally smaller in amount.

2. The additions to flagfall expenditure in the mean scale associated with children are less than in the New York budgets, particularly the addition associated with the first child in the younger age families. According to

Table 11 A comparison between the New York budgets of 1954 and the Australian mean expenditure scale of 1975-76. Average incremental expenditure of a couple, head aged 25-44 = 1.00.

Household composition adults, children	Capitation goods Age of head of household 15-24		25-44		45-64		65+	
	NYC	HES	NYC	HES	NYC	HES	NYC	HES
1, 0	.58	.51	.58	.64	.49	.60	.40	.49
2, 0	.42	.40	.42	.36	.45	.43	.36	.36
3, 0					.43	.34		
2, 1	.09	.04	.18	.23	.32	.30		
2, 2			.21	.15	.28	.26		
2, 3			.26	.04				
2, 4			.26	.23				
3, 1					.34	.28		
3, 2					.33	.32		
	Flagfall goods (excluding motor vehicle purchases)							
1, 0	.74	.82	.74	.91	.64	.46	.54	.25
2, 0	.26	.14	.26	.09	.26	.24	.05	.21
3, 0					.34	.40		
2, 1	-.15	-.27	-.02	-.19	.11	.06		
2, 2			.07	.04	.11	.30		
2, 3			.03	0				
2, 4			.12	0				
3, 1					.11	.31		
3, 2					.07	.01		
	Flagfall goods (including motor vehicle purchase)							
1, 0	.74	.91	.74	.91	.64	.47	.54	.23
2, 0	.26	.09	.26	.09	.26	.26	.05	.23
3, 0					.34	.47		
2, 1	-.15	-.17	.02	-.16	.11	.05		
2, 2			.07	.04	.11	.25		
2, 3			.03	.01				
2, 4			.12	.03				
3, 1					.11	.21		
3, 2					.07	.26		
	Flagfall goods (including vehicles) and home purchase							
1, 0	.74	.70	.74	.73	.64	.39	.54	.19
2, 0	.26	.18	.26	.27	.27	.23	.06	.18
3, 0					.34	.35		
2, 1	-.14	-.21	-.01	-.21	.12	.04		
2, 2			.08	.04	.11	.21		
2, 3			.04	-.04				
2, 4			.12	0				
3, 1					.11	.21		
3, 2					.08	.21		

Source: ABS paper, Budget Standard Service 1955.

the New York budgets this may be negative, associated with reduced labour force participation by mothers compared with childless wives, but the observed reduction in Australia is greater than the New York scale allows. The difference between the scales almost disappears if vehicle purchase is added in but reappears if house purchase is added to flagfall spending.

3. The additions to flagfall expenditure in the mean scale associated with a second adult in the household are less than in the New York budgets for the younger age groups, especially when car purchase is taken into account. However, the addition of house purchase to flagfall goods brings relative expenditure levels between one adult and two adult households more closely into line.

4. The New York budgets allow for some decline in spending on both flagfall and capitation goods with age. In the case of capitation goods the decline in Australian mean expenditures is if anything less than in the New York budgets, but in the case of flagfall goods the Australian data show a marked life cycle decline, far more than the New York budgets allow. This decline is observable in flagfall goods narrowly defined, and becomes even more marked when the broad definition including housing is employed.

The inclusion of housing with other flagfall goods if anything increases the resemblance between the mean scale and the New York budgets, at least as regards differentials by household size, since it serves to increase the differential between one-adult and two-adult households in the mean scale to something like New York levels. On the other hand, the inclusion of housing with flagfall goods accentuates the decline in mean expenditure with the age of the household head. Even so, this decline is already present in the pattern of spending on most individual flagfall goods. It may be that this decline in flagfall expenditure over the life cycle is a more important difference between the New York and the mean expenditure scales than the difference in assumptions over how housing is purchased.

One way of checking whether this is so would be to reconstruct the mean expenditure scale on the New York assumption that all housing is rented. The assumption could be made that all owning and purchasing households in the

Australian sample were paying the same rents as tenant households of the same composition - an assumption which probably understates the rents they would pay were they forced to rent, since home owners tend to have higher incomes than renters. Unfortunately a cross-classification of average rents paid by renting households is not available by household composition and the age of the household head, but the averages are known on a single variable basis, and suggest a pronounced fall in average rents with age, and but small increases in average rents with household size. Rents therefore behave as a typical flagfall good, even when only tenant households are considered, and the adjustment of the pattern of flagfall expenditure on the assumption that all households are tenants would do little to modify the pattern. In particular, it would not remove the pronounced life cycle component. If this reasoning is correct, the New York assumption that housing is rented is responsible for but little of the divergence between the New York budgets and the Australian mean expenditure scale. However, the assumption that the pattern of rents paid by actual tenants is the same as the pattern which would be paid were all households tenants is crucial in this reasoning. An alternative calculation, possible in theory but not in practice, would impute rents to home owners according to the value of their dwellings, and would quite possibly show a smaller decline in rents with age - indeed, may perhaps show an increase, specially since elderly people often own houses in locations where land values have increased. Yet this distribution might be equally unreliable as a distribution of the rents which would be paid were all households tenants, in that home ownership tends to lock people into high-value houses, whereas were they renting they would be more inclined to shift into accommodation suited to their current needs.

Table 12

Average rents paid by tenant households
$per week, Australia 1974/75

By age of household head		By household composition		
15-29	29	1 adult	0 children	21
30-44	28	2 adults	0 children	26
45-64	22	3+ adults	0 children	36
65+	15	2 adults	1 child	29
average	26	2 adults	2 children	28
		2 adults	3+ children	23
		3+ adults	with children	28

Source: ABS HES Bulletins.

In summary, the major differences between the New York budgets and the Australian expenditure scales are:

1. The Australian scales are highly uneven, due presumably to sample size problems.

2. Capitation goods form a higher proportion of the typical New York budget.

3. The mean expenditure scale includes a major decline in flagfall spending with age. This decline is present in the New York budgets, but much more mildly.

4. On both capitation and flagfall goods the New York budgets make larger proportional additions for children.

These differences will be considered in turn.

1. The unevenness of the scales.

One advantage of a deliberately constructed budget is that it is not liable to the vagaries of sampling error. Even so, the New York budgets include some steps and stairs: for example, the rent allowed for a two person household is less than for one, while a jump in the allowance for rent occurs when, according to the budget, an extra bedroom is required for the fourth child. The mean expenditure scales, on the other hand, have some unaccountable jumps which can only satisfactorly be explained as due to sampling variability. The question therefore arises whether the mean expenditure scale is to be trusted at all. The answer is that the standard errors of the expenditure estimates in some of the less populated cells of the household classification may well run over 10 per cent, with higher standard errors attatching to the differences between cells. In these circumstances the suppression of cells with low numbers of observations seems justified, and maybe some smoothing among the rest.

2. The proportion of capitation goods in the budget

It may be argued that the higher proportion of capitation goods in the New York budgets was due to these budgets being specifically drawn up to apply to low income people. Though there are necessities and luxuries among both flagfall

and capitation goods, the latter include food, utilities and medical expenses, each of which has a low income elasticity of demand. Overall, therefore, capitation goods are likely to absorb a higher proportion of low income budgets than average. This proposition was checked from the Australian data, using an approximate definition of low income which made a rough allowance for household size. Approximately 27 per cent of all households included in the Household Expenditure Survey met the definition. Since the data was taken from the survey bulletins rather than the tapes, it was not possible to use the full definition of capitation goods, household current supplies being excluded. However, household supplies are but a minor head of expenditure, and this change of definition is not likely to affect the conclusion that capitation goods are indeed more important in low-income spending patterns than in the average pattern, but not to anything like the full 1954 New York weight. In this respect it seems likely that the New York study, in the tradition of budget-based studies, gave excess weight to capitation goods, particularly food. The reason for this tradition lies in history. When poverty lines and poverty budgets were first prepared, the compilers concentrated on food allowances, since it was thought that with the aid of nutritionists a minimum-cost diet could be specified without which people would be in danger of malnutrition. To this day it remains easier to agree on equivalent standards of food consumption than it is to identify equivalent standards of living for any other head of expenditure. However, this is no reason to allow capitation goods to dominate the budget. It is of interest that the revised New York budgets issued in 1969 reduced the proportion of capitation goods so that they were not far in excess of those found in low-income Australian budgets (Budget Standard Service 1970).

Table 13

Approximate percentage of total expenditure devoted to main categories

	Australian Household Expenditure Survey			New York budget studies	
	high income	low income	average	1954	1969
Capitation goods (excluding household supplies)	26	38	29	47	41
All other expenditure	74	62	71	53	59

Source: ABS HES Bulletins, Budget Standard Service 1955, 1970.

The effect of the excess weight given to capitation goods in the New York budgets on the final equivalence scales was assessed by reworking the Australian mean expenditure scale with capitation goods increased in prominence to 1954 New York levels, and all other goods correspondingly reduced. The result of this re-weighting was that the overall Australian scale generally moved in the direction of the New York scale, but in most cases the movement went only part way. The life cycle component in the Australian data remained stronger than in the New York budgets, and the differentials for household size were still generally less. The difference between the two scales was due to more than the New York budgets being overweighted with capitation goods.

Table 14

The effect of reweighting capitation goods on the Australian mean scale.

Total expenditure of a 2 person household with head aged 25-44 = 1.00
Age of household head

Household composition adults childn.	15-24			25-44			45-64			65+		
	HES	adjus.	NYC	HES	adjus.	NYC	HES	adjus.	NYC	HES	adjus.	NYC
1, 0	.65	.63	.66	.70	.68	.66	.43	.47	.57	.25	.30	.48
2, 0	.24	.27	.34	.30	.32	.34	.27	.30	.25	.22	.26	.20
2, 1	-.15	-.10	-.03	-.11	-.05	.08	.13	.10	.22			
2 each further	-	-	-	.03	.10	.14	.22	.14	.19			

Source: ABS tapes, Budget Standard Service 1955, and calculations.

3. The decline in flagfall expenditure with the age of the household head

In the New York scales the decline in flagfall expenditure with the age of the household head was associated with reduced workforce participation, leading to lower transport costs and lower expenditure on eating out. However, in the Australian mean expenditure scales reductions in average spending occurred in all flagfall goods, and also in house purchase expenses. The question therefore arises: does this reduction in spending with age indicate a reduction in the costs of achieving a constant standard of living, or are the New York budgets correct in showing flagfall spending as falling but little with age? Further,

even if the New York budgets are correct (in trend if not in detail) does the cost of belonging to society fall with age, even though there is relatively little drop in the cost of a constant standard of living? The argument will be pursued under three headings: first, the accumulation of assets, second, the pressures of declining income, and third, changes of taste with age.

(i) The accumulation of assets

If house and vehicle purchase included among flagfall goods, then be approximately 42 per cent of all Australian expenditure on flagfall goods was on consumer durables. The value of the services of accumulated durables might therefore be considerable for older households, and might account for their lower flagfall expenditure, at least on these items. However, it is difficult to quantify the value of the services of consumer durables, partly because of problems of collecting the basic data (Australian governments have historically been very wary of wealth surveys) and partly because the current consumption value of a stock of durables to a household is difficult to impute. It may diverge either upwards or downwards from the market rent or hiring charge for the stock of durables, a fact which the Tax Commissioner knows well when trying to assess the income value of housing provided by employers.

Were an allowance made for the inputed income and expenditure due to consumer durables the decline in income with age would be less than is at present recorded, and likewise the decline in the value of services received from flagfall goods, including housing. No estimates are available for Australia for the value of services received from consumer durables by age of household, but American estimates are that the services of consumer durables increase both the income and imputed expenditure of elderly households, the increase in consumption expenditure being of the order of 17 per cent for households with head aged 65 and over, but nil otherwise (Danziger et al 1983). If this proportion were correct for Australia, and if the whole of the increase were imputed to housing and consumer durables, then the decline in spending on these items after 65 would be very much reduced, and might even disappear. However, these adjustments do not affect the nearly 60 per cent of flagfall spending which is on current consumption, and which declines with age.

If the American studies are correct (and they are corroborated by such evidence as is available from small-scale Australian surveys) those households which have accumulated consumer durables (particularly those which own their own house) are substantially better off, at any level of income, than those which have not. Given the difficulty of imputing income from consumer durables, it may be that the Henderson approach to this matter is the most practical. Taking housing as the main instance of a difference in incomes between asset-owners and those who do not own, Henderson drew a second set of poverty lines, below the first set by an estimate of the housing costs appropriate for each variety of income unit, and compared disposable income less actual housing costs with this new figure. He made no attempt to assess the quality of the housing involved, but argued rather that housing costs are a first call on the consumer budget, and once they are paid the amount left over is that which is available for all other purchases. The same approach might be extended to other consumer durables, but given their rather small significance in the budget; their rather more rapid rates of depreciation, and their similarity of expenditure pattern to flagfall goods in general, it may be doubted whether the effort would be worthwhile.

(ii) The decline in income with age.

A second reason why spending on flagfall goods may decline with age is the fact that household disposable incomes tend to decline with age, at least from the time the household head is in his forties. It is then arguable that the decline in flagfall spending represents, not a reduction in the cost of achieving the constant standard of living, but a decline in real living standars with age; that is, the New York budgets are more accurate than the mean expenditure scale. Yet if income is crucial in depressing spending, why does spending on capitation goods hold up so well? Again, reverting to arguments associated with savings-adjusted scales, why do people maintain their savings rates in the face of declining incomes and declining spending on flagfall goods? While it is possible that the decline in flagfall spending with age is due to falling incomes, and is associated with the relatively high income elasticity of demand for flagfall goods, it is also possible that flagfall goods are on balance commodities for which people lose the taste as they grow older - they have a high age elasticity of demand.

(iii) Tastes

The possibility that flagfall goods have on balance a high age elasticity of demand identifies them as young people's goods, in which older people lose interest. Decrepitude and discretion may reduce the demand for eating out, entertainment, holidays, alcohol and transport, so that the prominence of these items in the definition of a satisfactory standard of living declines with age. A contrary argument is that the observed decline may be a cohort effect; that is, the present generation of elderly people may have abstemious tastes deriving from their lower incomes in the past, and when the present generation of young become older they may want to drink, entertain and eat out as much as they do now. A particular case may be spending on transport: older people tend to live in convenient suburbs where daily travel may be quite cheap, whereas younger households tend to live in outer suburbs where they incur heavy motoring costs. These costs are likely to continue even when they are older. Even so, the cohort argument is probably not sufficient to account for the pronounced fall in flagfall expenditure with age, particularly on items like entertainment or eating out.

A final possible reason for the decline in flagfall expenditure with age has already been mentioned in discussing savings-adjusted scales: the possibility that the precautionary motive for saving increases with age, and presses upon expenditure as a whole (though why it should press upon flagfall expenditure and not capitation spending is unexplained). The possibility of heavy uninsurable health costs is likely to weigh heavily in the consumption decisions of many elderly people.

Whether the decline in flagfall expenditure with age is put down to declining income, to the simplification of tastes with age, or to the need for precautionary savings, is a matter which could be investigated empirically, though the hypotheses would have to be refined a good deal before a survey could be held which would have any hope of producing useful results. Whatever the answer, it would have to contend with a further argument, derived from the relative approach to the definition of poverty lines. If it is normal for incomes to decline with age, and for flagfall expenditure to fall along with income, then surely the cost of those purchases necessary to belong to society

also falls with age. Whether or not the decline in flagfall expenditure with age represents a fall in the standard of living, it is arguable that it represents a fall in socially-expected minimum expenditures. One item of evidence in support of this view is the heavy demand for emergency relief from welfare agencies which comes from relatively young social security recipients, and the smaller demands coming from the elderly. At the least this constitutes evidence that poverty is more acutely felt among those age groups where it has traditionally been less common.

In summary, some of the decline in mean flagfall expenditure with age is due to the accumulation of assets, and equivalence scales should be prepared with this in mind - even if the adjustment is of an ad hoc kind, such as the Henderson treatment of housing costs. However, asset accumulation provides no complete explanation. The remainder of the decline may be forced by declining income or increased precautionary savings, in which case the mean expenditure scale indicates a declining standard of living, or may be due to changes in tastes with age, in which case the mean expenditure scale measures the relative cost of a constant standard of living. In the latter case both the constant standard of living and belonging standard arguments would recommend a lower poverty line for older people; in the former case only the belonging standard would so indicate - and in the more probable case, that some of the decline in flagfall expenditure with age is due to diminished income, and some to simplifying tastes, a part-way judgement is indicated.

4. The small addition to mean expenditure for children.

The comparison of the New York budgets with the mean expenditure scale is made difficult because of the lack of separate observations for one-worker and two-worker households. The negative additions to the New York budgets due to the addition of a child to a two-adult household are due to assumptions about the mothers leaving work, and could easily be negated in an updated set of budgets by the insertion of child care expenses as these become accepted as required, not only by mothers who go out to work, but by all mothers. Yet whether or not the New York scales state the true costs of children (and if child care costs are included they understate) the Australian mean scales rise even less with the addition of children to the household.

The reasons for this divergence are more easy to find than for the decline of flagfall expenditure with age. It is not a question of asset accumulation; neither is it wholly likely to be a matter of simplified tastes (though the presence of children may make people less anxious to eat out or go to entertainments even if they could afford the necessary babysitters). A prima facie case can therefore be made that the smaller additions to both flagfall and capitation expenditure with the addition of children to households in the Australian mean scale compared to the New York budgets are due to the lack of additional income when children are added to the household. This does not mean that the New York budgets correctly represent the cost of a constant standard of living the face of increasing numbers of children, but implies that the mean scales should not be accepted without further investigation.

8. Conclusion

This paper began with a discussion of the deficiencies of the traditional budget approach to the construction of equivalence scales, and moved on to consider various attempts to use data from household expenditure surveys to provide equivalence scales better based than the old budget scales. The paper therefore concentrated on the mean expenditure scale, as being the simplest way in which data from the expenditure surveys can be expressed, and discussed various means by which this scale might be adjusted to represent the change in the cost of a constant standard of living with changes in household composition. Various methods of savings adjustment were discussed in detail and found wanting, and in an effort to find the way forward a classification of commodities was developed in an attempt to describe the variation in expenditure with household composition. The major difference was found to be between capitation goods and all others, which might be divided into flagfall goods proper, house purchase and vehicle purchase.

A comparison of the mean expenditure scale with the New York budgets showed, apart from obvious differences (the treatment of housing and transport, and variability due to sampling error):

1. The New York budgets give a prominence to capitation goods which could only be justified if the ratio of capitation expenditure to total expenditure for elderly low-income people was taken as standard. It is reasonable to

give prominence to capitation goods at the same level as in low income budgets, but arguable that this should be for the whole range of household compositions.

2. The mean scale level of flagfall purchases fell with the age of the household head much more rapidly than in the New York budget scale. To some extent this was due to the effect of asset accumulation, which should be corrected, but otherwise it was debateable whether it reflected falling incomes or falling costs. This question can hardly be avoided in any future work on equivalence scales.

3. The mean scale estimates of the expenses of children were depressed by lack of income, but how much is debateable.

4. Both the mean scale and the New York budgets pointed up the importance of providing separate scales according to workforce participation. Further comparisons involving mean scales differentiated by workforce participation might reveal further divergences between the New York budgets and the mean scale.

Early in this paper it was noted that the Social Welfare Policy Secretariat had not been able to prepare equivalence scales by means of a budget-based approach. Consumer budgeting has reached a stage of complexity where it is scarcely possible to prepare representative detailed budgets by which constant standards of living might be achieved. However, the attempts to derive equivalence scales from the analysis of household expenditure survey data without any direct attempt to define a constant standard of living have been similarly unsuccessful. It is submitted that the way ahead lies in the continuation of the analysis begun in this paper, trying quite specifically to identify a constant standard of living in terms of the broad categories of commodities here proposed. Such an investigation would start out from the mean scale, and would involve consultation with people familiar with poverty-line expenditure patterns. It may require the preparation of different budgets for different lifestyle groups, as well as for households of different size and age. It might be supplemented by surveys of the meaning people give to the concepts of belonging and deprivation.

Were this path taken, it would implement the recommendation in the Henderson report that further work should be done on equivalence scales, work which marries data from the household expenditure survey with disinterested judgements as to the achievement of a constant standard of living.

COMMENTS ON THE IAESR PAPER ON EQUIVALENCE SCALES

Mr J Cox, Social Welfare Policy Secretariat

I am grateful to Dr Ian Manning for the opportunity to add some comments on his interesting paper on equivalence scales. In particular I would like to draw attention to the important distinctions that he makes between "capitation goods", "flagfall goods" and asset accumulation. Writers on such subjects as the income needs of poor families or the costs of children have too often in the past simply restricted their inquiries to the capitation goods.

Since they are an important part of the expenditure of Australian low income families, I remain of the view that equivalence scales for use in the Australian social policy context should take the "flagfall" goods, and indeed the normal life cycle pattern of acquisition of assets and consumer durables, into account. This leads me to regard the ABS/SWPS ELES scales as being the best indicators of families' relative needs that we have, or are likely to have for some time. But I accept the point that equivalence scales that are not disaggregated according to the age and labour force status of household members may conceal as much as they reveal. Since the SWPS Report on Poverty Measurement was published I have frequently argued that attention should be paid to the disaggregated scales shown in Tables 4.7 and 4.8 (pp 117-118) of that report.

1. The ABS/SWPS ELES Equivalence Scales

Dr Manning's general conclusion is that the equivalence scales developed by the extended linear expenditure system method are not to be trusted. In an area as complex and difficult as that of families' relative needs it is only too easy to raise a smokescreen of doubt around any specific results; it is necessary to steer a middle course between credulity and unthinking nihilism in deciding whether the indicators are good enough for the job in hand. The specific argument, however, is that:

- the small sample size and poor quality of the data make the results statistically unreliable;

- the ELES results are based on a confused and unrealistic model of consumer behaviour;

- the results do not sufficiently take into account the fact that the consumption of some groups is constrained by low income or by inability or unwillingness to borrow;

- the ELES results are based on an unrealistic assumption that each group is representative of all individuals classified by standard of living.

I find these arguments unconvincing either individually or in combination. Some notes follow on each.

(a) The Data

It is certainly true that the household expenditure surveys were relatively small, that some groups of interest (e.g. sole parents) were not present in the sample in any great numbers and that some variables (including savings) were measured erratically in some cases. But too much can be made of this. As Table 8.2(a) in the ABS paper on equivalence scales shows, substantial samples were achieved, even in the most disaggregated analysis, for one adult households without children, two adult households without children, couples aged under 65 with one to three children, and for three adult households with up to two children and a head aged between 35 and 65. While this excludes some cases of particular interest to the social security system, I believe that our results are well established for those cells that relate to the great majority of low to middle income families in 1974 to 1976. (With the benefit of hindsight, I would now be inclined, were I to repeat the exercise, to combine the 1974-75 and 1975-76 surveys to boost cell numbers). The problem of erratic measurement of savings was substantially reduced by the editing of the data - see pages 95 to 96 of our poverty measurement report.

(b) Consumer Behaviour

On page 10 Manning cites with seeming approval both Duesenberry's relative income hypothesis and Modigliani and Brumberg's list of four reasons for saving, of which the life cycle motive is only one. While the first three

motives seem likely to lead to savings that are positively related to one's place in the current income pecking order (rich people are more likely than poor ones to want to found financial dynasties, have more to take precautions about and are more likely to surround themselves with consumer durables), the fourth leads to savings behaviour that is determined by the relationship between current income and the expected lifetime average. Manning then regrets (page 21) that the model-builders have emphasized the life cycle to the exclusion of the other motives.

Having said this, he argues (page 23) that the ELES method is both assuming and denying the life cycle hypothesis. This seems to be an example of the over-simplification about which he complains. First, I am grateful to him for his demonstration (see page 24) that the ELES method as applied in practice can be justified by an appeal to the relative income hypothesis. I am in favour of procedures that are consistent with a number of theoretical starting-points. Secondly, the ELES model in any event contains elements of the relative income hypothesis by assuming that savings are related to the excess of (permanent) income over pre-committed expenditure. Thus one possible explanation of the non-negative savings ratio for the aged is that, because of asset accumulation and improvement in social welfare and superannuation during their working life-times, the incomes of the aged are on average relatively high in relation to their requirements. This does not seem unreasonable, at least to me.

(c) Constraints on Consumption

Manning argues (page 24) that the unwillingness of people to borrow results in the consumption function being depressed during the high cost phases of the life cycle. This would depress the relevant ELES equivalence scales relative to the values applying at lower cost phases of the life cycle. Similarly he argues later (page 50) that the failure of mean expenditure to increase rapidly with the number of children in the household is due to a lack of additional income when children are added to the household.

There are a number of responses to these arguments. First, the extent to which younger households are unable or unwilling to borrow is an empirical question and the prevalence of this behaviour is surely decreasing with time. The ELES

estimates for younger households are much higher in relation to the estimates for older households than earlier work would suggest; this must make it less likely that there is a significant downward bias. The mean expenditure scale that Manning derives also shows a decline with age; he investigates this question in some detail between pages 45 and 49. My reading of this discussion leads me to conclude that the reduction in spending with age reflects falling costs rather than falling income, changing tastes or increasing precautionary savings. This seems to be the most likely explanation for the fact that as people get older they maintain their spending on "capitation" goods and their savings, but reduce spending on "flagfall" goods and the acquisition of consumer durables and other assets.

To argue that the consumption function for families with dependent children is unusually depressed, Manning needs to explain why the spending on capitation goods holds up so well particularly in larger families (see, for example, his Tables 8 and 14 and Table 4.8 in the SWPS report) and why the savings ratio was not further reduced in such families.

(d) The assumption that each household group is representative of individuals classified by long-term standard of living

It is important here to distinguish movements along the consumption function from shifts of it. The ELES model relates savings to the excess of long-term income over pre-committed expenditure. The low income of sole parents and the high costs of large families should be reflected in their savings ratios; it is not clear that the consumption function would be shifted downwards. The other argument advanced is the presumed greater precautionary savings for the elderly than for other groups. This argument seems to me to be entirely ad hoc. I could equally argue that younger households have high precautionary savings because of the fear of unemployment. Where is the evidence for either view?

2. Australian Expenditure Patterns and the 1954 New York Scale

I consider that this section of the paper (from page 27) is a useful extension and clarification of some themes that were discussed in the Report on Poverty Measurement. A major question addressed in this section is whether the New York

equivalence scales can be taken as being appropriate for Australian low income families, or whether scales such as the ABS/SWPS ELES scales should be considered to be more reliable indicators. It is important to note that while there are differences in detail (particularly for single person households) the general characteristics of the ELES and the mean expenditure scales are, as one might expect, not dissimilar. While Manning seems to accept (page 51) that the New York scales give too great a prominence to capitation goods he argues that the mean scale (and presumably the ELES scale) estimates for older households and households with children are too low. As discussed earlier, I find these latter arguments to be ad hoc and not convincing. While there are no doubt political arguments for continuing to use the New York scales, the IAESR paper does not, in my view, amount to a demonstration of their applicability to Australian conditions.

3. The Budget-Based Approach

Manning suggests that, because of mistrust, the SWPS's attempt to construct a minimum budget for Australian conditions was doomed to failure but that someone else might be able to do better. I doubt it. Kerry Lovering of the Institute of Family Studies is undertaking a project on the cost of a child but she has limited her investigation to the capitation goods. I am not sure how flagfall goods and consumer durable accumulation could be accommodated within her framework or whether, for her Family Court related purposes, it would be appropriate for her to do so. But is does seem clear to me that these other categories of goods are relevant, given Australian values, to the questions of tax and social security policy for Australian low income families.

Finally, I think Manning dismisses the interview approach (page 6) too hastily. This approach does not necessarily suffer from the problems he discusses - see pages 50 to 53 of the SWPS report. Because of its survey of consumer sentiment, I would hope that the Melbourne Institute could fairly readily experiment with this method of setting poverty lines.

Bibliography

ABS (Australian Bureau of Statistics) (1978): Household Expenditure Survey 1975-76 Cat. 6516.0.

ABS (1981) `Equivalence Scales.' Mimeo.

Budget Standard Service (1955): A Family Budget Standard for the Use of Social and Health Agencies in New York City. New York.

Budget Standard Service (1970): Family Budget Standard for the Use of Social and Health Agencies in New York City. New York, Community Council of Greater New York.

Commission of Inquiry into Poverty (Prof. R.F. Henderson, Chairman) (1975): Poverty in Australia. Canberra, AGPS.

S. Danziger, J van der Gaag, E Smolensky and M. K. Taussig (1983) `The life-cycle hypothesis and the consumption behaviour of the elderly.' Journal of Post Keynesian Economics, Vol. 5, pp. 208-227.

A. Deaton and J. Muellbauer (1980): Economics and Consumer Behaviour. Cambridge University Press.

J. Duesenberry: (1949) Income, Saving and the Theory of Consumer Behaviour. Cambridge, Harvard University Press.

R.F. Henderson, A Harcourt and R.J.A. Harper (1970): People in Poverty, A Melbourne Survey. Melbourne, Cheshire.

N.C. Kakwani (1977) `On the Estimation of Consumer Unit Scales'. Review of Economics and Statistics, Vol. 59, pp. 507-510.

I. Manning (1982) `The Henderson Poverty Line in Review'. Social Security. Journal, June 1982, pp. 1-13.

F. Modigliani and R. Brumberg, (1954) `Utility Analysis and the Consumption Function: an Interpretation' in K.K. Kurihara (ed) Post Keynesian Economics New Brunswick, Rutgers University Press.

N. Podder (1971) `The Estimation of an Equivalent Income Scale'. Australian Economic Papers, pp. 175-187.

SWPS (Social Welfare Policy Secretariat) (1981) Report on Poverty Measurement, Canberra, AGPS.

D.I. Stanton (1980) `The Henderson Poverty Line - A Critique' Social Security December 1980.

P. Townsend (1979) Poverty in the United Kingdom. London, Penguin.

P. Whiteford (1983) `A Family's Needs: Equivalence and Social Security'. Paper to the ANZAAS Conference, Perth.

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