APPENDIX B – SUMMARY OF WEIGHTINGS PROCEDURES

Surveys of the type used in this study require weightings in order to produce accurate population estimates. This is done by assigning each respondent with a weight that specifies the respondents contribution to a population estimate (thus if the ith respondent has weight w_i and a value of X_i on variable X, the population mean is estimated as $\overline{X} = \left(\sum w_i X_i\right)/\sum w_i$; if all weights were replaced with the value of 1, the resulting statistic would be $\sum X_i / n$, which is the simple sample mean for X).

The use of respondent weights compensates for disproportionate sampling (for example due to interviewing only one person from each household) and can also adjust departures from demographic representativeness by the sample due to differential non-response between various demographic groups.

The estimates produced in this report derive from data collected in two surveys: the Survey of Older New Zealanders aged 65 years and over and the Survey of the Working-Age Population aged 18-64 years[25].

The survey of older New Zealanders was administered through the Household Labour Force Survey (HLFS) using the HLFS sampling frame and was concerned with the civilian, usually resident, non-institutionalised population aged 65 years and over living in permanent private dwellings. One eligible person per household was interviewed.

The survey of the working age population (18-64 years) involved house-to-house sampling where only one person per household was interviewed and included people aged 18-64 years living in permanent private dwellings.

The results from the two surveys have been combined to create a single dataset on the total population. Weights are used to derive estimates for the total population and sub populations.

Population estimates have been calculated using respondent weights to represent the adult population and child weights to represent the children in the respondent's economic family unit. Children in this study were not surveyed in their own right but are counted in the economic family units of which they

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[25] Data was also available from a third survey which was a supplementary sample of older Maori aged 65-69 years. Incorporating this data with the two main surveys would have provided so little gain in the accuracy of population and sub-group estimates that it was judged not to justify the added complications that would have resulted to making estimates.

are members. A dependent child is defined as being aged less than 18 years and with no partner or child of their own.

The living standard score assigned to the relevant economic family unit is assigned to the child or children in the unit. The children in the sampled economic family units in the Survey of Working Age People were weighted to represent the count of children living with a working age parent or parents. A child weight was not calculated for the Survey of Older People however only a very small proportion of children live in an economic family unit with a parent aged 65 years or over. No information was collected on people aged less than 18 years who did not live with their parents or who had a child or partner aged less than 18 years of their own.

The population estimates presented in these reports are for adults and children living with adults in private dwellings.

The specification of respondent weights to combine the two samples involved dealing with some complications, the primary one being overlaps between the two populations. The overlap results from a small sub-population of people over 65 years of age with partners less than 65 years of age who may be double counted by the weightings. As noted earlier, dependent children amongst the 65 plus population have not been accounted for by the weightings. These limitations are expected to have only negligible effects on results produced by the weights.

Users of the dataset will find that the respondent weights to produce population estimates are given as part of the documentation.

APPENDIX C – COMPARISON BETWEEN COMBINED WEIGHTED RESPONSES AND CENSUS 2001

This appendix provides a comparison of population estimates obtained from the composite weighted living standards survey dataset with the 2001 Population Census.

Table C1: Demographic and social characteristics

	Weighted Responses	Census 2001
Age groups[26]		
Dependent children (under 18 years)	25.9	27.0
18-24 years	10.7	9.2
25-44 years	31.5	29.7
45-64 years	20.5	22.1
65+ years	11.4	12.1
Total	*100.0*	*100.0*
Gender		
Male	49.8	48.8
Female	50.2	51.2
Total	*100.0*	*100.0*
Ethnic groups[27]		
Māori	14.0	14.7
NZ Pacific	5.8	6.5
Chinese	2.0	2.8
Indian	1.4	1.7
Other	3.8	0.7
European	79.7	80.0
Regions		
Auckland	27.3	28.8
Wellington	9.2	9.1
Other major urban	32.9	33.2
Secondary and minor urban	16.1	14.7
Rural	14.4	14.3
Total	*100.0*	*100.0*

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[26] The procedure for specifying the weights involved matching the weighted composite dataset to census based population estimates of age and gender which forced close correspondence between the weighted survey and census distributions on these variables.

[27] Ethnicity is based on total responses to the ethnicity question; therefore the ethnic categories are not mutually exclusive.

Table C1 continued: Demographic and social characteristics

	Weighted Responses	*Census 2001*
Housing tenure[28]		
Owned – family trust/ family and/or other	10.6	NA
Owned – family unit	76.4	67.8
Rented – private	10.4	19.6
Rented – local authority	0.4	1.1
Rented – HNZ	2.3	4.1
Total	*100.0*	*100.0*
Higher educational qualifications[29]		
No formal qualifications	20.5	27.5
School qualifications	29.7	37.6
Occupational cert. dips.	34.8	21.9
Bachelors degree or higher qualifications	15.0	13.0
Total	*100.0*	*100.0*

Table C2: Economic and financial characteristics

	Weighted Responses	*Census 2001*
Major occupational groups of employed population aged 18-64 years[30]		
Leg., Adm. & Managers	15.1	14.1
Professionals and technicians	27.7	27.9
Agric. and Fisheries	9.5	7.9
Clerks, Service, Sales	16.9	26.4
Trades, plant, machinery	26.3	18.1
Elementary occupations	4.5	5.6
Total	*100.0*	*100.0*
Income source[31] [32]		
Income-tested benefits	16.0	21.8
New Zealand Superannuation	12.4	18.8
Market sources	71.6	73.4
Total	*100.0*	

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[28] Census information on home ownership refers to those who own or part-own their home. The Census does not include information on homes that are owned by a family trust. The comparison with the Census here is not directly comparable as the Census distribution is based on a tenure/landlord distribution of households; the living standards distribution is based on a tenure/landlord distribution of the population in Economic Family Units.

[29] For the Living Standards Survey this information pertained to those 18 years of age and over; for Census 2001, information was gathered for those aged 20 and over. As such, differences in educational qualifications between the 2001 Census and Living Standards Survey may reflect differences in the classification and reporting of qualifications.

[30] The 2001 Census estimate of occupational distributional is not strictly comparable with the distribution obtained from the living standards survey. This is due to a variety of factors including: the Census distribution is based on usually resident population aged 20-64 years while the living standards survey distribution is based on the occupational distribution of the main income earner in the economic family unit aged 18-64 years. The Census distribution is likely to under-represent armed forces as they are less likely to live in private dwellings.

[31] Census information on income source is based on total response and persons can be included in more than one category. In contrast the estimates from the living standards survey are based on mutually exclusive categories.

[32] Comparisons were not possible between the survey and census income distributions. The income data obtained from the surveys related to EFUs while the Census produced income data for individuals and households but not EFUs.