# Melbourne Institute Report
## No. 6

# A Framework for Assessing Poverty, Disadvantage and Low Capabilities in Australia

*Bruce Headey*

May 2006

Based on the Melbourne Institute 40th Anniversary Project

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**SUMMARY**

The Melbourne Institute (MI) is undertaking a project to review and implement multidimensional approaches to the measurement of, and policy improvement towards reducing, poverty and disadvantage. As a contribution to the project, this paper sets out a framework for assessing disadvantage which is influenced by Sen's (1999) 'capabilities' and 'functionings' approach. The framework is, in part, implemented using the first three years of HILDA panel data (2001-03). It is hoped that a modified version of the framework, together with appropriate data, could be used by Australian Governments to revive efforts to prevent and reduce disadvantage.

It is considered that a new framework is needed for both political feasibility and academic reasons. No Australian Government has ever adopted an official poverty line or quantitative target for reducing poverty. In particular, relative income poverty lines favoured by academics have been ignored. A multidimensional approach based on 'capabilities' could perhaps attract the support of policy makers. Four domains of capability are assessed: financial, employment, health and family/social. The aim of policy would be to ensure that as many citizens as possible are equipped with the capabilities to exercise effective choice and lead satisfying lives in a modern society and economy.

The value of the HILDA panel data is that, for the first time in Australia, we are able to measure the *persistence* of poverty and disadvantage. Clearly, from a policy standpoint, medium and long term disadvantage are of greater concern than short term. The analysis indicates which groups in Australia have low capabilities and suffer medium term disadvantage in the financial, employment, health and family/social domains. Low capabilities are then shown to be strongly related to low social and economic functionings and to low levels of well-being.

The concluding section outlines a *life cycle approach* to capabilities and functionings, which may be one way for Australian Governments to move forward in this field. In any event, the aim is to develop a suite of measures of poverty, disadvantage and low capabilities, which should be updated on an annual basis.

**INTRODUCTION**

The aim of the Melbourne Institute (MI) project on which this paper is based is to propose a framework for assessing poverty and disadvantage – especially medium and long term disadvantage – which could be used by Australian Governments for monitoring trends. The framework is outlined and then some preliminary longitudinal results are given. The aim is to try and show that the framework can be usefully implemented and yields results valuable for monitoring trends and potentially for policy design. The main data set is the HILDA panel survey but other sources are also drawn on.

Historically, Australian research on poverty – like research in other Western countries – has mainly been based on a single *dimension* of disadvantage. Definitions of *relative poverty* have been used in which a poverty line is defined relative to median or mean household disposable income. A tentative judgment underlying this project is that it may be time to abandon the relative income approach, or rather to adopt a *multidimensional approach* in which income is only one dimension of concern. The approach adopted in the paper is strongly influenced by the work of Amartya Sen (for example, in Sen, 1999), who defines poverty in terms of *low capabilities* and *functionings.* However, other multidimensional approaches are also reviewed and, in practice, appear to suggest measures which overlap with Sen's.

A multidimensional approach is preferred on both academic grounds and on the basis of political feasibility. Academic issues will be covered in the main part of the paper. The main issue of political feasibility is that no Australian Government has ever adopted an official poverty line, or shown the slightest intent of committing itself to abolishing or reducing poverty defined according to a relative or even absolute income standard. So it seems extremely unlikely that any future Australian Government of either party will adopt an income poverty line, or (same point) a guaranteed minimum income. In practice, Governments always want to provide different levels of income support to different population groups. They want to make judgments about perceived need and about why people have low incomes. So organisations and individuals who want to get poverty and disadvantage back on to

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the national political agenda need to develop an approach which has a reasonable chance of attracting the attention of policy makers, and which might ideally attract bipartisan support.

It is suggested that a multidimensional approach based on capabilities may have adequate political feasibility. The basic proposition is that Australian Governments should identify citizens with medium and long term low capabilities and should then, where possible, seek to equip them with those capabilities most needed to function effectively in a modern society and economy. A not dissimilar multidimensional approach to reducing poverty and disadvantage has been more or less officially adopted in the European Union (Atkinson et al, 2002).

This paper lays some groundwork by (1) reviewing the main multidimensional frameworks for assessing poverty and disadvantage which have attracted interest in Western governmental and policy making circles (2) giving reasons for preferring a modified version of Sen's capabilities and functionings framework, after recognising that the operational indicators suggested by all approaches overlap to a considerable extent (3) illustrating how the HILDA Panel Survey can be used, along with ABS sources, to provide preliminary multidimensional results about who is disadvantaged and how long they remain disadvantaged (*persistence of disadvantage*).

Crucially, the HILDA data are the first Australian data which allow us to differentiate between short and medium term poverty and disadvantage, and so make a preliminary assessment of how *persistent* various dimensions of disadvantage are. Previous data have been cross-sectional. They told us how many people are disadvantaged at one moment in time. But short term poverty, joblessness, and ill-health are plainly a much less serious issue than medium and long term disadvantage. The HILDA data will provide the policy-making and research community with a continuing resource to monitor progress or regress in Australia on dimensions of poverty and disadvantage.

**SINGLE AND MULTIDIMENSIONAL APPROACHES TO POVERTY AND DISADVANTAGE**

The main approaches to the conceptualization and measurement of poverty and disadvantage, which have attracted serious attention from Western Governments,[1] focus on:

- Low *income*
- Low *capabilities*
- *Social exclusion* (low participation)
- *Material deprivation* (low consumption)

The low income - or relative income - approach is the only one which relies on a *single dimension* to assess poverty and disadvantage; the other approaches are all multidimensional. Let us now summarise conceptual and measurement reasons for preferring not to adopt a relative income approach in this project.

### *Limitations of the low income approach*

The idea behind the low relative income approach is of course to identify people with a low material standard of living; low relative to current mainstream standards. But one's standard of living *is* one's consumption level; the value of the goods and services actually consumed.[2] In Australia and some other countries household income (however adjusted or equivalised) has been shown to be a poor proxy for consumption. In recent times in Australia household consumption has been less unequally distributed and has been more stable over time than household income (Barrett, Crossley and Worswick, 2000). Further, over 40% of Australian households (again, similar results hold for other countries) appear to consume more than they earn. Unfortunately, the apparently obvious solution of measuring consumption instead of, or as well as income, is usually thought to require a diary method and so is

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[1] Additional approaches, which have currency in academic research on poverty, are the full income approach (e.g. Travers and Richardson, 1993) and the subjective poverty and the subjective expenditure approaches (van Praag, 1993; Goedhart, 1977).

[2] There are minor exceptions. Being ill and 'forced' to spend money on health care, or being 'forced' to spend money on private security services does not enhance one's standard of living.

extremely expensive to implement, especially if panel data are deemed to be essential, as they are if medium and long term disadvantage are to be assessed.

A second concern, which is particularly relevant to this project with its focus on low capabilities, is that even if the income approach were to accurately identify those with a low material standard of living, it would not tell us *why* they are poor, and so would not point to possible policy interventions and remedies.

Now measurement issues. It is well known to survey researchers – and well known to the Tax Office - that it difficult to measure both very high and very low incomes. The ABS finds that its Surveys of Income and Housing do not include enough recipients of Government income support payments, and HILDA runs into the same problem. In other words, Centrelink is actually making more income support payments than we seem able to trace in surveys. It is not completely clear whether this is due to under-sampling of recipients or to under-reporting by people who in fact get benefits. If the former explanation is correct, then poverty is presumably under-estimated. If under-reporting is the main problem, then poverty may be over-estimated. A second more widely known measurement problem is that many farmers and other self-employed people report what look like poverty incomes (and, as the Tax Office notes, may even receive income support payments), but in some cases plainly do not have a low standard of living.

A final point in relation to the relative income approach is that no consensus can be arrived at, even among academics, about which poverty line to use: 50% of median disposable income, 50% of the mean, or 60% of the median (Harding, Lloyd and Greenwell, 2001; Tsumori, Saunders and Hughes, 2002).[3] The debate is sterile. In part this is because everyone concedes that these three income poverty lines are based on a concept of 'relative poverty' rather than 'absolute poverty', and so are essentially arbitrary.[4]

Of course, an assessment that the time for unidimensional income poverty measures may be past does not contradict the obvious point that low income is one important

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[3] In practice the mean and 60% of the median are approximately the same.
[4] To be in 'absolute poverty' means to lack the basics: food, clothing and shelter.  To be in 'relative poverty' means to lack the resources to live what is consensually regarded as a normal or 'mainstream' lifestyle in one's own country.

dimension of disadvantage and is, in fact, included in virtually all sets of multidimensional indicators.

We now outline the three main multidimensional approaches to poverty and deprivation, all of which, it may be noted, have attracted high level attention in Australian Government (ABS, 1998; Department of Family and Community Services, 2003; Henry, 2002; Parkinson, 2004).

### *Amartya Sen and the capabilities approach*

The Indian economist, Amartya Sen, won the 1998 Nobel Prize in economics partly for his reconceptualisation of poverty and disadvantage, and his empirical research showing that his ideas could be used to account for international differences in poverty, and indeed outbreaks of famine.

Sen's ideas on poverty and disadvantage were initially formulated to apply mainly to developing countries, but have also been applied to industrialised societies (e.g. Nussbaum, 2000). His central tenet is that, in order to *function* effectively in a modernising or modern country, people require a fairly wide range of *capabilities,* and not just an adequate income. If they lack or rate low on several capabilities, then their life choices will be severely constrained. They will be 'disadvantaged' and their 'functionings' will be unsatisfactory (as judged by an informed observer, if not necessarily by themselves). So Sen wants us to move away from the traditional concept of poverty as low income and/or low consumption, and to focus on multiple dimensions of capability and functioning. It is sometimes said that Sen's work is unclear as to the distinction between capabilities and functionings. This may be a fair criticism when it comes to measurement, but at the conceptual level the distinction seems clear enough. One's capabilities are one's *potentials,* and one's functionings are *actualities*, realizations.

Let's come at this another way. Start with Sen's concept of freedom, or what he calls *substantive freedom of choice*. A person has no genuine freedom to choose among different ways of living out his/her life - different careers, leisure activities, family arrangements etc - unless he/she has 'capabilities' such as are likely to be conferred by reasonable levels of education, health, material resources and social networks. In

this view to be poor is to lack freedom, to have impoverished choice in the context of the society in which you live.

One reason for being attracted to the concept of capabilities is that, potentially at least, it provides an *objective basis for defining poverty*, instead of a purely relative one. Sen's view is that it has to be *objectively* true that, if you lack certain capabilities, you are very likely to have an impoverished range of choice. The capabilities required may differ, both qualitatively and quantitatively, as between rich and poor countries, and they may be hard to measure, but there have to be levels below which choice is effectively wiped out.

The concept of capabilities is hard to operationalise. Your capabilities are what you what you could *do* or *be* if you chose (see Sen, 1999, pp.72-73). Various measures of economic, human, health and social capital may be used as *indicators* of whether people have or do not have adequate capabilities, but they are mostly just indicators and not direct measures of the capabilities themselves. The concept of functionings is less tricky, although at times Sen refers to them rather opaquely as 'valued lifestyles'. At least in the context of research on poverty and disadvantage, we can treat functionings as flows relating to material standard of living, joblessness, welfare reliance, poor current physical and mental health and so on.

Sen has never offered a definitive list of key capabilities or functionings, or indeed, definitive advice on how to weight them. This is partly because he recognises that the list is bound to differ for different times and places, and partly because he wants the list to be determined via a democratic, participatory process. Presumably, however, three areas/domains of capability and functioning would be on everyone's high priority list: adequate education, an adequate material standard of living and reasonable health. These are included in the UN's Human Development Index, which was constructed with Sen's ideas in mind. The list of other possible inclusions is very long. Illustratively, one might suggest: capacity for and access to employment; adequate mental health; social capital/social networks; a capacity to speak, read and write satisfactorily in the language of one's country of domicile; access to and knowledge of how to use public, community and private sector services; the skills to participate effectively in political and social affairs; self-respect and also sufficient

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respect in the society not to be subject to discrimination on grounds of gender, ethnicity, religion, skin colour etc.

How, if at all, should different capabilities and functionings be weighted to form an overall index of poverty and disadvantage? There are at least five possibilities. Statistics Sweden, which implements the Swedish Level of Living Surveys, says, 'Don't weight at all – just present all the evidence'. Another possibility is equal weights; an example is the U.N.'s Human Development Index. A third possibility is to ask either experts or the public what weights to give. Fourth, factor weights could be used. A final possibility is to use regression weights based on regressing a measure of subjective utility (e.g. life satisfaction), or some measure of income, on the list of capabilities. The idea here is that the highest covariates are what matter most, because they account for most variance in subjective utility (or income). It might be noted that Sen explicitly rejects the idea of weights based on any kind of subjective utility, because deprived people might not be aware of their serious deficiencies and might be 'happy' anyway (related to the Marxist idea of 'false consciousness'). On the other hand, he does countenance the possibility of giving income a central role (Sen, 1999, chap. 3).

### *Social exclusion and low participation – the European Union*

In the European Union, the most influential current set of ideas relating to poverty and disadvantage go under the label of 'social exclusion'. As noted earlier, the EU adopted a set of indicators of social exclusion at its 2001 Conference in Laeken, Belgium (see Appendix 2).

An underlying normative belief among advocates of the social exclusion approach is that citizens should have opportunities to *participate* in a wide range of activities, if they choose to do so. Institutional or 'structural' *barriers to participation* need to be removed or at least reduced. The opposites of social exclusion are social inclusion and *participation*. Measures and indicators of social exclusion all identify certain conditions (or low level 'functionings') which may act as barriers preventing participation in desired activities. The main barriers identified by the EU are:

- Unemployment and, worse, the condition of being a 'jobless household'

- Lack of human capital – education, job training and work experience

- Health, mental health and disability problems suffered either by oneself or other household members for whom one acts as a carer

- Heavy family and caring responsibilities which, without adequate support, prevent wider social and economic participation

- Lack of social and political capital, social networks and organizational memberships

- Environmental and neighbourhood deficiencies and lack of access to services

- Ethnic, language and discrimination barriers

- Lack of financial capital and income

Reviewing this list, we may begin by noting that some proponents of this approach appear to give pride of place to labour force participation. They view the opportunity to work, for women as well as men, as an essential prerequisite for adequate participation. This is not only an issue of involuntary unemployment. An even greater concern is 'jobless households'; households in which no-one has paid work. If households remain persistently jobless, there is a further concern that children may grow up in an environment in which 'welfare' and not work is the norm.

Heavy caring responsibilities, without adequate family or public sector support, are also seen as a source of social exclusion. So many single parents, or carers of their own elderly parents, may be too house-bound to have adequate job, educational and social opportunities. Similarly, health and mental problems experienced either by oneself or other household members one cares for, can lead to social isolation.

The social exclusion approach has led to renewed interest in 'social capital' or social networks. An influential social scientist in this area, the Harvard academic Robert D. Putnam, has documented and sought to explain a decline in social capital/social networks in the U.S. and some European countries (Putnam, 2000). He has related declining social capital to a wide range of problems, including crime and vandalism, mental illness, low life satisfaction and low voter turnout. Ethnic minorities are

particularly at-risk of social isolation, in some cases for language reasons, and in some cases due to discrimination.

It should be noted that the social exclusion approach, like all others, includes indicators of material well-being, including lack of financial capital and low income. The EU has led the way internationally in using panel survey data to measure the persistence of low income/poverty, rather than relying solely on cross-sectional snapshot data.

The approach has been subject to a number of well rehearsed criticisms. Some of these appear to be rather general, while others relate to conceptual clarity, measurement and policy, and appear to have more substance. In the former category is the concern that the groups of people identified as social excluded are just the groups usually identified by sociologists as the 'at-risk' groups: the unemployed, single mothers, ethnic minorities and so forth. Another rather general concern is that describing a person as socially excluded might appear to mean that he/she lacks friends, but this is not true of many of the people who are actually classified as socially excluded due to the barriers outlined above.

A more serious conceptual issue is whether social exclusion is to be defined in terms of multiple (mutually reinforcing?) exclusions - in which case it would mean something like 'multiple deprivation' – or whether people are to be defined as excluded if they are subject to just one or two barriers. If the former definition were adopted, one would find that very few people suffer multiple deprivation – certainly not multi-year, persistent deprivation (Goodin et al, 1999). This would be an interesting finding in itself, but might lead to the dubious policy inference that nothing much needs to be done. If on the other hand, one took the view that just one or two barriers were enough to have a person classified as 'excluded', then one might find empirically that many highly successful and participatory citizens were strangely so classified.

To a large extent, these are weighting issues of the kind we reviewed in relation to capabilities. In the Results section we make a start to tackling these issues by seeing to what extent disadvantages are correlated and/or persist over time.

*Material deprivation: low consumption, financial stress and budget standards*

The third major multidimensional approach to poverty and disadvantage can be regarded as an extension of the income poverty approach. As noted above, measuring a household's income does not directly tell us about its material standard of living or possible material deprivation. Income is at best an indirect or proxy measure of standard of living; it is a measure of command over resources and thus of potential standard of living.

Stein Ringen has suggested that, in order to be defined as poor, a household should have both a low income and a low level of consumption (Ringen, 1987). If it does not have a low income, then it has the potential to buy an adequate standard of living. If it has a low income but not low consumption, then it does not have a low standard of living right now. It must be living off savings, borrowing, not paying its bills, or receiving transfers from other households (which, in principle, should have been recorded as income). In his empirical work Ringen (1987) has shown that in some countries the income poor and the consumption poor are by no means the same people. This was not a complete surprise, because it was already well known from household expenditure surveys (including in Australia) that many households in the bottom half of the income distribution spend more than their recorded income. Furthermore, as permanent income theory (Friedman, 1957) would predict, it appears that households smooth their consumption over time in accordance with perceptions of their likely long term (or 'permanent') income, so that consumption fluctuates less than income (for Australian evidence, see Barrett, Crossley and Worswick, 2000).

As noted above, the cost of the diary method of data collection means that there are serious practical difficulties in implementing Ringen's recommendation to measure both income and consumption at the same time in order to determine who is poor. One important consequence is that alternative proxy measures of low consumption or 'material deprivation' have been developed. The British researcher, Peter Townsend (1979), pioneered 'deprivation indicators'. These are lists of consumption items which are more or less consensually regarded (by the public) as essential to a normal or mainstream lifestyle in a particular society and a particular time. Survey respondents who lack a particular item are usually asked whether they chose to do without it. If the

lack is involuntary ("can't afford it"), then deprivation is indicated. Clearly deprivation indicators provide a 'relative' and contemporaneous, not an 'absolute' measure of material well-being.

It is worth noting that the Irish Government has officially adopted a measure of poverty based on combining relative income poverty and a set of deprivation indicators (Nolan et al, 2000). The resulting measure is termed a 'consistent poverty index'. It is consistent in the Ringen sense; that is, to be deemed poor a household has to have both a low income and be deprived. The Irish Government's index is printed as Appendix 3.

A similar approach underlies the measurement of 'financial stress'. For example, the ABS in 1998 asked survey respondents whether they had been unable to make various payments in the last year (rent, mortgage, utility bills etc), or had to seek financial help from relatives, friends or welfare organisations. Households which report one or two problems in surveys of this kind can be classified as 'financially stressed'. An empirical oddity, found in Australia and elsewhere, is that quite large numbers of moderate and high income families report difficulty in paying bills. While it may be sensible to accept that these families are 'stressed', or at least incompetent at budgeting, it does not make sense to call them materially deprived. A reasonable solution to this problem, following Ringen and the Irish Government, is only to classify a household as deprived if it has both a low income and symptoms of financial stress. We shall see in the Results section that, for Australia, this modified approach yields plausible results and also indicates a decline in poverty and deprivation in recent years.

Another related but more complicated method is to develop 'household budget standards'. This involves calculating the amount of money households of different size, and living in different locations (e.g. capital cities versus country towns) would have to spend on a wide range of consumption items in order to have an adequate material standard of living. The list of items is usually arrived at through survey research aimed at finding what items are consensually regarded as necessary for a mainstream lifestyle. In a household budget standards study done by the Social Policy Research Centre at the University of New South Wales for the Department of Family

and Community Services, two alternative lifestyles were specified: a modest lifestyle and a comfortable lifestyle (Saunders, 1998).

The SPRC's research was impressively thorough and a strong conceptual and empirical case was argued for adoption of the budget standards. Nevertheless, the standards failed to attract support among policy makers. A political difficulty is that if one proposes that a wide range of consumption items are necessary for a 'modest' or 'comfortable' lifestyle, one is offering a large number of targets for criticism. It is also fair to say that the budget standards approach is expensive to implement and that the standards would need regular revision, as social expectations changed.

## RESEARCH STRATEGY AND MEASURES

It is plain from our initial review of the three multidimensional approaches that, although they differ conceptually, when it comes to measurement, they overlap to a large degree. What Sen calls 'low capabilities' and 'low functionings' – at least when measured - are in part what proponents of the social exclusion approach call 'barriers to participation' (Saunders, 2005). And both Sen and social exclusion proponents include in their list of preferred measures, indicators of 'material deprivation' of the kind favoured in this third approach.

The HILDA surveys for 2001-2003, which we shall mainly use for preliminary empirical analyses, do not include all the indicators discussed above, but they do include indicators relevant to each approach (more detail below). In view of measurement overlaps among the approaches, there are several feasible research strategies which we could employ. One alternative would treat all available indicators as *indicators of disadvantage* without seeking to categorise them primarily as indicators of low capability and functioning, or social exclusion, or material deprivation. This is a rather agnostic approach which, in our view, would have the serious drawback of blurring distinctions which need to be made between *socio-economic disadvantages* themselves, their *causes* and their *consequences*. These distinctions need to be made primarily for policy purposes. If a government seeks to design interventions intended to reduce poverty and disadvantage, then it needs a differentiated understanding of the causes and consequences of disadvantage. Policy

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needs to operate primarily on the causes of disadvantage, and specifically on causes which are 'actionable'; that is, open to policy intervention. Capabilities and functionings of the kind identified by Sen appear to be actionable in this sense.

A second alternative strategy, which we prefer, is to proceed in the spirit of Sen (although not following him on all points; see below) and focus on low capabilities seen as possible causes of negative social and economic functionings and outcomes. More fully, we propose a conceptual framework which distinguishes different types of *capabilities* and *functionings* and their relationship to psychological outcomes connected to *well-being* (satisfaction and stress). Another way of expressing the distinctions among capabilities, functionings and well-being is to think of capabilities as stocks, functionings as current flows, and well-being indicators as constituting a third set of 'psychological outcomes'. Within each account it is desirable to have measures dealing with at least *four domains of life*:[5]

- *Financial domain*: financial/economic/material indicators
- *Employment domain:* human capital and employment/labour market indicators
- *Health domain:* physical and mental health indicators
- *Family/social domain:* indicators relating to family and social life.

Table 1 attempts to summarise this:

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[5] In a recent address Noel Pearson has proposed that 11 domains should be considered important for Aboriginal communities: employment, income, wealth, income passivity, health, safety, housing, basic infrastructure, education, social capital and governance (Pearson, 2005).

**Table 1**
**Framework For Multidimensional Analysis of Disadvantage**

| Low Capabilities (stocks) | Low Functionings (flows) | Low Well-Being (psychological outcomes) | Main data Sources* |
|---|---|---|---|
| **Financial and material capabilities** | **Financial and material functioning** | **Financial stress** | **HILDA** |
| **Human capital/ employment capabilities** | **Employment/labour market functioning** | **Job stress** | **ABS: Household Income and Expenditure Survey** |
| **Health capabilities** | **Health functioning** | **Health satisfaction** | |
| **Family and social capital/capabilities** | **Family & social functioning** | **Satisfaction with family; life satisfaction** | **ABS: General Social Survey** |

*Need for improved coverage of Aboriginal people, homeless people and other groups who are disadvantaged and difficult to cover in standard surveys.

If Australian Governments were to adopt an approach along these lines, they would presumably need to be equipped with a fairly long list of capabilities, functionings and measures of well-being, together with measures to operationalise all concepts. From a practical standpoint the measures would need to be available in regularly collected Australian data sets, ideally in the form of longitudinal or panel data. It is also important that the data be available in disaggregated (preferably unit record) form, because in assessing capabilities and functionings it is essential to present evidence for people at *different stages of the life cycle* (including giving separate results for children). Quite clearly, different levels of capability (e.g. education and wealth) and also of functioning (e.g. employment and health functioning) would be expected at different stages of life. The requirements of a life cycle approach are discussed more fully in the concluding section of the paper.

A lengthy list of measures is given in Appendix 1. However, it would make this paper excessively long if data relating to all of them were presented here. So, to illustrate the multidimensional approach, the restricted set of measures listed in Table 2 is used.

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Most, although not all of these measures are available on an annual basis in HILDA. The exceptions are literacy and numeracy, which were measured in an ABS Survey in 1996 (ABS, 1996), and also wealth which was measured in HILDA in 2002 and will be again in 2006.

**Table 2**
**Illustrative Measures of Low Capabilities, Low Functionings**
**and Low Well-Being***

| Low Capabilities (stocks) | Low Functionings (flows) | Low Well-Being |
|---|---|---|
| **Financial capital**<br>- asset poor; unable to stay above poverty line (<50% of median post-transfer equivalised income) for 3 months in emergency, using up financial assets<br>**Human capital/employment**<br>- Early school leaver; not completed Year 12<br>- No post-school advanced or vocational qualifications**<br>- Lacks work experience: % time not in emp. since completing f/t educ.<br>- Low literacy and/or numeracy (Level 1, Level 2)<br>**Health capital**<br>- Health disability (likely to last 6 months or more)<br>**Family & social capital**<br>- Lives alone (& no partner)<br>- Lacks adequate social/friendship network (multi-item survey scale) | **Financial functioning**<br>- Income poor: pre-Gov transfers & taxes (<50% & <60% of median equivalised income)<br>- Income poor: post-Gov transfers & taxes (<50% & <60% of median equivalised income)<br>- Income poor, using <50% poverty line anchored in 2001 (updated by CPI)<br>- Welfare reliance (>50% of household gross income from Government)<br>**Employment/labour market functioning**<br>- Currently unemployed<br>- Lives in jobless household<br>**Health functioning**<br>- poor physical functioning (SF-36 scale)<br>- poor mental health (SF-36 scale)<br>- smoker<br>- lacks exercise<br>**Family & social functioning**<br>- low frequency of contact with friends/relatives (1-7 scale) | **Financial outcomes**<br>-Financial stress (survey scale)<br>- Low satisfaction. with financial situation (0-10 scale)<br>**Employment outcomes**<br>-High job insecurity: % chance of losing job in next year<br>-Low job satisfaction (0-10 scale)<br>**Health outcomes**<br>-Low self-rated health (1-5 scale)<br>-Low health satisfaction (0-10 scale)<br>**Family & social outcomes**<br>-High work-family stress (1-7 scale)<br>-Low life satisfaction (0-10 scale) |

*All of these measures are available in HILDA except literacy and numeracy.
Wealth was measured only in 2001 and will be again in 2006.
** This measure is based on ABS, *Measures of Australia's Progress* (2004).

Most of the measures listed in Table 2 are of a kind familiar to readers, so rather than detail all of them here, we just describe the few that are likely to be unfamiliar. (However, some further information is given in the Results section).

Measures of asset poverty (referred to in column1 of Table 2) appear not to have been used before in Australia, and are based on measures recently developed in the US by Caner and Wolff (2004). The basic idea is that people need assets to use in emergency if their normal flow of income is interrupted. Caner and Wolff propose three measures of whether people could cope with a three month emergency due to, say, unemployment. The first measure assesses whether they have enough net worth (assets minus debts) to stay above a poverty line for three months, using up all types of assets. The second measure assumes that housing assets could not be used (not liquid) and so assesses whether they could cope by using up their total net worth minus housing equity. The third measure assumes that only financial assets could be used and so excludes property, businesses and all other tangible assets. (Superannuation holdings are included as liquid, although not normally accessed by Australians under 55). In this project we will make use of the first and third measures.

A second category of unfamiliar measures, also in the capabilities column of Table 2, relates to literacy and numeracy. In 1996 the ABS conducted a literacy and numeracy survey, borrowing an instrument developed in Canada and the US. Canada (ABS, 1996). Respondents were grouped into five levels of ability to comprehend prose, deal with documents and undertake quantitative tasks.

*Causality?*

A key issue in operationalising the framework is to attempt to assess causal linkages among capabilities, functionings and well-being outcomes. In general, we would think of capabilities as affecting functionings, and both capabilities and functionings affecting well-being outcomes. However, causation can in fact run in both directions. To give obvious examples, wealth positively influences current income, and low income coupled with high consumption (current flows) almost automatically leads to a reduction in wealth/net worth. More speculatively, one might hypothesise that low

life satisfaction (a well-being outcome) could lead to a decline in social networks (capabilities account) and in health functioning.

Issues of causal direction of this kind are always difficult to resolve in social science research. Panel data can help, but of course do not resolve all issues.

In the Results section (below), we shall assume one-way causal direction. We give some preliminary results showing linkages running from capabilities in 2001 to functionings in 2002, and from both these categories to well-being outcomes in 2003.

### Criteria for assessing the multidimensional capabilities and functionings framework

The multidimensional approach used here will be justified only if it can be shown that different low capabilities predict different low functionings and levels of well-being. If a single dimension, or perhaps two dimensions, could adequately predict all the main outcomes of policy interest, there would be no value in a multidimensional approach. The two main unidimensional candidates to scoop the pool would appear to be human capital (the economists' favourite) and low income. So one task will be see whether low capabilities predict functionings and well-being outcomes better than either low human capital or low income (or both) by themselves. A further task will be to show that people who have *multiple low capabilities* suffer from more and worse low functionings and low well-being outcomes than people who have no or rather few low capabilities.

### Modifications to Sen – mainly for practical measurement reasons

It is recognised that this project is 'in the spirit of Sen' but does not, and in practical terms could not, follow him on all points. Many judgment calls need to be made, mainly for practical measurement reasons. Some of these perhaps involve modifications to Sen's approach. Take, as a first example, the concept of *social capabilities* (or social capital) and the available HILDA measure of *social networks.* The measure is based on reports by survey respondents of the perceived availability of social and emotional support. We treat this as a capabilities or stock measure likely to influence current functionings/flows of social activity, which are in turn measured in

HILDA by reported frequency of contact with relatives and friends. It is not entirely clear whether Sen or a Sen-purist would accept the practical distinction made here between the capabilities measure and the functionings measure. Plainly both measures are *indicators* rather than direct read-outs of survey respondents' capabilities and functionings.

Now a second and more difficult example: cash income. The HILDA measures of income used in this project are financial year income prior to transfers and taxes, and fiscal year disposable income (after transfers and taxes). Sen often refers to income as a capability, in part because an adequate income opens up freedom of choice in many domains of life. But in this project we have preferred to classify cash income as a measure of functioning/flow rather than as a capability. We view it as a consequence of capabilities/stocks, including wealth and human capital.

In one respect the project clearly departs from Sen. This is by including measures of subjective well-being (mainly satisfaction and stress). Sen preferred to omit such measures on the grounds (noted above) that disadvantaged people might report high levels of subjective well-being partly due to ignorance of the range of choices that 'ought' to be available to them. This view is perhaps particularly relevant for developing countries. In Australia several government departments and associated agencies, including the Commonwealth Treasury, the Australian Bureau of Statistics, the Victorian Government and the Productivity Commission have come to the view that measures of well-being which go beyond economic well-being, and which include subjective measures, need to be included in their regular reporting (Australian Bureau of Statistics, 2001, 2004; Salvaris et al, 2000; Parkinson, 2004).

It should be stressed, however, that while measures of subjective well-being and stress are included in this report, this paper recommends that the main foci of policy intervention should be improved capabilities and functionings. Well-being measures are included primarily so that it can be demonstrated that low capabilities and functionings do have negative consequences for well-being.

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**RESULTS - MAINLY USING HILDA DATA FOR 2001-03**

One of the key advantages of HILDA is that, as a longitudinal panel, it is possible to examine the *persistence* of low capabilities. Cross-sectional statistics of the kind most of us are accustomed to make it appear that low capabilities, poverty and disadvantage are long term. For example, the aggregate percentages who are in bad health, or who are income poor, do not change much from year to year. So it is natural to assume that many of the same people are sick or poor for year after year. But, as we shall see, the longitudinal data show that this assumption is false for most low capabilities, functionings and well-being indicators, although not for all population groups. From a policy-maker's point of view, persistent disadvantage is plainly a greater concern than short term episodes. In the results which follow, *persistence* is defined by the number of years out of three (2001 – 2003) in which an individual experiences a low capability. (Note that 'one year' means *any* one year out of the three, and 'two years' means any two out of three).

In presenting preliminary results, we begin by treating each measure of capability, functioning or well-being separately. Both cross-sectional results and longitudinal 'persistence' results are given for the population as a whole, for the prime working age population (25-54), and for the elderly (aged 65 and over). There is also a focus on four specific groups commonly regarded as being potentially 'at risk' of poverty and disadvantage: single mothers, non-partnered people, people with disabilities and those born in non English-speaking countries. These groups were selected purely for illustrative purposes. Plainly other groups could have been selected, and it is certainly not assumed that these are in fact the groups most 'at risk'. The purpose here is solely to illustrate the presence and consequences of concentrations of low capability within the Australian population.

*Low capabilities (stocks)*

Table 3 shows percentages having low economic and human capital each year in 2001-03 and it shows also how persistent low capabilities were in this period. It should be noted that the persistence analysis only applies to people who retained the same status throughout the period (e.g. they remained in the prime working age group,

or remained single mothers throughout). Population figures are printed in bold in the first column of the table, so that it is easy to see whether a particular population group has higher or lower capabilities than the national average.

**Table 3**
**Low Financial & Human Capital/Capabilities:**
**Results for 2001-03***

| Capabilities | Total Population % | Working Age % | Elderly 65+ % | Single Mothers % | No partner % | Disability % | NESB % |
|---|---|---|---|---|---|---|---|
| **Economic capabilities:** | | | | | | | |
| **Low wealth/asset poor (all assets)** | | | | | | | |
| 2002 | **7.7** | 6.0 | 4.2 | 23.4 | 12.0 | 9.9 | 9.2 |
| **Low wealth/asset poor (only financial assets)** | | | | | | | |
| 2002 | **14.9** | 10.6 | 15.0 | 40.7 | 20.6 | 23.5 | 21.0 |
| **Human capital:** | | | | | | | |
| **Early school leaver** | | | | | | | |
| 2001 | **34.9** | 25.1 | 57.5 | 40.3 | 40.2 | 45.1 | 30.7 |
| 2002 | **34.3** | 24.3 | 56.3 | 38.3 | 39.1 | 46.1 | 29.9 |
| 2003 | **34.1** | 23.2 | 55.7 | 37.0 | 40.1 | 44.3 | 27.7 |
| 0 of 3 years | **65.9** | 76.6 | 43.1 | 58.7 | 57.7 | 53.3 | 72.0 |
| 1 of 3 years | **1.5** | 0.5 | 0.3 | 1.6 | 3.4 | 0.4 | 1.0 |
| 2 of 3 years | **1.8** | 0.6 | 0.0 | 0.7 | 4.3 | 0.8 | 1.5 |
| 3 of 3 years | **30.8** | 22.2 | 56.6 | 38.9 | 34.5 | 45.5 | 25.5 |
| **No adv. or voc. education** | | | | | | | |
| 2001 | **46.8** | 35.7 | 62.9 | 49.8 | 56.2 | 54.0 | 45.1 |
| 2002 | **46.3** | 34.6 | 61.6 | 47.8 | 56.0 | 54.2 | 44.6 |
| 2003 | **45.9** | 33.7 | 61.4 | 47.9 | 55.6 | 53.1 | 44.2 |
| 0 of 3 years | **52.4** | 64.0 | 36.5 | 46.8 | 41.4 | 43.7 | 54.1 |
| 1 of 3 years | **1.9** | 1.3 | 0.2 | 1.7 | 3.1 | 0.7 | 1.7 |
| 2 of 3 years | **2.0** | 1.3 | 0.0 | 3.0 | 3.6 | 1.1 | 2.1 |
| 3 of 3 years | **43.8** | 33.4 | 63.2 | 48.4 | 51.9 | 54.5 | 42.1 |
| **Lacks work experience** | | | | | | | |
| 2001 | **19.7** | 13.6 | 35.7 | 40.0 | 25.8 | 26.7 | 25.8 |
| 2002 | **19.6** | 13.9 | 35.5 | 38.5 | 25.7 | 28.6 | 26.5 |
| 2003 | **19.4** | 14.3 | 34.6 | 39.2 | 24.7 | 27.7 | 26.1 |
| 0 of 3 years | **79.7** | 43.1 | 63.2 | 58.7 | 73.0 | 69.6 | 73.7 |
| 1 of 3 years | **1.1** | 0.3 | 0.4 | 1.2 | 1.5 | 0.8 | 1.5 |
| 2 of 3 years | **1.5** | 0.0 | 0.9 | 2.4 | 2.4 | 1.0 | 2.0 |
| 3 of 3 years | **17.7** | 56.6 | 35.6 | 37.8 | 23.0 | 28.5 | 22.9 |

*Source: HILDA Survey 2001-03 population weighted results

The evidence relating to low wealth/asset poverty is particularly interesting, partly because it is new. In 2002 7.7% of the population lacked sufficient assets to keep themselves above the 50% of median income poverty line for three months in an emergency. This is the estimate counting all assets. The figure nearly doubles to 14.9% if only financial assets are included (on the grounds that only they are liquid and so readily accessible in an emergency). The groups with the lowest asset levels are single mothers, non-partnered people, people with disabilities, and on the second measure, NESB people. The elderly appear to be better off on the first measure, because most own their home outright. However, they lack financial assets and the large majority rely wholly or partly on the age pension. Young people usually have little wealth; 10.9% of the under 35s were asset poor in 2002 using the first of our measures, and 14.4% using the second.

In considering levels of *human capital,* the main focus should be on the working age population; clearly it is of less policy concern if the elderly lack education and work experience. Table 3 shows that in 2001-03 about a quarter of the working age population were early school leavers (before Year 12), 46-47% had no post-school advanced or vocational education, and 13-14% had been out of the work force for over half the time since completing full-time education. For obvious reasons, these low capabilities were highly persistent throughout the period, with nearly all of those who lacked adequate education or work experience in 2001, continuing to do so for all three years. Women of working age had less education and of course much less work experience on average than men. However, among women under 35 the educational differential was reduced, although the work experience differential remained large.

Single mothers, non-partnered individuals and people with disabilities were the three worst off groups on these human capital indicators. NESB people of prime working age rated better than the national average on the education indicators, especially in having advanced or vocational qualifications, but even those whose English was competent had less than average work experience.

Important aspects of human capital which are rarely measured in national surveys include literacy and numeracy. In an ABS survey undertaken in 1996, respondents were graded into five levels of literacy and numeracy. Level 1 literacy meant an inability, among other things, to locate information on a label about how long to take

medicine, and Level 1 numeracy meant an inability to add a handling charge to total other costs on an order form. Just under a fifth of Australian residents aged 15-74 were graded as having Level 1 literacy and/or numeracy. About 13% of those whose first language was English were at this level. People under 45 clearly have higher average levels of both literacy and numeracy than older people, but those under 25 were no better than those aged 25-44. 22% of those at Level 1 literacy had a post-school qualification.

It is clear that literacy and numeracy have huge impacts on employment status and income. Just over 30% of the unemployed were at Level 1, and even more of those not in the labour force were at this level (ABS, 1996). Those at Level 2 fared little better with regard to employment, but had incomes around average. Once Level 3 literacy and numeracy were attained, employment outcomes were satisfactory, and indeed no worse than among people at Levels 4-5. The clear policy implication is that, if most Australians could be raised to Level 3, then their employment prospects might substantially improve. It is worth mentioning in this context that some Western countries, notably Sweden and the Netherlands, have far fewer people at Levels 1 or 2.

**Low health capabilities**

Table 4 gives both cross-sectional and longitudinal persistence results for low health capability, as measured by suffering from a health disability or condition which already has or is likely to last for six months or more.

**Table 4**
**Low Health Capability: Results for 2001-03\***

| Capability | Total Population % | Working Age % | Elderly (65+) % | Single Mothers % | No partner % | Disability % | NESB % |
|---|---|---|---|---|---|---|---|
| **Health disability** | | | | | | | |
| 2001 | **23.7** | 18.0 | 48.9 | 25.2 | 24.2 | 100 | 23.2 |
| 2002 | **21.5** | 15.4 | 47.3 | 23.3 | 23.2 | 100 | 21.1 |
| 2003 | **27.8** | 20.7 | 57.7 | 30.8 | 27.5 | 100 | 26.9 |
| 0 of 3 years | **62.0** | 71.0 | 63.2 | 59.3 | 59.6 | - | 64.0 |
| 1 of 3 years | **14.8** | 13.0 | 0.4 | 13.7 | 14.4 | - | 13.1 |
| 2 of 3 years | **9.7** | 6.9 | 0.9 | 11.2 | 9.6 | - | 9.3 |
| 3 of 3 years | **13.5** | 9.1 | 35.6 | 15.8 | 16.4 | 100 | 13.5 |

\*Source: HILDA Survey 2001-03 population weighted results

As expected, health results are fairly stable. The very large majority of respondents either never had a disabling condition in 2001-03, or had the condition for all three years. This was especially true of the elderly. However, among prime working age people disabling health problems were less persistent: 71.0% never reported a problem in this period, about 20% did so for just one or two of the three years, and 9.1% for all three years. Single mothers, non-partnered people and NESB respondents - even those of prime working age – reported higher annual rates of disability and greater persistence of problems than other prime age people. One may speculate these last results are partly due to the link between psychological stress and physical health.

**Low social capital/capabilities**

Low social capital is assessed by two indicators: living alone and also having no regular partner, and having an inadequate social network. The social network index is comprised of ten questions, all based on a 1-7 scale, asking about the availability of social support (e.g. 'no-one to confide in', 'no-one to lean on in times of trouble' and 'I seem to have lots of friends')

**Table 5**
**Low Social Capital/Capabilities: Results for 2001-03***

| Capabilities | Total Population % | Working Age % | Elderly (65+) % | Single Mothers % | No Partner % | Disability % | NESB % |
|---|---|---|---|---|---|---|---|
| **Lives alone (and no partner)** | | | | | | | |
| 2001 | **13.5** | 10.8 | 30.6 | 0** | 36.5 | 19.9 | 9.6 |
| 2002 | **13.8** | 10.7 | 29.3 | 0 | 37.6 | 22.0 | 10.0 |
| 2003 | **14.0** | 11.0 | 28.8 | 0 | 37.7 | 19.2 | 11.0 |
| 0 of 3 years | **79.7** | 83.8 | 64.0 | 0 | 48.8 | 69.7 | 85.1 |
| 1 of 3 years | **4.9** | 4.8 | 2.7 | 0 | 7.9 | 4.2 | 2.7 |
| 2 of 3 years | **3.8** | 3.4 | 2.8 | 0 | 7.1 | 2.8 | 4.0 |
| 3 of 3 years | **11.6** | 8.0 | 30.5 | 0 | 36.2 | 23.3 | 8.2 |
| **Lacks social network** | | | | | | | |
| 2001 | **8.8** | 8.8 | 9.0 | 17.4 | 11.9 | 13.2 | 9.9 |
| 2002 | **8.6** | 9.7 | 8.2 | 14.2 | 10.5 | 12.8 | 10.0 |
| 2003 | **8.8** | 9.4 | 8.4 | 13.2 | 10.4 | 13.1 | 9.4 |
| 0 of 3 years | **82.3** | 81.2 | 81.8 | 73.8 | 78.0 | 73.3 | 80.1 |
| 1 of 3 years | **11.8** | 12.1 | 13.0 | 19.5 | 14.4 | 15.0 | 13.7 |
| 2 of 3 years | **3.9** | 4.1 | 3.7 | 3.6 | 4.9 | 7.5 | 4.3 |
| 3 of 3 years | **2.0** | 2.5 | 1.6 | 3.1 | 2.8 | 4.2 | 1.9 |

*Source: HILDA Survey 2001-03 population weighted results.
** By definition single mothers live with their child(ren).

Table 5 shows that in each year in 2001-03 about 13-14% had no partner and lived on their own. Among the elderly the figure was around 30%. However, most single people – just under two-thirds of single people – were not living on their own. People with disabilities were at higher risk of being isolated than the rest of the population; about 20% lived alone and had no partner. NESB respondents were less likely than average to be isolated.

The social network indicator displays greater volatility than previous capabilities indicators. Only 2.0% reported lacking an adequate network in all three years, with 82.3% never reporting this problem, 11.8% reporting it one year out of three, and 3.9% in two of the three years. The two groups most likely to report persistent difficulties were people with disabilities (4.2% in all three years) and single mothers (3.1% every year). Elderly people, perhaps surprisingly, were below the population average.

*Low functionings (flows)*

**Low financial functioning**

The functionings/flows measures shown in Table 6 relate to income or sources of income. The first three are based on the relative income poverty line most commonly used in Australia. Individuals are defined as income poor if they live in a household which has an equivalised (size adjusted) disposable income less than 50% of the national median (the 'poverty line'). It is assumed that, within households, incomes are pooled so that everyone has the same material standard of living. (It was noted earlier that the European Union now uses a poverty line set at 60% of median income; results based on this line are given in Appendix 4).

The first measure shows how many people would have been below the 50% poverty line if they had had to rely solely on the household's own privately generated sources of income; that is, labour income plus private transfers (e.g. child support payments and gifts from relatives). This measure could also be termed 'pre-Government income' and the poverty measure could be called 'pre-Government poverty'. The second measure – the measure most commonly used as the basis for giving poverty rates - is the percentage below 50% of median equivalised disposable income; that is

income after payment of Government transfers and taxes. This could be called 'post-Government poverty'. The difference between the pre- and post-Government poverty rates is the contribution which Government makes to reducing relative income poverty.

The third poverty measure in Table 6 is an 'anchored' poverty rate. It is sometimes objected that it is impossible to abolish relative income poverty because, however much average incomes rise, it is always going to be the case that some people will be below 50% of median. This point is logically incorrect. It is not difficult to dream up a policy proposal to completely abolish relative income poverty, defined in relation to median income. However, it would certainly be very difficult in practical and political terms to do so. So one measure sometimes proposed – and included as one of the European Union's measures of disadvantage – is an 'anchored poverty rate'. This involves taking a poverty line in a base year (2001 in Table 6), adjusting later year incomes for inflation, and then measuring how many people would have been poor in later years, *if* the base year poverty line had continued to be used.

**Table 6**
**Low Economic/Financial Functioning: Results for 2001-03***

| Functionings | Total Population % | Working Age % | Elderly (65+) % | Single Mothers % | No Partner % | Disability % | NESB % |
|---|---|---|---|---|---|---|---|
| **Income poor: pre-Gov. (50% pov line)** | | | | | | | |
| 2001 | **24.7** | 14.3 | 67.8 | 44.7 | 31.7 | 45.8 | 32.6 |
| 2002 | **24.7** | 13.8 | 66.6 | 45.4 | 32.5 | 47.9 | 32.5 |
| 2003 | **24.2** | 13.5 | 67.1 | 45.3 | 32.8 | 55.7 | 31.4 |
| 0 of 3 years | **68.2** | 80.5 | 24.1 | 47.9 | 57.3 | 36.6 | 59.1 |
| 1 of 3 years | **8.8** | 7.5 | 7.6 | 6.8 | 9.0 | 8.7 | 9.1 |
| 2 of 3 years | **6.7** | 5.0 | 8.3 | 11.9 | 8.2 | 10.9 | 9.8 |
| 3 of 3 years | **16.3** | 7.0 | 60.0 | 33.4 | 25.6 | 43.8 | 22.1 |
| **Income poor: post-Gov. (50% pov line)** | | | | | | | |
| 2001 | **13.2** | 8.6 | 27.6 | 18.6 | 18.9 | 22.8 | 19.8 |
| 2002 | **12.2** | 7.6 | 24.7 | 17.5 | 17.9 | 21.0 | 17.7 |
| 2003 | **11.2** | 7.3 | 22.1 | 18.1 | 18.5 | 17.4 | 17.9 |
| 0 of 3 years | **78.6** | 85.8 | 57.7 | 67.5 | 68.5 | 59.9 | 68.5 |
| 1 of 3 years | **12.0** | 8.6 | 21.4 | 18.6 | 13.3 | 19.0 | 17.4 |
| 2 of 3 years | **6.0** | 3.9 | 10.9 | 11.1 | 9.3 | 11.2 | 8.8 |
| 3 of 3 years | **3.4** | 1.7 | 10.1 | 2.8 | 8.8 | 9.9 | 5.4 |
| **Income poor: 2001 anchored post-Gov. (50% pov line)** | | | | | | | |
| 2001 | **13.2** | 8.6 | 27.6 | 18.6 | 18.9 | 22.8 | 19.8 |
| 2002 | **11.0** | 6.9 | 22.0 | 15.5 | 16.7 | 18.6 | 16.0 |
| 2003 | **8.7** | 5.6 | 16.0 | 15.0 | 14.9 | 12.9 | 13.4 |
| 0 of 3 years | **80.0** | 86.8 | 61.2 | 69.5 | 69.9 | 63.1 | 70.6 |
| 1 of 3 years | **12.2** | 8.7 | 21.3 | 19.3 | 14.3 | 19.0 | 18.6 |
| 2 of 3 years | **5.3** | 3.2 | 9.9 | 8.8 | 8.9 | 10.4 | 6.5 |
| 3 of 3 years | **2.6** | 1.3 | 7.5 | 2.4 | 7.0 | 7.5 | 4.3 |
| **Welfare reliant** | | | | | | | |
| 2001 | **18.1** | 9.6 | 59.4 | 35.8 | 23.9 | 38.4 | 22.1 |
| 2002 | **19.0** | 10.1 | 59.7 | 38.4 | 25.7 | 41.8 | 24.6 |
| 2003 | **18.6** | 9.5 | 61.0 | 39.4 | 25.6 | 38.7 | 23.0 |
| 0 of 3 years | **76.5** | 87.2 | 30.2 | 55.3 | 66.2 | 40.5 | 69.7 |
| 1 of 3 years | **5.8** | 4.1 | 6.4 | 9.4 | 6.9 | 10.0 | 6.3 |
| 2 of 3 years | **5.3** | 3.3 | 11.3 | 9.9 | 6.4 | 10.1 | 7.9 |
| 3 of 3 years | **12.4** | 5.3 | 52.1 | 25.4 | 20.5 | 39.4 | 16.1 |

*Source: HILDA Survey 2001-03 population weighted results. Individuals in households with non-positive disposable incomes and/or negative private incomes were omitted from the analysis.

Focussing first on pre-Government poverty, we see that 24-25% of the population would have been relative income poor in 2001-03 – and 16.3% would have been poor for all three years - in the absence of Government payments. In fact the 'actual' relative poverty rate in these years (i.e. the post-Government or disposable income poverty rate) apparently declined slightly from 13.2% in 2001 to 11.2% in 2003, and 3.4% were poor for all three years. So it can be calculated that the effect of Government payments and taxes was to reduce relative income poverty by about 50% on an annual basis and by about 80% on a three-year basis.

The aggregate figures of course need breaking down, particularly to distinguish between the elderly and working age people. Historically, retired people have been expected to rely mainly on the age pension, and most still do. So most people age 65 and over would be income poor if not for Government payments. In fact, many single or widowed elderly people still fall below the 50% poverty line because the single age pension is just below that line (whereas the couple pension is above it). Working age people fare less well; Governments are less willing to assist them for fear of creating work disincentives. In 2003, for example, 13.5% of prime working age people would have been defined as poor on the basis of their pre-Government income, and 7.3% were still poor after receipt of benefits. However, only 1.7% were poor for all three years in 2001-03.

Within the working age population, households with children fare much better than those without. Family payments, particularly FTB-A, make a major contribution to raising couple households with children out of income poverty. Single mothers with resident children fare less well, and despite parenting payments and FTB, around 18% are still below this relative poverty line. Unpartnered people without children fare least well at Government hands.

HILDA's key contribution is primarily to provide evidence about the *persistence* of poverty. Cross-sectional summary statistics of the kind given in standard reports on poverty and disadvantage nearly always show fairly stable poverty rates. In 2001-03, as Table 6 indicates, the annual poverty rate fell a little, but the figures are quite stable. The 'natural' or 'obvious' inference is that many of the same people stay poor year after year. But is this true? Panel studies in many Western countries, and now

HILDA in Australia, show that it is not. What is the case is that many people are at risk of income poverty, but rather few are persistently poor. There is considerable income mobility at the bottom end of the distribution (indeed, throughout the distribution). From Table 6 we can see that in 2001-03 78.6% of the population never had a financial year income below the 50% poverty line. But this implies that 21.4%, which many might see as a surprisingly high figure, were poor for at least one year. In other words, at least a fifth of the population might be said to be at risk of poverty; and that is on the basis of only three years of HILDA evidence to date. Of the 21.4% who were 'ever' poor in 2001-03, 12.0% were poor in one of the years, 6.0% in two years and 'only' 3.4% in all three.

The high degree of mobility at the lower end of the distribution is the result of several pairs of factors, which can be thought of as moving people into poverty, and then in some cases out. The four most common pairs are becoming unemployed and then finding a new job, household members moving out of the labour force for family reasons and then moving back in (e.g. having a child; children going to school and so freeing the mother to work again), changes in household composition which affect income (e.g. divorce and then, sometimes, repartnering), and changes in health (sickness followed by recovery).

The highest three-year poverty rates were experienced by the single elderly, by non-aged singles and by people with disabilities. NESB respondents were also above the national average. Prime working age respondents had lower than average three-year rates. Single mothers and their children, while having high one-year poverty rates, had (on this evidence) three-year rates a little below the national average.

Children under 15 had annual poverty rates a little above the national average, but three-year rates a little below.

The anchored poverty rate used in Table 6 shows a steady decline in poverty during these years of good economic growth. This holds true for all population groups analysed. (Of course, it can be argued that, by anchoring the poverty line in a given year, we are surreptitiously ditching the very concept of relative poverty, which requires that the poverty line be adjusted as community standards rise).

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The final indicator of low material capability in the table is 'welfare reliance'. A household is defined as welfare reliant if more than half its gross income (that is, income from all sources) comes from Government payments. In a typical year 18-19% were welfare reliant, and 23.5% were reliant in at least one year. The three-year welfare reliance figure of 12.4% looks high, but is inflated by the elderly. Among working age people three-year welfare reliance stood at 5.3%. Apart from the elderly, the groups with the highest rates of three-year reliance were people with a disability, single mothers and their children, and working age non-partnered people.

**Low employment/labour market functioning**

Low employment (labour market) functioning is measured by two indicators: being unemployed, and secondly, living in a jobless household. We use the official definition of unemployment; that is, people are only classified as unemployed if they currently work less than an hour a week, are actively seeking work and are currently available for work. A jobless household is defined as one in which no member worked for more than 26 weeks (half the year) in the previous financial year. A particular policy concern relating to jobless households – if joblessness persists – is that children may grow up in a situation in which welfare reliance rather than work is the norm.

**Table 7**
**Low Employment/Labour Market Functioning: Results for 2001-03\***

| Functionings | Total Population % | Working Age % | Elderly (65+) % | Single Mothers % | No Partner % | Disability % | NESB % |
|---|---|---|---|---|---|---|---|
| **Unemployed** | | | | | | | |
| 2001 | **4.4** | 4.3 | na | 5.5 | 7.3 | 4.1 | 5.3 |
| 2002 | **4.0** | 3.5 | na | 6.8 | 6.8 | 3.8 | 5.3 |
| 2003 | **3.5** | 3.0 | na | 5.4 | 6.0 | 3.5 | 3.9 |
| 0 of 3 years | **91.7** | 92.2 | na | 86.0 | 86.0 | 93.0 | 89.4 |
| 1 of 3 years | **6.1** | 6.0 | na | 11.0 | 9.9 | 5.2 | 7.2 |
| 2 of 3 years | **1.6** | 1.4 | na | 2.6 | 3.1 | 1.3 | 2.6 |
| 3 of 3 years | **0.5** | 0.5 | na | 0.4 | 1.0 | 0.5 | 0.7 |
| **Lives in jobless household** | | | | | | | |
| 2001 | **22.9** | 10.5 | 81.9 | 38.0 | 29.6 | 46.9 | 29.8 |
| 2002 | **22.7** | 10.3 | 80.8 | 35.5 | 29.5 | 50.3 | 29.4 |
| 2003 | **22.7** | 10.0 | 81.9 | 37.8 | 28.9 | 47.4 | 29.4 |
| 0 of 3 years | **71.0** | 85.5 | 11.6 | 55.5 | 60.0 | 35.4 | 62.7 |
| 1 of 3 years | **6.2** | 4.9 | 4.9 | 7.2 | 7.1 | 6.4 | 8.1 |
| 2 of 3 years | **5.9** | 4.3 | 5.9 | 12.2 | 6.2 | 10.3 | 7.5 |
| 3 of 3 years | **16.9** | 5.4 | 77.6 | 25.1 | 26.7 | 48.2 | 21.7 |

*Source: HILDA Survey 2001-03 population weighted results

We need to focus primarily on prime working age households – those headed by people aged 25 to 54 inclusive – who could be expected to be in paid work. As can be seen (Table 7), 4.3% of this group were unemployed at time of interview in 2001, decreasing to 3.5% in 2002, and 3.0% in 2003. Unemployment appears not to have been persistent. 92.2% of prime aged people were never unemployed in this period, which means that 7.8% experienced some unemployment. Among the latter, 6.0% were unemployed at interview in one of three years in 2001-03, 1.4% were unemployed twice, and only 0.5% were unemployed in all three years. These figures need to be treated with caution, and indeed are somewhat misleading. In addition to those officially classified as unemployed, there are others who want to work but are 'discouraged'; they have given up actively seeking a job.

The jobless household results tell a more alarming story. Each year in 2001-2003 around 10% of prime age adults lived in jobless households. Furthermore, the joblessness rate was moderately persistent. While 85.5% were never in a jobless household in this period, 4.9% were in the situation for one year, 4.3% for two years

and 5.4% for three years. The highest rate of joblessness was in single mother households; 38.0% were jobless in 2001, 35.5% in 2002 and 37.8% in 2003. Looking at the rate of persistence, we see that among single mother households 25.1% remained jobless in all three years. Among children under 15, 8.7% lived in a jobless household for all three years. Over 70% of these children were in lone parent households.

**Low health functioning**

Low health functioning is primarily measured in HILDA by the SF-36 scale, a well regarded British scale designed to enable members of the public to make fairly accurate reports of their current health functioning (Ware, Snow and Kosinski, 2000). Physical functioning and mental health scale scores, which run from 0 to 100, are constructed on the basis of survey responses. In this paper, as is conventional in using the SF-36, scores under 50 are treated as indicating low functioning.

In addition to the SF-36 scores, Table 8 also gives two measures of health risk behaviour; whether people smoke or not, and whether they take adequate exercise or not. Exercising less than once a week was considered 'inadequate'.

**Table 8**
**Low Health Functioning: Results for 2001-03\***

| Functionings | Total Population % | Working Age % | Elderly (65+) % | Single Mothers % | No Partner % | Disability % | NESB % |
|---|---|---|---|---|---|---|---|
| **Poor physical functioning** | | | | | | | |
| 2001 | **11.3** | 6.9 | 31.9 | 14.4 | 12.2 | 31.6 | 15.3 |
| 2002 | **10.7** | 6.0 | 30.1 | 13.5 | 12.5 | 34.1 | 13.9 |
| 2003 | **10.5** | 5.9 | 28.9 | 12.7 | 12.0 | 27.9 | 11.7 |
| 0 of 3 years | **82.9** | 88.8 | 58.3 | 78.6 | 79.6 | 42.2 | 79.7 |
| 1 of 3 years | **8.5** | 7.2 | 13.9 | 11.1 | 9.0 | 16.1 | 10.9 |
| 2 of 3 years | **4.2** | 2.2 | 12.0 | 4.9 | 5.6 | 15.3 | 5.1 |
| 3 of 3 years | **4.4** | 1.8 | 15.8 | 5.4 | 5.7 | 26.5 | 4.4 |
| **Poor mental health** | | | | | | | |
| 2001 | **10.4** | 10.6 | 8.1 | 17.3 | 13.2 | 19.3 | 13.2 |
| 2002 | **9.6** | 10.3 | 6.9 | 14.8 | 11.8 | 18.7 | 13.5 |
| 2003 | **9.8** | 9.9 | 7.2 | 15.6 | 12.6 | 16.9 | 13.1 |
| 0 of 3 years | **81.6** | 80.9 | 87.0 | 71.8 | 77.4 | 65.0 | 76.3 |
| 1 of 3 years | **11.3** | 11.1 | 8.7 | 16.0 | 13.7 | 16.1 | 14.7 |
| 2 of 3 years | **4.5** | 5.2 | 2.6 | 8.2 | 5.5 | 9.9 | 5.8 |
| 3 of 3 years | **2.5** | 2.7 | 1.6 | 4.1 | 3.4 | 9.0 | 3.2 |
| **Smoker** | | | | | | | |
| 2001 | **22.7** | 26.9 | 7.8 | 37.0 | 27.3 | 22.9 | 17.8 |
| 2002 | **23.0** | 27.1 | 7.5 | 37.2 | 27.8 | 23.6 | 19.4 |
| 2003 | **22.4** | 26.7 | 7.7 | 35.3 | 28.0 | 22.2 | 17.2 |
| 0 of 3 years | **73.5** | 68.6 | 90.7 | 56.7 | 67.5 | 71.9 | 78.3 |
| 1 of 3 years | **4.4** | 4.7 | 2.0 | 6.7 | 5.7 | 4.4 | 3.9 |
| 2 of 3 years | **5.6** | 6.2 | 2.3 | 9.0 | 7.3 | 4.9 | 5.4 |
| 3 of 3 years | **16.5** | 20.5 | 5.0 | 27.5 | 19.5 | 18.7 | 12.4 |
| **Lacks exercise** | | | | | | | |
| 2001 | **27.3** | 27.1 | 35.5 | 32.4 | 24.4 | 38.6 | 35.3 |
| 2002 | **27.5** | 27.9 | 34.6 | 35.4 | 25.6 | 39.5 | 33.8 |
| 2003 | **28.2** | 28.8 | 35.2 | 35.4 | 26.8 | 38.4 | 36.2 |
| 0 of 3 years | **54.2** | 53.3 | 47.3 | 45/8 | 56.3 | 35.6 | 45.1 |
| 1 of 3 years | **20.9** | 21.7 | 20.6 | 21.3 | 20.7 | 21.7 | 24.3 |
| 2 of 3 years | **14.1** | 14.6 | 15.8 | 19.2 | 12.6 | 19.5 | 17.8 |
| 3 of 3 years | **10.8** | 10.4 | 16.2 | 13.7 | 10.4 | 23.1 | 12.9 |

 \*Source: HILDA Survey 2001-03 population weighted results

Each year about 10-11% of the population reported poor physical health functioning, and about 10% reported poor mental health. The elderly, as expected, reported worse than average physical functioning, but they actually had the lowest rates of mental ill-health, viewed either on an annual basis or in terms of three-year persistence. People who reported a long term health disability of course included many who rated low on both physical functioning and mental health. Single mothers and NESB respondents had worse than average rates for both physical functioning and mental health.

Low health functioning, especially poor mental health, was mostly a temporary problem, rather than lasting for the full three years. In other words, most people who became sick got better. Of the 17.1% who reported poor physical functioning in this period, 8.5% reported it in just one year, 4.2% in two of the three years, and 4.4% in all three years. On the mental health side, 18.4% reported symptoms of poor functioning in at least one year, but 'only' 2.5% in all three years. Single mothers and unpartnered people were two groups with worse than average persistence rates for both low physical functioning and low mental health.

The smoking results were in line with expectations. Australia has a low rate of smoking by international standards with under a quarter of the population in the habit. In these three years over 70% never smoked. But few successfully gave up; of those who smoked at all, most kept going for the duration.

Over a quarter of the population did not take exercise at least once a week, but most people tried to change! About 45% of the population reported a low level of exercise in at least one of these three years, but only 10.8% did so every year. Apart from the elderly and people with a disability, single mothers and NESB respondents had the lowest rates of exercising whether viewed on an annual or a three-year basis.

**Low family/social functioning**
The only available measure of current social functioning in HILDA relates to frequency of getting together socially with friends or relatives with whom one does not live. For present purposes, low social functioning was defined as getting together less than once a month.

**Table 9**
**Low Social Functioning: Results for 2001-03***

| Functioning | Total Population % | Working Age % | Elderly (65+) % | Single Mothers % | No Partner % | Disability % | NESB % |
|---|---|---|---|---|---|---|---|
| **Infrequent contact with relatives/friends** | | | | | | | |
| 2001 | **10.1** | 10.8 | 11.4 | 13.1 | 8.0 | 14.2 | 11.2 |
| 2002 | **10.2** | 11.3 | 11.0 | 14.4 | 7.6 | 13.6 | 11.2 |
| 2003 | **10.3** | 11.7 | 10.2 | 11.5 | 7.6 | 13.9 | 12.9 |
| 0 of 3 years | **80.0** | 78.1 | 80.0 | 76.4 | 84.2 | 69.4 | 77.0 |
| 1 of 3 years | **12.4** | 13.3 | 12.1 | 16.3 | 10.5 | 19.2 | 14.2 |
| 2 of 3 years | **4.8** | 5.3 | 5.6 | 4.4 | 3.4 | 6.6 | 5.4 |
| 3 of 3 years | **2.8** | 3.2 | 2.3 | 2.9 | 1.9 | 4.8 | 3.5 |

*Source: HILDA Survey 2001-03 population weighted results

In the total population about 10% get together with friends and relatives less than once a month. There is not much variation among different groups, although people with a disability, NESB people and single mothers had somewhat less social contact than average. Non-partnered people contacted friends and relatives more than average, presumably partly because of fewer close relationships at home. In general, lack of social contact appears to be a transient problem. Only 2.8% reported a lack of social contact in all three years. People with a disability had the highest persistence rate at 4.8%.

### *Low well-being (psychological outcomes)*

We now assess subjective well-being outcomes in the financial/economic, employment, health and social domains. Table 10 reports results for two subjective measures of financial well-being. The financial stress measure combines answers to seven questions about inability to cope due to 'shortage of money' (e.g. 'could not pay electricity, gas or telephone bills on time', 'pawned or sold something', 'was unable to heat home'). Respondents were classified as suffering high financial stress if they reported two or more financial problems. The second 'financial' measure was based on answers to a question about satisfaction with 'your financial situation', which was answered on a 0-10 scale where 0 meant 'totally dissatisfied' and 10 meant 'totally satisfied'. Low satisfaction was defined as scoring below 5 on this scale.

**Table 10**
**Low Well-Being – Economic/Financial Outcomes: Results for 2001-03***

| Well-Being Outcomes | Total Population % | Working Age % | Elderly (65+) % | Single Mothers % | No Partner % | Disability % | NESB % |
|---|---|---|---|---|---|---|---|
| **Financial stress** | | | | | | | |
| 2001 | **17.0** | 19.0 | 5.3 | 44.2 | 24.2 | 20.9 | 17.4 |
| 2002 | **14.2** | 16.8 | 4.7 | 36.0 | 19.1 | 19.1 | 14.4 |
| 2003 | **16.3** | 16.9 | 4.8 | 37.9 | 18.7 | 17.8 | 14.7 |
| 0 of 3 years | **76.1** | 71.6 | 89.7 | 49.1 | 69.3 | 66.5 | 75.6 |
| 1 of 3 years | **11.8** | 12.5 | 7.7 | 17.2 | 14.6 | 14.5 | 12.3 |
| 2 of 3 years | **6.5** | 8.1 | 2.1 | 13.2 | 8.0 | 9.0 | 7.5 |
| 3 of 3 years | **5.6** | 7.9 | 0.5 | 20.5 | 8.0 | 10.0 | 4.5 |
| **Low financial satisfaction** | | | | | | | |
| 2001 | **21.9** | 23.3 | 10.7 | 44.3 | 29.5 | 29.9 | 24.4 |
| 2002 | **22.6** | 24.6 | 10.4 | 43.4 | 28.9 | 29.1 | 25.3 |
| 2003 | **21.4** | 19.5 | 9.6 | 33.7 | 24.3 | 24.4 | 19.0 |
| 0 of 3 years | **63.9** | 60.6 | 79.8 | 38.9 | 56.0 | 52.7 | 59.4 |
| 1 of 3 years | **18.0** | 19.1 | 11.2 | 24.3 | 20.9 | 19.0 | 21.2 |
| 2 of 3 years | **10.7** | 11.5 | 5.7 | 20.1 | 12.6 | 14.5 | 10.7 |
| 3 of 3 years | **7.5** | 8.8 | 3.3 | 16.7 | 10.5 | 13.8 | 8.7 |

*Source: HILDA Survey 2001-03 population weighted results

In 2001 17.0% of respondents reported two or more symptoms of financial stress, in 2002 14.2% did so, and in 2003 16.3%. Symptoms were moderately persistent. In the three years 23.9% reported stress at least once, and 7.9% did so every year. The lowest levels of financial stress – and the least persistence – were reported by the elderly. By a large margin single mothers had the highest stress rates, with 20.5% reporting problems every year. The evidence on satisfaction with 'your financial situation' tells the same story. Just over 20% reported low financial satisfaction each year, and 7.5% every year. Single mothers were least satisfied on both an annual and longitudinal basis.

Poor subjective outcomes in the employment domain are assessed by (a) a high level of job insecurity and (b) low job satisfaction. Job insecurity was measured in HILDA by a question asking 'What do you think is the per cent chance that you will lose your job during the next 12 months? That is, get retrenched or fired or not have your contract renewed?' Those who said there was a 50% chance or worse of losing their job in the next twelve months were classified as suffering high insecurity. The second

indicator, low job satisfaction, meant have scores under 5 on a 0-10 job satisfaction scale.

**Table 11**
**Low Well-Being – Employment Outcomes: Results for 2001-03***

| Well-Being Outcomes | Total Population % | Working Age % | Elderly (65+) % | Single Mothers % | No Partner % | Disability % | NESB % |
|---|---|---|---|---|---|---|---|
| **High job insecurity** | | | | | | | |
| 2001 | **15.6** | 14.9 | na | 16.2 | 16.3 | 21.0 | 22.3 |
| 2002 | **11.2** | 11.6 | na | 9.5 | 11.9 | 16.0 | 14.4 |
| 2003 | **15.1** | 11.1 | na | 9.7 | 10.8 | 14.9 | 15.7 |
| 0 of 3 years | **75.6** | 75.5 | na | 75.9 | 74.2 | 67.9 | 68.0 |
| 1 of 3 years | **17.0** | 16.9 | na | 16.9 | 18.5 | 18.4 | 20.0 |
| 2 of 3 years | **6.0** | 6.0 | na | 6.0 | 6.0 | 10.5 | 9.8 |
| 3 of 3 years | **1.3** | 1.5 | na | 1.2 | 1.3 | 3.3 | 2.3 |
| **Low job satisfaction** | | | | | | | |
| 2001 | **6.6** | 6.8 | na | 8.7 | 6.7 | 8.7 | 7.7 |
| 2002 | **6.1** | 6.4 | na | 8.8 | 7.0 | 7.5 | 6.3 |
| 2003 | **6.7** | 5.6 | na | 4.9 | 6.2 | 7.7 | 6.7 |
| 0 of 3 years | **86.4** | 86.0 | na | 86.1 | 84.8 | 84.9 | 84.7 |
| 1 of 3 years | **10.5** | 10.8 | na | 9.7 | 11.7 | 11.3 | 12.1 |
| 2 of 3 years | **2.5** | 2.5 | na | 3.3 | 2.9 | 3.3 | 2.6 |
| 3 of 3 years | **0.6** | 0.6 | na | 0.8 | 0.6 | 0.5 | 0.6 |

*Source: HILDA Survey 2001-03 population weighted results

Clearly, working age people are the group to focus on. In this group 14.9% reported a high level of job insecurity in 2001, declining to 11.6% by 2003. It appears that most problems affecting job insecurity get solved; only 1.5% reported a high level of concern every year. The highest rates of insecurity were reported by people with disabilities and NESB respondents, but within these groups problems were not highly persistent.

It may be noted that employed people tend towards pessimism in their assessments of job insecurity. Among people who in 2001 thought they had a worse than 50% chance of being fired in the next year, only about 10% actually were. Even so, it was still the case that respondents' estimates of their level of risk were in the right general direction; that is, people who thought they were at high risk of losing their job were in fact more likely to do so than those who believed they were at low risk.

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The evidence on job satisfaction confirms that job related problems tend not to persist. Each year 6-7% reported low levels of satisfaction, but less than 1% felt dissatisfied for three years running.

Subjective health outcomes are assessed by an internationally widely used self-rating indicator and by a health satisfaction indicator. The former involves asking respondents to rate their health as 'excellent', 'very good', 'good', 'fair' or 'poor'. This measure has been found to agree quite well with medical practitioner ratings (Schwarze, Andersen and Silke, 2000). For this paper, ratings of 'poor' or 'fair' are treated as indicating a negative evaluation. The second indicator comes from asking respondents to rate satisfaction with their health on a 0-10 scale. Scores under 5 indicate 'low satisfaction'.

**Table 12**
**Low Well-Being – Health Outcomes: Results for 2001-03\***

| Well-Being Outcomes | Total Population % | Working Age % | Elderly (65+) % | Single Mothers % | No Partner % | Disability % | NESB % |
|---|---|---|---|---|---|---|---|
| **Low self-rated health** | | | | | | | |
| 2001 | **16.6** | 12.1 | 34.9 | 21.8 | 17.3 | 47.8 | 19.4 |
| 2002 | **17.3** | 13.1 | 35.8 | 20.2 | 17.8 | 51.1 | 21.1 |
| 2003 | **16.1** | 13.6 | 37.0 | 20.7 | 18.2 | 46.6 | 21.8 |
| 0 of 3 years | **73.5** | 79.1 | 53.8 | 70.0 | 70.9 | 24.2 | 69.5 |
| 1 of 3 years | **10.5** | 9.7 | 13.4 | 12.2 | 11.3 | 14.6 | 12.5 |
| 2 of 3 years | **7.0** | 5.7 | 12.0 | 6.2 | 7.5 | 16.3 | 8.1 |
| 3 of 3 years | **9.0** | 5.6 | 20.8 | 11.4 | 10.4 | 44.9 | 10.0 |
| **Low health satisfaction** | | | | | | | |
| 2001 | **9.9** | 8.5 | 14.1 | 13.9 | 10.7 | 31.1 | 11.5 |
| 2002 | **8.8** | 7.9 | 13.3 | 12.6 | 9.6 | 30.1 | 10.8 |
| 2003 | **9.4** | 7.2 | 11.1 | 12.8 | 8.2 | 23.3 | 8.7 |
| 0 of 3 years | **83.7** | 85.3 | 78.0 | 77.9 | 82.3 | 41.6 | 81.9 |
| 1 of 3 years | **8.9** | 8.3 | 12.1 | 9.9 | 9.3 | 22.6 | 8.6 |
| 2 of 3 years | **4.4** | 3.8 | 6.1 | 8.0 | 5.0 | 17.5 | 6.1 |
| 3 of 3 years | **3.0** | 2.6 | 3.8 | 4.3 | 3.5 | 18.2 | 3.3 |

\*Source: HILDA Survey 2001-03 population weighted results

Each year about 16-17% of the population rated their health as 'poor' or just 'fair'. Among the elderly and, of course, people with disabilities low self-rated health was persistent over the three years, but among working age people only 5.6% of those who reported a low rating in at least one interview did so for all three years. Among single

mothers three-year persistently low ratings which were at about twice the level as for the rest of the working age population.

The health satisfaction results confirm that for most people (perceived) problems do not persist. Even among the over 65s only 3.8% reported a low level of satisfaction every year, although one may wonder how many just learn to cope with moderate health problems and so do not feel dissatisfied. Even among people with a long term disability 'only' 18.2% reported a low level of satisfaction for all three years.

The two indicators of low well-being in the family and social domain are based on a battery of 13 items assessing work-family stress, and (secondly) a question about overall satisfaction with life which is asked at the end of a set of questions about satisfaction with different domains of life. Typical work-family stress items are 'because of my family responsibilities, the time I spend working is less enjoyable and more pressured' and 'having both work and family responsibilities makes me a more well-rounded person'. Items are answered on a 1-7 'strongly disagree' to 'strongly agree' scale. For present purposes, respondents whose average scores indicate stress levels over 4 (the scale mid-point) were regarded as suffering high work-family stress.

Scores on the life satisfaction scale ranged from 0 to 10. Those who gave a rating under 5 were considered to have low life satisfaction.

**Table 13**
**Low Well-Being – Social Outcomes: Results for 2001-03\***

| Well-Being Outcomes | Total Population % | Working Age % | Elderly (65+) % | Single Mothers % | No Partner % | Disability % | NESB % |
|---|---|---|---|---|---|---|---|
| **High work-family stress** | | | | | | | |
| 2001 | **24.4** | 24.3 | na | 25.6 | 28.0 | 30.8 | 29.1 |
| 2002 | **25.2** | 25.5 | na | 35.1 | 33.8 | 25.4 | 21.1 |
| 2003 | **24.4** | 23.4 | na | 25.1 | 26.5 | 26.1 | 21.7 |
| 0 of 3 years | **73.5** | 68.4 | na | 56.7 | 67.5 | 71.9 | 78.3 |
| 1 of 3 years | **4.4** | 4.8 | na | 6.7 | 5.7 | 4.4 | 3.9 |
| 2 of 3 years | **5.6** | 6.2 | na | 9.0 | 7.3 | 4.9 | 5.4 |
| 3 of 3 years | **16.5** | 20.6 | na | 27.5 | 19.5 | 18.7 | 12.9 |
| **Low life satisfaction** | | | | | | | |
| 2001 | **3.3** | 3.6 | 2.7 | 7.7 | 4.6 | 6.9 | 5.2 |
| 2002 | **3.2** | 3.4 | 2.7 | 6.8 | 4.6 | 6.5 | 5.3 |
| 2003 | **3.0** | 3.4 | 2.2 | 7.5 | 4.2 | 6.1 | 4.6 |
| 0 of 3 years | **93.0** | 92.2 | 94.9 | 86.8 | 91.4 | 84.3 | 89.0 |
| 1 of 3 years | **5.1** | 5.8 | 4.1 | 9.9 | 6.2 | 10.5 | 8.1 |
| 2 of 3 years | **1.5** | 1.6 | 0.6 | 2.4 | 2.0 | 3.9 | 2.1 |
| 3 of 3 years | **0.4** | 0.4 | 0.4 | 0.9 | 0.4 | 1.3 | 0.9 |

\*Source: HILDA Survey 2001-03 population weighted results.

Each year about a quarter of those in jobs reported high work-family stress and 16.5% reported it every year in 2001-03. Among prime working age people the three-year stress rate was 20.6%. On average, more men than women reported high levels of work-family stress. However, that difference was entirely due to women who worked part-time. Full-time women reported the highest prevalence of stress. Non-partnered people and those with disabilities also reported high cross-sectional rates of work-family stress and higher than average levels of persistence.

Average life satisfaction levels in Australia are high by international standards (Diener et al, 1999; Schyns, 2002). Only about 3% each year reported levels of satisfaction below 5 on the 0-10 scale. Differences between men and women were not statistically significant at the 0.05 level, although Australian surveys regularly appear to show that women are slightly more satisfied. Only about half a per cent of HILDA respondents reported low life satisfaction for three years running. Rates were highest (although still very low) among people with a disability, NESB respondents and single mothers.

*Linkages between capabilities in 2001, functionings in 2002 and well-being in 2003 – illustrative results*

We have examined the prevalence of a range of low capabilities, low functionings and low well-being in the total population and in several at-risk groups. The next step is to try and assess linkages among the three sets of variables. This will be done in two ways. First, to give an overview, we construct straightforward indices of multiple low capabilities, multiple low functionings and multiple low levels of well-being. We then show relationships between the indices. The analysis will suggest that a person's score on the index of low capabilities in 2001 gives quite good predictions of his/her score on the index of low functionings in 2002, and that low capabilities and functionings in combination quite successfully predict low levels of well-being in 2003. A second more detailed approach will be to show the combined effects of all the capability indicators and all the functionings indicators, together with standard demographic variables, on specific indicators of well-being. (The logic also requires showing the effects of all capabilities on specific functionings, but for reasons of space these analyses are not printed in the paper).

It should be understood that the indices constructed here are used solely to illustrate linkages between capabilities, functionings and well-being outcomes. The paper does not suggest that they are appropriate for policy purposes, if only because it is unlikely that policy-makers and other stakeholders would be able to agree on how to weight specific capabilities, functionings and outcomes within each index. Here, by way of illustration, unit (equal) weights are used, but this implies value judgments which many would not accept.

The low capabilities index gives equal weights to one indicator of low financial capability, one of low human capital, one of low health capability, and one of low social capital. The indicators are (i) asset poverty; low financial assets, (ii) no advanced or vocational education, (iii) health disability, and (iv) inadequate social network. The index runs from 0 to 4, depending on how many low capabilities survey respondents have.

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The low functionings and low well-being indices are constructed on the same lines. The functionings index is comprised of (i) income poor using the under 50% of median income poverty line, (ii) lives in a jobless household, (iii) poor physical functioning, and (iv) infrequent contact with friends/relatives. The low well-being index comprises (i) high financial stress (ii) low job satisfaction (iii) low self-rated health and (iv) low life satisfaction. Both these indices are scored from 0 to 4.

Before reporting statistical relationships between the three indices, it is of considerable interest to summarise the evidence about the distribution of *multiple low capabilities*. The distribution was relatively constant during the 2001-03 period. Each year 36-39% of the population experienced no low capabilities, while about 40% had one low capability. Around 16-18% had two low capabilities and the remaining 5% had three or four. The prevalence of low capabilities was lower in the prime working age population, with nearly half reporting no low capabilities, about 36% reporting one low capability, about 11-12% reporting two, and around 4% three or four. About 40% of the elderly suffered two or more low capabilities, as did over 60% of those with a health disability. Nearly 40% of single mothers recorded two or more low capabilities. People from a non-English speaking background recorded only slightly more low capabilities than the population average.

However, as was the case with the specific low capabilities, the cross-sectional summary statistics do not necessarily reflect the extent to which multiple low capabilities are transitory rather than medium or long term. When we examine rates of persistence, we find that 2.5% experienced three to four low capabilities for the full three years, and 11.8% averaged between two and three. At the favourable end, 30.2% recorded zero low capabilities in this period. A transition matrix for this index confirms that there was a fairly high degree of stability from year to year. For example, of those individuals who had two or more low capabilities in 2001, 26.0% had zero or one in 2002, 53.2% had two, and 20.9% had three or four. By 2003, among these same individuals, 24.6% had zero or one low capability, 51.4% had two, and 24.0% had three or four. The year-on-year rank order correlations for number of low capabilities experienced were around 0.80.

*Do multiple low capabilities result in multiple low functionings and low well-being outcomes?*

We now examine relationships between low capabilities in 2001, low functionings in 2002 and low well-being in 2003. For illustration, and in order to show the effects of employment related variables, the analysis in this section will be confined to people of prime working age. Table 14 shows the average number of low functionings in 2002 and the average number of low well-being scores recorded by people with different numbers of low capabilities in 2001.

**Table 14**
**Mean Number of Low Functionings in 2002 & Low Well-Being Scores in 2003 by Number of Low Capabilities in 2001 (age 25-54): means\***

|  | Number of low capabilities 2001 | | | | |
|---|---|---|---|---|---|
|  | 0 | 1 | 2 | 3 | 4 |
| Mean low functionings score in 2002 (0-4) | 0.28 | 0.50 | 1.05 | 1.63 | 1.76 |
| Mean low well-being score in 2003 (0-4) | 0.26 | 0.37 | 0.60 | 0.96 | 1.19 |

\*Population weighted results

It is plain that there is a moderately strong linear relationship between low capabilities in 2001 and functionings and well-being in later years. The more low capabilities a person has at the outset, the worse will be his/her functionings and well-being down the track.

Ordered probit analysis (an ordinal scale regression method) is now used to obtain a somewhat more precise assessment of linkages between low capabilities, low functionings and low well-being outcomes (Table 15).

**Table 15**
**Linking Low Capabilities in 2001 with Low Functionings in 2002 and Low Well-Being in 2003: ordered probit analyses (age 25-54)**

|  | Low functionings 2002 (0-4) Eq. 1 | Low well-being 2003 (0-4) Eq. 2 |
| --- | --- | --- |
| **Low capabilities 2001** | **0.37\*\*\*** | **0.34\*\*\*** |
| **Low functionings 2002** | **-** | **0.21\*\*\*** |
| Female | -0.03 | -0.07 |
| Age 2001 | 0.02\*\*\* | 0.00 |
|  |  |  |
| Observations | 2998 | 2998 |
| Wald chi sq. | 133.78(3) | 162.98(4) |
| Prob. | 0.000 | 0.000 |
| Pseudo R$^2$ | 0.043 | 0.033 |

\*\*\* significant at 0.001 level \*\* significant at 0.01 level \* significant at 0.05 level

The first equation estimates that, controlling for gender and age, every additional low capability (2001) is associated with 0.37 additional low functionings (2002). And the second equation indicates that every additional low capability (2001), combined with every additional low functioning (2002), accounts for 0.55 (0.34 + 0.21) additional low well-being outcomes (2003).

*Do different low capabilities and functionings account for different well-being outcomes, or would a single dimension of disadvantage do just as well?*

In this section we further assess the value of the multidimensional approach by estimating the combined effects of low capabilities and low functionings, together with standard demographic variables, on specific well-being outcomes. We shall see that different capabilities and functionings account for different well-being outcomes. Second, the overall explanatory power of the multidimensional analysis will be shown to be greater than can be achieved by other main approaches used by economists and poverty researchers.

Table 16 gives ordered probit results in which the outcome (dependent) variable is *financial stress* (0-7). Ordered probit is an ordinal scale regression method, so we are assuming that the higher a person scores on 'financial stress', the higher is his/her rank order on this outcome. In the first equation the explanatory variables are low capabilities together with demographic variables. In the second equation low functionings are added.

**Table 16**
**Explaining Financial Stress: ordered probits (age 25-54)**

| | Financial stress (0-7) 2003 Eq 1 | Financial stress (0-7) 2003 Eq 2 |
|---|---|---|
| **Asset poor (liquid assets) 2001** | 0.84*** | 0.54*** |
| **No advanced or vocational education 2001** | 0.09* | 0.03 |
| **Low work experience 2001** | 0.01 | -0.06 |
| **Disability 2001** | 0.40*** | 0.27*** |
| **Inadequate social network 2001** | 0.37*** | 0.22*** |
| **Poor (< 50% line) 2002** | - | 0.12 |
| **Welfare reliant 2002** | - | 0.28*** |
| **Unemployed 2002** | - | 0.36*** |
| **Poor physical functioning 2002** | - | 0.20** |
| **Poor mental health 2002** | - | 0.35*** |
| **Smoker 2002** | - | 0.41*** |
| **Lacks exercise 2002** | - | 0.07 |
| **Low social contact 2002** | - | 0.18** |
| Female | 0.03 | 0.06 |
| Age 2001 | -0.02*** | -0.03*** |
| Partnered 2001 | -0.03 | 0.01 |
| Lives in couple HH with children (reference: couple HH, no children)[a] | 0.16** | 0.20*** |
| Lives in single parent HH 2001 | 0.52*** | 0.49*** |
| One person HH 2001 | 0.33** | 0.30* |
| NESB 2001 | -0.10 | -0.11 |
| Observations | 4239 | 4239 |
| Wald Chi sq. | 662.17 | 692.56 |
| Prob. | 0.000 | 0.000 |
| Pseudo $R^2$ | 0.063 | 0.095 |

*** significant at 0.001 level ** significant at 0.01 level * significant at 0.05 level
a. People living in group and multi-family households are omitted.

It might be thought that high levels of financial stress would be accounted for solely by economic and employment variables. But, while it is true that some economic variables – especially being asset poor, being unemployed and also welfare reliant – are related to financial stress, other variables matter a great deal too. Financial stress turns out to be strongly related to lack of social capital, to disability, to poor physical and mental health, and to smoking. Net of other factors, people living in single parent households (mainly single mothers), and also those living alone, experience more financial stress than others. It is of interest that being asset poor, rather than income poor, is the biggest single contributor to financial stress.

Next, we consider the determinants of job satisfaction (0-100 scale).

**Table 17**
**Explaining Job Satisfaction: regression analysis (age 25-54)**

| | Job satisfaction (0-100) 2003 Eq 1 | Job satisfaction (0-100) 2003 Eq 2 |
|---|---|---|
| **Asset poor (liquid assets) 2001** | **3.38*** | **1.23** |
| **No advanced or vocational education 2001** | **2.50*** | **2.63*** |
| **Low work experience 2001** | **1.55** | **1.49** |
| **Disability 2001** | **-2.41** | **-2.39** |
| **Inadequate social network 2001** | **-7.03*** | **-5.74*** |
| **Poor (< 50% line) 2002** | **-** | **-0.79** |
| **Welfare reliant 2002** | **-** | **5.46*** |
| **Poor physical functioning 2002** | **-** | **1.88** |
| **Poor mental health 2002** | **-** | **-5.50*** |
| **Smoker 2002** | **-** | **-1.48*** |
| **Lacks exercise 2002** | **-** | **1.13** |
| **Low social contact 2002** | **-** | **-3.08*** |
| Female | 1.08 | 1.15 |
| Age 2001 | 0.07 | 0.08 |
| Partnered 2001 | 4.62*** | 4.74*** |
| Lives in couple HH with children (reference: couple HH, no children)[a] | -1.20 | -1.18 |
| Lives in single parent HH 2001 | 2.67 | 2.74 |
| One person HH 2001 | 0.09 | 0.22 |
| NESB 2001 | -1.58 | -1.45 |
| | | |
| Observations | 3641 | 3641 |
| F | 10.20 | 9.40 |
| Prob. | 0.000 | 0.000 |
| Adj. $R^2$ | 0.029 | 0.042 |

*** significant at 0.001 level ** significant at 0.01 level * significant at 0.05 level
a. People living in group and multi-family households are omitted.

The variables used as predictors of job satisfaction in Table 17 only account for 4.2% of the variance. This perhaps suggests that job satisfaction depends on a wide variety of situational and perhaps personality factors that are hard to measure. However, low social capital and poor mental health are significant. Oddly, those without any vocational or advanced education report higher job satisfaction than those with more formal education.

Table 18 gives results for the determinants of self-rated health (1-5), using an ordered probit model.

**Table 18**
**Explaining Self-Rated Health: ordered probits (age 25-54)**

| | Health (1-5) 2003 Eq 1 | Health (1-5) 2003 Eq 2 |
|---|---|---|
| **Asset poor (liquid assets) 2001** | -0.30*** | -0.10 |
| **No advanced or vocational education 2001** | -0.11** | -0.06 |
| **Low work experience 2001** | -0.20*** | -0.17*** |
| **Disability 2001** | -0.91*** | -0.85*** |
| **Inadequate social network 2001** | -0.38*** | -0.33*** |
| **Poor (< 50% line) 2002** | - | -0.03 |
| **Welfare reliant 2002** | - | -0.22** |
| **Unemployed 2002** | - | 0.04 |
| **Poor physical functioning 2002 [b]** | - | - |
| **Poor mental health 2002[b]** | - | - |
| **Smoker 2002** | - | -0.32*** |
| **Lacks exercise 2002** | - | -0.39*** |
| **Low social contact 2002** | - | -0.20*** |
| Female | 0.09** | 0.07* |
| Age 2001 | -0.02*** | -0.02*** |
| Partnered 2001 | -0.01 | -0.02 |
| Lives in couple HH with children (reference: couple HH, no children)[a] | 0.02 | 0.01 |
| Lives in single parent HH 2001 | -0.12 | -0.06 |
| One person HH 2001 | -0.14 | -0.11 |
| NESB 2001 | 0.00 | 0.01 |
| Observations | 4213 | 4213 |
| Wald Chi sq. | 662.17 | 770.92 |
| Prob. | 0.000 | 0.000 |
| Pseudo $R^2$ | 0.063 | 0.077 |

*** significant at 0.001 level ** significant at 0.01 level * significant at 0.05 level

a. People living in group and multi-family households are omitted.

b. Health variables were omitted because they are too similar to the dependent variable.

All types of low capability contribute to poor health. It is related to a low level of assets (again more than to low income), to low human capital and to low social capital. The three explanatory factors which account for most variance in self-reported health (apart from having a long term disability and growing older) are not taking exercise, smoking and inadequate social networks. People who are mainly reliant on Government income support payments also rate their health worse.

Table 19 shows which low capabilities and functionings have a significant effect on life satisfaction.

**Table 19**
**Explaining Life Satisfaction: regression analysis (age 25-54)**

| | Life satisfaction (0-100) 2003 Eq 1 | Life satisfaction (0-100) 2003 Eq 2 |
|---|---|---|
| **Asset poor (liquid assets) 2001** | **-2.98***** | **-2.27**** |
| **No advanced or vocational education 2001** | **1.03*** | **1.22**** |
| **Low work experience 2001** | **3.03***** | **3.33***** |
| **Disability 2001** | **-3.63***** | **-2.43***** |
| **Inadequate social network 2001** | **-9.51***** | **-7.35***** |
| **Poor (< 50% line) 2002** | **-** | **-0.26** |
| **Welfare reliant 2002** | **-** | **1.39** |
| **Unemployed 2002** | **-** | **-1.81** |
| **Poor physical functioning health 2002** | **-** | **-1.88** |
| **Poor mental health 2002** | **-** | **-8.86***** |
| **Smoker 2002** | **-** | **-1.95***** |
| **Lacks exercise 2002** | **-** | **-0.33** |
| **Low social contact 2002** | **-** | **-2.58***** |
| Female | 0.82 | 0.88* |
| Age 2001 | -0.86** | -0.80** |
| $Age^2/10$ | 0.11** | 0.11** |
| Partnered 2001 | 3.90*** | 3.61*** |
| Lives in couple HH with children (reference: couple HH, no children)[a] | -0.89 | -1.01 |
| Lives in single parent HH 2001 | -0.61 | -0.57 |
| One person HH 2001 | -0.39 | -0.39 |
| NESB 2001 | -2.02** | -1.78** |
| Observations | 4570 | 4570 |
| F | 29.62 | 29.09 |
| Prob. | 0.000 | 0.000 |
| Adj. $R^2$ | .075 | .114 |

*** significant at 0.001 level ** significant at 0.01 level * significant at 0.05 level. a. People living in group and multi-family households are omitted.

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Lacking social networks/social capital has a strong negative effect on life satisfaction. Also important are health variables, particularly poor mental health. Again, asset poverty has a far greater detrimental affect than income poverty or welfare reliance.

### *Comparing with previous approaches – income poverty and human capital*

It is already plain that different well-being outcomes depend on different capabilities and functionings. This provides a strong argument for adopting a multidimensional approach to poverty and disadvantage. To make the point still clearer, we now directly compare the explanatory power of multiple low capabilities with some previously favoured alternatives. The alternatives are (i) income poverty (ii) income poverty combined with asset poverty (iii) low human capital as measured by lacking vocational or advanced education and lacking work experience and (iv) low human capital combined with income poverty and asset poverty. Many comparisons are possible. In Table 20 we just report an *R-squared* (variation accounted for) for each alternative.

Both the independent and dependent variables have already been described in relation to Tables 16-19. One difference is that, for present purposes, all variables are measured in 2002. The capabilities included in Table 20 are: asset poverty (liquid assets), two measures of low human capital (as above), having a long term health disability, and low social capital as measured by an inadequate social network. The functionings included are: income poor (below 50% of median), welfare reliant, low physical functioning, low mental health, low social contact.

**Table 20**
**Comparing the explanatory power of the multidimensional capabilities and functionings approach with previous approaches: regressions ($R^2$):**
**Sample age=25-54 in 2002**

| | Financial stress $R^2$ (%) | Job satisfaction $R^2$ (%) | Self-rated health $R^2$ (%) | Life satisfaction $R^2$ (%) |
|---|---|---|---|---|
| **Capabilities** | **14.7** | **1.6** | **18.7 (5.3)*** | **9.0** |
| **Capabilities + functionings** | **18.1** | **4.2** | **24.5 (9.8)*** | **15.6** |
| Income poverty | 3.0 | 0.0 | 1.0 | 0.2 |
| Income poverty + asset poverty | 12.5 | 0.0 | 2.9 | 1.1 |
| Human capital | 1.7 | 0.5 | 1.6 | 0.0 |
| Human capital + income poverty + asset poverty | 12.7 | 0.5 | 3.6 | 1.3 |

*Results in parentheses are with health variables omitted on the RHS.

Results in the first row of the table clearly show that capabilities by themselves account for more variance in all well-being outcomes than measures of income poverty, or income poverty and asset poverty combined, or low human capital, or a combination of human capital plus income poverty and asset poverty. If functionings are combined with capabilities (second row of the table), the outperformance is considerably greater. This is particularly true in regard to the amount of variance explained in self-rated health, job satisfaction and life satisfaction. Financial and human capital variables do rather better in accounting for variance in financial stress (as might be expected), but still not as well as capabilities, let alone capabilities and functionings combined.

One possible objection would be on the lines, 'Of course, one is nearly always going to account for more variance by adding more explanatory variables'. But this is exactly the point. By taking account of a few capabilities and functionings, instead of relying just on financial poverty measures and/or human capital measures, we can get a much better understanding and explanation of social and economic outcomes which almost everybody would regard as important.

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**CONCLUSIONS AND POSSIBLE WAYS FORWARD – A LIFE CYCLE APPROACH?**

The merits of a multidimensional capabilities approach to poverty and disadvantage are that: -

- Many aspects of disadvantage are covered rather than the focus being solely on economic or material disadvantages.
- Individuals with multiple low capabilities clearly have worse outcomes in most respects than those who have only low incomes, or low levels of education/human capital, or both. In fact, there is a strong, consistent pattern showing that the more low capabilities an individual reports, the worse are his/her functionings and well-being outcomes.
- There are many *cross-overs*: that is, well-being outcomes in particular domains of life (e.g. the financial domain) depend on capabilities and functionings, not just in that same domain, but in other domains too (e.g. financial stress outcomes depend on social capital and health functionings, as well as on wealth and income).

In this paper we have treated low capabilities as potential causes of low functionings and low well-being outcomes. But it is essential to recognise that issues of cause and effect are difficult to sort out, and that what is involved are 'dynamic chains' or, all too often, 'vicious circles'. In some circumstances what is here treated as an outcome can become a 'cause', triggering entry into an 'at risk' group and generating low capabilities and functionings. For example, low life satisfaction or low mental health can contribute to marital breakdown and becoming a lone parent. A lone parent may then have a less adequate social network than previously, and this lowered capability may then lower functionings in some or all domains of life.

This may sound rather 'academic', but the prospects of effective policy intervention in fact depend on imposing *causal order* and then identifying actionable variables and points of intervention which policy-makers can use in order to improve social and economic outcomes. The research task is to try and understand the 'dynamic chains'

or 'damaging sequences/vicious circles' which lead to poor outcomes. The continuing availability of the HILDA panel data means that there is a reasonable prospect of identifying damaging sequences and pointing the way to effective interventions.

HILDA does, however, have a number of gaps for these purposes. It does not adequately represent the Aboriginal population, or homeless people, and information about children under 15 is very limited. It would also be useful to have additional and more direct measures of human capital, including measures of literacy, numeracy and computer skills. Another gap is that, while HILDA includes detailed measures of both wealth and income, it currently lacks measures of consumption/expenditure.

**A life cycle approach?**

One way forward for this project may be to pursue a *life cycle approach* to the designation of priorities among desirable capabilities and functionings. It seems obvious that different capabilities and functionings assume – or should assume - prime importance at different stages of the life cycle. One might suggest that capabilities – the development of capabilities - matter most for young people. Then both capabilities and functionings matter a great deal in the prime working and family formation years. During retirement, functionings perhaps assume relatively more importance, although some capabilities need to be maintained.

Let us try and flesh out these suggestions some more. Think of five stages of the life cycle: childhood, the late teenage and early adult years, prime age working and family formation years, the later working and pre-retirement period, and then retirement. In the childhood period the main priority for individuals, and certainly for public policy, is to develop human capital and some social skills. Some functionings – including an adequate family income and a healthy lifestyle – also matter. Other capabilities and functionings – financial capital and employment related functionings – are less important or even irrelevant. In the late teenage years and early adulthood, development of human capital is still crucial, including gaining work experience which will lay career foundations. Asset holdings are still quite unimportant, although ability to borrow money helps. Development of social networks and skills is of obvious value. Incomes may be low, especially for students, but a modest income

above, say, the 50% relative poverty line might be deemed adequate – at least by Government if not by recipients.

In the main working and family formation years all capabilities and functionings are important. Assets (net worth) should be accumulated and human and social capital further developed. Paid work should be combined with further education and/or vocational training ('lifelong learning'). Welfare reliance should be low in these prime working years. It might be considered that an income above the 60% relative poverty line was the minimum.

In later working years and the pre-retirement period, building up net worth should probably be a priority, and Government can (and does) assist. Maintenance of good health becomes more of an issue. Incomes peak and welfare reliance should normally be low. Retirement years ideally require a fairly high level of financial assets (at least at first) and also of social capital. Health maintenance and access to health services can be a high priority.

Quite clearly, all these statements imply value judgments, but they are perhaps value judgments which most policy makers and stakeholders would broadly accept. In any event, the suggestion is that one way to move forward in a public policy program intended to reduce low capabilities and functionings may be to adopt a life cycle approach and designate *target levels for capabilities and functionings* at different stages of the cycle. Plainly, not everyone could meet the targets, but the societal aim should be to reduce deficits.

The main point of this paper and of the Melbourne Institute 40th Anniversary Project is to suggest that Australian Governments could usefully pursue an approach to poverty and disadvantage based on investing in people's capabilities and funtionings in four domains of life: the financial domain, the employment or labour market domain, the health domain, and the family and social domain. Improved capabilities will generally lead to improved functionings and well-being. Progress in these directions can readily be measured with panel data. Agreement needs to be reached on a suite of trend indicators/measures to be published annually; measures which would form a basis for public policy discussion and which would suggest action points for intervention to enhance capabilities.

**Table A1**
**Definitions of Capabilities, Functionings and Well-Being Outcomes**

| Concept | Definition of indicator |
|---|---|
| **Low Capabilities** | |
| **Financial/material capabilities** | |
| Asset poor | (a) insufficient net worth to remain above the >50% of median post-Government income poverty line for 3 months (b) insufficient financial assets to achieve same. |
| Lack of capacity to borrow | Could not borrow $2000 in emergency |
| **Human capital/education** | |
| Early school leaver | Did not complete Year 12 |
| No advanced or vocational education | No formal education beyond Year 12 and no vocational training since leaving school |
| Lacks work experience | Over 50% time not in work (unemployed or not in labour force) since completing f/t education |
| Poor English skills | Speaks English 'not well' or 'not at all' (self-rating) |
| Low literacy and/or numeracy | Rates at Level 4 or Level 5 on ABS/international test (no data in HILDA) |
| Low computer skills | Not yet determined (no data in HILDA) |
| Availability and skills to use communications, including Internet | Not yet determined (no data in HILDA) |
| **Health capabilities** | |
| Health disability | Disability or health condition which has lasted or is likely to last for 6 months or more |
| Low life expectancy | Under 60, under 70 – what standards approp. for Australia? |
| Excessive BMI | Obese – BMI 30 or over |
| Lack of access to health services | Not yet determined (no data in HILDA) |
| **Family and social capabilities** | |
| Lives alone and not partnered | Lives alone (one person household) and is not partnered |
| Inadequate family and social attachments/network | Based on 10 items including:<br>- No-one to confide in<br>- No-one to lean on in times of trouble<br>- I seem to have lots of friends<br>- Often feel very lonely |
| Homeless or low housing quality | Not yet determined (no data in HILDA) |
| Unsafe neighbourhood | Neighbourhood problems scale (10 items) |
| **Low Functionings** | |
| **Financial and material functionings** | |
| Pre-Government income poor (<50% of median) | % of individuals with equivalised pre-Government income less than 50% of the median |
| Pre-Government income poor (<60% of median) | % of individuals with equivalised pre-Government income less than 60% of the median |
| Post-Government income poor (<50% of median) | % of individuals with equivalised post-Government income less than 50% of the median |
| Post-Government income poor (<60% of median) | % of individuals with equivalised post-Government income less than 60% of the median |
| Income poor (anchored in 2001 – <50% of median) | % of individuals with equivalised post-Government income less than 50% of median, measured in 2001, updated each year for inflation (CPI). |

| | |
|---|---|
| Low consumption | Not yet determined. Construct consumption poverty lines similar to income poverty lines? |
| Low medium and longer term income | Multi-year panel data, using poverty lines above |
| Welfare reliance | More than 50% of household gross income from the State (pensions and benefits) |
| **Employment/labour market functionings** | |
| Unemployed: short term and long term | ABS definition: unemployed, looking for work and currently available for work |
| Under-employed | ABS definition – wants more hours at current hourly rate |
| Discouraged job seeker | ABS definition – available for work but given up trying |
| Wants work/more work & not undertaking job training | Not determined yet e.g. actively seeks work and is available, but no job training in last 12 months |
| Jobless household | Household in which no-one worked for 26 weeks or more of last Financial Year |
| **Health functionings** | |
| Poor physical functioning | Score under 50 on the 0-100 SF-36 scale for physical functioning) |
| Poor mental health | Score under 50 on the 0-100 SF-36 scale for mental health |
| Smoker | Currently smokes |
| Heavy drinker | Not determined yet |
| Lacks exercise | Exercises less than once a week |
| Poor diet | Not determined yet |
| **Family & social functionings** | |
| Poor family functioning | Not determined yet |
| Heavy burden of stressful caring activity | Not determined yet |
| Lacks social contact | Visits relatives/friends less than once a month |
| Low participation in community groups | Not determined yet |
| Victim of crime | Victim of crime in last 12 months |
| | |
| **Low Well-Being Outcomes** | |
| **Financial & material outcomes** | |
| High financial stress | Reported 2 or more problems on a 0-7 scale:<br>- Could not pay utility bills<br>- Could not pay mortgage or rent on time<br>- Had pawned or sold something<br>- Went without meals<br>- Unable to heat the home<br>- Asked for financial help from friends or family<br>- Asked for help from a welfare organisation |
| Low satisfaction with financial situation | Scores less than 5 on 0-10 scale of satisfaction with 'your financial situation' |
| **Employment/labour market outcomes** | |
| High job insecurity | Believes there is a 50% or more chance of being sacked or laid off in next 12 months |
| High job stress | 12-item scale – scores above scale mid-point |
| Low job satisfaction | Scores under 5 on 0-10 job satisfaction scale |

| Health outcomes | |
|---|---|
| Low self-rated health | Rates health as 'fair' or 'poor' on 1-5 scale |
| Low health satisfaction | Scores under 5 on 0-10 health satisfaction scale |
| **Family & social outcomes** | |
| High work-family stress | 13 items relating to stress about capacity to manage both work and family commitments (1-7 scale) |
| Low satisfaction with partner | Scores under 5 on 0-10 scale |
| Low satisfaction with 'other relatives' | Scores under 5 on 0-10 scale |
| Low life satisfaction | Scores under 5 on 0-10 life satisfaction scale |

# APPENDIX 2

## The European Union's Laeken Indicators

At the Laeken European Council in December 2001, the European Union adopted a set of 18 indicators of social exclusion. The 10 primary indicators measure income poverty and inequality, while the 8 secondary measures capture other aspects of social exclusion. All 18 indicators are listed in Table A2:

**Table A2**
**Laeken Indicators**

| | |
|---|---|
| 1. | At-risk-of-poverty rate (after social transfers) |
| | a: At-risk-of-poverty rate, by age and gender |
| | b: At-risk-of-poverty rate, by most frequent activity status and gender |
| | c: At-risk-of-poverty rate, by household type |
| | d: At-risk-of-poverty rate, by accommodation tenure status |
| | e: At-risk-of-poverty threshold (illustrative values) |
| 2. | Inequality of income distribution: S80/S20 income quintile share ratio |
| 3. | At-persistent-risk-of-poverty rate, by age and gender (60% of median) |
| 4. | Relative median at-risk-of-poverty gap, by age and gender |
| 5. | Regional cohesion (dispersion of regional employment rates) |
| 6. | Long term unemployment rate, by gender |
| 7. | Persons living in jobless households, by age and gender |
| 8. | Early school leavers not in education or training, by gender |
| 9 | Life expectancy at birth, by gender |
| 10. | Self-reported health status by income quintile |
| 11. | Dispersion around the at-risk-of-poverty threshold |
| 12. | At-risk-of-poverty rate anchored at a moment in time |
| 13. | At-risk-of-poverty rate before social transfers, by age and gender |
| 14. | Inequality of income distribution: Gini coefficient |
| 15. | At-persistent-risk-of-poverty rate, by age and gender (50% median) |
| 16. | Long term unemployment share, by gender |
| 17. | Very long-term unemployment rate, by gender |
| 18. | Persons with low educational attainment, by age and gender |

Notes:
- Indicators 1a-1e, 2-4, 10, 11-15 have been calculated for EU Member States using the European Community Household Panel**.** The regional cohesion indicator is the coefficient of variation of employment rates at NUTS level 2.
- The long term unemployment rate is the total number of long-term unemployed (at least 12 months) as a percentage of the total active population aged 15-64.
- The long term unemployment share is the total number of very long-term unemployed (at least 12 months) as a percentage of the total number of unemployed.
- The very long term unemployment rate is the total number of very long-term unemployed (at least 24 months) as a percentage of the total active population aged 15-64.
- Persons with low education attainment is the proportion of people aged 25-64 (by ten year band) whose highest level of education or training is ISCED 0, 1 or 2 in the total population of the same age group.

# APPENDIX 3

## The Irish Government's 'Consistent Poverty' Index

A person is defined as poor on the Irish Government's 'consistent poverty' index if he/she experiences income poverty *and* is deprived of one or more of the 8 items listed below. The preferred measure of income poverty is based on the below 60% of median equivalised household income poverty line. But 50% and 70% lines are also used. The 8 deprivation indicators are: -

- no substantial meal on at least one day in the past two week
- without heating at some stage in past year
- experienced debt problems arising from ordinary living expenses
- unable to afford two pairs of strong shoes
- unable to afford a roast once a week
- unable to afford a meal with meat, chicken or fish every second day
- unable to afford new (not second-hand clothes)
- unable to afford a warm waterproof coat.

**Low Economic/Financial Functioning: Under 60% Poverty Line**

**Table A4**
**Low Economic/Financial Functioning: Additional Results for 2001-03***

| Capabilities | Total Population % | Working Age % | Elderly (65+) % | Single Mothers % | No Partner % | Disability % | NESB % |
|---|---|---|---|---|---|---|---|
| **Income poor pre-Government (60% pov line)** | | | | | | | |
| 2001 | **28.3** | 17.2 | 70.6 | 50.4 | 34.6 | 49.2 | 36.3 |
| 2002 | **28.4** | 17.1 | 69.8 | 51.2 | 35.8 | 51.5 | 36.2 |
| 2003 | **27.7** | 16.3 | 70.6 | 51.0 | 35.8 | 47.9 | 36.0 |
| 0 of 3 years | **63.7** | 76.7 | 20.8 | 43.1 | 54.0 | 33.0 | 55.8 |
| 1 of 3 years | **10.1** | 8.5 | 8.1 | 7.6 | 9.7 | 9.2 | 8.8 |
| 2 of 3 years | **7.3** | 5.7 | 7.7 | 10.0 | 8.0 | 10.0 | 9.3 |
| 3 of 3 years | **18.9** | 9.1 | 63.3 | 39.3 | 28.3 | 47.7 | 26.1 |
| **Income poor post-Government (60% pov line)** | | | | | | | |
| 2001 | **21.8** | 13.9 | 46.6 | 34.5 | 26.8 | 35.2 | 31.2 |
| 2002 | **21.6** | 13.7 | 45.3 | 36.0 | 27.2 | 35.9 | 29.5 |
| 2003 | **21.0** | 13.9 | 46.6 | 34.5 | 26.8 | 35.2 | 31.2 |
| 0 of 3 years | **68.5** | 78.7 | 38.0 | 53.0 | 60.5 | 45.5 | 58.5 |
| 1 of 3 years | **12.5** | 9.7 | 18.1 | 14.6 | 12.6 | 15.1 | 13.3 |
| 2 of 3 years | **8.3** | 6.1 | 14.0 | 14.8 | 9.4 | 13.2 | 10.8 |
| 3 of 3 years | **10.7** | 5.4 | 30.0 | 17.5 | 17.4 | 26.2 | 17.4 |
| **Income poor; 2001 anchored poverty line (60% line)** | | | | | | | |
| 2001 | **21.8** | 13.9 | 46.6 | 34.5 | 26.8 | 35.2 | 31.2 |
| 2002 | **19.8** | 12.4 | 43.1 | 30.6 | 25.1 | 33.3 | 27.8 |
| 2003 | **17.9** | 11.1 | 38.3 | 30.4 | 24.5 | 28.4 | 25.7 |
| 0 of 3 years | **69.9** | 79.7 | 40.6 | 55.0 | 61.8 | 47.2 | 59.8 |
| 1 of 3 years | **12.8** | 10.0 | 18.0 | 17.4 | 13.2 | 15.7 | 14.6 |
| 2 of 3 years | **8.5** | 6.0 | 14.5 | 14.3 | 9.4 | 13.9 | 10.2 |
| 3 of 3 years | **8.9** | 4.2 | 26.9 | 13.3 | 15.6 | 23.2 | 15.3 |

*Source: HILDA Survey 2001-03 population weighted results. Individuals in households with non-positive disposable incomes and/or negative private incomes were omitted from the analysis.

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