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Department of Family and Community Services

REVISED FEBRUARY 2005

THE STRUCTURE AND DISTRIBUTION OF HOUSEHOLD WEALTH IN AUSTRALIA: COHORT DIFFERENCES AND RETIREMENT ISSUES

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February 2005

THE STRUCTURE AND DISTRIBUTION OF HOUSEHOLD WEALTH IN AUSTRALIA: COHORT DIFFERENCES AND RETIREMENT ISSUES

Abstract

In 2002 The Household Income and Labour Dynamics Australia Survey (HILDA) conducted the first large scale survey of household wealth since World War 1. The survey (N=7245 households) covered all main components of asset portfolios and debts. Results matched satisfactorily with national aggregate statistics available from the Australian Bureau of Statistics (ABS) and the Reserve Bank of Australia (RBA). This paper gives an overview of the structure and distribution of wealth, focussing on differences between and within age cohorts. The pre- and post-retirement cohorts are of special concern; the issue being their capacity for self-funding during retirement. The paper also pays particular attention to the wealth and debt levels of vulnerable groups in society; especially income support recipients and lone parents. It concludes with a statistical analysis of the main determinants of differences in household wealth.

INTRODUCTION

Aims

This is a draft report intended to contribute to The Department of Family and Community Services (FaCS) understanding of the structure and distribution of wealth in Australia. More particularly, it relates to the FaCS strategic priority of assessing the extent to which mature age Australians now have, and may have in the future, a capacity for financial self-reliance during their retirement years.

The draft report responds to a brief from the Seniors and Means Test Branch of the Department of Family and Community Services (2003). The brief requires analysis of the wealth module in the 2002 Household Income and Labour Dynamics Australia Survey (HILDA) in order to address the following issues.

Structure/composition of wealth and debt

Issue 1. What are the main components of wealth and debt? What are the relative shares of financial assets and non-financial (particularly housing) assets?

Issue 2. Has the level and composition of household wealth changed in recent years? If so, to what extent have increases been due to possibly transient increases in housing values?

The distribution of wealth

Issue 3.1 What is the overall distribution of wealth?

Issue 3.2 How are wealth and indebtedness distributed among age cohorts? How wide is the gap between the most and least wealthy cohorts? How is wealth distributed within cohorts?

Retirement issues

Issue 4.1 Retirement: focussing on the older age cohorts – those 45 years and over – what is their capacity for self-funding in retirement?

Issue 4.2 Is there a relationship between intended age of retirement and levels of wealth and debt?

Vulnerable groups in society

Issue 5. How do vulnerable and 'at risk' groups fare in regard to wealth? In particular, what are the assets and debts of income support recipients? What is the wealth situation of lone parents?

Determinants of wealth

Issue 6. What are the main factors (demographic, educational, income related etc) which determine levels of wealth and debt?

Why wealth matters, and why it makes sense to think of it as a long term 'stock'

Before addressing these issues directly, it may be useful to say 'why wealth matters'. How does it contribute to a household's economy and quality of life? We also comment on the implications of the fact that wealth is a long term 'stock'.

Wealth confers economic security, and this is plainly a very high priority to many people. It enables a household to tide over bad times due to, for example, unemployment or ill-health, when the normal flow of earned income is reduced or cut off entirely. Wealth also enables a household to gain access to credit. So it can borrow either to tide over bad times, or to make investments for the future, for example by paying for education, or buying property, shares or a business. Wealth also directly generates income both in cash and in kind. For example, shares and superannuation holdings directly generate cash income. Equally valuably, owner occupied housing, or paintings or other collectibles in the home, provide benefits in kind. They contribute to a household's quality of life and standard of living broadly defined. In the context of this report, a key aspect of wealth is that it can provide security and even comfort in one's retirement years.

It makes sense for individuals and households to think about their wealth in the long term, rather than just the short term. In economic or accounting terms wealth is a 'stock', rather than a 'flow' like income. Households acting rationally would think about building up their wealth over members' working life. Then in retirement they would use up their accumulated savings to enjoy a satisfying standard of living and quality of life.

A corollary of the long term nature of wealth planning is that it is sometimes sensible for households to incur debts with the aim of investing to build up their assets in the long term. In the short term a household might rationally choose to reduce its *net worth* (assets minus debts) in order to achieve long term gains. A household approaching retirement may, for example, borrow against the equity in its home in order to buy shares or managed funds, knowing that it will consequently, for some years to come, have both high asset levels and high debts. We shall see throughout this report that high assets and high debts go together. The more assets you have, the better your credit rating and the more you are likely to borrow. Debts and investments are of course often the same thing.

Partly because of these considerations, we shall use a range of wealth measures in this report, rather than a single summary measure. We do consistently use net worth as a summary measure, but we also report household assets and debts separately in most

tables, and often components of *financial assets* and *non-financial assets.* Financial assets include superannuation, investments in shares and other equities, cash-type investments and bank accounts. Non-financial assets include housing, businesses and vehicles.

Australian data and research on wealth prior to HILDA

In 1915, faced with increasing wartime expenditure, the Australian Government used the Census to measure the wealth of the 5 million or so Australians who lived in the country at the time. As it turned out, nearly 90% of all wealth was owned by the richest 10%.

The wealth module included in the second wave of the HILDA survey (2002) is the first large scale survey of household wealth (N=7245 households) conducted since that date. The module was designed jointly by the Reserve Bank of Australia and the Melbourne Institute. The questions covered all main financial assets, including bank accounts, superannuation and shares, and all main non-financial assets, including housing and businesses, together with the main categories of debt. Because this was a household survey, rather than an estimate of national aggregate wealth of the kind published regularly by the Australian Bureau of Statistics (ABS), it enables us to focus on *distributional issues* and *cohort differences;* the differing asset portfolios of richer and poorer households, and of different age cohorts.

The main data series available from the ABS do not deal with distributive issues. They provide quarterly estimates of national aggregate household wealth (ABS, Cat. 5232.0). ABS data have some unavoidable limitations. Only financial assets and liabilities are given. The value of some non-financial assets, principally housing but not unincorporated businesses, are estimated in the National Accounts (ABS, Cat. 5204.0). In general terms, it is fair to say that the government agencies do not measure household sector assets directly, but treat them as residuals after subtracting business sector assets (about which much is known) from national estimates of wealth. Even so, the existing sources probably provide accurate estimates of changes in household wealth over time. Clearly, however, they tell us little about distributive issues.

Most previous estimates of the distribution of household wealth have been based on inferring stocks (assets) from flows (income). For example, income from business ownership and income from share dividends have to be declared on tax returns and can be used to estimate asset values. The National Centre for Economic Modelling (NATSEM) has used this approach to provide household estimates (Baekgaard 1998; Kelly, 2001, 2003), as has the ABS (Robertson et al, 2000; Northwood et al 2002). Apart from the 1915 Census, there appears to have been just one small scale survey of household wealth conducted in 1967 (Podder and Kakwani, 1976). This was valuable but omitted farmers and, partly due to this omission, it may have understated inequality of net worth (Kelly, 2001).

The next section gives an overview of the HILDA wealth module and the main measures used. HILDA's wealth estimates are compared with the ABS/RBA national aggregates.

METHODS

THE HILDA WEALTH MODULE, 2002

A wealth module was included in the second wave of HILDA in 2002. Described in more detail in Watson and Wooden (2002), HILDA is a household panel survey conducted under contract to FaCS by the Melbourne Institute of Applied Economic and Social Research at the University of Melbourne. It began in 2001 with a large national representative sample of households, and involved personal interviews with all household members aged 15 and over. In wave 1, interviews were obtained at 7,682 households, which represented 66 per cent of all households identified as in-scope. This in turn generated a sample of 15,127 persons eligible for interview, 13,969 of whom were successfully interviewed.

The coverage of the survey is extremely broad, but with a focus on household structure and formation, income and economic well-being, and employment and labour force participation. Each year a special module of non-core questions is added. In Wave 1 it was appropriate to devote the module to personal and family history. In Wave 2 the topic was wealth, with the module being funded in large part by the Reserve Bank of Australia.

In 2002 all responding households from Wave 1 were re-contacted. Interviews were again sought with all household members aged 15 or over, including persons who did not respond in Wave 1, as well as any new household members. In total, interviews were completed with 13,041 persons from 7,245 households. Of this group almost 12,000 were respondents from Wave 1, which represented almost 87 per cent of the Wave 1 individual sample. Like all surveys, the HILDA survey has sampling errors; differences between the sample's characteristics and population Census characteristics. The data include weights to adjust for these biases.

Measuring wealth

The HILDA wealth module was designed jointly by the Reserve Bank of Australia and the Melbourne Institute. Most of the questions about assets and debts were asked at the household level and answered by one person on behalf of the entire household. The questions covered housing, incorporated and unincorporated businesses, equity-type investments (e.g., shares, managed funds) and cash-type investments (e.g., bonds, debentures), vehicles and collectibles (e.g. art works). However, some questions about assets and debts – those we felt could not be reported accurately by one person on behalf of all – were asked of individuals. These included superannuation, bank accounts, credit cards, student debt (HECS) and other personal debt. In answering all questions, respondents were asked to give exact dollar amounts. However, bands were offered to those who could not provide a more exact estimate of their superannuation holdings; a particularly difficult topic. (Appendix 1 gives a diagram showing how the components of wealth measured in HILDA have been aggregated).

Wealth is not easy to measure in surveys and, when it has been attempted overseas, has been associated with quite high item non-response rates and substantial under-estimates in measuring aggregate national wealth, if the National Accounts are taken as a benchmark (Juster et al, 1999). This last result is largely due to the fact that the wealthiest 2% or so, who own a vastly disproportionate share, are invariably under-represented in surveys.

The HILDA Survey was not immune from these difficulties. HILDA achieved response rates over 90% for almost all components of wealth. But 39% of households could not provide information about at least one component. Not surprisingly, many could not specify their superannuation or business holdings. So we were only able to directly compute net household wealth for 61 per cent of responding households. Statistical imputations of missing data were undertaken by the RBA. This was essential, since to omit cases with missing data would have introduced a bias against larger households, in which it is of course harder to get every eligible respondent to participate. So the HILDA files issued to users now contain complete wealth data for all 7,245 households interviewed at wave 2, with flags to indicate where imputations have been made.

Benchmarking HILDA wealth estimates: comparisons with estimates in ABS and RBA publications

In assessing currently available data it is usually helpful to have in mind what an *ideal data set* would look like. In measuring wealth, then, we ideally want to measure the *market value* of all assets and debts. This is what HILDA tried to do. Alternative measures exist and are, in some cases, used by Government agencies as *proxies* for market value. An example is use of the book (tangible assets) value of business assets. This measure has the advantage of being *reliable* in the sense that it is replicable with a low margin of error. But if it is substantially different from market value (which it probably is; see below), then it is not a *valid* measure; that is, it is not measuring the 'right' thing, but something else. Officials in Government agencies which use proxy measures are presumably themselves aware of the validity limitations of such measures, but the measures are quite often cited by others as if they were indisputably valid. A key point about measurement is that measures cannot be valid unless they are reasonably reliable, but they can be totally reliable and have no validity at all.

To benchmark the HILDA data we compare HILDA estimates of household assets, debts and net worth with the national aggregates available from the main ABS and associated sources. The main published sources are (1) the ABS Australian System of National

Accounts (Cat. No. 5204.0), which needs to be read in conjunction with the ABS Financial Accounts (Cat. 5232.0), and (2) RBA Statements on Monetary Policy (various dates). The authors have also had the benefit of discussions with ABS and RBA officials, who have responded generously to questions about inclusions, exclusions and apparent discrepancies between the Government sources.

As a first step in benchmarking, Table 1 shows which components of financial assets, non-financial assets and debts are reported in HILDA and in the Government sources.

TABLE 1
Aggregate Wealth Sources: Summary of Differences in Scope

Asset Type	HILDA	ABS	RBA
Financial assets			
Deposits	✓	✓	✓
Bonds, etc.	✓	✓	✓
Equities	✓	✓	✓
Unfunded superannuation	✓	✓	✕
Pre-paid insurance premiums	✕	✓	✕
Non-financial assets			
Vehicles	✓	✓	✓
Other consumer durables	✕	✓	✓
Housing and property	✓	✓	✓
Business assets	✓	✓	✕
Collectibles	✓	✕	✕
Debts			
Housing debt	✓	✓	✓
Business debt	✓	✓	✓
Student debt (HECS)	✓	✓	✓
Credit card debt	✓	✓	✓
Other personal debt	✓	✓	✓

Note: ✓ indicates that the component is included by HILDA, ABS or RBA, while ✕ indicates it is not.

Differences of inclusion and exclusion among the different sources mean that comparisons are not straightforward. One immediate difference is that the ABS and RBA

include the assets and liabilities of non-profit organizations in 'the household balance sheet', whereas HILDA data relate strictly to households. Now consider the treatment of financial assets. We see that the ABS and the RBA only differ in how they treat unfunded superannuation and pre-paid insurance premiums; the RBA excludes them whereas the ABS does not. Conceptually the HILDA Survey falls between the two, including unfunded superannuation but excluding pre-paid insurance premiums. (It should be noted that the sums involved here are quite small). Turning to non-financial assets, Table 1 indicates that HILDA measured collectibles whereas the Government sources do not. On the other hand, HILDA did not measure the value of consumer durables (except vehicles), whereas the Government sources do. Both HILDA and ABS value the assets of unincorporated businesses owned by households, but RBA leaves them out.

Let us now make comparisons between dollar amounts for assets and debts estimated by HILDA and the Government sources. Estimates for HILDA and the ABS relate to an average of the September 2002 and December 2002 quarters, which is when most of the HILDA interviewing was conducted. The RBA data are for the December quarter. Note that HILDA's estimates of mean asset and debt values, which were obtained on a household basis, were multiplied by the number of households in the country to obtain comparisons with the national aggregates provided by the Government sources.

First, financial assets. As noted above, conceptually HILDA falls between the two government sources by including unfunded superannuation but excluding pre-paid insurance premiums. It transpires that, empirically, HILDA's estimate also lies between the Government estimates:

- HILDA: $1125 billion ABS: $1237 billion RBA: $1084 billion

If we adjust the HILDA data by adding the ABS estimate of pre-paid insurance premiums – just over $28 billion – we find that the HILDA estimate is about 93 per cent of the ABS estimate. Thus, as expected, HILDA understates the volume of financial assets. The size of that understatement, however, is relatively modest.

Next, we consider the area in which it is most difficult to make well matched comparisons: non-financial assets. Housing is by far the biggest component, followed by business assets. At first examination the three sources seem far apart on housing:

- HILDA: $1932 billion ABS:$1597 billion RBA: $2252 billion

In large part the explanation for these discrepancies lies in different methods of measurement/estimation. HILDA asked respondents who completed the Household Questionnaire (nearly always the household reference person or his/her partner) to estimate the market value of their property if sold today. There is strong Australian evidence that householders do quite accurately estimate their own property values; on average they get within 3% of the 'correct' valuation as determined by professional real estate valuers (Yates, 1991). The ABS adopts a quite different approach. A perpetual inventory model (PIM) is used to estimate the dwelling stock, allowance is made for new building activity, and values are obtained from the Housing Industry Association/Australian Bank (HIA/CBA) house price series (Northwood et al, 2002). The RBA does things somewhat differently: "it splices together the quarterly HIA/CBA median price series and the Real Estate Institute of Australia (REIA) median price series for each state" (Northwood et al, 2002, p53). The different methods used by the two Government organizations produce widely divergent results and there is some evidence that over time the gap is getting wider. Northwood et al (2002) show that between June 1994 and June 2000 the gap increased from about 25% to about 50% with the RBA estimate always being higher. It is not possible for us to determine whether the ABS or the RBA estimates are more accurate. What can be said is that the ABS estimates are consistently the lowest, by a large margin, of all the main estimates produced in Australia (Northwood et al, 2002, p53). They are lower than estimates from the Treasury, the REIA and the HIA/CBA, as well as the RBA.

So where does HILDA stand on housing and property values? The figures above indicate that the HILDA estimate is about 86% of the RBA estimate (which was, however, for the December quarter rather than an average of the last two quarters of 2002) and 121% of the ABS estimate.

Next, business assets are considered:

- HILDA: $339 billion ABS: $151 billion[1] RBA: same data as ABS

Again, the HILDA and ABS figures are far apart. The main reason appears to be conceptual. HILDA sought to measure the market value of unincorporated business by asking the household respondent (described as the household member who was best informed about the household's wealth) to estimate the value of the business if sold today. RBA uses the book value (that is, the tangible asset value) of businesses, which, as not a valid proxy for market value. However, it has been estimated that typically, but with huge variations, the book value of businesses tends to be about half the market value (Webster, 2000). But it should be noted that estimates of the ratio of book value to market value are much less precise for small and unincorporated businesses not listed on the stock exchange than for listed companies. In the case of listed companies market value corresponds to share prices. No such handy valuations exist for unincorporated entities. A final small difference between HILDA and the ABS is that HILDA did not distinguish between the financial and non-financial assets of businesses and just classified all business assets as non-financial. The ABS figure above relates only to non-financial assets.

Last, under the heading of non-financial assets, we consider valuations of cars and other household vehicles.

[1] This figure was obtained by taking a valuation of $124 billion in Northwood (2002, p27) for June 2000 and inflating by 21.4% to obtain an estimate for an average of the Sept. an Dec. quarters of 2002; 21.4% being an estimate of the increase in property values during the period.

- HILDA: $143 billion ABS: $50 billion RBA: same data as ABS

HILDA's estimate of vehicle values at $143 billion is nearly three times as much as the ABS estimate. It seems to us likely that, although HILDA respondents may have slightly misestimated the value of their own vehicles, the discrepancy may be due to the ABS applying high discount rates to vehicles and, in effect, attributing zero value to vehicles which are still on the road.

Housing, businesses and vehicles are the three types of non-financial assets on which HILDA data and Government sources can be compared (see Table 1). In any event the value of other non-financial assets is (relatively speaking) negligible. Summing the estimates for non-financial assets we get the following results.

Major non-financial assets = Housing + Household business + Vehicles

- HILDA: $1932b + $339b + $143b = $2414b (b = billions of dollars)
- ABS: $1597b + $151b + $50b = $1798b
- RBA: $2252b + $151b + $50b=$2453b

On this basis it appears that the HILDA estimate is 98% of the RBA figure and 134% of the ABS figure. The differences, as explained above, are primarily due to use of different methods of valuing both housing and businesses.

Overall, in estimating total assets (financial and non-financial combined), we are pleasantly surprised that the HILDA appears not to be substantially under the mark. While gratifying, this is something of a puzzle given the more or less unavoidable under-representation of the very wealthy. The wealthiest household included in the HILDA sample, for example, had a reported net worth of $22 million, well below the levels recorded for individuals listed in the BRW list of Australia's 200 wealthiest people.

The final comparisons discussed in this section of the report relate to debts. Comparability among the three data sets here is much greater so we can reasonably just review total debt estimates rather than discuss each component separately.

- HILDA: $517 billion ABS: $631 billion RBA same data as ABS

Here the HILDA estimate is only 82% of the ABS figure. In retrospect we suspect the HILDA questionnaire may not have included enough questions on separate types of debt. As noted above, HILDA split household debt into five categories: housing debt, business debt, student debt (HECS), credit card debt, and 'other' personal debt. It might have been preferable to ask specifically about overdrafts (excluding housing), vehicle debt, hire purchase, gambling debts and so on (see Juster et al. 1999). Even so, there may be some irreducible tendency for respondents to under-report debt, partly for social desirability reasons. We also believe that relative to official sources, credit card debt will be understated in HILDA. Those respondents who said they routinely paid up in the first month and so incurred no interest charges were recorded as having no credit card debt. By contrast, the official sources record card liabilities owed by the nation's households at one moment in time.

RESULTS

The results in the section are organized in line with the issues raised in the FaCS brief, summarised at the start of the report.

All results are weighted to adjust for differences between sample and population characteristics. The results can thus be treated as *population estimates*, or as being weighted up from a sample size of 7,245 households to a population size of 7,540,411 households. Because this is a large sample the confidence intervals for most estimates given in this report are within plus or minus 3.5% at a confidence level of 95%. Of course, where estimates of the wealth of smaller sub-sets of the population are given, they are less reliable. Estimates which would be too unreliable for most practical purposes because they have a standard error more than 50% of the estimate have been marked 'nr'.

The structure/composition of wealth

Issue 1: What are the main components of wealth and debt? What are the relative shares of financial and non-financial (particularly housing) assets?

Table 2 gives an overview of the wealth of Australian households in the last quarter of 2002.[2] It gives mean and median assets, debts and hence net worth, and also the percentage contribution which each type of asset and debt makes to total holdings.[3]

It should be noted that the medians reported in Table 2 (but not later tables) are somewhat unusual. The aim is to describe the wealth of the typical Australian household. So we report the median assets and debts of households in 50th (median) percentile of net worth. In other words, we take households whose overall wealth (net worth) is 'typical', and then show their asset and debt levels. Because the distribution of wealth is highly skewed, medians give a better idea of the typical household's wealth than means.

[2] Overviews of the HILDA data have been previously published in the HILDA annual report for 2003 (Melbourne Institute, 2003) and by the Reserve Bank of Australia (2004). The estimates given in Table 2 differ from both these sources. The HILDA annual report did not include imputed components of wealth. The Reserve Bank estimates differ slightly, due to omission of imputations for components of wealth included in the HILDA Person Questionnaire, namely bank accounts, superannuation, credit card debt, HECS debts and other personal debt.

[3] All results in this paper are weighted to correct for sample bias and attrition.

Table 2
Overview: Assets, Debts and Net Worth of Households in 2002
Populations Weighted Estimates*

	Means ($000)	Medians ($000)	% of total assets or debts	% HHs holding assets/debts
Overall assets & debts				
Total assets	473.3	288.0		
Total debts	68.5	10.0		
Net worth (assets minus debts)	404.8	218.6		
Assets in order of value				
Housing & other property	255.0	180.0	53.9	71.0[c]
Pensions/superannuation	75.2	17.0	15.9	77.0
Businesses & farms	44.4	0	9.4	13.1
Equity investments: shares, managed funds	31.3	0	6.6	41.4
Bank accounts	21.4	4.7	4.5	97.3
Cars & other vehicles	19.0	12.0	4.0	87.9
Other assets[ab]	27.9	0	5.9	47.4
			(100.0)	
Non-financial assets	315.4	204.5	66.6	93.6
Financial assets[b]	157.9	49.5	33.4	99.3
	(473.3)		(100.0)	
Debts in order of value				
Housing & other property	51.4	0	75.0	38.7
Businesses & farms	6.8	0	9.9	5.2
HECS (student) debt	1.3	0	1.9	12.7
Credit cards & other plastic	1.1	0	1.6	39.5
Other debts (cars, hire purchase etc) [b]	7.9 (68.5)	0	11.5 (100.0)	36.7

* All results are weighted up to population size. The total sample size was 7,245 households. The national population of households was 7,540,411.

a. Other assets include cash investments, trust funds, the cash-in value of life insurance and collectibles.

b. Small adjustments have been made to these three items in order for totals to balance. The reason for what would otherwise be small discrepancies is that the imputations of wealth undertaken by RBA omitted 5 components asked on the Person Questionnaire: bank accounts, superannuation, credit card debt, HECS debt and other personal debt. The authors imputed these items but did not constrain the imputation to force the total of all components to equal the previously imputed total asset and total debt values. Our intention is to revise the imputation to address this problem.

c. 71.0% of households owned property. 67.7% owned the home they were living in.

In the last quarter of 2002 the average household had a net worth of approximately $404,800, this being about $473,300 of assets and $68,500 of debts. However, these mean estimates are distorted upwards by inclusion of the rich. The median household had assets of only about $288,000 and a net worth of about $218,600.

As is well known, Australians' asset portfolios are dominated by housing. Housing and other property constitutes over 50% of all household assets and over 60% of the assets of the median household. Over two-thirds of households - 67.8% - owned or were buying their own home. Quite a high proportion of Australian households - 16.7% - had a stake in other property as well; a holiday home or investment property.

The second largest asset of most households is superannuation, which has become much more widely held, and somewhat more equally distributed in the last fifteen years (Kelly, 2001). Even so, the median household holds superannuation worth only about $17,000. Other holdings of considerable value to some households are business assets and equity investments (shares, managed funds, listed property trusts etc). The median household holds no equities and of course does not own a business. However, the 41% of households who do own equities average about $70,000 worth (median= $15,000), and the average value of businesses (owned by 13% of households) was about $291,000 (median=$80,000). It should be noted, however, that equity investments are understated here, since, in order to avoid double-counting, HILDA respondents were asked not to include superannuation in their calculation of equity holdings; and of course some superannuation was held in equities. Then, moving towards the bottom of the list of assets, the median household had a car worth about $12,000 and just $4,700 in the bank. Household debt is mainly mortgages. The average property debt is about $51,000. Most households have little or nothing in other forms of debt.

Overall, non-financial assets dwarf financial assets. Most households lack liquidity. They have little cash and little that they can easily cash up, if normal sources of market income are temporarily or permanently cut off, or if emergency expenditures are required. This means they must rely primarily on pension and benefit entitlements. This is especially

clear when one remembers that, until one retires, superannuation is not available and so, while classified as a financial asset, it is not in reality liquid. Some could perhaps obtain loans in emergency, although, as noted above, it is difficult for low income households to obtain credit at reasonable interest rates.

Issue 2: Has the level and composition of household wealth changed in recent years? If so, to what extent have increases been due to possibly transient increases in housing values?

To date the HILDA Survey has only asked about wealth once, in 2002. So from HILDA we cannot directly answer questions about trends in wealth. However, all published estimates, both from the Australian Government (ABS, Cat. 5232.0; ABS, Cat. 5204.0) and from academic sources (Kelly, 2001, 2003) show total household assets and net worth increasing faster than the rate of inflation in recent years. For most of the 1990s stock market values rose rapidly and property prices rose less fast, so the rise in household financial assets exceeded the rise in non-financial (that is, mainly property) assets. Then in 2000-2003 world stock market values fell sharply, although the Australian market fell much less, and property prices rose rapidly in all capital cities. So in this latter period the rise in non-financial asset values far exceeded those in financial assets (which barely kept up with inflation).

Another key point is that Australian households are changing their asset portfolios. Property still dominates, but financial assets in the form of shares and superannuation, are becoming increasingly significant (Kelly, 2001, 2003). Trends in superannuation are discussed in some detail below (*Issue 4.1*).

The question as to whether recent increases in household wealth are likely to prove transient because they are due to housing price increases is thus hard to answer. It may well be that in most future years either the stock market or the housing market will do well, and that most households will be positioned to gain some advantage from either

development. On the other hand, it remains true that most households still stand to prosper more from housing market than stock market gains.

The distribution of wealth

Issue 3.1: What is the overall distribution of wealth?

In Australia, as in other Western countries, wealth is much more unequally distributed than income (Atkinson, Rainwater and Smeeding, 1995). The mostly commonly used measure of distribution is the Gini coefficient which ranges between one (all wealth is held by one household) and zero (wealth is exactly equally distributed). In 2002 the Gini coefficient of household net worth was 0.624. This can be compared with a Gini coefficient of 0.422 for household gross incomes and 0.382 for household disposable incomes (see Table 3).

It should be noted that only moderate correlations are found between wealth and income. In HILDA the correlation of household net worth with household gross income was 0.35, and with net income it was 0.34.[4] Such correlations may seem surprisingly low, but similar results are found in other Western countries (Klevmarken et al, 2003). If analysis is restricted to households headed by prime age men and women (25-55), the correlations are somewhat higher at 0.40 for gross income and 0.39 for net income.

The findings that wealth and income are not very highly correlated, and that wealth inequality is greater than income inequality, are both primarily due to the greater dependence of wealth on age, or rather on *saving* as one ages. Wealth also depends somewhat on inheritance, although contrary to widespread impressions, most wealthy people are 'self-made' rather than being beneficiaries of large inheritances (see, for example, the list of Australia's wealthiest 200, Business Review Weekly, May 20-26, 2004). So wealth accumulates primarily via both voluntary saving and compulsory

[4] As is usual, the logarithms of both variables were used in order to approximate a normal distribution.

superannuation, and these savings grow at compound interest as people age.[5] Income also increases with age but the gradient is nothing like as steep as wealth's compound interest gradient.

Table 3 gives summary data on the distribution of assets, debts, net worth and their main components. Also included for comparison are measures of income distribution.

Table 3

The Distribution Of Wealth And Income: Gini Coefficients

Assets/debts/income	*Gini*	*Assets/debts*	*Gini*
Total assets	0.590	Property assets	0.588
Total debts	0.757	Superannuation	0.751
Net worth	0.624	Vehicles	0.563
Gross income	0.422	Bank accounts	0.772
Net income	0.382	Property debt	0.791

The table gives Gini coefficients for those types of assets and debts held by most Australian households. It can be seen that, relatively speaking, housing assets and vehicle values are rather less unequally distributed than total assets, while superannuation and bank savings are more unequally distributed. Debts show even greater dispersion than assets; the Gini of total household liabilities being 0.757, with the Gini for property debt at 0.791. In explaining these differences, a key point is that assets and debts are positively correlated ($r = 0.45$). The reasons for this initially surprising correlation is that the more you own, the more you can borrow. Well off households can readily obtain loans at reasonable rates of interest, whereas poor households cannot. A similar point applies to savings. Households with high incomes of course find it much easier to save, and once a reasonable level of assets has accumulated, they are more likely to seek higher risk-return

[5] Another way to understand the effects of saving is to imagine a country in which all households saved about 3% of income per year and there was no other source of wealth accumulation. This imaginary country would have a wealth distribution similar to that of actual Western countries.

ratios (which require longer time horizons) and will therefore, in general, tend to accumulate savings more rapidly than less well off households. Hence the finding in Table 3 that bank savings and superannuation savings are so unequally distributed.

The distribution of wealth among older households (reference persons 65 and over) is a little less unequal than in the total population. The Gini of net worth for this group is 0.563 and for assets it is 0.560.

Another method of summarizing the distribution of wealth is to show the shares owned by various quantiles. Table 4 gives the shares of total net worth owned by each decile and by the wealthiest 5%.

Table 4

Shares of Total Wealth (Net Worth) By Deciles (N=7245 Households)

	Share(%)	Median($)		Share(%)	Median($)
Wealthiest decile (wealthiest 5%)	44.9 (31.0)	1,394.3 (2,511.8)	5th decile	4.5	181.8
9th decile	18.2	727.2	4th decile	2.8	113.6
8th decile	12.4	498.9	3rd decile	1.3	54.5
7th decile	9.0	364.7	2nd decile	0.4	14.0
6th decile	6.5	262.1	Least wealthy decile	Negative	0

The HILDA data indicate that in 2002 the wealthiest decile owned 44.9% of total household wealth (median holdings=$1,394,400), with the wealthiest 5% owning 31.0% (median=$2,511,800). For reasons given in the Methods section, it is likely that we somewhat underestimated the assets and national share of the richest households. Surprisingly, then, our estimates for the top end of town are in fact a little higher than recent imputed estimates derived mainly from ABS national aggregate measures. Kelly (2001) estimated that the top 5% held 30.0% of net worth in 1998 and Northwood et al (2002) estimated that the top decile held 43% in 2000, with the top quintile holding 61%. If it is true that the share of the top end has increased in the few years since these imputed estimates were made, it is likely to be due to rapid house price increases in all the main capital cities.

HILDA indicates that by 2002 8.8% of households had a net worth over a million dollars, with 11.2% holding assets over the million mark. So, in a sense, about 1.8 million people living in 638,000 Australian households could be described as millionaires.

At the lower end of the distribution, the poorest decile of households on average have debts which exceed their assets (negative net worth), with median net worth being just $24. In all the least wealthy half of the population owns only 9% of total household net worth.

Issue 3.2: How are wealth and indebtedness distributed between age cohorts? How wide is the gap between the most and least wealthy cohorts? How is wealth distributed within cohorts?

In this segment we review cohort differences in household wealth. As is already clear, wealth is heavily affected by age. From a public policy standpoint the key issue is whether cohorts approaching retirement and recently retired have adequate assets to enjoy a reasonable lifestyle after they finish paid work.

In Table 5 and subsequent tables couple households are classified by the age of the male partner.[6] In lone parent households the 'reference person' is the lone parent, and in single person households it is of course that person.[7] Similarly to many Australian Government publications, we have divided households into those with reference persons in the 15-24 age cohort, then 25-34, 35-44, 45-54 and so on.

Table 5 gives an overview of differences between and within cohorts by focusing just on net worth. The table shows the mean (average) net worth of each cohort and then the net

[6] For many purposes it is preferable to define the household reference person as the partner with the higher income (plus other criteria). However, in analyzing issues relating to retirement and superannuation, this approach can produce anomalies. A not unusual example is a household comprising a recently retired male partner, who previously worked full-time and currently receives a modest retirement income, and a female partner receiving a slightly higher part-time working income. This household is best thought of as retired but is classified as non-retired if the higher current earner is treated as the reference person.
[7] Multi-family households and group households are not included in Tables 5 and 6.

worth at the mid-point of each quintile; that is, at the 10^{th}, 30^{th}, median, 70^{th} and 90^{th} percentiles of the distribution.

Table 5
Age Cohorts: Net Worth of Households at the Cohort Mean and at the 10th, 30th, Median, 70th and 90th Percentiles

HH reference person's age	**Net worth: Mean ($000)**	Net worth: 10th percentile ($000)	Net worth: 30th percentile ($000)	**Net worth: Median ($000)**	Net worth: 70th percentile ($000)	Net worth: 90th percentile ($000)
15-24	**28.3**	-8.5	0.2	**5.0**	17.0	89.0
25-34	**162.6**	0.8	24.3	**74.6**	159.7	385.0
35-44	**340.9**	7.0	83.9	**204.8**	381.0	727.7
45-54	**521.3**	29.5	183.5	**361.7**	580.0	1,130.1
55-64	**671.8**	17.1	216.0	**422.1**	741.5	1,508.8
65-74	**530.3**	19.9	181.0	**318.0**	538.0	1,127.0
75+	**348.8**	15.3	138.0	**244.5**	361.3	768.0
All	**404.8**	4.2	83.0	**218.6**	428.0	934.2

Two contrasting results show through very clearly. The first is the strong dependence of wealth on age; or, really, time spent saving and investing. The second result, which while not contradictory points in a different direction, is that, even within age cohorts there are great disparities in wealth. Let us examine the evidence for each cohort. The poorest cohort is the youngest one (reference person aged 15-24) with a median net worth of just $5,000. At the 10th percentile (middle of the poorest quintile) households have negative net worth; their debts exceed their assets by $8,500. At the 90th percentile net worth is $89,000. Contrast this quintile's situation with that of the wealthiest cohort, namely the quintile of households whose reference person is aged 55 to 64. Just under 60% of these households are still moving towards retirement and are saving for that period (see Table 7 below). The rest have quite recently retired and have (presumably) not yet run down their savings by much. In this quintile median net worth stands at $422,100, but even here there are large disparities, with net worth being only $17,100 at the 10th percentile and $1,508,800 at the 90th percentile. The oldest cohort (reference person 75 and over) are from a generation which was always less well off than younger generations. Furthermore,

after retirement people usually run down their savings (although many may be determined to leave substantial bequests to their partners and/or children) with the result that this cohort has a median net worth of $244,500. In this group also disparities are vast, with a net worth at the 10th percentile of $15,300, compared with $768,000 at the 90th percentile.

Retirement issues

Issue 4.1 Retirement: focussing on the older age cohorts – those 45 years and over – what is their capacity for self-funding in retirement?

We now focus more closely on retirement issues by looking in detail at the financial assets and incomes of the cohorts which are approaching retirement, or have already retired. As background it is useful to know that at present about 68% of retirees receive a full old age pension, with another 15% receiving a part pension.

What level of wealth – what investable sum - do people require at retirement in order to generate an adequate income for the rest of their life? This is a much debated question, which has attracted a great deal of research within and outside Government (ASFA, 1999, 2004; Kelly, 2001, 2003). We do not pretend to be experts in this highly specialised field – a field which requires actuarial skills – but in order to address retirement issues in the FaCS brief, we need to make some assumptions and estimates. The tables below are directly based on HILDA data, but it should be understood that the commentary should be regarded as tentative and certainly not an expert view.

A frequently used rule of thumb in the superannuation industry is that 60% of pre-retirement gross income is considered adequate. However, this rule is not as straightforward as it seems. Most people do not earn their maximum directly before retirement. Generally, a person's income peaks in the late 40s and early 50s and then tapers down before retirement. In this report, we will interpret the rule of thumb to mean that people should aim for target incomes during retirement which are 60% of the gross

income earned by the couple (in a couple household) or the single person (in a one person household) during their peak earning years.

Other rules of thumb relate to the amount in *financial assets* (i.e. not including the family home or other tangible assets) which one needs to invest in order to generate a target level of income. For example, the Australian Superannuation Funds Association (ASFA) suggests that if one retires at age 55, an invested sum which is 17 times the target level of income will be needed. Retirement at 60 lowers this multiplier to 15 times the income level, and at age 65 the multiplier is 13.[8] It should be noted that ASFA's estimates take account of entitlement to a full or part pension in the case of individuals and couples whose non-pension incomes and assets do not exceed the prescribed limits.

Some further assumptions have to be made in order to estimate future retirement income. In the case of people who are still working, we shall assume that the financial assets which they reported to HILDA in 2002 will grow at 3% per year in real terms (i.e. after allowing for inflation) up to retirement. We shall also assume 3% real growth in funds invested under the Superannuation Guarantee (9% of income) between 2002 and date of retirement. These assumptions, taken together, make it possible to estimate the investable sums likely to be available at retirement.

Estimating household income *after retirement* is much more problematic. The ASFA rule of thumb given above is a rough guide. However, models developed by the Treasury, by life insurance companies, by ASFA and by financial advisers yield substantially different results. It is reasonable to assume that the Australian Government will continue to adjust the pension so that it remains at 25% of average weekly earnings. But estimating likely future earnings from households' own savings in superannuation funds and other sources is fraught with difficulty. Returns depend on the risk which households (or their financial advisers) are willing to take, and also on future returns to different types of investment (shares, property, bonds and cash deposits). The risk issue is crucial. Most

[8] An alternative rule of thumb, which is a little less conservative, says that one needs to save 7 times one's household gross income, while in paid work, in order to achieve a gross income in retirement which is 50% of the pre-retirement income.

available models appear to make conservative assumptions about the risk profiles of retired people, presumably on the grounds that they need a steady income and therefore will not want to make investments which are high risk/high return. The 3% rate of return which we are using is moderately conservative. Plainly, however, a retiree with a high level of financial assets might sensibly choose to take higher risks in expectation of higher returns.

In making their investment decisions at retirement, we assume that people take account of their public pension entitlements. So in the calculations given below, it is assumed that financial assets are used to purchase an income stream (e.g. a complying annuity) which preserves the maximum entitlement to the age pension consistent with the annual income stream they are receiving. In September 2002, when the HILDA survey was conducted, the full single old age pension stood at $11,164 per year and the couple pension was $18, 637. However, the pension reduces on a sliding scale once certain income test and asset test limits are reached. In September 2002 the income limit at which the pension for a homeowner couple started to reduce was $5304. The pension then cut out completely at an income of $52,273.

A further issue is that retired households' actual incomes and standard of living partly depend on whether they are willing to use up all their savings before death. Models used by Government – and the complying annuity method of investment used here - assume that retirees are willing to exhaust savings, even though it is known that many people have a 'bequest motive' and want to leave assets to their heirs.

All estimates given below are in constant prices in September 2002 dollars.

In order not to make this report excessively complicated, we will review evidence and estimates about the financial assets and incomes of four pre-retirement cohorts and four post-retirement cohorts. The pre-retirement cohorts are those in households in which in

2002 the 'reference person' was 45-49, 50-54, 55-59 and 60-64.[9] The post-retirement cohorts are those with 'reference persons' aged 60-64, 65-69, 70-74 and 75 plus. Projections of future post-retirement incomes for those still working will be made on the basis of two assumed ages of retirement; 60 and 65. It could be argued that, for most people, 60 is the more likely age. At present in Australia about 53% are retired by their 61st birthday (49% of men and 57% of women), and about two-thirds of HILDA respondents say they wish to retire by 60 (HILDA, 2003).

As well as dividing the population into age cohorts, we also distinguish between couple households and households headed by non-partnered persons, and then within these categories we distinguish homeowners and renters. These distinctions are almost always made in analyses of retirement issues, superannuation and pensions. The Australian Government sets different pension levels and income test limits (affecting pension entitlements) for couples and singles, and different asset test limits for homeowners and renters.[10] The rationale is that couples do not need twice the income of singles in order to have the same standard of living (partly because they share a home), and people who have paid off their home are, other things equal, better off than renters.

Just over 70% of individuals approaching retirement age are in fact living in couple households which own or have nearly paid off their home. Quantitatively they are much the largest group, so we will focus most of the analysis on them. (We will also assume the home is fully paid off by retirement, and that no other debts are owed). However, some attention will also be paid to three worse off groups: couples who are not homeowners (15.5% in September 2002), singles who are homeowners (about 7%) and singles who are renters (also about 7%).

[9] The household reference person is the male partner in couple-headed households, and the single person in one person households.
[10] To be more precise, the limits are different for homeowner couples, homeowner singles, renter couples and renter singles.

Couple households who are homeowners

Let us begin by examining the financial assets and incomes of couple homeowners who in 2002 were already retired. We focus on cohorts in which the household reference person is aged 60-64, 65-69, 70-74, or 75 plus. These data give us a picture of the current situation of retired people and provide yardsticks of comparison for assessing the future prospects of cohorts still approaching retirement.

The aim in Table 6 is to provide an assessment of the living standards of 'typical' households, so analysis is restricted to households falling between the 25th and 75th percentiles of 'couple combined income' *for the cohort in question*.[11] By excluding the highest and lowest income quartiles, we obtain mean (average) and median results which are quite close to each other (except for assets) and give us a clear initial picture of typical households.

[11] The problem with using the mean of the entire cohort is that the estimate is 'distorted' upwards by inclusion of very wealthy households, and so does not give an accurate view of the incomes of typical households. Use of the median has the advantage of providing an accurate view of 'typical' incomes, but the disadvangtage that the medians of different components of total income cannot be summed to give the total.

Table 6
Financial assets and incomes of retired couple homeowners[a]:
Cohorts 60-64, 65-69, 70-74 and 75+ ($000s)[b]

	Reference person 60-64 retired		Reference person 65-69 retired		Reference person 70-74 retired		Reference person 75+ retired	
	mean	median	mean	median	mean	median	mean	median
Financial assets	215	144	256	163	127	86	100	42
HH gross income	30	32	30	28	24	23	23	22
HH net income	28	29	28	28	23	23	23	22
HH asset income	3	1	5	1	4	2	3	1
HH private pension	11	5	8	3	4	0	1	0
HH public transfers (mainly age pension)	10	11	13	17	15	18	18	18
Male partner wage	3	0	1	0	0	0	0	0
Female partner wage	3	0	2	0	0	0	0	0

a. Population weighted results. Sample N=244 households.
b. Amounts are given in $000s to the nearest $1000. Income components do not exactly sum to total household gross income, due both to rounding and to omission of minor components of income, including inter-household transfers.

Table 6 shows a pattern we will see repeated throughout the analysis. The two youngest of these four cohorts (reference person 60-64 or 65-69) are best off, with the highest levels of household gross and net incomes. They are better off than the middle cohort (reference person aged 70-74), which in turn is a little better off than the oldest cohort (reference person 75+). The main reason for this pattern is that each successive cohort receives somewhat higher real incomes during its working lifetime, and so tends to save more. This is, as a general trend, indicated by higher levels of financial assets (row 1 of Table 6). However, the 60-64 retired cohort is an exception to this trend and appears to be comprised differentially of relatively low net worth households who have nevertheless

retired or been pressured into retirement early.[12] A second reason for the general trend towards rising households assets is that the Superannuation Guarantee, which began in 1993, is gradually increasing savings and hence the investable sums available at retirement.

It is not possible to calculate what percentage of their pre-retirement (peak) gross earnings these cohorts are now receiving in retirement, because HILDA made no attempt to ask respondents about their past earnings. However, it seems unlikely that any of them is receiving much more than 50%. Take the 65-69 cohort. They average $30,000 of household gross income, of which the largest segment comes from public pensions, with smaller amounts coming from private pensions and asset income. Based on the pattern of observed earnings for younger cohorts (given in later tables), it is unlikely that at their peak these couples were earning substantially less than $60,000.

We now consider households in which the reference person is not yet retired. The aim is to estimate their likely investable savings at retirement, and also, within a range, their annual income during retirement. Two retirement ages are allowed for – retirement at 60 (except for the 60-64 cohort which is already past that age) or at 65. In Table 7, column 2 refers to the financial assets reported in the HILDA survey in 2002 and column 3 gives the couple's combined labour income on which 9% superannuation contributions are based from 2002 until retirement. The fourth column estimates accumulated financial assets by retirement at age 60, assuming a 3% real rate of return between 2002 and date of retirement. Column 5 then estimates the annual income which these assets would generate from retirement until death at age 82 (the assumed average age of death), again assuming a 3% rate of return. Columns 6 and 7 are the same as columns 4 and 5, but now the assumed retirement age is 65. For all cohorts retirement income consists partly of a private pension income, generated by a lifetime annuity or similar investment, and partly of public transfers (the age pension for women aged 60+ and men aged 65+). In other

[12] 51.3% of this cohort said they had been pressured to retire, compared with 36% of all retired people.

words, the estimates of future income in columns 5 and 7 take account of rules about eligibility for a full or part pension.[13]

[13] No allowance is made for future increases in the real value of the age pension during the years when these respondents are retired. If we were to assume, say, a 1.5% per year increase in real values, then the annual incomes shown in columns 5 and 7 would be a little higher.

Table 7

Projected financial assets and income: retirement at 60 or retirement at 65 ($000) [ab]

Col. 1 Age of HH reference person	**Col. 2** Financial assets 2002 (median)	**Col. 3** Couple's labour income 2002 (median)	**Col. 4** Projected financial assets retired at 60 (median)	**Col. 5** Projected income retired at 60 [c] (median)	**Col. 6** Projected financial assets retired at 65 (median)	**Col. 7** Projected income retired at 65 [c] (median)
45-49 (15 to 20 years to retirement	111	70	261	30-32	336	35-38
50-54 (15 to 20 years to retirement)	203	67	311	31-34	392	37-40
55-59 (5 to 10 years to retirement)	211	53	245	29-31	310	33-36
60-64 (0 to 5 years to retirement	202	35	na	na	230	30-32

a. Population weighted results. Sample N=538 households.
b. Amounts are given in $000s to the nearest $1000. Income components do not exactly sum to total household gross income, due both to rounding and to omission of minor components of income, including inter-household transfers.
c. Annual income from age 60 or 65 until death at age 82 (September 2002 dollars).

Table 7 again suggests that, in general, the younger cohorts are likely to do better in retirement than the older ones. An exception appears to be the youngest cohort; reference person 45-49. However, the estimates for this group are almost certainly too low. The problem is their low level of financial assets reported in 2002. In practice, households do not save a constant proportion of income throughout the last 20-25 years of working life. As retirement gets closer, and children leave home, savings rates accelerate. The 45-49 cohort, shown in Table 7, had clearly not yet accelerated, but it had a high median

income in 2002 ($70,000), and so will probably eventually save enough to be as well or better off than the cohort preceding it.

Which of these cohorts meets the target of 60% of pre-retirement (peak earning period) income? It is hard to be sure because of difficulty in estimating peak earnings. However, the case of the 50-54 cohort gives us some basis for extrapolating to other cohorts. The 50-54 cohort was presumably at or near its couple-earning peak in 2002 and had a median income of $65,000 at that date. The estimates in Table 7 indicate that, at the median, this cohort is likely to receive an income of just under 50% of this figure if retirement occurs at 60, and just under 60% if retirement is at 65. If we were to guesstimate that the peak earning figure for the 55-59 cohort was, say, $60,000 (rather than the $55,000 reported in 2002, when they were presumably past their peak), then they are in much the same position; that is, they are likely to receive around 50% of peak earnings if they retire at 60 and around 58% if they retire at 65. Guesstimating for the other two cohorts – the youngest and the oldest – is more difficult. However, some reasons have already been given for thinking that the youngest cohort will eventually be at least as well off as the cohort preceding it. Perhaps in the case of the oldest cohort a reasonable guess would be that their peak couple income was $50,000 or a little more. If so, retired at 65, they too are likely to receive close to 60% of peak income.

Couples who rent and households headed by non-partnered persons

The 30% of the population who are *not* in homeowner couple households are much worse off both prior to and after retirement. The groups analysed here are couple households who are renters, and then two types of household headed by non-partnered persons: (i) those who own a home and (ii) those who rent. Because these are much smaller population groups than homeowning couple households, and are therefore represented in smaller numbers in HILDA, analysis is confined to more broadly defined cohorts than were considered earlier. The focus is on retired households with a reference person aged 65 to 74, and non-retired households with a reference person aged 50 to 59. In the case of households headed by non-partnered persons, we distinguish between male and female heads.

Table 8

Financial assets and incomes of couple renter households and households headed by non-partnered people ($000s) [ab]

	Couples who rent		Non-partnered owners				Non-partnered renters			
	retired 65-74	not retired 50-59	retired 65-74		not retired 50-59		retired 65-74		not retired 50-59	
			men	women	men	women	men	women	men	women
financial assets	3	46	58	30	55	56	2	5	33	14
HH gross income (retired)	20	na	13	14	na	na	11	12	na	na
Labour income[c] (not retired)	na	35	na	na	31	30	na	na	22	22

a. Population weighted results. Sample N=559 households.
b. Amounts are given in $000s to the nearest $1000. Income components do not exactly sum to total household gross income, due both to rounding and to omission of minor components of income, including inter-household transfers.
c. Couple combined labour income for couple households and individual labour income for households headed by non-partnered people.

Despite the small sub-sample sizes, the overall pattern is clear. All these households have little in the way of financial assets. Those who have retired (reference person 65-74) are living off the age pension, supplemented by a small amount of income derived from personal savings. Those in the 50-59 cohort and not retired have very low levels of financial assets and 2002 wages well below average. So they, too, are almost certainly going to be reliant almost entirely on the pension when they retire.

Issue 4.2: What is the relationship between intended age of retirement and levels of wealth and debt?

It is a reasonable hypothesis that people who want to retire at a relatively young age will save and accumulate more assets at an earlier age than people who want to retire at a later age. The equation below relates to household reference persons and the dependent variable is 'age of intended retirement' (a question put to all HILDA respondents aged 45 and over). The explanatory variables of main interest are the household's asset holdings and the reference person's self-reported savings behaviour.[12] Respondents were divided

into three groups according to their savings behaviour: regular savers, irregular savers and non-savers. Household income was also included in the equation because it was thought that higher income households could afford to retire earlier. Then additional variables were included essentially as 'controls'. These were the reference person's age and its square of age (to capture non-linear effects).[13] Some further controls were tried, including household size and household type (couple with dependents, couple with no dependents, single parent household etc) but these variables proved non-significant and are not shown in Equation 1.

Equation 1:

Intended Retirement Age = -3.87 – 0.36 Assets (ln)*** – 0.86 Regular Saver* – 0.92 Irregular Saver** + 0.52 Age*** - 0.05 Age^{2***} - 0.37 HH Gross Income(ln)*

R^{2} = 2.4% (N=4783) *** significant at .001 level, ** significant at the .01 level, *significant at .05 level. The reference category for the saving variable was 'Non-saver'.

The results can be understood as follows. First, household reference persons with higher levels of assets intended to retired at a younger age. The relationship (b= - 0.36) between asset holdings and age of intended retirement was significant at the 0.001 level. However, despite statistical significance, the size of the effect was quite small.[14] There was also an interesting and statistically significant relationship between reported savings behaviour and retirement intentions. Both those who reported 'regular saving' and those who reported 'irregular saving' were intending to take earlier retirement than those who were currently not saving any money. Not surprisingly perhaps, reference persons in higher income household expected to retire somewhat earlier, although this relationship was only significant at the 0.05 level.

Age and age squared were included in the equation mainly as 'controls', so that we can say that the results of main interest relating to assets and savings behaviour hold true at any given age. However, there is also a result of substance here; the older the HILDA respondents actually were at time of interview, the later their intended retirement age

[14] The Pearson correlation was only – 0.06 and the standardized regression coefficient was – 0.08.

(b=0.52). This was true up to the age of just over 50. After that, intended retirement age fell (b= - 0.05 for Age^2).

The results in this section should be treated with caution. They only relate to the relationship between *stated intentions* about retirement, on the one hand, and asset holdings, incomes and savings behaviour on the other. Actual behavior may or may not turn out to be different from intentions. It should be noted that in the 'mixed' 60-64 age cohort – a cohort about evenly divided between retired and non-retired households – the households who had in fact already retired had lower not higher asset levels than those still working. It is hard to separate cause and effect here; doubtless one reason the non-retired households had more assets was precisely because they were still working. Even so, until further evidence of actual behaviour emerges, it would not be sensible to place much weight on the apparent relationship between financial behaviour and retirement intentions.

Vulnerable groups in society

Issue 5. How do vulnerable and 'at risk' groups fare in regard to wealth? In particular, what are the assets and debts of income support recipients? What is the wealth situation of lone parents?

We now describe the assets and debts of two 'at risk' groups: households headed by an income support recipient and those headed by lone parents. The term income support recipients refers to people receiving FaCS/Centrelink payments, but *not* if they only receive Family Tax Benefit and/or Child Care Benefits. The focus in Table 9 is on households with heads who are not retired and so are not receiving the age pension.[15]

[15]If retirement age households had been included, then plainly a large majority of households would be classified as receiving income support, since most receive the age pension.

Table 9

The Assets and Debts of Income Support Recipients: Household Reference Person Receiving Income Support & *Not Retired*
(N=1085 households)

	Means $ ($000)	Medians $ ($000)	Per cent: assets/debts
Overall assets & debts			
Total assets	143.7	30.0	
Total debts	25.2	4.0	
Net worth (assets minus debts)	118.5	18.7	
Assets			
Housing & other property	87.4	0	60.8
Pensions/superannuation	21.3	1.5	14.8
Businesses & farms	4.7 [nr]	0	3.3
Equity investments: shares, managed funds	7.5	0	5.2
Bank accounts	6.6	0.6	4.6
Cars & other vehicles	8.6	3.5	6.0
Other assets [a]	7.6	0	5.3
	(143.7)		(100.0)
Non-financial assets	104.0	10.0	72.4
Financial assets	39.7	4.3	27.6
	(143.7)		(100.0)
Debts			
Housing & other property	18.4	0	73.0
Businesses & farms	1.0 [nr]	0	4.0
HECS (student) debt	1.9	0	7.5
Credit cards & other plastic	0.7	0	2.8
Other debts (cars, hire purchase etc)	3.2	0	12.7
	(25.2)		(100.0)

[a] Other assets include cash investments, trust funds, the cash-in value of life insurance and collectibles.
[nr] Not reliable – standard error over half the estimate.

It is clear from Table 9 that income support recipients are short of wealth in all respects. Their average net worth is $118,500 with a median of just $18,700. This compares with an Australian average of about $405,000 (median=$218, 600), as reported in Table 2, and an average for households headed by non-income support recipients (not retired) of $397,200 (median=$231,500). Despite similar age profiles, the value held in all asset categories is much lower than for non-retired households in which the reference person does not receive income support. Superannuation holdings are particularly low at a mean of $21,300 and a median of just $1,500. This compared with a mean of $88, 600 for households where the reference person was not receiving an income support payment. It appears likely that most current income support households are headed towards reliance on the age pension when retirement comes. However, it should also be noted that debt levels in this group are quite low, although that is likely to be due in part to difficulty in accessing credit without an asset base.

The difficulties of income support recipients, especially those close to retirement, are compounded by low rates of home ownership. Only 38.4% were owner-occupiers compared to 69.2% of non-retired households where the reference person did not receive income support.

Table 10 shows the assets and debts of households headed by lone parents; a particularly vulnerable group among whom nearly two-thirds (65.8%) were income support recipients.

Table 10

The Assets and Debts of Lone Parent Households
(N=528 households)

	Means $ ($000)	Medians $ ($000)	Per cent: assets/debts
Overall assets & debts			
Total assets	200.9	65.5	
Total debts	36.5	4.5	
Net worth (assets minus debts)	164.4	47.8	
Assets			
Housing & other property	123.0	0	74.8
Pensions/superannuation	27.3	3.0	16.6
Businesses & farms	6.8 [nr]	0	4.1
Equity investments: shares, managed funds	19.5	0	11.9
Bank accounts	8.2	0.9	5.0
Cars & other vehicles	8.9	5.0	5.4
Other assets [a]	7.2	0	4.6
	(200.9)		(100.0)
Non-financial assets	141.3	26.0	70.3
Financial assets	59.6	5.5	29.7
	(200.9)		(100.0)
Debts			
Housing & other property	28.5	0	78.1
Businesses & farms	1.1 [nr]	0	3.0
HECS (student) debt	0.9	0	2.5
Credit cards & other plastic	1.0	0	2.7
Oher debts (cars, hire purchase etc)	5.0	0	13.7
	(36.5)		(100.0)

[a] Other assets include cash investments, trust funds, the cash-in value of life insurance and collectibles.
[nr] Not reliable – standard error over half the estimate.

Lone parent households have considerably less wealth than most other non-retirement age households. Lone parents are just a few years younger on average than the comparison group, being more concentrated in the 25-34 and 35-44 cohorts and less in the 45-54 cohort. Even so, allowing for more years to accumulate assets, it is clear that their median net worth of $47,800, was lagging well behind the net worth of other non-retired households (median=$231, 500). On the other hand, lone parents had higher typical net worth than the entire group of income recipient households (see Table 9), but this was entirely due to the fact that about a third of them are not income support recipients. If we restrict the comparison to lone parents who are income support recipients, it then becomes clear that they are worse off than the rest of this group. Their average net worth amounts to $69,100 (median=$8,000), only 33.1% are owner occupiers and their superannuation amounts to $8,200 (median=$1,000).

Determinants of wealth

Issue 6. What are the main factors (demographic, educational, income related etc) which determine levels of wealth and debt?

Previous sections of this report have examined in some detail the assets and debts of sections of the Australian community. We now try to provide a somewhat fuller *statistical account* of differences in wealth among Australian households. In these analyses the dependent (outcome) variable is net worth and the explanatory variables are a range of demographic, educational, health, income and attitudinal variables which are hypothesized to relate to wealth.

Three sets of regression results are given: one for households headed by prime age people (25 to 54), one for those aged 55 to 64 – the traditional pre-retirement decade – and one for households headed by retirees aged 65 and over. Variables were entered into the regressions in three steps which were seen as following the time sequence of most people's lives. The steps were: -

- *Step 1- Characteristics one is born with*: the gender of the household reference person (f=1, m=0), the occupational status of the reference person's parents;

reference person is Australian born, born in other English-speaking country, born in non-English speaking country (reference group). The ANU occupational status scale was used to classify parental status: father's occupational status was taken if available, mother's if not. We hypothesized that households would be wealthier if the reference person was male and came from a high status background. Also that households headed by Australian born and people from other English-speaking countries would be wealthier than households headed by immigrants from non-Anglo backgrounds.

- *Step 2 – Education*: university degree, trade qualification, completed Year 12 (reference group), did not complete Year 12. We hypothesized that wealth would co-vary with the reference person's level of education.
- *Step 3 – Household type, health, hours worked and income, and attitudinal variables*. The household types included here were a couple with no dependents, a couple with dependent children or dependent students, a lone parent with dependents, and a one person household (reference group). The hypothesis was that couple households would be wealthier than one person households and that lone parent households would be worst off. The SF-36 scales of physical and mental health were used, both scored 0-100. We expected that households headed by people in good physical and mental health would be wealthier. The natural log of the reference person's average weekly working hours and the household's gross annual income were included. We expected that both variables would be positively related to wealth. Dummy variables measuring self-reported saving behaviour and attitudes to financial risk (risk aversion) were also entered. We expected that self-reported saving would be associated with greater wealth and that risk aversion would be associated with less wealth.

The justification for entering the Step 1 and Step 2 variables before the others is straightforward. Step 1 included only variables which describe characteristics one is born with and which are clearly temporally and thus causally prior to other variables. Step 2 included only educational variables, and while it is true that some formal education is undertaken in later years, most people have completed this phase by early adulthood.

Step 3 contains a diverse set of variables that we do not believe can be arranged in a plausible temporal or causal order. To give one example, household type variables (and marital status) could both cause and be caused by health conditions, by income and by attitudes. Similarly, one's health and attitudes could affect income, but the reverse could also be true. If the 3-step causal ordering is accepted as correct, or at least plausible, then the estimate that matters for each variable is at the first step in which it enters the analysis. This equation gives the *total effect* of the variable in question on the dependent variable of household net worth.

Table 11 gives results for prime age households (N=2867) and Table 12 gives parallel results for retirement age households (N=884).[16] Note that, because aging is so central to wealth accumulation, all equations include 'controls' for age. The equations for working household heads also include an aged squared term to capture the fact that wealth rises with age until about 60 to 65, and then declines as retirement savings are run down.

[16] The reason why the Ns are low in Tables 13 and 14 is that cases were omitted if missing on *any* variable in the equations (listwise deletion). The last two attitudinal variables in these tables, and the SF-36 health measures, were in the Self-completion Questionnaire which has a lower response rate than the main face to face questionnaires. It should also be noted that, unlike all results given above, these regression results are unweighted.

Table 11
Households Headed by Persons Aged 25 to 54: Accounting for Differences In Net Worth
OLS Regressions (N=2867 households)

	Step 1 R^2*=16.8%* *bs*	*Step 2* R^2*=18.4%* *bs*	*Step3* R^2*=31.5%* *bs*
Gender: ref person (f=1, m=0)	-1.38***	-1.39***	.07 ns
Age: ref. person	.36***	.37***	.39***
Age squared(/10)	-.03***	-.03***	-.04***
Parents' status(/10)	.10***	.05***	.03 ns
Australian born	.41**	.51***	.46***
Other English-speaking born	.20 ns	.27 ns	.20 ns
Univ. degree		.44**	.09 ns
Trade qualification		.10 ns	.09 ns
Less than Year 12		-.56**	-.21***
Couple no dependents			.73***
Couple with dependents			.74***
Lone parent with dependents			-.33 ns
Physical health (/10)			.00 ns
Mental health (/10)			.01 ns
Work hours (ln)			.45***
Gross income (ln)			.38***
Regular saver			.59***
Irregular saver			.42***
Takes no risks			-.82***
Takes average risks			-.51**
Takes above average risks			-.42 ns

1. Reference groups: birthplace=non-English speaking; education=Year 12; household type=lone person; saving attitudes= non-saver; risk aversion=takes substantial risks. The equation also included a dummy variable (1-0) for respondents who, in response to the risk aversion question, said they never had any spare cash (so the question of taking risks with money did not arise for them).
2. ***=sig. at .001 **=sig. at .01 *=sig. at .05 ns=not significant.

At Step 1 of the analysis the explanatory variables were characteristics one is born with. Female headed households were, as expected, less wealthy than male headed households. Also in line with expectations, people with high status parents were themselves wealthier than people from lower status backgrounds. Households headed by Australian born people were on average 46% wealthier than (the reference group of) households headed by immigrants from non-English speaking countries. Altogether these characteristics household reference persons were born with accounted for 16.8% of the variance in net worth.

The second step in the analysis deals with education, which accounted for another 1.6% of variance. So wealth depends somewhat on education, but rather less so than income. Households headed by people with university degrees were significantly wealthier than the reference group of people who completed Year 12, and people with less than Year 12 education were substantially less wealthy. A separate analysis showed that the education of the head's partner was also significantly related to total household wealth.[17]

Now the third step in the analysis: household type was, as expected, very strongly related to net worth. Couples with and without dependent children (or dependent students) were the two wealthiest type of family. It should be noted that some of the couples shown in the table as being without dependents had never had children; in other cases their children and grown up and moved out. Lone parent households were much less well off than couple households, but did not differ significantly from the reference group of one person households.

Physical and mental health were moderately correlated with wealth (Pearson correlations of 0.08 and 0.14) but neither was statistically significant in this analysis. A more subjective measure of health than the SF-36 scales used here, namely self-reported health on a scale from 'excellent' to 'poor', was significant, but is arguably a less valid measure of actual health condition.

[17] If the reference person's partner had a degree the household was significantly wealthier. However, if the partner had not completed Year 12, this was unrelated to household wealth.

Next, we consider the effects of the reference person's weekly hours of work and the household's gross income. There was clearly an element of endogeneity involved in including the latter variable, since for some households (e.g. shareholders, business owners and property owners) their wealth was a source of income. However, the large majority of non-retired households got their income primarily from paid work. As expected, household income was strongly related to wealth. A separate analysis (not shown) indicated that both the reference person's income and his partner's income were significant separate contributors. The other result shown, that if the reference person worked longer hours the family was wealthier, is not as obvious as might seem. It actually suggests that, even controlling for income, a family whose head works more actually saves more. Maybe that is *why* he/she works long hours.

The savings behaviour and risk aversion variables included in Table 11 yielded interesting results. Self-reported saving on the part of the household reference person was quite strongly positively related to wealth, while being risk averse was a clear negative.

We now undertake parallel analyses for households headed by people aged 55 to 64. As before, we split this group into those who are still in paid work, and those already retired. Table 12 and 13, covering these two sub-sets are printed consecutively.

Table 12
Households Headed by Persons Aged 55 to 64 and *Not Retired*: Accounting for Differences In Net Worth. OLS Regressions (N=461 households)

	Step 1 R^2=6.0% *bs*	*Step 2* R^2=8.8% *bs*	*Step3* R^2=23.2% *bs*
Gender: ref person (f=1, m=0)	-1.53***	-1.52***	-.21 ns
Age: ref. person	-.54 ns	-.26 ns	-1.11 ns
Age squared(/10)	.05 ns	.03 ns	.10 ns
Parents' status(/10)	.10*	.06 ns	.05 ns
Australian born	.49 ns	.62 ns	.27 ns
Other English-speaking born	.46 ns	.47 ns	.18 ns
Univ. degree		.98*	.20 ns
Trade qualification		.39 ns	.12 ns
Less than Year 12		-.21 ns	-.23 ns
Couple no dependents			.26 ns
Couple with dependents			.41 ns
Lone parent with dependents			- 1.59*
Physical health (/10)			.00 ns
Mental health (/10)			.01 ns
Work hours (ln)			- .03 ns
Gross income (ln)			.86***
Regular saver			.17 ns
Irregular saver			.09 ns
Takes no risks			1.63*
Takes average risks			2.04**
Takes above average risks			2.28**

3. Reference groups: birthplace=non-English speaking; education=Year 12; household type=lone person; saving attitudes= non-saver; risk aversion=takes substantial risks. The equation also included a dummy variable (1-0) for respondents who, in response to the risk aversion question, said they never had any spare cash (so the question of taking risks with money did not arise for them).

***=sig. at .001 **=sig. at .01 *=sig. at .05 ns=not significant.

Table 13
Households Headed by Persons Aged 55 to 64 and *Retired*: Accounting for Differences In Net Worth. OLS Regressions (N=318 households)

	Step 1 R^2*=4.0%* *bs*	*Step 2* R^2*=10.9%* *bs*	*Step3* R^2*=33.1%* *bs*
Gender: ref person (f=1, m=0)	-1.48***	-1.26***	.14 ns
Age: ref. person	.05 ns	.02 ns	-.03 ns
Parents' status(/10)	.09 ns	-.03 ns	-.05 ns
Australian born	-.54 ns	-.64 ns	-.43 ns
Other English-speaking born	-.20 ns	-.80 ns	-.65 ns
Univ. degree		1.99*	1.34 ns
Trade qualification		1.48*	1.06 ns
Less than Year 12		-.15 ns	-.07 ns
Couple no dependents			1.64***
Couple with dependents			.85 ns
Lone parent with dependents			1.03 ns
Physical health (/10)			.01 ns
Mental health (/10)			.01 ns
Regular saver			.13 ns
Irregular saver			.04 ns
Takes no risks			-.88 ns
Takes average risks			-.27 ns
Takes above average risks			.30 ns

4. Reference groups: birthplace=non-English speaking; education=Year 12; household type=lone person; saving attitudes= non-saver; risk aversion=takes substantial risks. The equation also included a dummy variable (1-0) for respondents who, in response to the risk aversion question, said they never had any spare cash (so the question of taking risks with money did not arise for them).

***=sig. at .001 **=sig. at .01 *=sig. at .05 ns=not significant.

Results for non-retired households in this age group (Table 12) should be seen as broadly similar to those for younger working age households given in Table 11. Because of a smaller sample size some relationships which were statistically significant in the previous table are non-significant here, but the effect sizes (regression coefficients) are similar, so it is probably sensible to regard most of the results as much the same.

A few differences are worth drawing attention to. For this cohort, and among those still working, age is no longer positively related to wealth. This is a little surprising, perhaps, in that one might have expected that, in the case of some reference persons, the very reason for continuing to work would be to increase their wealth prior to retirement. A second difference is more apparent than real. Within this cohort there is no relationship between reported savings behaviour and wealth; but on inspection this turns out to be because almost everyone reported that they were trying hard to save. Finally, there appears a non-linear relationship between risk-taking and wealth, with those who take 'substantial risks' (the reference group in this equation) being worse off than the other three groups. However, among the latter groups those who took 'above average risks' were doing best, while those who took least risks were least wealthy. Again the divergence from the results in Table 11 may be more apparent than real. Only 13 household reference persons in this group reported taking 'substantial risks'. This is plainly too small a number from which to draw conclusions, but itself makes an interesting point. People of this age are the very ones whom financial advisers suggest should be willing to take more risk in hopes of saving enough to retire. It appears that not many take their advice.[18]

Now the retired households in the 55-64 cohort (Table 13). Again, most results should be seen as the similar to those in Table 11, even if no longer statistically significant due to the small sample size. One difference of some interest is that overseas born respondents of non-English speaking background were at least as well off as Australians and overseas

[18] The advice is usually given on the basis that children are no longer a major responsibility, so it makes sense to take a chance with higher risk investments.

born of English speaking background. This result may indicate that non-Anglo overseas born have made a specially strong effort to save.

Table 14 gives a similar analysis for households with heads over 65 and retired. Because of retirement, working hours are not included, and household income is also omitted because in most cases it would directly depend on, rather than contribute to wealth. The hypotheses to be tested remain the same, except that one would expect wealth to decline with age in retired households (rather than increase), as savings are run down.

Table 14
Retirement Age Households: Accounting for Differences In Wealth
OLS Regressions (N=884 households)

	Step 1 R^2*=7.7%* *bs*	*Step 2* R^2*=9.8* bs	*Step3* R^2*=23.0%* bs
Gender: ref. person (f=1, m=0)	-.85***	-.74***	-.26 ns
Age: ref. person	-.02**	-.01 ns	-.02 ns
Parents' status(/10)	.14***	.10**	.09**
Australian born	.82***	86**	.57**
Other English-speaking born	.22 ns	21 ns	-.03 ns
Univ. degree		.64 ns	.26 ns
Trade qualification		.10 ns	-.06 ns
Less than Year 12		-.39 ns	-.41 ns
Couple no dependents			.42**
Couple with dependents			.52 ns
Physical health (/10)			-.00 ns
Mental health (/10)			.01 ns
Regular saver			.25 ns
Irregular saver			.06 ns
Takes no risks			-.43 ns
Takes average risks			.13 ns
Takes above average risks			.18 ns

1. Reference groups: birthplace=non-English speaking; education=Year 12; household type=lone person; saving attitudes= non-saver; risk aversion=takes substantial risks. The equation also included a dummy variable (1-0) for respondents who, in response to the risk aversion question, said they never had any spare cash (so the question of taking risks with money did not arise for them).
2. ***=sig. at .001 **=sig. at .01 *=sig. at .05 ns=not significant.

During retirement, as was the case in the working age population, female headed households were substantially less wealthy. A second finding is that, as expected, wealth declines with age by a significant although quite small amount (2% a year). The relative gradualness or slightness of the decline may suggest that many people choose to keep a fair amount of their wealth intact, perhaps with a view to leaving an inheritance. Parental social status was again fairly strongly related to wealth even in this older age group. And once again the Australian born had greater wealth than non-Anglo immigrants.

Step 3 of the analysis indicated that couple households with no dependents (but not those with dependents) retained a statistically significant wealth advantage over lone person households in retirement. However, this advantage of about 40% could be regarded as substantively unimportant, given that one person households require less wealth and income to meet their material needs. Finally, note that neither the relationship between wealth and savings behaviour, nor that between wealth and risk aversion were significant in this retired population.

DISCUSSION AND FUTURE RESEARCH NEEDS

This report has offered a review of the composition of the assets and debts of Australian households in the last quarter of 2002. It has particularly highlighted issues relating to the distribution of wealth, and also to the prospects of mature age Australians being able to fund or partly self-fund their retirement.

Asset holdings are heavily concentrated in the hands of older households; those within twenty years of retirement and those ten to fifteen years post-retirement. This distribution is to a great extent due to the fact that asset levels depend on the length of time spent saving and benefiting from the effects of compound interest. It is also a consequence of policy, of the legislated Superannuation Guarantee and of Government encouragement to additional superannuation saving via generous tax concessions.

Even so it remains true that the wealth of Australians is still preponderantly in housing. Liquid assets in general, and superannuation holdings in particular, are not yet at an adequate level to enable those who are currently retired, and most of those approaching retirement to be entirely self-funding when they finish work. However, many homeowner couples are already partly self-funding and more will be in the future. Superannuation holdings are increasing rapidly and are now more widely distributed than in the past. However, the evidence in this report clearly shows that most households who are now within twenty years of retirement are likely to be partly reliant on the pension for their retirement income. These households would have to make very significant 'sacrifices' – sacrifices to current living standards - in order to generate enough extra savings to be entirely self-funding.

Current Government policy is tackling this problem by changing incentives affecting both the age at which people choose to retire, and their likelihood of doing some paid work during retirement. The age at which people can retire with full superannuation entitlements is being gradually raised, and a package of measures designed to allow paid work to be combined with receipt of superannuation has been announced. It remains to be seen how effective these changes are in counteracting the evident desire of most Australians to retire before 65. A serious underlying problem, confirmed in the most recent surveys, is that most working-age people continue to under-estimate the savings they will need to maintain their current lifestyle after they retire (ASFA, 2004).

It should be recognised that all the evidence in this report has been cross-sectional; a snapshot. In future research it will be important to gain an understanding of wealth dynamics. It is often assumed that the stock of household wealth, unlike household income flows, is fairly stable and usually just increases gradually over time. Indeed, at a conceptual level, stocks are more or less defined as being more stable than flows. Research in Sweden and the USA has shown, however, that particularly in the former country, asset values have recently been quite volatile (Klevmarken et al, 2003). All Australian sources agree that after the early 1990s the increase in household wealth considerably exceeded the rate of inflation (ABS, Cat. 5232.0; ABS, Cat. 5204.0; Kelly,

2001; Northwood et al. 2003). So it seems quite unlikely that an assumption of wealth stability is justified. The main assets held are in housing, equities and superannuation. Plainly, housing prices, particularly in the capital cities, have shot up in recent years and are now starting to fall in real terms. Share prices and managed funds, especially international shares and funds, have also been volatile. Having risen rapidly for most of the 1990s, they fell about 40% in 2000-2002. The value of superannuation assets has also been volatile, since they are heavily dependent on share prices.

So it is probably mistaken to believe that household wealth is fairly stable. This means that it will be important to measure it, and assess the causes and consequences of change, more frequently than has been done in the past. As the population ages, we need a better understanding of the dynamics of wealth, particularly for those in the retirement and pre-retirement cohorts.

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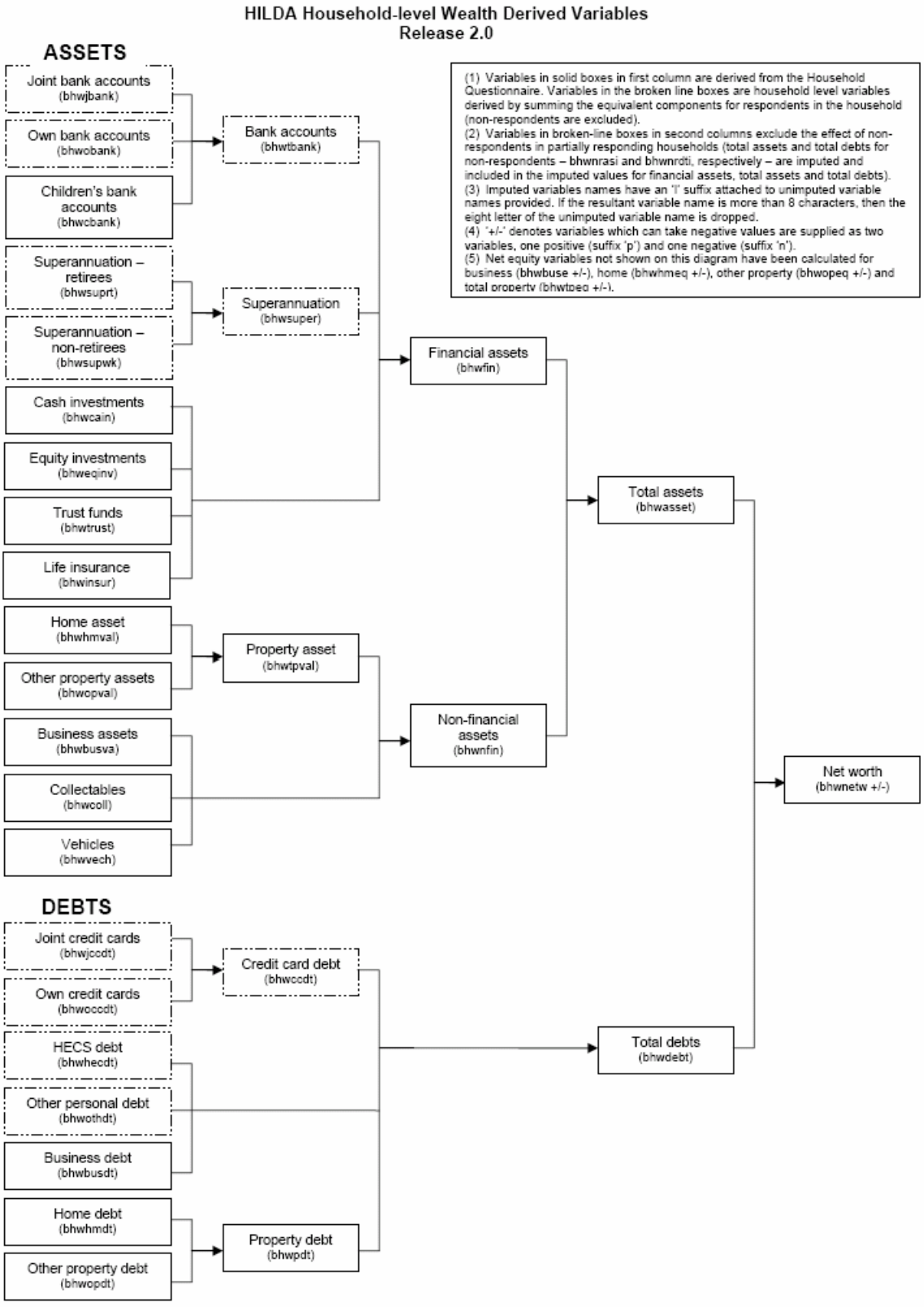
Appendix 1


HILDA Household-level Wealth Derived Variables
Release 2.0
ASSETS
Joint bank accounts (bhwjbank)
Own bank accounts (bhwobank)
Children's bank accounts (bhwcbank)
Bank accounts (bhwtbank)
Superannuation – retirees (bhwsuprt)
Superannuation – non-retirees (bhwsupwk)
Superannuation (bhwsuper)
Cash investments (bhwcain)
Equity investments (bhweqinv)
Trust funds (bhwtrust)
Life insurance (bhwinsur)
Financial assets (bhwfin)
Home asset (bhwhmval)
Other property assets (bhwopval)
Property asset (bhwtpval)
Business assets (bhwbusva)
Collectables (bhwcoll)
Vehicles (bhwvech)
Non-financial assets (bhwnfin)
Total assets (bhwasset)
Net worth (bhwnetw +/-)
DEBTS
Joint credit cards (bhwjccdt)
Own credit cards (bhwoccdt)
Credit card debt (bhwccdt)
HECS debt (bhwhecdt)
Other personal debt (bhwothdt)
Business debt (bhwbusdt)
Total debts (bhwdebt)
Home debt (bhwhmdt)
Other property debt (bhwopdt)
Property debt (bhwpdt)
(1) Variables in solid boxes in first column are derived from the Household Questionnaire. Variables in the broken line boxes are household level variables derived by summing the equivalent components for respondents in the household (non-respondents are excluded).
(2) Variables in broken-line boxes in second columns exclude the effect of non-respondents in partially responding households (total assets and total debts for non-respondents – bhwnrasi and bhwnrdti, respectively – are imputed and included in the imputed values for financial assets, total assets and total debts).
(3) Imputed variables names have an 'i' suffix attached to unimputed variable names provided. If the resultant variable name is more than 8 characters, then the eight letter of the unimputed variable name is dropped.
(4) '+/-' denotes variables which can take negative values are supplied as two variables, one positive (suffix 'p') and one negative (suffix 'n').
(5) Net equity variables not shown on this diagram have been calculated for business (bhwbuse +/-), home (bhwhmeq +/-), other property (bhwopeq +/-) and total property (bhwtpeq +/-).

Appendix 2

This appendix provides detailed tables on the assets and debts of households in the 15-24, 25-34 and 35-44 cohorts. In all cases the households described in this appendix had reference persons who were not retired.

Table A1
The Wealth Of Cohorts: Household Reference Person Aged 15-24
Population Weighted Estimates (Sample=347 households)

	Means $ ($000)	Medians $ ($000)	% of total assets or debts	% HHs holding assets/debts
Overall assets & debts				
Total assets	55.5	12.0		
Total debts	26.9	5.0		
Net worth (assets minus debts)	28.6	5.7		
Assets				
Housing & other property	30.2	0	54.4	17.0[b]
Pensions/superannuation	5.7	2.5	10.3	79.9
Businesses & farms	3.4 [nr]	0	6.1	1.8
Equity investments: shares, managed funds	2.2	0	4.0	14.7
Bank accounts	3.1	0.7	5.6	92.9
Cars & other vehicles	8.2 [nr]	4.0	14.8	72.3
Other assets [a]	2.7	0	4.9	27.7
	(55.5)		(100.0)	
Non-financial assets	42.2	5.0	76.0	76.0
Financial assets	13.3	5.0	24.0	96.6
	(55.5)		(100.0)	
Debts				
Housing & other property	16.5	0	61.3	15.0
Businesses & farms	1.3 [nr]	0	4.8	0.7
HECS (student) debt	3.6	0	13.4	30.8
Credit cards & other plastic	0.4	0	1.5	25.3
Other debts (cars, hire purchase etc)	5.0	0	18.6	45.9
	(26.9)		(100.0)	

[a] Other assets include cash investments, trust funds, the cash-in value of life insurance and collectibles.
[b] 14.5% owned the home they lived in. [nr] Not reliable – standard error over half the estimate.

Table A2
The Wealth Of Cohorts: Household Reference Person Aged 25-34
Population Weighted Estimates (Sample=1136 households)

	Means $ ($000)	Medians $ ($000)	% of total assets or debts	% HHs holding assets/debts
Overall assets & debts				
Total assets	238.8	140.8		
Total debts	76.2	23.0		
Net worth (assets minus debts)	162.6	74.2		
Assets				
Housing & other property	133.7	9.0	55.9	53.2[b]
Pensions/superannuation	34.5	16.0	14.4	95.9
Businesses & farms	23.4	0	9.8	11.4
Equity investments: shares, managed funds	8.3	0	3.5	33.8
Bank accounts	9.2	2.4	3.9	96.0
Cars & other vehicles	15.3	10.3	6.4	89.3
Other assets [a]	14.4	0	6.0	37.5
	(238.8)		(100.0)	
Non-financial assets	173.3	6.0	72.6	92.9
Financial assets	65.5	5.7	27.4	99.8
	(238.8)		(100.0)	
Debts				
Housing & other property	63.3	0	83.1	48.2
Businesses & farms	2.5	0	3.3	4.3
HECS (student) debt	1.9	0	2.5	23.5
Credit cards & other plastic	1.2	0	1.6	39.8
Other debts (cars, hire purchase etc)	7.5	0	9.8	49.0
	(76.2)		(100.0)	

[a] Other assets include cash investments, trust funds, the cash-in value of life insurance and collectibles.
[b] 48.8% owned the home they lived in.

Table A3
The Wealth Of Cohorts: Household Reference Person Aged 35-44
Population Weighted Estimates (Sample=1488 households)

	Means $ ($000)	Medians $ ($000)	% of total assets or debts	% HHs holding assets/debts
Overall assets & debts				
Total assets	450.2	312.3		
Total debts	108.1	60.0		
Net worth (assets minus debts)	342.1	204.9		
Assets				
Housing & other property	256.6	190.0	58.2	75.4[b]
Pensions/superannuation	72.2	30.0	15.7	96.1
Businesses & farms	51.2	0	11.2	18.4
Equity investments: shares, managed funds	18.9	0	3.9	43.7
Bank accounts	13.5	3.0	3.0	97.9
Cars & other vehicles	20.4	15.0	4.5	94.1
Other assets [a]	17.4	0	3.5	45.2
	(450.2)		(100.0)	
Non-financial assets	324.5	228.0	72.1	96.9
Financial assets	125.7	52.7	27.9	99.9
	(450.2)		(100.0)	
Debts				
Housing & other property	85.1	45.0	78.7	62.5
Businesses & farms	12.3	0	11.4	8.3
HECS (student) debt	0.8	0	0.7	10.6
Credit cards & other plastic	1.4	0	1.3	44.9
Other debts (cars, hire purchase etc)	8.5	0	7.9	41.7
	(108.1)		(100.0)	

[a] Other assets include cash investments, trust funds, the cash-in value of life insurance and collectibles.
[b] 69.5% owned the home they lived in.