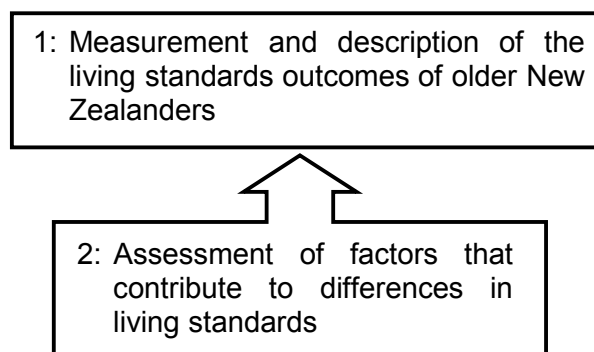# 2. Measuring Living Standards and the Potential Factors Underlying Variation in Living Standards

This chapter presents an overview of the analysis aims of the research; different approaches to measuring living standards and the rationale for the living standards indicator approach adopted; and describes the potential explanatory factors of variation in living standards that were investigated in the current research. The research involves two central analyses as depicted in Figure 2.1. The first is the construction of a measurement scale that is then used to describe the living standards of older people across a continuum from hardship to comfort. Once this has been achieved, the second central analysis investigates the factors that explain differences in living standards across this group.

Figure 2.1: Central analysis stages of the research

1: Measurement and description of the living standards outcomes of older New Zealanders

2: Assessment of factors that contribute to differences in living standards

2.1 Measuring Living Standards

2.1.1 What is Meant by Living Standards

A notion of living standards based on the material conditions and consumption of older New Zealanders is used for this research. Material conditions and consumption refers to the goods that people have and consume (for example, possessions such as electrical appliances and consumption of food) and to whether they can participate in common social activities. Living standards defined in this way provides a concise but sufficient description of the living standards of older people that encompasses the main areas of interest for policy makers (such as provision of income and supplementary assistance).

A broader definition of living standards could have been adopted, and some other studies have sought to describe the psychological and wider social aspects of a person's well-being such as quality of life and social inclusion (for example, participation in democratic processes) as well as material conditions and consumption (Erikson and Aberg, 1987; Age Concern New Zealand Inc., 1990; Statistics Sweden, 1996; Australian Bureau of Statistics, 1998). These studies focus on several areas of interest measured through multiple indexes.

For the purposes of the current research, taking a broad definition of living standards that requires multiple indexes was not seen as useful as a more concise definition. A key aim of the research is to assess the factors that underlie living standards differences across the target population. Therefore, a more concise yet policy relevant definition, that could

potentially be represented by a single robust scale was adopted. Living standards measured through a single robust scale would enable the impact of various factors (such as household composition, and level of savings and assets) to be more readily interpreted based on changes in living standards depicted by this single scale.

2.1.2 Approaches to Measuring Living Standards

This section describes the approaches that have been used to measure living standards. It aims to give an overview of the different approaches, citing studies as illustrations, rather than to comprehensively review the literature in this area. A broad classification of these approaches, with examples of studies using them, is presented in Table 2.1. This table groups the approaches according to whether they measure living standards indirectly (use of proxies) or more directly (information on outcomes), and according to whether the broad spectrum of living standards or the lower range of living standards (poverty) is the focus of assessment.

The vast majority of research undertaken focuses on assessing poverty. The measurement of poverty involves the use of benchmarks to split groups into two (dichotomous) categories; those who are and are not in poverty, for different households or family types. This involves using a measure of living standards that places people above and below the benchmark that is chosen.

On the next two pages, Table 2.1 depicts four different methods for measuring living standards. Two of these are classified as indirect approaches (income and expenditure-based proxies), and two as direct approaches (actual consumption and standard of living indicators). Direct measures ask how people are actually living in terms of their possessions, their activities, and how well they get by financially. Indirect measures generally focus on the resources and entitlements that would enable particular goods and services to be obtained, or on current purchasing behaviour. An overview of these types of methods to measure living standards is presented next.

Indirect measures - income and expenditure-based proxies

The bulk of research into living standards uses either current income standardised to take account of family characteristics, or expenditure based measures. Income and expenditure data are proxy measures for assessing living standards. There is widespread use of income based proxies for monitoring economic well-being across groups and over time.

Most research that assesses poverty does so by setting income benchmarks that define poverty lines. A poverty line stipulates the amount of income that a person or family with specified characteristics needs to avoid being in poverty. The income thresholds of poverty lines can be chosen in a variety of ways, including the use of state social assistance levels, relationship to median income, cost of a basket of goods made up of socially perceived necessities, deprivation indicators, and subjective responses from people as to how much money they require to keep their own family out of poverty.

Table 2.1: Measurement approaches and studies that have been used for describing the broad spectrum standard of living (SoL) or poverty[1]

	Broad spectrum	Poverty
Indirect Measures capability or purchasing behaviour correlated with SoL outcomes		
A. Income-based proxy	*Use of equivalised income as SoL proxy* Examples: Smeeding et al, 1990; Burniaux et al, 1998; Whiteford and Bond, 2000	*Use of an equivalised income benchmark to define poverty lines* Examples of *different income threshold criteria* are: • *Benefit level:* Benefit Datum Line (BDL) – Easton, 1994; Krishnan, 1995; Easton, 1997; Stephens 1998 • *Fixed relation to median incomes:* Stephens et al, 1994; Burniaux et al, 1998 and other Luxembourg database analysis studies; Waldegrave et al, 1999; Giles and Webb, 1993; Drever et al, 2000; Whiteford and Bond 2000 • *Basket of goods / budget standards:* US poverty line; Brashares and Aynsley, 1990; Stephens et al, 1995; Sarlo, 1996; Henderson poverty line - Saunders, 1994; Whiteford and Bond, 2000 • *Deprivation indicators:* Townsend 1979; Madden et al, 2000 • *Subjective responses /focus groups* as to how much money is needed: Goedhart et al, 1977; Stephens et al 1995
B. Expenditure-based proxy	*Use of equivalised expenditure as a proxy of consumption* Examples: Food expenditure : income (Engel ratio) "Necessities" expenditure : income Accommodation cost : income (Engel, 1895; Van den Bosch, 1993)	*Use of expenditure or ratio based threshold to define poverty.* Examples: Ravillion, 1993; Blundell and Preston, 1995; Lipton and Ravillion, 1995; Ravillion, 1998; Madden et al 2000

Table 2.1 Continued

	Broad spectrum	Poverty
C. Actual consumption	***Comprehensive data on actual consumption of the sort collected by economists/ sociologists for the development of consumption theory*** ***Very rarely conducted*** Examples: NZ Department of Social Welfare, 1975; Fergusson et al, 1981	***Use of data on actual consumption of necessities (such as food and access to shelter). Rarely conducted*** Examples: Studies in developing countries focusing on nutritional adequacy of meals and utilisation of medical services. Novak, 1996; Dutta, 1996
D. Standard of living indicators	***Studies based on aggregation of living standards indicators including those reflecting deprivation***	***Studies based on aggregation of deprivation indicators. Poverty threshold determined by criteria including number of items lacking due to cost[2]*** Examples: Townsend, 1979; Mack and Lansley,1985; Rochford, 1987; Desai and Shah, 1988; Travers and Richardson, 1993; Hallerod, 1994; Callan et al, 1996; Travers and Robertson, 1996; Gordon and Patanzis, 1997; Nolan and Whelan, 1996; Callan et al, 1999; Gordon et al, 2000

Direct

Measures SoL outcomes

Note 1: Many studies use more than one approach to assess living standards or poverty – the examples listed refer to studies that include the approach mentioned. There has been no attempt to comprehensively list each study according to all of the approaches that they report on.

Note 2: Both income and deprivation indicator criteria are used for some poverty thresholds.

There are powerful reasons for using income to measure living standards. If comprehensively measured, income is often regarded as 'the best (or least worst) measure of individual welfare or utility.' (p. 109, *Final Report*, Expert Group- on Household Income Statistics, Ottawa 2001). Such a measure has the great advantage of allowing for diverse tastes and preferences. This is of particular importance when comparing the living standards of different countries. The same issue also arises to the extent that there is diversity across people within a country. However, there are widely acknowledged difficulties associated with the use of income.

The first is that income is rarely measured comprehensively. A comprehensive measure would include cash and near-cash income from employment, public and private transfers, income from property, inter-household transfers, together with a valuation of in-kind publicly provided services, such as health and transport. It would also include a valuation of the annual services received from physical assets, such as household goods, home equity (for those owning their own homes) as well as of productive time. Not surprisingly, such comprehensive measurement (known as full income) is not often attempted (Becker, 1965; Garfinkel and Haveman 1977; Travers and Richardson, 1993). In principle, full income is nearly equivalent to a person's lifetime or permanent income (if the complication of the formation and dissolution of families is ignored). Understandably, lifetime or permanent income is basically impossible to observe directly, since information for the entire lifetime that has elapsed must be recorded.

In practice, by far the majority of income-based measures use current income (weekly or annual) rather than lifetime income. Yet current income captures only one aspect of a person's standard of living. It ignores the past, the future, and some important aspects of the present. It ignores what assets have been acquired in the past, and may thus understate the standard of living of an older person. It equally ignores future prospects and may thus understate the standard of living of a younger person who is confident that their present low income is temporary. It also ignores aspects of the present in so far as it disregards family and social networks.

The second difficulty is that even when we do have access to all the desired information on income broadly defined, we would at best know about people's access to resources. We still would not know about their capacity to translate these resources into what Sen has termed 'capabilities', or the ability to do specific things (Sen, 1982, p. 334). In principle, income is a means to an end, and that end is the attainment of satisfactory levels of comfort, activity, security and so on. People vary in their ability to convert comprehensively measured income into these outcomes.

Direct measures – actual consumption and standard of living indicators

Both the actual consumption and standard of living indicator approaches focus on measuring standard of living outcomes directly. The actual consumption approach refers to the detailed quantitative measurement of what is consumed. Most commonly, the consumption approach is used to measure poverty by quantifying consumption of specific core necessities such as food or basic accommodation. This approach has generally been undertaken in developing countries where information about basic necessities such as level of family's daily rice consumption has been collected. Not surprisingly, the use of this approach to describe the broad spectrum of living standards is rare as it is very detailed, time consuming and expensive.

Standard of living indicators focus on describing material conditions and consumption in a less precise manner than the actual consumption approach described above. The indicators used do not involve detailed quantification of what has been consumed but provide an indication of whether specified consumption behaviours have occurred and the extent to which they have been constrained by the need to economise. More specifically, living standards indicators provide a general description of people's lifestyles by obtaining information about whether they have specified possessions, participate in particular activities, and economise in specified ways.

Nearly all of the studies that have made use of a standard of living indicator approach have focussed on the assessment of poverty or deprivation. These studies set a poverty threshold using criteria that include lack of basic necessities in terms of deprivation indicators such as possessions and activities. A good summary of the history of these approaches is presented in Nolan and Whelan (1996).

2.2   The Choice of Method for the Current Research

2.2.1 The Method Most Suitable for the Current Research

The current research aims to describe the broad spectrum of material conditions and consumption of older people from hardship to affluence. An income or expenditure based measure of living standards was not suitable to meet the current research aim of assessing the contribution that different factors, *such as income*, make to variation in living standards. In addition, an approach was preferred that provided a descriptive picture of the living standards *outcomes* for older people across a continuum from hardship to comfort. These requirements pointed to the use of an approach that directly assessed living standards.

Of the two specifically direct approaches, the actual consumption approach was not feasible for the current research. This was because of the respondent burden required to gather the detailed information required. Therefore, for the purposes of the current research, the most suitable means of measuring living standards was to use the standard of living indicator approach as it:

- could be used to provide an outcome based description of the distribution of living standards of older people across a continuum from hardship to comfort;

- could be measured without placing undue respondent burden on survey participants; and

- did not involve the use of current income (as an aim of the research was to investigate the extent that current income explained variation in the living standards outcomes of older people).

Self-assessments

Self-assessments refer to a person's perceptions about aspects of their living standards such as their living standards relative to others, and the adequacy of their income to meet their perceived needs. These assessments tend to be used as a means of validating other measures of living standards, or as a rough indication of living standards as part of a broader study where the primary focus does not include a detailed measurement of living standards. Gordon et al (2000) investigate subjective assessments of poverty in their

recently published research based upon definitions of poverty agreed at the Copenhagen World Summit on Social development in 1995.   These assessments relate to whether the respondent's income was "below the level of income you think is necessary to keep a household such as yours out of poverty."

Self-assessments are commonly used in research as a validation tool in the development of scales or indexes that describe latent dimensions.   This practice suggests that self-assessments capture aspects of a latent dimension (such as living standards) that can be used to help assess whether a scale or index that has been developed is successfully measuring the latent dimension that it purports to.   Given that self-assessments can be used to usefully describe a latent dimension such as living standards, we chose to include these types of questions in the scale development analysis to augment the information from the indicators.

2.2.2   Use of the Standard of Living Indicator Approach for the Current Study

The standard of living indicator approach was developed for the study drawing from previous research on living standards and poverty using this approach.   Studies of this nature that have focussed on measuring the broad spectrum of living studies are uncommon.   One of the few studies to do so, that has particular relevance to the current research, is the 1974 Survey of the Aged conducted in New Zealand (Department of Social Welfare, 1975).   Information from studies assessing poverty was used, in general, for developing a measure of this kind, and in particular, for developing items for the measure that assessed the lower deprivation end of the living standards spectrum.   However, as the aim of the current study was not to assess poverty per se, issues relating to the setting of a poverty threshold were not of primary interest for the research.   The following sections present an overview of the history of the use of the indicator approach to assess poverty (deprivation indicators) and the 1974 Survey of the Aged.

Studies using deprivation indicators to assess poverty

The first major empirical piece of work using deprivation indicators was by Peter Townsend (1979).   Townsend's opening proposition defines the essence of his approach:

> Poverty can be defined objectively and applied consistently only in terms of the concept of relative deprivation. That is the theme of this book. The term is understood objectively rather than subjectively. Individuals, families and groups in the population can be said to be in poverty when they lack the resources to obtain the types of diet, participate in the activities and have the living conditions and amenities which are customary, or are at least widely encouraged or approved, in the societies to which they belong (Townsend, 1979, 1).

Townsend was decisive in establishing the importance of looking at people's situation in relative rather than in absolute terms.   He gathered information from 60 items about whether a range of deprivations areas (such as diet, clothing, housing conditions, and education) were experienced.   These items were chosen to reflect "ordinary living patterns" which were consumer behaviours that people in society commonly practised.   Of the 60 items, a subset of 12 was then used to construct a summary deprivation index.   This deprivation index was then used to set an income-based poverty line.

Rather than simply asking about whether people were deprived of commonly practised activities, Mack and Lansley (1985) refined the deprivation indicator approach in two key ways.   First, they selected their items for the measure on the basis of those that were

socially perceived necessities (based on the views of their sample), and second, they phrased their questions in terms of "enforced lack", that is, in terms of items that people did not have and would like but could not afford. This latter innovation addressed the issue of personal preferences and differences in taste that people may have regarding consumption by linking the responses to things or activities that a person wanted, and added the concept of "enforced" lack by linking the lack of this desired item to lack of resources.

Mack and Lansley (1985) constructed a deprivation index based on 22 necessity items and set a poverty threshold where those who wanted but could not afford three or more items were regarded as poor.   Mack and Lansley also considered a combined deprivation and income approach such that those who wanted but could not afford three or more items *and* who were on a low income were considered poor. The latter approach of setting income and deprivation based thresholds that *both* need to be met for a person to be identified as in poverty has more recently been used by Callan et al (1999).

Variants of the relative deprivation approach that have been used include the following: changes to the way in which the items reflecting "basic necessities" have been selected (for example selecting items that 50 percent or more of people surveyed consider to be necessities, or use of factor analysis techniques); use of weighted indicator aggregate scores (Hallerod, 1994); and differences in the way the poverty threshold has been established (for example, using income and deprivation data to statistically determine the threshold that maximises the distinction between two groups (poor and not poor) and minimises the within group differences, Gordon et al, 2000).   Inclusion of income as part of the criteria for setting the poverty threshold is a means of ensuring that it is "enforced lack" due to insufficient resources that is being assessed.

Measuring living standards in the 1974 Survey of the Aged

As mentioned above, one of the few studies that has focussed on the broad spectrum of living standards was the 1974 survey of persons aged 65 years and over undertaken jointly by Department of Statistics[16] and the Department of Social Welfare (Department of Social Welfare, 1975). This study was partly inspired by Townsend's early work in framing deprivation-related items to assess poverty.

The aim of the 1974 New Zealand survey was to investigate the extent to which the rates of social security benefits for this group were consistent with the goal of enabling beneficiaries to live in dignity and comfort. Face to face interviews were conducted with 2,303 people drawn from the Department of Social Welfare's records of recipients of age and superannuation benefits and veterans' pensions. The sample excluded people living in institutional settings, on the grounds that their needs were different and their standard of living would need to be assessed on different criteria than those living in private households.

The survey collected information on a range of topics including: demographic and employment status, housing, food, mobility and transport, work activities, social and leisure activities, financial and other needs, health, expenditure, income and assets, respondents' evaluation of financial circumstances, and the interviewer's assessment of the respondent's circumstances.

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[16]   The Department of Statistics has since become Statistics New Zealand.

Overall, there were 138 items in the questionnaire included as potential indicators of standard of living or material well being.   As a result of cluster and factor analysis, a set of 35 items was selected as the basis for a scale of hardship or material well being.

These items related to:

• restriction of expenditure on the basis of cost for items such as food, medical treatment, new clothing or home heating;

• the nature and condition of accommodation such as whether there was a separate laundry, the lavatory was inside or outside, and state of repair;

• the nature and extent of consumer durables owned such as whiteware, television, bedding and kitchen utensils; and

• the interviewer's assessment of the standard and condition of the accommodation.

From these 35 items, eight items were then selected as representative key indicators of hardship. These eight items related to: heating needs, doing without meat, repairing worn out clothing, wearing old or worn out clothing, visiting a specialist, replacement of dentures, and accommodation.

The final phase of the research was the identification of the principal determinants of living standards as measured by the scale based on the eight key items.

The findings of the survey were used in the development of the new additional benefit programme, which provided supplementary assistance to recipients of income-tested benefits and war pensions and gave explicit recognition to accommodation costs.

2.2.3 Developing an Indicator Measure for the Current Study

There were different options for developing the indicator measure that could be adopted for the study. These relate to the way that the issue of personal preferences and individual differences are dealt with and to whether material conditions and consumption is linked explicitly to lack of economic resources.

The simplest option is to use a solely consumption based indicator approach and employ patterns of material conditions and consumption to develop scale measures that rank the populations from those with high levels of ownership, access and consumption to those with low levels of ownership, access and consumption. Alternative options are to link ownership, access and consumption with only those things and activities that a person states they want (to take into account personal preferences), to link lack of ownership, access and consumption explicitly to economic restrictions, or a combination of both. We have chosen to develop a measure which takes both personal preferences and economic restrictions into account. This approach was taken because it was believed to be more relevant to the policy issues at which this research is primarily directed.

Drawing from previous studies, workshop discussions, and consultation with Maori researchers, living standards indicators were developed to represent the full range of living standards and included the use of deprivation items commonly used in studies assessing poverty to gain information about the lower end of the spectrum of living standards.   The indicators developed for the construction of a scale include questions about ownership

restrictions, social participation restrictions, economising behaviours, and serious financial problems.

A list of ownership and social participation indicators was created that included those used in previous studies and additional indicators to try to describe differences amongst people at the more affluent end of the living standards spectrum. This included "comfort" and "luxury" items such as a food processor and holiday overseas. The focus of the assessment of ownership and social participation deficits was on "enforced lack", that is, lack of an item that a person wanted but did not have because they could not afford it. A rating of the importance of each of the ownership and social participation indicators was also asked as an indication of the extent that the items were commonly aspired to by the sample.

Respondent self-assessment questions regarding perceptions of living standards and income adequacy were also developed for the scale.

The scale that is developed in this study is called the *Material Well-being Scale*. It is a measure of what is referred to in this report as material well-being or material living standards.

2.3   Potential Factors Underlying Variation in Living Standards

This section presents the potential factors underlying variation in living standards of older people that were investigated through an analysis of the correlates and predictors of material well-being (as described the scale). The choice of potential factors to include in the research was based on information from previous research, the expected explanatory power of the factors (with priority given to those expected to have greater explanatory power), and practicalities relating to the survey (such as response burden and recall issues). It was also guided by the aim of the research to provide information useful for policy development and discussion.

There has been a large and somewhat uneven literature that has examined the factors that may influence the material consumption and conditions of households. In line with the emphasis on poverty that dominates the assessment of living standards, the focus of much of this research has been on the causes of poverty. Consideration of this literature points to a number of factors that have been identified or suggested as causes of poverty or as contributing to variation in living standards. The current study investigates a broad range of potential determinants, including factors that have been found to be significant in similar studies that have investigated a range of potential factors such as: income, savings and investment; household composition; ethnicity; education level; socio-economic status; health; household expenditure (in particular accommodation costs); and past economic life history (Department of Social Welfare, 1975; Nolan and Whelan, 1996; Stephens et al, 2000).

Health as a causal factor

Consideration was given to including measures of health and disability as contributory factors of variation in living standards. There is strong evidence that health and living standards are associated.[17]   The 1974 Survey of the Aged indicated that older people with poor health were at increased risk of impoverished living standards than healthy

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[17]   An association between health and living standards was also found in this research.

respondents even when due allowance was taken for income, savings, and other relevant factors (Department of Social Welfare, 1975). More recent research has suggested that there is strong evidence that the association between health and disability, and living standards is due to poor living standards leading to poor health and disability rather than poor health and disability leading to poor living standards (Shaw et al, 1999). However, it is likely that the causal linkages go in both directions. Therefore, we chose not to include health and disability as separate explanatory factors of variation in living standards in this study because of these causal ambiguities. However, items relating to prolonged illness and health costs are included as part of a broader question about past economic life history (see below).

Although health and disability have not been included as potential factors underlying variation in living standards, they are recognised as important for gaining an appreciation of and describing older people's lives. A description of the extent of ill health and disability amongst the population of older people is presented in Section 4.2 of this report. Although a detailed investigation of the way in which health and disability impact on older peoples' lives is outside the scope of the current study, this is an area of future analysis which could be pursued in the future using the living standards database.

The factors included for investigation for the current study are:

1. Household income;
2. Savings and investments;
3. Accommodation costs
4. Household composition;
5. Recent economic stresses;
6. Past economic life history; and
7. Social and ethnic background.

Household income

The first, and perhaps most obvious, explanatory factor of living standards is the household's current levels of income. Most studies suggest that this factor is an important determinant of the family's level of material well-being and/or risks of poverty.   However, deprivation studies indicate that there is noticeable variation in the living standards of people on the same low incomes, suggesting that although current income is important, other factors also have a substantial influence on material well being (Townsend, 1979; Mack and Lansley 1985; Rochford, 1987; Nolan and Whelan, 1996; Travers and Robertson, 1996; and Gordon et al, 2000).

Policy concerns have focussed on current income levels and income maintenance. However, there is also evidence to suggest that the family's longer term or *permanent income* may be a major factor determining the living standards it achieves (Boggess et al, 1999; Nolan and Whelan, 1996). All of these considerations clearly suggest that measures of income are likely to play a central role in any account of the origins of poverty or variations in material well-being.

Savings and Investments

Although income levels clearly contribute to household material well-being, it is likely that the extent of the household's savings, investments and assets also play an important role. Savings and investments may make both direct and indirect contributions to family living

standards. First, these assets may provide a source of income that may supplement the basic income of the household. In the case of the population of older people, the returns from savings and investments are likely to provide the major source of any income that is additional to that provided by State pensions or benefits. Second, there may be a planned running down of savings and investment to augment a household's current expenditure on consumption to help maintain its standard of living. Finally, savings and assets may provide the household with a buffer that protects it from the effects of sudden and unanticipated economic stresses. It is clear that for all three reasons (investment income, availability of capital, economic buffering) the household's level of savings and assets is likely to act as an important determinant of the household's level of material well-being.

Accommodation Costs

Patterns of household expenditure are likely to be related to the family's levels of material well-being in a complex way. On the one hand rising levels of expenditure in general are likely to be characteristic of affluent well to do families. However, on the other hand, high levels of expenditure in families with low income relating to core necessities such as accommodation costs are likely to be a cause of poverty. These considerations have been the basis of poverty indices such as the Engel ratio which estimates the fraction of the household income that is spent on necessities including rent, food, etc (Engel, 1895). In particular, accommodation costs is one of the key features of household expenditure which it is suggested it is important to take into account (Stephens et al, 2000). These considerations suggest that when other factors such as income, savings and investments are held constant, increasing accommodation costs may be associated with declining living standards and increased risks of poverty.

Economic Stresses

A frequent comment on the circumstances of households in receipt of state social assistance income levels is that although these households can meet day to day living costs (accommodation, food, medical care and related costs) they are less able to face unexpected economic shocks for large bills involving, for example, car repairs or home maintenance (Crean, 1982; Crothers, 1993). Given the possible role of economic stresses in influencing family economic circumstances, it is likely that the household's level of exposure to recent economic stress may make an independent contribution to its level of material well-being independently of previous income, savings and investments or current expenditure.

In the case of the population of older people, it is clear that costs of major house repairs or similar maintenance and replacement needs may place a strain on what might be otherwise an adequate level of income and assets. These considerations suggest that when due allowance is made for income, savings and investments, and expenditure, the household's level of exposure to economic stress may make an independent contribution to the level of material well-being it achieves.

Household Composition

An influence on living standards that has been subjected to extensive research scrutiny is the composition of the household. The link between household composition and living standards found in the literature is not a simple one, both single adult households (particularly sole parents) and larger households, are found to be at higher risks of poverty (Desai and Shah, 1988; Nolan and Whelan, 1996; Oppenheim, 1998; Sarlo, 1996; Saunders et al, 1993; Stephens et al, 2000). Household size is the distinction on which so called

"income equivalences" are primarily based. Such equivalences rescale family income to take account of household size, and sometimes additional compositional features. Given this, it is important to examine the ways in which household composition influences the material well-being of the household when other factors are taken into account.

Past Economic Life History

Many discussions of the sources of variation in material well-being focus on the household's current life circumstances and economic conditions. However, it is likely that the standard of living that the household achieves reflects not just its current circumstances but its past economic life history (Nolan and Whelan, 1996; Oppenheim, 1998; Stephens et al, 2000; Walker and Park, 1998). Above we have noted the likely role of permanent income as distinguished from current income as a factor determining levels of material well-being, but it is likely that there are other life course variables that may influence the level of material well-being achieved by the household. These events include such factors as: duration of paid employment; periods of unemployment or redundancy; imprisonment; lengthy hospitalisation; divorce or separation. All of these events are likely to introduce discontinuities into the economic life history of household members with these discontinuities having an impact on the household's level of material well-being.

Social and Ethnic Background

A further set of factors that are likely to be related to the material well-being of the household are measures of socio-economic background and ethnicity. There is a large literature that has suggested that families of low socio-economic status or minority group ethnicity are at increased risks of depressed living standards and poverty (Boggess et al, 1999; Desai and Shah, 1988; Nolan and Whelan, 1996; Oppenheim. 1998; Stephens et al, 1999; Waldegrave et al, 1997). It is likely that much of the association between social background and material well-being may be explained by the lower income levels and associated features of socially disadvantaged families. However, it is possible that independently of income and other factors, families of low socio-economic status, or minority group ethnicity, may be at increased risk of depressed living standards. Such an association could arise if these families faced additional barriers and difficulties that influenced their level of material well-being.

In summary there is evidence that variations in household material well-being are determined by a wide range of factors with the principal ones being: current economic circumstances (income, savings/investments, expenditure, recent economic stresses); household composition; previous economic history; and social and ethnic background.

2.4   Overview of Research Approach

The overall research approach is depicted in Figure 2.2. This diagram brings together the elements of the two central analysis stages of the research. Living standards for the purposes of this research is defined as material conditions and consumption. In particular, the focus of the study is on material well-being, that is, material conditions and consumption that are wanted but not able to be met because of economic restrictions.

The first stage of the analysis involves confirmatory factor analysis to develop a material well-being scale using living standards indicators and self-assessment information (Chapter Five) which is then used to describe the distribution of material well-being outcomes of older people across a continuum from hardship to comfort (Chapter Six). A regression

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analysis is then undertaken to investigate the extent to which factors such as current income, savings and investments, and household composition, explain variation in the living standards of older people (Chapter Seven).

Figure 2.2: Research approach for investigating the living standards of older people

Ownership Restrictions

Social Participation Restrictions

Economising

Financial Problems

Self-assessments

Overall Material Well-being

Material well-being is a latent dimension that is expressed through five domains: Ownership Restrictions; Social Participation Restrictions; Economising; Financial Problems; and Self-assessments.

Confirmatory factor analysis will be used to construct a single robust scale that can be used to describe the living standards outcomes of older New Zealanders (as represented by the material well-being scale) across a continuum from hardship to comfort.

Regression analysis will be used to investigate a range of factors that may explain differences in living standards across older people.

Potential factors that underlie variation in living standards (as represented by the material well-being scale): current economic circumstances (income, savings/investments, expenditure, recent economic stresses); household composition; previous economic history; and social and ethnic background.

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