

The Extent of Underinsurance: New Zealand evidence

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Abstract

It has been a common assumption by the insurance industry world-wide that households are under-insured. We examine the evidence for underinsurance using a comprehensive survey of New Zealand households. This survey is unique internationally in that it also covers total and permanent disability, trauma and income protection insurances, as well as examining underinsurance by household type and ethnicity.

There is no indication that there is a nation-wide crisis with low rates of life cover. We show that rates and levels of life insurance ownership are similar to those in the USA. We do show that levels of non-insurance are high within groups which have lower needs for life cover. There is, however, strong evidence that levels of life cover are often poorly chosen, with little relationship between ideal cover and actual cover, indicating household considerations about insurance cover levels are inadequate. Our paper thus shows that under-insurance surveys need to be more comprehensive, and need to compare actual coverage levels to adequacy levels. We found that traditional insurance measures, like income multiples, do not correlate to actual needs.

It could be noted that modern family structures are becoming more flexible, with fewer nuclear families, so the traditional insurance market is disappearing. Insurance company products and marketing do seem to not be capturing this new family complexity. While the focus is on New Zealanders the results are compared to US studies and are applicable world-wide. The results indicate where industry effort should be focused on increasing insurance cover.

JEL classification: C42, D14, G22, H31, I31

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1.0 Introduction

1.1 Introduction

Underinsurance has been identified as a common problem across countries¹ and can have serious consequences. For example, Bernheim, Carman, Gokhale and Kotlikoff (2003) argued that under-provision of life insurance is one of the most frequent causes of poverty amongst widows in the USA.

The study is the first to explore this issue in New Zealand in a comprehensive and quantitative manner, and is unique internationally in that it also covers total & permanent disability, trauma and income protection insurances.

Concerns have been expressed that New Zealanders do not have adequate life insurance, with claims that the level of underinsurance in New Zealand is such that it is becoming a major social policy issue. Data from the OECD shows that in 2009 New Zealand had the third lowest penetration of insurance² among 31 OECD countries (OECD, 2011). Insurance density³ is also low. Inadequate insurance implies there is insufficient protection against adverse financial events.

1.2 Reasons for Underinsurance

International literature commonly assumes that households insure because they are risk-averse, and want protection against the costs of low-probability, high-cost, adverse events. They are prepared to pay to reduce the risk. Incorrect decisions may have severe consequences on subsequent household financial well-being. MetLife (2009) showed that most widows' whose spouses' were underinsured had to make substantial adverse changes to their life styles.

Why do some people not insure? It needs to be remembered that the process of deciding on insurance and on level of cover are difficult. The prospective policyholder is being asked to pay money for an intangible and uncertain future benefit, when that money could be used in alternative ways which may have clear immediate benefits. There are a number of commonly cited reasons why non- or underinsurance occurs;

¹ E.g.; Bernheim et al (2003), Chambers et al (2003), Mitchel (2003), Genworth (2011) and Chambers et al (2011)

² Insurance Penetration is measured as the ratio or percentage of insurance premiums to Gross Domestic Product (GDP). International comparisons are done in US\$.

³ Insurance Density is measured as the ratio of total insurance premiums (in US\$) to total population. This indicates how much each inhabitant of a country spends each year for insurance services.

- (i) There may be information issues, ignorance about the risk or the insured has little to insure.
- (ii) Households may believe that the government will provide sufficient financial backup. For some low income households this may be a well informed and rational choice, given the availability of government welfare
- (iii) The transaction costs associated with delivery can drive a wedge between ideal cover and actual cover taken out. Insurance is thus not worthwhile for minor risks.
- (iv) There can be issues with adverse selection and moral hazard.
- (v) Risk aversion issues might arise. Care is needed here in the case of life insurance, however, as the person who decides on the amount of cover on their life is not the person who will suffer from their death. It is their dependants who will.
- (vi) There could also be issues of timing and time preference.
- (vii) There is also the difficulty people have facing up to the idea of death or permanent disability.
- (viii) There can also frequently be a perceived lack of trust in the insurance company to honour their obligation to pay out.
- (ix) People may differ in their price sensitivity to insurance premiums, so that some do not consider the benefits of insurance outweigh the costs.
- (x) There maybe an issue with complexity of personal insurance choices.

These factors can interact in a complex manner. For example, underinsurance for life amongst younger couples can be partly explained by the fact that adequate life cover using future earning capacity based on an average of life-time earnings results in sums which are high in comparison to current earnings. Younger couples may feel they are too liquidity constrained to insure at that level, and instead use a proportion of current earnings. They may also feel they have time to adjust to adverse events, or that adverse events are unlikely to occur to them.

1.2 Defining adequate cover

The study uses the standard international definitions as discussed in the next section. It is important to note that adequacy does not have to equate with rationality, as couples may purchase relatively little insurance for a variety of economically plausible reasons. For example, they may choose to place relatively little weight on a secondary earner's future well-being. This study, thus, does not examine the rationality of personal

insurance purchases; instead it seeks to explore the extent of uninsured and underinsured financial vulnerability.

2.0 Defining Non- & Under-insurance

Non-insurance is easy to define, but major methodological issues have hindered research, especially the issue of defining “adequate insurance”. The traditional approach used by insurance salespeople is to use a rule of thumb, normally an arbitrary multiple of current income. This has been the approach used in most of the surveys mentioned previously. Gokhale and Kotlikoff (2002) illustrate that these traditional approaches fail to provide useful solutions as individual circumstances vary too much.

Bashshur, Smith and Stiles (1993) introduce a more advanced conceptual framework for underinsurance which is revised by Blewett, Ward and Beebe (2006). They point out that underinsurance is necessarily relative to how “adequate insurance” is defined. They define “full coverage” as insurance coverage which provides complete protection and define “adequate coverage” as a less comprehensive set of benefits. They defined “underinsurance” as one or more conditions where: (i) too few conditions are covered or coverage is inadequate; (ii) amounts of out-of-pocket expenses, with or without regard to family income, are excessive; (iii) coverage is perceived as inadequate; or (iv) some combination is present. They argue that adequate coverage is the better conceptual benchmark. Note that desired levels of coverage should depend in part on the ratio of premiums to income.

Bashshur et al (1993) divide the level of adequacy into three characteristics; (i) economic, (ii) structural and (iii) attitudinal. An implicit assumption with the latter is that insurance is purchased to bridge a gap between the perceived needs of the insured and services available, and thus underinsurance in an attitudinal sense means that this gap is not adequately closed for that person.

Blewett et al (2006) argue that there are two main limitations with calculating the economic dimension: determination of appropriate level of out-of-pocket expenses and definition of a necessary level of cover. (a) The first limitation relates to defining the ability to meet out-of-pocket expenses, which will differ more than proportionally across income levels. Abraham, DeLeire and Royalty (2010) argue that moral hazard also distorts threshold measures and makes them inaccurate as out-of-pocket expenses are

positively related to benefit coverage. (b) The second limitation relates to the implicit assumption that there is a consensus regarding what benefits are necessary within an insurance policy, when in fact this will vary across households depending on household factors like income, composition, risk-aversion or ethnicity. Blewett et al (2006) find three main limitations with calculating the structural dimension: (i) issues around the determination of what constitutes an adequate policy package; (ii) issues around changes in solutions to events; and, (iii) issues around adequacy of access to solutions.

Blewett et al (2006) further argue that the limitations with calculating the attitudinal dimension relate to: (i) inaccurate assessments by the insured of the risks they are exposed to; and, (ii) inaccurate assessments of the effectiveness of solutions covered by policies. This suggests research needs to index measurements of perceived unmet needs, and to weight measurements of satisfaction. There can also be a need to adjust for incorrect information or perceptions of risks faced or policy coverage.

Bernheim, Forni, Gokhale and Kotlikoff (1999) were the first to systematically survey life insurance adequacy. They use a formal life cycle model to evaluate needs, which includes a broad array of demographic, economic and financial characteristics. They regard the level of life insurance cover to be adequate if it allows an individual or their children to sustain their living standard upon the death of a spouse. This coverage level cannot be generalised as the calculation has to take account of differing household characteristics. This is the basic approach which this study follows.

3.0 Methodology

This study explores two key outputs. The first is the proportion of households which are non- or underinsured; the second is the extent of this underinsurance. The latter is estimated by the percentage difference in achievable household consumption between what is defined as adequate insurance cover and the level of actual insurance cover held. We covered life insurance, income protection insurance (IP), trauma insurance and total & permanent disability (TPD) insurance.

This study defines “adequate coverage” for IP as the industry standard figure of 75% of pre-tragedy net consumption. Note that this will clearly be inadequate if the disabled person has higher than normal consumption or healthcare needs. However, insurance is not normally available for more than 75% so using a higher figure is not appropriate as

a measure of underinsurance. Adequate cover for trauma is taken as the greater of \$50,000 or six months income, as statistics indicate 90% of injured or sick workers have returned to work within this time frame. Note, however, that some of these workers may not return at the same pay rate, so extra cover may be needed. Consequently, IP and trauma should be regarded as complements, not substitutes.

Adequacy for life insurance and TPD are more complex. An example of this is a couple with highly unequal earnings. Some higher earners may feel an obligation to ensure the lower earner continues to receive their pre-tragedy lifestyle, whereas others may not. For simplicity we have ignored these issues and assumed post-tragedy life style is maintained at least at 60% of prior joint consumption.

There are two approaches to estimating life insurance cover. The first approach is simply to estimate the present value of future income earned by the insured person and insure for a set proportion of that, say 80%. The problem is that no account is taken of the actual needs of dependants or changes which may reasonably be expected to occur in the future. The second approach is to estimate the present value of the gap between the actual needs of dependants and their ability to earn an income. This is more flexible as it allows dependants to respond to events by measures like re-entering the workforce. This is the approach we use.

The basic model underlying this approach is the standard life cycle model⁴ with certainty, whereby households are assumed to use an estimate of their expected lifetime income from all sources to smooth their annual consumption until an assumed age of death. Note that estimates of adequate insurance cover are made using net consumption rather than earned income. Adequate coverage for TPD is assumed the same except own income is used. Note the need for consumption after death has been adjusted for reduced household size.

The unexpected death is assumed to occur immediately. The surviving spouse is assumed to work until age 65 and to maintain a steady level of consumption until death at age 90. There are no bequests and no work after retirement. Income is smoothed until the survivor's death, so a retirement sum is included within the life insurance sum. Children remain household members only until, and including, age 18. Other adults are only included if they are dependent. The survivor does not remarry. No specific sum is

⁴ Ando and Miller (1963)

put aside for repaying mortgage or other debts. Future consumption is discounted for time at 5% real.

Actual insurance cover will depend on estimated consumption needs of the household. When calculating household need for insurance coverage we need to adjust for two factors: (a) the difference between earned net income and consumption, due to savings; and, (b) the reduced need for household consumption due to the loss of a non-dependent adult. Savings after tragedy are adjusted to reflect the lower earnings of the survivor, as any savings which would have been made by the deceased earner are capitalised within the life sum.

Savings are assumed to be consistent with a life-cycle model with certainty, so consumption is smooth⁵, and at a level consistent with research⁶ on non-house savings for their income deciles. There was assumed to be no significant difference between the savings rates of insured and non-insured households, as no differentiated data was available.

We adjust for reduced household consumption due to the death of an adult by using the revised Jensen scale⁷ (RJS) which divides annual household income by the household's rating. RJS is calculated using:

$$\text{Jensen Equivalised Annual Household Income} = \frac{\text{Annual Household Income}}{\text{Jensen Rating}}$$

where
$$\text{Jensen Rating} = \frac{[a + xc + yt]^z}{2^z}$$

and

- a = number of adults in household
- c = number of children in household
- t = total age of children in household
- x, y, z are constants (0.460697, 0.0283848, 0.621488)⁸.

⁵ Moore & Mitchell (1997) showed that when life expectancy is uncertain consumption will tend to rise until retirement and then fall subsequently.

⁶ Scobie & Henderson (2009), Scobie, Gibson & Trinh (2004), Gibson & Scobie (2001). Note that the lower 4 deciles do not save on a net basis as NZ Govt Superannuation is set at a level which preserves or improves their level of consumption.

⁷ Jensen, (1988).

⁸ Constant value norms as advised by NZ Statistics department.

However, due to complexity we used the modified Jensen scale where all children are assumed to have an age at the mid-point of 9.5, so;

$$\text{Jensen Modified Rating} = \frac{[a + uc]^z}{2^z}$$

where $u = (x + 9.5y) = 0.7303526$

Housing expenditure is complex as the stream of housing expenditure does not correspond, even vaguely, to the stream of housing services. However, we did not have this breakdown in our data, so we have not separated out housing costs.

There will also be one-off expenditures after the death of a spouse, as well as additional life insurance to ensure dependants have sufficient resources if the remaining spouse dies. However, it is inappropriate to assume households want to smooth these expenditures, so they are not included in equivalency scales. We instead assume a set need for \$12,000 to cover funeral and associated costs.

There are also issues with the death of a non-earning spouse, so they will have been providing services, like childcare or cooking, which now have to be purchased. Therefore ideally an earning spouse should insure the life of a non-earning spouse. However, as there is no recorded income, life cover has to be based on assumed future earnings and IP cover cannot be purchased. We assume the surviving spouse, if earning, continues to receive their declared income. If not earning we assume they return to the workplace part-time at 40% of the median wage, when the youngest child is aged six, and work full-time when the youngest is aged eighteen. We assume that future earnings grow at a 1% real rate (net of inflation) which is based on an average of GDP growth taken over the 2000-2010 period. Non-house investments earn a real return of 4%. After retirement 3% is extracted annually for spending so the investment sum grows by 1% every year. Government based superannuation is assumed to be available at age 65, with the current single rate of \$17,648 assumed to increase annually by 1% real. Given that health needs rise with age, our assumption may imply reduced real consumption. We also ignore any additional private superannuation as we had no data on this, and it is not widely used in New Zealand, outside the civil service. NZ Government Kiwisaver entitlements are ignored as sums accumulated are currently comparatively low.

We assume that the households have unrestricted access to any social welfare benefits or ACC payments they are eligible for and that normal income/asset testing rules apply. Similarly, normal changes in income tax and ACC levies are included. As of April 1st 2011, the domestic purposes/widow's benefit paid \$16,995 gross per year or \$326.82 per week (\$288.47 net at M tax rate). An extra \$20/week can be earned if childcare is involved making the gross \$18,035. This is rebated at 30% for any gross income earned between \$5,201 and \$10,400 and at 70% over that. There is an unsupported orphan's benefit of \$8,446 net p/a per child. We ignored changes in this benefit with age of the child. These benefits and rebate levels are assumed to grow at 1% in real terms, in line with consumption growth.

Note that we do not view our calculations as providing a perfect measure of the amount of insurance required to provide a stable post-tragedy lifestyle; instead it merely gives a reasonable benchmark of financial vulnerability.

4.0 Data

The analysis that follows is based on an on-line survey of 2,000 people carried out by AC Nielsen in June/July 2011 for the Investment Savings and Insurance Association (ISI). This asked 67 detailed questions about household characteristics, finances, insurance held and attitudes to insurance. 175 respondents did not provide sufficient data on their income to allow their answers to be useful. The remaining 1825 respondents from a national total of 1.3 million households imply a sampling error of less than $\pm 2\%$. When sub-samples are used this may increase to $\pm 3\%$.

While the ISI survey is comprehensive and robust, it is important to note that the survey was not designed as a survey of the general New Zealand population, but as a survey of those households with an obvious need for personal insurance. Those under 18 and over 65 were screened out. Over-sampling was done for Maori, Pasifika and Asian segments of the population.

It is important to note that not all those with insurance provided information on the actual amount of insurance held, with many reporting they did not know the level of insurance they held, or provided inconsistent data. These were excluded as required, thus the total number of respondents can vary between questions.

These data will be subject to a number of biases, including sampling error. Because of the high quality of the survey design and the size of the sample, sampling error is estimated to be low.

5.0 Results

The survey results show rates of life insurance ownership which are similar to those in the US or Australia. Levels of life cover are also comparable. Similar results are obtained for TPD, trauma and IP insurance.

There is no indication that there is a national crisis with overall take-up rates of life insurance ownership, though there is strong evidence of high levels of underinsurance so that levels of cover do not correspond to actual financial vulnerability. There is also evidence of inertia in coverage levels. There are also indications that calculations of required life cover are inadequate, as illustrated by the typical underinsurance of the primary earner and over-insurance of the secondary earner.

The survey shows that the biggest issue within New Zealand seems to be the low levels of ownership of personal insurance around permanent disability, such as TPD or long-term IP cover. This may be due to a perceived lack of value for money, that is, high premiums for expected benefit.

Our estimate of the total level of life underinsurance is \$141.918 billion. The estimate of lost tax revenue to the national government is \$2.2M. Estimates of benefit saving to government per fully insured for family groups of \$9,017 p/a, for the non-family groups of \$6,638 p/a. If this figure is used at 50%, then the implied saving is \$3,319 p/a per impacted household. If assume that there is 50% underinsurance then the implied national savings from full life insurance cover is \$3.5M.

Estimates relating to disability are vaguer as disability incidence data are not available. Using estimated incidence rates and combining the family and non-family groups would thus give a ballpark estimate of implied savings to government of full IP insurance of \$25M to \$35M.

These figures can be used when looking at studies of policy measures for increasing the uptake of personal risk insurance. For example, they could be applied on a per capita basis on a cost-benefit when analysing possible remedial government policy measures.

Life insurance is held by at least 40% of all income levels, and on average most income groups are underinsured. The higher income groups generally have less adequate life insurance.

Table 1: Underinsurance for life insurance by income level

	(1) Proportion insured	(2) Proportion with no insurance ⁹	(3) Average underinsurance Life 1 Life 2		(4) Proportion with inadequate insurance on Life 1 ¹⁰	(5) Proportion that is severely underinsured on Life 1 ¹¹
\$5000 or less ¹² (N1 ¹³ =493/N2 ¹⁴ =181)	56.8% ¹⁵	38.5%	¹⁶ \$159,570	\$90,925	59.7%	48.6%
\$5,001 - \$20,000 (N1=191/N2=52)	47.6%	44.5%	-\$60,301	-\$66,684	49.0%	29.4%
\$20,001 - \$50,000 (N1=339/N2=82)	46.6%	48.1%	-\$19,555	\$34,085	31.7%	23.1%
\$50,001 - \$70,000 (N1=193/N2=63)	56.0%	38.9%	-\$130,215	-\$14,127	35.5%	25.8%
\$70,001 - \$100,000 (N1=244/N2=94)	64.8%	30.7%	\$73,677	\$49,889	56.4%	46.8%
\$100,001 - \$150,000 (N1=208/N2=99)	71.6%	23.1%	\$177,459	\$80,733	66.3%	40.8%
More than \$150,000 (N1=113/N2=46)	75.2%	21.2%	\$240,746	\$183,671	65.2%	60.1%
Total ¹⁷ (N1=2000/N2=651)	57.0%	36.8%	\$85,428	\$61,840	53.9%	43.3%

⁹ Note that the insured and non-insured proportions do not sum to 100% as some respondents were uncertain as to whether they had insurance or not.

¹⁰ The proportion of those with insurance who have inadequate insurance, i.e. at least 20% below the ideal level of cover. The ideal cover is based on respondent answers. This includes those severely underinsured. The proportion inadequately but not severely underinsured can be calculated as the difference between the two figures.

¹¹ The proportion of those with insurance who have severely inadequate insurance, i.e. at least 40% below the ideal level of cover. This is a subset of those with inadequate insurance.

¹² The proportion of respondents that reported an income level of less than \$5000 was 24.7%, a proportion that seems inappropriately high. This compares to 8.7% of the population aged 20-64 at the 2006 census that reported income of \$5000 or less. It appears some respondents chose to give a fictitiously low income figure because they did not want to provide income details, but had agreed to do so in accepting the invitation to participate in the survey.

¹³ N1 is the number of respondents in the sample that reported having the specified level of income. Thus, for example, 493 people reported having income of \$5000 or less. It is the basis of the proportions reported in columns (1) and (2).

¹⁴ Not everyone who said they had insurance then provided information on how much insurance they had which was necessary for the calculations of underinsurance. N2 is the number of respondents in the income group that provided information about the amount of insurance they held. So, for example, in the \$5000 or less income group only 181 people (of the 280 who said they had life insurance) actually provided information about how much insurance they had. N2 is the basis of the proportions reported in columns (4) and (5), and the calculations for the figures reported in column (3).

¹⁵ All percentages are reported to one decimal place.

¹⁶ Dollar amounts are reported to the nearest dollar.

¹⁷ The Total for both N1 and N2 includes those that had a "Don't know" response for income, which are not shown separately in Table.

Low proportions of all income groups hold the other forms of insurance, but the higher income groups hold these forms of insurance at relatively greater proportions.

Table 2: Proportion of respondents who hold other forms of insurance by income level

	Proportion insured		
	Permanent Disability	Trauma	Income Protection
Less than \$5000	16.2%	17.0%	20.3%
\$5,001 - \$20,000	14.1%	9.9%	16.2%
\$20,001 - \$50,000	10.0%	9.7%	15.6%
\$50,001 - \$70,000	11.4%	16.6%	18.7%
\$70,001 - \$100,000	23.0%	20.9%	26.2%
\$100,001 - \$150,000	22.1%	17.8%	24.5%
More than \$150,000	23.9%	24.8%	33.6%
Total	15.5%	15.3%	20.5%

The proportion of each ethnic group that holds life insurance is very consistent across the groups. Almost all ethnic groups are underinsured, but the extent of underinsurance varies. Underinsurance is particularly high for the Samoan and Other Asian groups. However in comparison to the wide ethnic differences in the US, New Zealand ethnic differences are low, indicating insurance companies are doing a good job here.

Table 3: Underinsurance for life insurance by ethnicity^{18,19}

	Proportion insured	Proportion with no insurance	Average underinsurance		Proportion with inadequate insurance	Proportion that is severely underinsured
			Life 1	Life 2		
NZ European/Pakeha (N1=1159/N2=403) ²⁰	58.4%	37.1%	\$75,368	\$46,235	50.8%	38.7%
Maori (N1=397/N2=134)	55.9%	36.8%	\$81,294	\$97,428	54.5%	46.3%
Samoan (N1=92/N2=28)	57.6%	32.2%	\$197,254	\$78,052	75.0%	67.9%
Other Pacific peoples (N1=68/N2=20)	58.8%	33.8%	\$46,326	\$1,683	45.0%	40.0%
Chinese (N1=153/N2=40)	58.2%	34.6%	\$142,580	\$91,391	67.5%	52.5%
Indian (N1=137/N2=41)	56.9%	35.8%	-\$1,404	\$87,505	58.5%	41.5%
Other Asian (N1=116/N2=30)	56.9%	33.6%	\$125,114	\$22,771	63.3%	60.0%
Other European (N1=104/N2=33)	49.0%	44.2%	\$65,923	\$54,869	54.5%	36.4%

¹⁸ The other ethnic groups included in the survey were too small for results to be reported. These groups were Tongan (N=19), Korean (N=1), Others (N=12), and Don't Know (2)

¹⁹ No Total rows are provided for Tables 3 and 4 as the information would be the same as the Total rows in Tables 1 and 2 respectively.

²⁰ Respondents could select multiple ethnic groups, so the groups are not exclusive.

The only substantial point to note about the proportion of each ethnic group that holds the other forms of insurance is the markedly lower levels for all three insurance types for the Other Pacific Peoples group.

Table 4: Proportion with other forms of insurance by ethnicity

	Permanent Disability	Proportion insured	
		Trauma	Income Protection
NZ European/Pakeha	17.3%	16.8%	21.9%
Maori	14.1%	13.9%	20.2%
Samoan	15.2%	14.1%	21.7%
Other Pacific peoples	5.9%	10.3%	8.8%
Chinese	17.0%	17.6%	26.1%
Indian	10.2%	12.4%	19.0%
Other Asian	15.5%	17.2%	15.5%
Other European	11.5%	11.5%	14.4%

Table 5 compares the rates of non-insurance for New Zealand, Australia and the USA for families with children. This shows comparable rates, despite quite different insurance structures. It needs to be noted that the definition of “family” differs between the countries.

Table 5: Non-Insurance Country Comparison

		No Life	> 20% drop	> 40% drop	Has TPD	Has IP	Has Tra
USA	Bernheim 1999		66%	20%			
	Bernheim 2003		66%	33%			
	Mitchel 2003	22%					
	Limra 2010	30%	70%				
	Genworth 2011	40%					
	Limra 2011	47%					
Aust	Sweeny 2008	29%	86%	60%	71%	31%	
	Comminsure 2004	33%	60%				
	ING 2008	38%				33%	25%
	LifeBroker 2010	51%				21%	
NZ	AMP 2005	45%	40%		14%	23%	18%
	Cigna 2011	36%					
	Our Results	26%	74%	58%	19%	19%	25%

5.2 Household Groups

We created eight typical family household groups, as a means of better understanding. For these groups we assume that net assets, house equity or investable, levels are the average as stated by respondents in the survey. A disabled benefit of \$13,090 p/a is assumed available, so little is gained from IP cover for a worker below \$30,000. We assume that current annual earnings determine the level of consumption which is to be maintained by insurance cover, thus ignoring any increases in household consumption which would reasonably arise from normal job advancements. We also ignore any increased expenses as children age. Both of these induce a downward bias in ideal cover levels.

The ideal life cover figure we use includes a sum for maintaining consumption levels after retirement on top of listed assets. It is appropriate to include this in life sums for the younger age groups, but this assumption has little impact for the younger groups due to time discounting. It does, however, impact on the wealthier couples with the older age groups, especially group (viii). The issue with this latter age group is that if those couples expect to maintain their current living standards after retirement then this should be reflected in their current levels of investable assets. Since it may be inappropriate for retirement savings to be reflected in their life sums (and maybe unavailable in practise), life sums with, and without, retirement are provided, as a comparison of possible variance in ideal cover levels, in Appendix Two.

The household groups are:

- (i) Single without dependants [Single]
- (ii) Young couples, under 35, without dependants [Young Couple]
- (iii) Single parent with youngest child under eighteen [Single Parent Family]
- (iv) Family with one earner, children of any age [Single Earner Family]
- (v) Couples with two earners, and youngest child under five [Pre-school Family]
- (vi) Couples with two earners, and youngest child between 5-12 [Primary School Family]
- (vii) Couples with two earners, and youngest child between 13- 18 [Teenage Family]
- (viii) Older couple, aged 50-65, with adult children no dependants [Older Couple]

Household One – Single without dependants

In the case of a single person, there are few needs around death, only sufficient accessible funds for a funeral and clear estate arrangements. However, there are TPD and Trauma needs, as any permanent interruption to the ability to earn a living has a high present value. The level of IP cover will depend on the gap between incomes and benefit level. Rates and levels of insurance cover for this group are given in Table 6.

Table 6: Insurance held by Single Person Households

	Proportion with this insurance	Level of insurance held		
		Mean	Maximum	Minimum
Life (N=54) ²¹	32.1%	\$176,267	\$1,000,000	\$100
TPD (N=9)	14.2%	\$182,456	\$500,000	\$100
Trauma (N=5)	4.9%	\$350,200	\$550,000	\$1,000
Income Protection (N=17)	11.2%	\$2,501	\$8,083	\$3

Single households see a low need for insurance with less than 1/3 having life insurance, and lower proportions holding other forms of insurance. The life insurance held by this group may be mortgage related. The high level of trauma insurance compared to life insurance may reflect the fact that the insured person will personally get the benefit if a claim is necessary, but the difference must be treated with extreme caution due to the low numbers involved.

The level of non-insurance is substantially below that for the US and Australia. The need for life cover can, however, be low in this group if there are no, or limited, needs for dependants after death. There should be higher needs for insurance products that look after the insured person, given there is no spouse to fall back on.

²¹ For Tables 6-29, N=the number of respondents in the household group that provided information about the actual level of insurance cover held.

Table 7: Level of Underinsurance for Insured Single Households

	Based on 5 X salary			Ideal		
	Mean	Maximum	Minimum ²²	Mean	Maximum	Minimum
Life (N=48)	\$16,821	\$389,395	-\$1,000,000	-\$55,685	\$520,044	-\$838,000
Permanent Disability (N=9)	\$69,624	\$299,395	-\$353,310	-\$12,006	\$430,044	-\$488,000
Trauma (N=5)	n.a.	n.a.	n.a.	-\$300,200	\$49,000	-\$500,000
Income Protection (N=16)	n.a.	n.a.	n.a.	\$660	\$3,479	-\$4,484

²² A negative figure indicates that the person has more insurance than is required according to the model described in this report.

Table 7 shows that for the simple estimate of the required level of insurance, the average level of underinsurance for life is not substantial. On average, the level of trauma insurance held is well in excess of requirements.

Once the more formal calculation is done taking account of the respondent's circumstances, the level of underinsurance decreases dramatically, and on average the respondent has more life, TPD and Trauma insurance than required. However, the higher levels may be in recognition of possible future needs in the expectation of gaining dependants at some future time.

Table 8 shows that levels of underinsurance for uninsured single households are substantial.

Table 8: Level of Underinsurance for Uninsured Single Households

	Based on 5 X salary			Ideal		
	Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life (N=139)	\$146,028	\$399,395	\$63,745	\$69,447	\$912,120	\$12,000
Permanent Disability (N=182)	\$149,009	\$399,395	\$63,745	\$72,003	\$912,120	\$12,000
Trauma (N=194)	n.a.	n.a.	n.a.	\$50,000	\$50,000	\$50,000
Income Protection (N=177)	n.a.	n.a.	n.a.	\$1,879	\$4,992	\$797

Household Two - Young couples, under 35, without dependants

In the case of young couples, there may be life insurance needs if there is a substantial income gap between the couple, and there is a felt need to support the lower earner after death. There is therefore no basis for an ideal level of life ownership with this group. There should, however, be high rates of ownership of TPD, Trauma and IP, as any permanent interruption to the ability to earn a living has a high present value, or the uninjured partner cannot easily replace lost income. Note that a non-earner cannot obtain IP cover.

Table 9: Insurance held by Young Couple Households

		Proportion with this insurance	Level of insurance held		
			Mean	Maximum	Minimum
Life	Person 1 (N=29)	39.8%	\$260,159	\$700,000	\$50,000
	Person 2 (N=15)	25.5%	\$283,817	\$500,000	\$50,000
Permanent Disability	Person 1 (N=3)	8.3%	\$216,667	\$350,000	\$100,000
	Person 2 (N=0)	3.8%	DK ²³	DK	DK
Trauma	Person 1 (N=6)	12.0%	\$153,333	\$400,000	\$20,000
	Person 2 (N=3)	7.5%	\$183,333	\$400,000	\$50,000
Income Protection	Person 1 (N=11)	18.0%	\$3,150	\$6,956	\$1
	Person 2 (N=2)	7.5%	\$3,000	\$3,000	\$3000

Young couples are more likely to hold insurance, and to have higher levels of insurance, than the singles. The very low percentage of this group who own TPD, trauma or IP cover implies that even middle or higher income couples would be completely dependent on their partner, government welfare, and, if need be, residential care, in the event that an incident occurred. The burden which a permanently disabled spouse would place on the able-bodied spouse when there is inadequate financial support has major implications for the survival of the relationship.

²³ None of the respondents were able to provide a figure for the level of permanent disability insurance on the second person.

Table 10 shows the substantial levels of underinsurance. There are some differences between the amounts of insurance held for each person, but the small numbers reported mean that no generalisations can be made about the relative levels of insurance held. There are 332,700 couple households of all ages.

Table 10: Level of Underinsurance for Insured Young Couple Households

		Based on 5 X salary			Ideal		
		Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life	Person 1 (N=28)	-\$20,218	\$299,395	-\$300,605	\$145,232	\$595,071	-\$167,525
	Person 2 (N=15)	\$42,254	\$287,935	-\$327,640	\$54,708	\$388,829	-\$379,329
Permanent Disability	Person 1 (N=3)	\$83,830	\$114,160	\$49,395	\$306,521	\$357,467	\$242,219
	Person 2 (N=0)	DK	DK	DK	DK	DK	DK
Trauma	Person 1 (N=6)	n.a.	n.a.	n.a.	-\$103,333	\$30,000	-\$350,000
	Person 2 (N=3)	n.a.	n.a.	n.a.	-\$18,750	-\$50,000	-\$350,000
Income Protection	Person 1 (N=11)	n.a.	n.a.	n.a.	\$350	\$3,598	-\$1,964
	Person 2 (N=2)	n.a.	n.a.	n.a.	\$2,040	\$3,599	-\$845

On average the young couples should have over \$350,000 insurance on the life of the first earner and nearly \$150,000 insurance on the life of the second earner, and for the uninsured this is a relatively substantial lack of insurance cover.

Table 11: Level of Underinsurance for Uninsured Young Couple Households

		Based on 5 X salary			Ideal		
		Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life	Person 1 (N=69)	\$210,861	\$506,850	\$63,745	\$363,113	\$889,753	\$12,000
	Person 2 (N=66)	\$142,190	\$506,850	\$63,745	\$148,690	\$704,761	\$12,000
Permanent Disability	Person 1 (N=101)	\$215,927	\$506,850	\$63,745	\$369,011	\$889,753	\$12,000
	Person 2 (N=95)	\$144,802	\$506,850	\$63,745	\$158,284	\$704,761	\$12,000
Trauma	Person 1 (N=99)	n.a.	n.a.	n.a.	\$50,007	\$50,685	\$50,000
	Person 2 (N=93)	n.a.	n.a.	n.a.	\$50,007	\$50,685	\$50,000
Income Protection	Person 1 (N=90)	n.a.	n.a.	n.a.	\$2,617	\$6,336	\$797
	Person 2 (N=84)	n.a.	n.a.	n.a.	\$1,750	\$6,336	\$797

Household Three - Single parent with youngest child under eighteen

In the case of the single parent household there are obvious needs for clear estate and child care arrangements, as well as sufficient life cover to ensure children have sufficient funds for their guardian to maintain their living standards above orphan benefits of \$8,446 p/a per child until age 18. There is need for TPD cover, especially as there is no spouse to provide support and to care for children.

Table 12 shows that levels of cover of all the types of insurance are higher than for the singles or dependant-less couples. However, given the vulnerability of the children, the low levels of TPD, Trauma and IP cover are a concern.

Table 12: Insurance held by Single Parent Households

	Proportion with this insurance	Level of insurance held		
		Mean	Maximum	Minimum
Life (N=53)	55.5%	\$355,123	\$4,500,000	\$10,000
Permanent Disability (N=8)	12.2%	\$196,250	\$500,000	\$10,000
Trauma (N=17)	20.1%	\$154,283	\$513,000	\$22,300
Income Protection (N=10)	17.1%	\$2,949	\$5,200	\$48

It is reassuring to note that levels of cover are reasonable.

Table 13 shows that on average these households hold excess life cover. This suggests recognition by those that have insurance of the importance of having an appropriate level of cover. The low response rates for TPD, trauma and IP restrict the statistical significance of underinsurance for those types.

Table 13: Level of Underinsurance for Insured Single Parent Households

	Based on 5 X salary			Ideal		
	Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life (N=52)	-\$152,658	\$603,630	-\$4,212,065	-\$316,604	\$248,955	-\$4,488,000
Permanent Disability (N=8)	-\$35,347	\$237,935	-\$212,065	-\$163,300	\$106,230	-\$480,053
Trauma (N=17)	n.a.	n.a.	n.a.	-\$102,163	\$27,700	-\$462,315
Income Protection (N=10)	n.a.	n.a.	n.a.	\$214	\$2,107	\$1,601

Table 14: Level of Underinsurance for Uninsured Single Parent Households

	Based on 5 X salary			Ideal		
	Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life (N=57)	\$145,175	\$399,395	\$63,745	\$20,839	\$116,975	\$12,000
Permanent Disability (N=113)	\$151,813	\$399,395	\$63,745	\$21,405	\$206,977	\$12,000
Trauma (N=103)	n.a.	n.a.	n.a.	\$50,000	\$50,000	\$50,000
Income Protection (N=16)	n.a.	n.a.	n.a.	\$1,926	\$4,992	\$797

Household Four - Family with one earner, children of any age

In the case of the family with only one earner there are obvious needs for substantial life and TPD cover, as well as clear estate arrangements. There will also be major Trauma and IP needs. Levels of cover will be high as any permanent interruption to the ability to earn a living has a high present value. Note that a non-earner cannot obtain IP cover.

Table 15 shows quite a high rate of life insurance ownership on the main earner, comparable with the US and Australia, which have set cover under compulsory superannuation schemes. This may be related to the high rates of home mortgages in this group with associated life cover requirements from the lender. There are still significantly lower rates of cover for TPD, trauma and IP.

Table 15: Insurance held by Single Earner Family Households

		Proportion with this insurance	Level of insurance held		
			Mean	Maximum	Minimum
Life	Person 1 (N=63)	73.3%	\$381,034	\$2,500,000	\$200
	Person 2 (N=51)	56.8%	\$294,853	\$775,000	\$300
Permanent Disability	Person 1 (N=15)	18.9%	\$273,181	\$700,000	\$100,000
	Person 2 (N=7)	11.5%	\$202,687	\$310,000	\$100,000
Trauma	Person 1 (N=19)	18.9%	\$105,430	\$300,000	\$10,000
	Person 2 (N=13)	13.5%	\$101,447	\$300,000	\$10,000
Income Protection	Person 1 (N=15)	25.0%	\$2994	\$7,290	\$28
	Person 2 (N=0)	7.4%	DK	DK	DK

Table 16 shows there does not seem to be an issue with underinsurance for the main earner. While the high rate of life cover on the main earner may be associated with life cover held as a compulsory part of a mortgage, that level of cover does not seem to be inadequate. While it is not possible to calculate the appropriate level of insurance based on the simple approach of 5 times salary for the second adult due to the lack of income, it is possible to do so more formally, and this shows that on average the 2nd adult in the Single Earner Family Household has more life and permanent disability insurance than required.

Table 16: Level of Underinsurance for Insured Single Earner Family Households

		Based on 5 X salary			Ideal		
		Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life	Person 1 (N=63)	-\$96,764	\$287,735	-\$2,327,640	-\$313,743	\$11,800	-\$2,488,000
	Person 2 (N=51)	n.c. ²⁴	n.c.	n.c.	-\$114,358	\$567,085	-\$638,237
Permanent Disability	Person 1 (N=15)	\$78,616	\$603,630	-\$185,840	-\$173,757	\$106,977	-\$507,397
	Person 2 (N=7)	n.c.	n.c.	n.c.	\$26,623	\$275,460	-\$275,066
Trauma	Person 1 (N=19)	n.c.	n.c.	n.c.	-\$53,497	\$75,363	-\$250,000
Income Protection	Person 1 (N=15)	n.a.	n.a.	n.a.	\$1,068	\$10,470	-\$2,901

Table 17: Level of Underinsurance for Uninsured Single Earner Family Households

		Based on 5 X salary			Ideal		
		Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life	Person 1 (N=35)	\$192,947	\$399,395	\$63,745	\$39,553	\$328,063	\$12,000
	Person 2 (N=35)	n.c.	n.c.	n.c.	\$60,631	\$234,295	\$12,000
Permanent Disability	Person 1 (N=99)	\$231,199	\$853,630	\$63,745	\$51,089	\$530,044	\$12,000
	Person 2 (N=99)	n.c.	n.c.	n.c.	\$71,766	\$567,085	\$12,000
Trauma	Person 1 (N=94)	n.a.	n.a.	n.a.	\$50,364	\$185,363	\$50,000
Income Protection	Person 1 (N=97)	n.a.	n.a.	n.a.	\$2,890	\$10,670	\$797

Household Five - Couples with two earners, youngest child dependent is under five

In the case of families with pre-school children there are obvious needs for substantial life and TPD cover, as well as clear estate arrangements. There will also be major

²⁴ n.c. means that no calculation was possible as the 2nd adult in the family did not have an income

Trauma and IP needs. Note that levels of cover will be high, but not as high as Household Four, and will vary depending on the level of asymmetry between the couple in earning ability.

Table 18 shows lower rates of life cover than Household Four, though the differences are unlikely to be statistically significant. There are, however, higher rates of trauma and IP ownership on the main earner, despite the reduced vulnerability of income due to two earners. Possibly this is due to dependence on both incomes to meet financial obligations. These rates of insurance ownership are comparable to the US and Australian rates.

Table 18: Insurance held by Preschool Family Households

		Proportion with this insurance	Level of insurance held		
			Mean	Maximum	Minimum
Life	Person 1 (N=84)	66.7%	\$330,592	\$1,400,000	\$2
	Person 2 (N=67)	55.4%	\$312,009	\$1,300,000	\$10,000
Permanent Disability	Person 1 (N=17)	19.2%	\$179,329	\$500,000	\$30,000
	Person 2 (N=13)	14.2%	\$165,277	\$500,000	\$25,000
Trauma	Person 1 (N=23)	23.0%	\$120,238	\$385,875	\$4,600
	Person 2 (N=17)	19.1%	\$137,404	\$385,875	\$10,000
Income Protection	Person 1 (N=24)	40.0%	\$3,520	\$9,000	\$15
	Person 2 (N=11)	13.7%	\$2,192	\$5,000	\$15

Table 19 does show that levels of life underinsurance are substantial for this group on the both earners, particularly the main earner, compared to the ideal levels, but on average both earners are overinsured compared to the multiplier level. The survey data suggests a tendency for households to cover both earners to similar levels, despite differing financial vulnerability.

Table 19: Level of Underinsurance for Insured Preschool Family Households

		Based on 5 X salary			Ideal		
		Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life	Person 1 (N=84)	-\$78,853	\$289,145	-\$1,112,065	\$261,146	\$1,261,124	-\$917,086
	Person 2 (N=67)	-\$86,964	\$287,935	-\$1,170,915	\$82,790	\$820,412	-\$1,239,297
Permanent Disability	Person 1 (N=17)	\$41,774	\$214,160	-\$406,835	\$426,181	\$1,061,550	-\$260,305
	Person 2 (N=13)	-\$70,238	\$45,400	-\$335,875	\$172,686	\$507,080	-\$338,666
Trauma	Person 1 (N=23)	n.a.	n.a.	n.a.	-\$70,238	\$45,400	-\$335,875
	Person 2 (N=17)	n.a.	n.a.	n.a.	-\$43,435	\$50,000	-\$335,875
Income Protection	Person 1 (N=24)	n.a.	n.a.	n.a.	-\$230	\$4,232	-\$4,008
	Person 2 (N=11)	n.a.	n.a.	n.a.	\$1,113	\$3,599	-\$1,604

Table 20: Level of Underinsurance for Uninsured Preschool Family Households

		Based on 5 X salary			Ideal		
		Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life	Person 1 (N=55)	\$221,696	\$853,630	\$63,745	\$520,609	\$2,775,714	\$12,000
	Person 2 (N=54)	\$127,194	\$287,935	\$63,745	\$274,804	\$798,222	\$12,000
Permanent Disability	Person 1 (N=124)	\$228,441	\$853,630	\$63,745	\$553,100	\$2,775,714	\$12,000
	Person 2 (N=126)	\$128,786	\$287,935	\$63,745	\$284,420	\$820,412	\$12,000
Trauma	Person 1 (N=119)	n.a.	n.a.	n.a.	\$50,567	\$85,363	\$50,000
	Person 2 (N=121)	n.a.	n.a.	n.a.	\$50,000	\$50,000	\$50,000
Income Protection	Person 1 (N=119)	n.a.	n.a.	n.a.	\$2,778	\$10,670	\$797
	Person 2 (N=120)	n.a.	n.a.	n.a.	\$1,594	\$3,599	\$797

Household Six - Couples with two earners, youngest child aged 5-12

In the case of families with primary school children, there are obvious needs for substantial life and TPD cover, as well as clear estate arrangements. There will also be major Trauma and IP needs. Note that levels of cover required will be high, but not as high as Household Five due to a shorter period to retirement as the average age of the parents increases along with that of the children, and will vary depending on the level of asymmetry between the couple in earning ability.

Table 21 shows that similar but slightly higher rates of insurance ownership relative to Household five, though lower rates of IP. This could be due to the greater financial flexibility of these families with two possibly full-time workers.

Table 21: Insurance held by Primary School Family Households

		Proportion with this insurance	Level of insurance held		
			Mean	Maximum	Minimum
Life	Person 1 (N=88)	71.4%	\$320,909	\$1,500,000	\$100
	Person 2 (N=70)	58.7%	\$288,439	\$1,500,000	\$100
Permanent Disability	Person 1 (N=48)	23.3%	\$193,111	\$1,000,000	\$3,000
	Person 2 (N=15)	16.0%	\$186,581	\$1,000,000	\$1,500
Trauma	Person 1 (N=23)	24.8%	\$108,776	\$500,000	\$30,000
	Person 2 (N=17)	18.9%	\$81,934	\$300,000	\$10,000
Income Protection	Person 1 (N=28)	25.7%	\$2,965	\$8,500	\$1
	Person 2 (N=23)	12.6%	\$2,625	\$5,000	\$500

Table 22 shows similar results to Household Five, with substantial underinsurance on the life of the primary earner and over-insurance on the life of the secondary earner. The existence of two incomes means a lower need for insurance than for the previous household type, but the need is still substantial and the lack of insurance is a concern.

Table 22: Level of Underinsurance for Insured Primary School Family Households

		Based on 5 X salary			Ideal		
		Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life	Person 1 (N=87)	-\$61,255	\$653,630	-\$1,100,605	\$252,825	\$1,949,303	-\$912,829
	Person 2 (N=69)	-\$70,650	\$214,160	-\$1,285,840	-\$96,906	\$907,511	-\$1,409,242
Permanent Disability	Person 1 (N=25)	\$59,670	\$396,395	-\$712,065	\$320,017	\$923,401	-\$591,329
	Person 2 (N=15)	\$40,893	\$397,895	-\$785,840	\$177,728	\$763,349	-\$796,723
Trauma	Person 1 (N=27)	n.a.	n.a.	n.a.	-\$57,512	\$20,000	-\$414,637
	Person 2 (N=23)	n.a.	n.a.	n.a.	-\$3,842	\$50,000	-\$250,000
Income Protection	Person 1 (N=35)	n.a.	n.a.	n.a.	\$246	\$4,991	-\$3,508
	Person 2 (N=8)	n.a.	n.a.	n.a.	\$985	\$3,492	-\$2,104

Table 23: Level of Underinsurance for Uninsured Primary School Family Households

		Based on 5 X salary			Ideal		
		Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life	Person 1 (N=42)	\$179,458	\$287,935	\$63,745	\$393,835	\$876,774	\$33,820
	Person 2 (N=42)	\$124,008	\$399,395	\$63,745	\$282,799	\$1,042,145	\$16,765
Permanent Disability	Person 1 (N=122)	\$216,007	\$853,630	\$63,745	\$489,849	\$2,335,930	\$12,000
	Person 2 (N=124)	\$129,306	\$399,395	\$63,745	\$297,602	\$1,216,174	\$12,000
Trauma	Person 1 (N=121)	n.a.	n.a.	n.a.	\$50,295	\$85,363	\$50,000
	Person 2 (N=122)	n.a.	n.a.	n.a.	\$50,000	\$50,000	\$50,000
Income Protection	Person 1 (N=124)	n.a.	n.a.	n.a.	\$2,671	\$10,670	\$797
	Person 2 (N=124)	n.a.	n.a.	n.a.	\$1,629	\$4,992	\$797

Household Seven - Couples with two earners, youngest child aged 13- 18

In the case of families with teenage children, there are obvious needs for substantial life and TPD cover, as well as clear estate arrangements. There will also be major Trauma and IP needs. Note that levels of cover will be high, but not as high as Household Five or Six, and will vary depending on the level of asymmetry between the couple in earning ability.

Rates of insurance ownership and insurance levels, shown in Table 24, are similar to the earlier family household groups. Low response rates restrict the statistical significance of results.

Table 24: Insurance held by Teenage Family Households

		Proportion with this insurance	Level of insurance held		
			Mean	Maximum	Minimum
Life	Person 1 (N=54)	71.1%	\$265,176	\$1,500,000	\$250
	Person 2 (N=44)	57.9%	\$211,698	\$550,000	\$250
Permanent Disability	Person 1 (N=11)	22.8%	\$101,273	\$250,000	\$30,000
	Person 2 (N=9)	15.8%	\$96,778	\$250,000	\$25,000
Trauma	Person 1 (N=13)	21.1%	\$110,822	\$500,000	\$12,000
	Person 2 (N=14)	19.3%	\$124,500	\$500,000	\$12,000
Income Protection	Person 1 (N=14)	25.4%	\$3,068	\$7,083	\$1,100
	Person 2 (N=4)	13.2%	\$3,333	\$6,000	\$1,000

Table 25 shows similar results to Household Five, with substantial underinsurance on the life of both earners.

Table 25: Level of Underinsurance for Insured Teenage Family Households

		Based on 5 X salary			Ideal		
		Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life	Person 1 (N=53)	-\$24,808	\$379,395	-\$1,285,840	\$219,066	\$895,457	-\$1,314,962
	Person 2 (N=44)	-\$12,268	\$287,935	-\$377,640	\$162,321	\$933,924	-\$338,000
Permanent Disability	Person 1 (N=11)	\$172,875	\$282,935	\$37,935	\$502,947	\$860,920	\$300,470
	Person 2 (N=9)	\$105,988	\$287,935	-\$46,255	\$332,074	\$933,924	-\$98,000
Trauma	Person 1 (N=13)	n.a.	n.a.	n.a.	\$60,822	\$450,000	\$38,000
	Person 2 (N=14)	n.a.	n.a.	n.a.	\$58,938	\$450,000	\$50,000
Income Protection	Person 1 (N=14)	n.a.	n.a.	n.a.	\$264	\$1,599	-\$2,091
	Person 2 (N=4)	n.a.	n.a.	n.a.	\$897	\$2,677	-\$2,401

Table 26: Level of Underinsurance for Uninsured Teenage Family Households

		Based on 5 X salary			Ideal		
		Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life	Person 1 (N=29)	\$216,696	\$399,395	\$63,745	\$405,977	\$1,000,214	\$18,473
	Person 2 (N=28)	\$130,107	\$287,935	\$63,745	\$267,693	\$655,439	\$12,000
Permanent Disability	Person 1 (N=74)	\$224,696	\$399,395	\$63,745	\$451,111	\$1,052,092	\$18,473
	Person 2 (N=73)	\$131,473	\$287,935	\$63,745	\$290,803	\$700,779	\$12,000
Trauma	Person 1 (N=78)	n.a.	n.a.	n.a.	\$50,000	\$50,000	\$50,000
	Person 2 (N=77)	n.a.	n.a.	n.a.	\$50,000	\$50,000	\$50,000
Income Protection	Person 1 (N=80)	n.a.	n.a.	n.a.	\$2,854	\$4,992	\$797
	Person 2 (N=80)	n.a.	n.a.	n.a.	\$1,756	\$3,599	\$797

Household Eight - Older couple, aged 50-65, with no dependants

In the case of older couples, there are substantially lower needs around death, providing only sufficient accessible funds for coverage of any income gap to retirement of the survivor, a funeral and clear estate arrangements. This will vary depending on the level of asymmetry between the couple in earning ability, and the funds available to support retirement. There will be lesser TPD, Trauma and IP needs, as any permanent interruption to the ability to earn a living will have a lower present value.

Note that the majority of the life insurance sum is to secure retirement income, and as retirement is closer the future value of the net assets saved is lower, so the life sum increases. The sum required to sustain the present standard of living in retirement should have been substantially secured at this stage with higher investments than we assume, so life sums without retirement investments are also listed. There will be an increasing issue with escalating premium costs.

Table 27 shows decreased rates of ownership of all types of insurance, especially on the secondary earner.

Table 27: Insurance held by Older Couple Households

		Proportion with this insurance	Level of insurance held		
			Mean	Maximum	Minimum
Life	Person 1 (N=51)	61.4%	\$173,477	\$3,000,000	\$3,000
	Person 2 (N=38)	39.3%	\$114,368	\$500,000	\$2,000
Permanent Disability	Person 1 (N=8)	18.6%	\$389,785	\$2,000,000	\$8,000
	Person 2 (N=3)	10.0%	\$150,000	\$300,000	\$50,000
Trauma	Person 1 (N=5)	10.0%	\$251,360	\$1,000,000	\$50,000
	Person 2 (N=1)	6.4%	\$50,000	\$50,000	\$50,000
Income Protection	Person 1 (N=8)	16.4%	\$4,491	\$6,500	\$1,000
	Person 2 (N=2)	5.7%	\$2,458	\$2,500	\$2,416

Table 28 shows a moderate degree of underinsurance on the life of both the primary earner and the life of the secondary earner. However, the ideal figure uses inadequate

data on levels of assets so the levels of insurance held could be appropriate for current expectations.

Table 28: Level of Underinsurance for Insured Older Couple Households

		Based on 5 X salary			Ideal		
		Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life	Person 1 (N=47)	\$21,156	\$366,395	-\$2,936,255	\$105,494	\$668,233	-\$2,988,000
	Person 2 (N=35)	\$45,229	\$287,935	-\$212,065	\$124,229	\$521,245	-\$129,984
Permanent Disability	Person 1 (N=8)	-\$126,376	\$366,395	-\$1,600,605	-\$21,391	\$520,867	-\$1,227,249
	Person 2 (N=3)	\$106,504	\$399,395	-\$188,345	\$263,955	\$948,382	-\$76,151
Trauma	Person 1 (N=5)	n.a.	n.a.	n.a.	- \$201,360	\$0	-\$950,000
	Person 2 (N=1)	n.a.	n.a.	n.a.	\$40,000	\$50,000	\$0
Income Protection	Person 1 (N=8)	n.a.	n.a.	n.a.	-\$1,179	\$1,677	-\$2,901
	Person 2 (N=2)	n.a.	n.a.	n.a.	\$1,687.	\$4,992	-\$1,619

Table 29: Level of Underinsurance for Uninsured Older Couple Households

		Based on 5 X salary			Ideal		
		Mean	Maximum	Minimum	Mean	Maximum	Minimum
Life	Person 1 (N=47)	\$182,575	\$506,850	\$63,745	\$263,689	\$1,221,746	\$12,000
	Person 2 (N=38)	\$108,984	\$506,850	\$63,745	\$213,073	\$1,250,358	\$12,000
Permanent Disability	Person 1 (N=97)	\$177,114	\$506,850	\$63,745	\$245,676	\$1,221,746	\$12,000
	Person 2 (N=84)	\$105,631	\$506,850	\$63,745	\$184,266	\$1,250,358	\$12,000
Trauma	Person 1 (N=102)	n.a.	n.a.	n.a.	\$50,013	\$50,685	\$50,000
	Person 2 (N=88)	n.a.	n.a.	n.a.	\$50,008	\$50,685	\$50,000
Income Protection	Person 1 (N=101)	n.a.	n.a.	n.a.	\$2,172	\$6,336	\$797
	Person 2 (N=87)	n.a.	n.a.	n.a.	\$1,263	\$6,336	\$797

Extent of Underinsurance for Life Insurance²⁵

It is important to note that while rates of ownership of life insurance are low for some groups, within the key family groups there is little evidence that ownership rates are too low. There is, however, strong evidence the levels of life cover held are inadequate.

²⁵ As discussed in the main text, there are several limitations in these estimates, which are increased for the other forms of insurance due to the small numbers involved. Discussion of underinsurance is therefore limited to life insurance.

Table 30 provides an overview of the level of insurance held by household type. It clearly shows the higher level of insurance held by families with dependent children, although the difference is more marked for life insurance than for the other forms of insurance.

Table 30: Insurance levels by household type²⁶

	Life	TPD	Trauma	IP
Single	32.1%	14.2%	4.9%	11.2%
Young couple	39.8%	8.3%	12.0%	18.0%
Single-parent family	55.5%	12.2%	20.1%	17.1%
Single-earner family	73.3%	18.9%	18.9%	25.0%
Pre-school family	66.7%	19.2%	23.0%	40.0%
Primary school family	71.4%	23.3%	24.8%	25.7%
Teenage family	71.1%	22.8%	21.1%	25.4%
Older couple	61.4%	18.6%	10.0%	16.4%
Total	57.0%	15.5%	15.3%	20.5%

Table 31 summarises the percentages within each group who have “inadequate” life insurance cover (more than 20% below ideal) and “severe underinsurance” life cover (more than 40% below the ideal). This indicates that while New Zealanders do, in general, own life insurance, they do not own adequate amounts, and they do not distinguish between the cover on asymmetrical earners and do not adequately estimate their underinsurance gap.

Table 31: Extent of inadequate and severely inadequate life insurance by household group

	Inadequate insurance		Severely underinsured	
	Life 1	Life 2	Life 1	Life 2
Single	22.9%	n.a.	20.8%	n.a.
Young couple	60.7%	20.0%	50.0%	6.7%
Single parent family	5.9%	n.a.	5.9%	n.a.
Single earner family	1.6%	7.8%	1.6%	5.9%
Pre-school family	69.0%	44.8%	54.8%	31.3%
Primary school family	73.6%	48.6%	57.5%	37.1%
Teenage family	79.6%	52.3%	68.5%	45.5%
Older couple	78.3%	72.2%	52.2%	61.1%
Total	53.9%	42.5%	43.3%	33.6%

Using the data from the survey we can estimate the extent of underinsurance for New Zealand, albeit with conditions. The conditions that must be noted with respect to this estimate are:

- Some portions of the New Zealand population are excluded, such as households comprising more than one family and households with dependent adults.

²⁶ The proportions shown for the two-earner households represent the proportion where insurance is held against the death or illness etc of the main income earner.

- Those who did not know whether they have insurance are excluded.
- This assumes that the formal estimate of the ideal level of insurance used in this study is accurate, but there are a number of reasons why this may not be the case as discussed earlier in the report.
- The calculations rely on the information supplied by the respondents, although there is some evidence that this is not completely accurate, as discussed elsewhere in the report.
- It is assumed that having no insurance means a person is underinsured, although non-insurance may be appropriate in some cases.
- Many respondents did not supply information on the level of insurance held and are therefore excluded from the estimates.
- The level of underinsurance is only in respect of life insurance on the life of the main income earner in two-income earner households.

Table 32: Estimate of national underinsurance for New Zealand

	Number of households in New Zealand	Proportion of uninsured households ²⁷	Proportion of severely underinsured households	Average underinsurance for the uninsured	Averaged underinsurance for the insured	Total underinsurance (\$million)
Singles	216,200	66.3%	20.8%	\$69,447	(\$55,685)	9,954
Couples ²⁸	332,700	47.2%	47.3%	\$365,855	\$118,982	62,649
Single parent Families ²⁹	95,600	40.5%	5.9%	\$20,839	(\$316,604)	806
	365,100	26.4%	46.7%	\$362,312	\$124,985	68,507

²⁷ The respondents who answered “Don’t know” as to whether they hold insurance are excluded from these calculations, so the proportions will differ from earlier tables.

²⁸ Underinsurance data is based on all couples in the sample, which includes but is not limited to the Young Couple and Older Couple household groups used in this study.

²⁹ Underinsurance data is based on the four family household groups in this study: Single earner family, Pre-school family, Primary school family and Teenage family.

The level of underinsurance for each household type at the national level is calculated as

$$P*N*U1 + (1-P)*N*U2$$

where:

P = the proportion of uninsured

N = the number of households in New Zealand

U1 = Average underinsurance for the uninsured

U2 = Average underinsurance for the insured³⁰

The total level of life underinsurance is the sum of the final column, \$141.918 billion.

6.0 Conclusions

The survey results show rates of life insurance ownership which are similar to those in the US or Australia, as described in earlier sections. Levels of life cover are also comparable. Similar results are obtained for TPD, trauma and IP insurance.

There is no indication that there is a national crisis with low levels of life cover though there is, however, strong evidence that levels of life cover are often poorly chosen, with little relationship between ideal cover and actual cover. This indicates that the considerations of New Zealanders about adequate insurance cover levels, or the advice they have received, is inadequate.

The reasons for decision making around life cover levels need research. It could be noted that modern family structures are becoming more flexible, with fewer nuclear families, so the traditional insurance market is disappearing. Insurance company products and marketing seem to not be capturing this new family complexity. We found that traditional insurance measures, like income multiples, do not correlate to actual needs.

It needs to be noted, however, that the report's calculation of "ideal" cover uses many assumptions about family structure and finances, which may only be approximately true. The underinsurance figures should thus be regarded as ballpark figures only.

Caution is thus needed with the conclusions - a degree of underinsurance is fine. Our results do show, however, clear underinsurance for the majority of family groups on the

³⁰ Where the level of underinsurance is negative indicating more insurance is held than necessary, the level of underinsurance is assumed to be zero.

life of the main earner, involving a drop in present net consumption of more than 40 percent.

The survey shows that the bigger issue within New Zealand seems to be the low levels of ownership of personal insurance around permanent disability, like TPD or long-term IP cover. Most families have high levels of financial vulnerability to medium or long term disability. Analysis of results by AC Nielsen shows similar reasons for non- or low levels of disability insurance cover as for life and show that the main reasons cited by respondents who do not have cover relate to it not being important or too expensive. Similar results were found for levels of inadequate cover.

Other survey results show that respondents did not regard personal insurance as a priority, or had not given it much thought. This implies that New Zealanders generally do not, or do not like to, contemplate adverse events and their financial impact. It can be hard to recognise vulnerability to rare events. The industry as a whole is responding to this by trying to simplify the process and approach customers in low cost avenues like websites. These websites, however, generally have extremely low quality cover calculation tools and advice, and do not offer the personal contact which is often an essential ingredient of an insurance purchase. There is a strong need for promotion of non-life personal risk insurance products.

However, given high rates of life insurance ownership within families, the main issue is lack of periodic review of cover levels. Childless singles or couples do not seem to contemplate their vulnerability to medium term or permanent disability, possibly because of a lack of trigger events. There seems to be a general lack of trigger events around disability insurance decision making. There is a major need to educate New Zealanders on the hazards of disability, which is statistically more likely than death.

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