2014-15 Business of Ageing Update: Final Report 2015

STRUCTURE AND CONTENT

This Report is divided into two parts. The first deals with Part 1 of the Terms of Reference for the Study, covering the updating of the Base Model and its working assumptions. The second covers the range of ancillary issues raised in Part 2 of the Terms of Reference, involving 'What If' questions about Participation Rates, Contributions to GDP etc. etc.

EXECUTIVE SUMMARY

Purpose and Background

This Summary reports on the results of the '2014-15 Business of Ageing Update.' The Update is the third of a series of studies that began in 2010 which seek to monitor and assess trends in the economic value and business opportunities associated with New Zealand's increasing population of Older People [65+ years].

The November 2014 National Population Projections prepared by Statistics NZ comment that:

The number of people aged 65+ doubled between 1984 and 2014 to reach 650,000. The number is projected to double again by 2039. It is highly likely that there will be 1.28–1.37 million people aged 65+ in 2041, and 1.57–1.81 million in 2068. The largest growth will occur between 2011 and 2037 as the baby boomers move into the 65+ age group.

By 2032, it is expected that 21–22 percent of New Zealanders will be aged 65+, compared with 14 percent in 2014. By 2050, this proportion is expected to reach 22–26 percent, and reach 24–32 percent by 2068.

Within the 65+ age group, the number of people aged 85 and over (85+) is expected to increase significantly. From 78,000 in 2014, it is highly likely that 220,000–270,000 people will be aged 85+ in 2041 and 320,000–450,000 in 2068. By the 2050s, about 1 in 4 people aged 65+ will be 85+ compared with 1 in 8 in 2014.

The most 2012 projections of the National Labour Force by Statistics NZ observed that:

The number of people aged 65+ in the labour force climbed from 25,000 in 1991 to about 130,000 in 2012. Further increases in labour force participation, coupled with more people at older ages, is likely to grow the older segment of the labour force further. It is highly likely that there will be 240,000–500,000 people aged 65+ in 2036 and 280,000–660,000 in 2061. The largest growth will occur between 2011 and 2031, as the baby boomers move into the 65+ age group.

The Update explores the possible economic consequences of these trends. The Update has been conducted in two parts. The first covers the updating of the Base Model and its working assumptions. The second covers the range of ancillary issues involving 'What If' questions about differing assumptions and inputs are adopted for the key inputs and variables.

Basis of the Work

The work centres on the development and refinement of a quantitative model that projects (on an 'other things being equal' basis), the $ values of the earnings, tax paid, and consumption

expenditures of Older New Zealanders and the implications that additional paid work might have on their voluntary work contributions.

The primary model inputs are the projected population of Older People and the projected numbers of Older People in the Labour Force [[i.e. the numerator and the denominator of the 'Participation Rate']. Participation Rates for Older New Zealanders have been rising steadily in New Zealand over the last few years from 12 percent in 2006 to 21 percent in 2012.

The model projects trends in the economic value of Older People, based on long-term projections drawn from The Treasury's Long Term Fiscal Model and progressive updates of Demographic and Labour Force Projections by Statistics NZ (SNZ).

The need for a 2014-15 Update has been triggered by the release by SNZ of new National Population Projections on 28 November 2014. Unfortunately the expected release of associated Labour Force Projections has now been delayed until the end of 2015 to early 2016, such that the Update has made recourse to SNZ's 2012 Labour Force Projections.

Results of Updating the Basic Model

General

Comparing the November 2014 National Population Projections with their predecessor, a general trend towards increased longevity for all 65+ cohorts is evident. And the projected increases in longevity among the Older Old (75+) are highly significant in attenuating the breaking 'Grey Tsunami' of ageing Baby Boomers from 2030 onwards. For example, the new central projections suggest that there will additions to the 80+ cohort of nearly 20,000 males and 25,000 females by 2051.

However, from the point of view of the Update, increasing levels of survival (and presumably higher levels of health) among the Early Old (under 75) have positive impacts on levels of participation and earnings, particularly before 2030-35 (generally in the range of 2,000 to 3,000 additional males and females per year), assuming Participation Rates based on those in The Treasury's 2013 Long Term Fiscal Model.

The 2015 research shows that in the coming decades older New Zealanders are likely to make an even greater contribution to the economy than was predicted in the 2011 and 2013 updates.

The key projections (using the base assumptions outlined in this report) are that older people will:

- Be more active in the labour market and make up 12 percent of the labour force in 2031 and 13 percent by 2051, a rise from about 5 percent in 2011

- Have an overall participation rate of 31 percent by 2031 and 29 percent by 2051, up from about 21 percent today

- Increase their earnings from paid work such that total earnings from paid work could rise from $2.8b in 2011 to $11.3b in 2031 and $18.2b in 2051

- The earnings of those who are self-employed could rise from about $0.4b in 2011 to about $1.7b in 2031, and $2.6b in 2051

- Make a significant contribution to tax revenue and pay income tax totalling $1.5b in 2031, and $2.5b in 2051, up from $0.4b in 2011

- Make total tax contributions (including payments on pensions [such as New Zealand Superannuation], investments and GST) of $10b in 2031 and $17 billon in 2051, up from about $3.6b in 2011.

- Be valued for their voluntary work and contribute through unpaid and voluntary work an estimated $20b per year in 2031 and $35b in 2051, from about $8.5b per year in 2011. This is based on their earning being valued at $16.10 per hour (the so-called Carer Wage).

- Have increasing influence as a consumer group and spending in total about $39b in 2031 and $65b in 2051– up from about $14b in 2011 (exclusive of GST). Most will be spent on groceries, clothing and footwear, followed by housing and housing-related items, health, transport and recreation and culture.

In addition:

- 65 percent of all 65- to 69-year-old men are likely to participate in the labour force by 2051–2061, up from about 45 percent today

- 55 percent of all 65- to 69-year-old women are likely to be working by 2051–2061, up from 31 percent today

- 12 percent of men and 10 percent of women over 80 are likely to be working by 2051.

Sensitivity Testing Insights

General

In attempting to add new data sets for sensitivity purposes and the extension of the scope of the Update, it is important to recognize that the Model itself could not have been built in the absence of the input data that has been collated for The Treasury's Long Term Fiscal Model. This provides relatively detailed demographic and detailed labour force projections to 2061. The LTFM data is unique and extraordinarily detailed for such a long-term model.

Deriving complementary independent sets of projections for every issue would be a monumental and questionable exercise.

The approach that has been taken in the Update is to largely restrict analysis and comment to Statistics NZ's 2012 National Labour Force Projections. The latter complement the LTFM data to a large degree, are well-founded, and originate from a highly reliable source.

Results by Topic

Size of the Older People Labour Force

In the absence of significant in-migration of younger people over the next decade or so, the Older NZ workforce will inevitably start to decline beyond 2031 as the 'Grey Tsunami' breaks and the ranks of the older old rise.

However, a strong influx of younger working age migrants who would turn 65+ between 2041 and 2061 raises the numbers of the Younger Old and smoothes the Grey Tsunami Wave – assuming of course that many of these immigrants will wish to continue working past retirement age.

This is an important point in assessing the fiscal burden of Older New Zealanders – especially beyond 2041 – if the taxes paid on employment are offset against the cost of NZ Super. Continued high levels of migration will smooth and ease the transition to lower participation towards mid-century.

Participation Rates

Participation rates are influenced by the size of the base population and the likelihood that people will seek work.

Consider for example the impact of high out-migration. Other things being equal this will lead to losses of Younger People and therefore Labour Market pressure. It might then tend to raise Participation Rates among Older New Zealanders. On the other hand, if New Zealand becomes the

focus of Retirement Immigration from overseas destinations [USA, Europe etc.], the older immigrants are unlikely to either seek or be able to find work in New Zealand and their presence will depress Participation Rates.

However, the SNZ Labour Force projections suggest that wide variations from the base assumptions are relatively improbable. Again, a 'Kick-Up' effect is evident in the Very High Migration Scenario, reflecting the renewal of participation as migrants move into the Early Old cohorts from 2041 onwards.

Implied Contribution to the National Economy

Again large deviations from the base assumptions are relatively improbable. A reasonable levels of tolerance is + 10 percent. That is, relating the data to the derived Participation Rates to the range of more probable profiles would not generally raise or lower the contribution to of Older New Zealanders to GDP by more than 10 percent.

Hours Worked and Rates of Remuneration

The sensitivity testing suggest that it is not totally improbable that overall Participation Rates of 40 percent could be achieved at least in the earlier years of the 'Grey Tsunami' (to 2035). And such rates could in turn be facilitated by policy adjustments.

Finally, it is important to note that the Base Model is agnostic about whether any additions to Earnings from Wage Employment and Self Employment originate from increases in hours worked or increases in remuneration rates. And any attempt to project the nature of work in terms of its duration and remuneration over the next 4-5 decades is fraught with problems.

As the UK Commission for Employment and Skills comments in its 2014 Report: 'The future of work: jobs and skills in 2030':

It is not possible to predict the future. Twenty years ago, there was a widespread belief among commentators that the defining feature of the future UK labour market would be radically reduced working hours and increased leisure time.

Fast forward to 2014, the year in which mobile is set to overtake desktop to access the Internet, and work and leisure hours have become blurred by our increasingly 'mobile' lives. Jobs are being done on the move, at any time of day, in almost any location.

This example highlights the difficulties involved in forecasting change and the need to take a modest and cautious attitude when communicating the results of an exercise such as the Update.

PART 1: UPDATING THE BASE MODEL

PART 1 TERMS OF REFERENCE

The Provider will be required to model and report on the following:

- *the current and projected economic contribution of older people, both through paid work and other contributions to GDP (over the period 2011 to 2051); and*

- *the current and projected value of the mature consumer market in New Zealand, including the share and patterns of spending growth that will come from older consumers (over the period 2011 to 2051).*

The Ministry requires the 2014 update to incorporate:

- *recently released data on participation in voluntary work, unpaid work and caregiving (2013 Census and 2009/2010 Time-Use Survey);*

- *the economic value attributed to voluntary work, unpaid work and caregiving, taking into account the recent work undertaken by Infometrics on the economic value of informal care in New Zealand (report attached);*

- *the contribution that increasing labour force participation will make to funding the incremental increase in the cost of New Zealand Superannuation (NZS) through flow back of PAYE and GST. Also to identify impact of additional earnings on the after tax rate of NZS as NZS is taxed at the recipient's marginal tax rate. With more people working beyond the age of eligibility for NZS a growing number of recipients will be pushed into the higher tax brackets [$48,001 to $70,000 @ 30% or $70,001+ @ 33%]. This reduces the net rate of NZS payable to them.*

- *update any other relevant new data from the 2013 Census and other sources (eg New Zealand Income Survey[1] and the Household Economic Survey); and*

- *provision to incorporate the updated National Population Projections (2013 Base, November 2014 Update) into the model – scheduled to be released by Statistics New Zealand on 28 November 2014.*

1. Impacts of the 2014 Statistics NZ Population Projections Update

As foreshadowed in the Terms of Reference for this Study, Statistics New Zealand released a new set of population projections on 28 November 2014. The demographic projections for Older People

used in the previous 2013 Business of Ageing project are shown in Table 1.1 below and the recently released projections are summarized in Table 1.2 below.

Comparing the two sets of projections, a general trend towards increased longevity for all 65+ cohorts is evident. And the projected increases in longevity among the Older Old (75+) are highly significant in attenuating the breaking 'Grey Tsunami' of ageing Baby Boomers from 2030 onwards. For example, the new projections suggest that there will additions to the 80+ cohort of nearly 20,000 males and 25,000 females by 2051.

However, from the point of view of this Study, increasing levels of survival (and presumably higher levels of health) among the Early Old (under 75) will have positive impacts on levels of participation and earnings, particularly before 2030-35 (generally in the range of 2,000 to 3,000 additional males and females per year.

2. Participation Rates

Statistics NZ has committed to updating its Labour Force and Participation Rate Projections (2013-2061) at some point during the first half of 2015.

In the absence of the updated projections, the previous Participation Rates projected for Older New Zealanders have been used [these derive from the Treasury's 2013 Long Term Fiscal Model).

Some comments about 'possible'/ 'potential' PRs are provided in Part 2 of this Report.

Table 1.1: Previous [2013] Statistics NZ Central Demographic Projections for Older People

		2011	2016	2021	2026	2031	2036	2041	2046	2051
OLDER MALES										
	65-69	87,970	112,200	119,580	135,400	141,050	135,460	125,350	121,240	141,820
	70-74	69,580	81,770	105,090	112,980	128,850	135,080	130,610	121,560	118,230
	75-79	49,190	60,740	72,450	94,280	102,740	118,460	125,350	122,400	114,800
	80+	61,540	70,790	86,070	106,470	138,550	167,630	200,120	228,140	244,290
TOTAL MALES		268,280	325,500	383,190	449,130	511,190	556,630	581,430	593,340	619,140
OLDER FEMALES										
	65-69	92,240	118,330	127,680	147,200	156,120	153,920	143,560	135,930	151,610
	70-74	75,630	88,010	113,650	123,370	142,860	152,130	150,630	141,010	134,020
	75-79	56,700	69,280	81,560	106,180	116,270	135,600	145,260	144,730	136,160
	80+	94,170	101,190	117,510	141,100	180,300	217,790	260,640	299,490	325,560
TOTAL FEMALES		318,740	376,810	440,400	517,850	595,550	659,440	700,090	721,160	747,350
TOTAL OLDER PEOPLE										
	65-69	180,210	230,530	247,260	282,600	297,170	289,380	268,910	257,170	293,430
	70-74	145,210	169,780	218,740	236,350	271,710	287,210	281,240	262,570	252,250
	75-79	105,890	130,020	154,010	200,460	219,010	254,060	270,610	267,130	250,960
	80+	155,710	171,980	203,580	247,570	318,850	385,420	460,760	527,630	569,850
TOTAL OLDER PEOPLE [2013 Est]		**587,020**	**702,310**	**823,590**	**966,980**	**1,106,740**	**1,216,070**	**1,281,520**	**1,314,500**	**1,366,490**

Table 1.2: Latest [2014] Statistics NZ Central Demographic Projections for Older People

			2011	2016	2021	2026	2031	2036	2041	2046	2051	2056	2061
OLDER MALES													
		65-69	87,970	114,100	120,800	136,400	143,700	141,300	133,900	126,400	139,200	168,000	184,500
		70-74	69,580	82,100	106,800	114,200	129,900	137,600	136,300	129,800	123,200	136,200	164,800
		75-79	49,190	60,100	72,800	95,900	104,000	119,600	128,000	128,000	122,900	117,600	130,700
		80+	61,540	69,000	84,700	106,400	140,600	170,800	204,000	233,600	253,700	262,300	263,600
TOTAL MALES			268,280	325,300	385,100	452,900	518,200	569,300	602,200	617,800	639,000	684,100	743,600
OLDER FEMALES													
		65-69	92,240	119,500	129,900	148,600	157,700	158,400	149,700	139,300	149,600	170,800	176,300
		70-74	75,630	88,300	114,700	125,400	144,200	153,700	155,000	147,100	137,300	147,800	169,000
		75-79	56,700	68,500	81,900	107,400	118,400	137,200	147,100	149,200	142,300	133,500	144,200
		80+	94,170	99,500	117,600	143,500	185,500	226,000	270,600	310,600	339,900	352,200	350,900
TOTAL FEMALES			318,740	375,800	444,100	524,900	605,800	675,300	722,400	746,200	769,100	804,300	840,400
TOTAL OLDER PEOPLE													
		65-69	180,210	233,600	250,700	285,000	301,400	299,700	283,600	265,700	288,800	338,800	360,800
		70-74	145,210	170,400	221,500	239,600	274,100	291,300	291,300	276,900	260,500	284,000	333,800
		75-79	105,890	128,600	154,700	203,300	222,400	256,800	275,100	277,200	265,200	251,100	274,900
		80+	155,710	168,500	202,300	249,900	326,100	396,800	474,600	544,200	593,600	614,500	614,500
TOTAL OLDER PEOPLE [2013 Est]			587,020	701,100	829,200	977,800	1,124,000	1,244,600	1,324,600	1,364,000	1,408,100		
	Census 2014												

3. Income Sources and Levels for Older New Zealanders

The 2013 Household Information Survey statistics indicated that 17.5 percent of those over 65 were in some form of Paid Employment - up from 15.5 percent in 2009 but lower than the 19.6 percent figure recorded for 2012 (partly due to the burgeoning numbers of Older Old). On the other hand, average incomes per week for the group are reported to have risen from $439 per week in 2012 to $557 per week in 2013 (a rise of 27 percent). In the case of Self-Employment, the numbers of people involved is shown to have fallen though there was a slight increase in average remuneration from this source [see Table 1.3].

Table 1.3: Average Weekly Incomes for the 65+ Group by Source [HIS]

	Average weekly Income in $ from					Average all sources collected	Median all sources collected	Number of people ('000)
	Wages and Salaries	Self-Employment	Government Transfers	Investments	Other Transfers			
Overall Average and Median Weekly Income - All 65+								
June Q 2012	85	47	314	85	29	560	398	574.8
June Q 2013	109	49	319	77	22	575	393	620.1
Average and Median Income for People 65+ in Paid Employment by Source								
June Q 2012	439	243	283	70	18	1049	888	110.6
June Q 2013	557	251	280	116	16	1222	1006	122.3
Average and Median Income for People 65+ Not in Paid Employment by Source								
June Q 2012			322	88	32	441	365	464.2
June Q 2013			329	68	24	418	357	497.8
Numbers of People 65+ by Income Source 65+ ('000)								
June Q 2012	70.00	42.90	562.10	329.60	56.90			
June Q 2013	90.00	34.00	599.40	318.00	58.00			

Some additional detail is now available on the distribution of income by cohort from the 2013 Census, though this relates to the proportions accruing to different groups by decile [see Appendix A, Tables 1 and 2].

The data indicates for example that there were 40,600 people Over 65 who had incomes in the Top Decile [$82,000 per year plus]. These represented 7 percent of the 561,000 people in the 65+ Cohort [well below the 10% recorded for those people in the Overall Population who had incomes in the Top Decile].

The general picture is again of a 65+ population that is predominantly dependent on NZ Super and that has zero or modest supplements, though there is an attenuated 'tail' in the income distribution that encompasses a significant group of relatively wealthy seniors.

The 2013 Update Model projects that Older People will increase their earnings from paid work such that their total earnings from paid work could rise from $2.8b in 2011 to $11.3b in 2031 and $18.2b in 2051. And the earnings of those who are self-employed could rise from about $0.4b in 2011 to about $1.7b in 2031 and $2.6b in 2051

4. Tax Paid

Special tabulations have been sourced from Statistics NZ providing the average **overall** incomes of people in the Over 6 cohorts by **main income source** [see Appendix 1 Table 3].

Table 3 above gives an average income for all sources collected of $575 per week per individual 65+ or $29,900 per year for 2013**.** Applying the IRD's Tax Calculator, Income Tax of $4,252.50 per year would be payable [about 14 percent of the total]. This is the approach that has been used in previous model runs to calculate Income Tax receipts from the 65+ population.

The 2013 Census special tabulations allows us to check the HIS figures – and add a further break-down by 65+ Age Cohort [see Table 1.4 below].

Table 1.4: Average Yearly Incomes from all sources for the 65+ Group by Cohort

Age-Cohort	Average Income	Income Tax	Percent Tax
65-69	36,000.0	5,320.0	0.15
70-74	28,100.0	3,937.5	0.14
75+	24,300.0	3,272.5	0.13
65+	29,200.0	4,130.0	0.14

The figure for overall average earnings of $29,200 per year is remarkably similar to the HIS result, with 14 percent of overall receipts being paid in tax. However, the data also allows us to note that average incomes and tax payments fall markedly and consistently as people age, with average income falling from $36,000 per year for the 65-69 cohort to $24,300 per year for the 75+ cohort and tax payable similarly falling from $5,320 (15%) to $3,272.5 (13%).

A full summary of the 2013 Census source data is shown in Appendix A, Table 3. Appendix A, Table 4 further shows the wide range of sources from which the 65+ group sourced income. While this data is not applicable to the current study it has been reported as a matter of general interest.

Further work on estimating any fiscal yields from Older New Zealanders moving into higher tax brackets as a result of continued employment has not been judged technically feasible, given the uncertainties surrounding future patterns of work.

The results of the current Update Model indicate that Older People are projected to make a significant contribution to tax revenue and pay income tax totalling $1.5b in 2031, and $2.5b in 2051, up from $0.4b in 2011. They are also expected to make total tax contributions (including payments on pensions such as New Zealand Superannuation, investments and GST) of $10b in 2031 and $17 billion in 2051, up from about $3.6b in 2011.

5.   Unpaid Work

A comparison of the results of the 1998-9 and 2008-9 Time-Use Surveys is provided in Table 1.5 below.

Table 1.5: 1998/99 and 2008/09 Data on Unpaid Work Activities by the 65+ Cohort

Time spent on productive and non-productive primary activities total populations									
		Productive activities					Non-productive activities		
		Committed time				Total productive activities[9]	Necessary time – personal care activities	Contracted time – education and training	Free time
raphic charac	Contracted time – labour force activity	Unpaid work for own household	Unpaid work for other household[7]	Unpaid work for an organisation	Total unpaid work[8]				
		Hours and minutes per day (mean)							
1998/99									
Male 65+	0:38	3:40	0:17	0:22	4:19	4:58	11:34	0:01 *	7:27
Female 65+	0:08	4:23	0:12	0:21	4:56	5:04	11:26	0:01 *	7:27
All 65+	0:22	4:04	0:14	0:21	4:40	5:02	11:30	0:01 *	7:27
2008/9									
Male 65+	1:01	3:27	0:27	0:11 *	4:04	5:05	11:26	0:01 *	7:20
Female 65+	0:22	4:21	0:24	0:13	4:54	5:16	11:24	0:02 *	7:11
All 65+	0:40	3:56	0:25	0:12	4:31	5:11	11:25	0:01 *	7:15
Source: Stats NZ Time-Use Surveys									

The 2008/09 Time Use Survey showed that older people on average contributed about 30 hours of unpaid work per week, of which around 2.6 hours was undertaken for other households or organizations, with the remainder being in the form of self-care and care for other household members (including dependent children)

A comparison of the 2013 Census with the 2006 results reveals increases in the proportion of those 65-plus involved directly in household duties and contributing voluntary work through clubs, societies and churches. However, these increases may simply reflect the increasing number of people joining the 65- to 75-year age group.

The valuation of unpaid work again presents considerable problems. However, new estimates are now available of the 'Economic Value and Impacts of Informal Care in New Zealand' [Infometrics, September 2014 for the Carers NZ and the NZ Carers Alliance] that could be taken into account.

Infometrics considers 4 plausible values:

1. Minimum Wage ($13.75 per hour)

2. Carer Wage ($16.10 per hour)

3. Median Wage ($21.58 per hour)

4. Health Care Industry Wage ($28.63 per hour).

Of course, it can be argued that substitute unpaid professional care is only likely to be an accurate descriptor of a small proportion of the unpaid work voluntary / unpaid work conducted by Older

New Zealanders, and that the overall quality of unpaid work provided by Older New Zealanders is likely to be below the norms evaluated by Infometrics on behalf of professional carers.

The Base Update Model summarized in Table 1.6 uses a value of $16.10 rather than the Minimum Wage and this clearly has a substantial impact on the outcome.

On this basis, it is projected that the value of older people's contribution to unpaid and voluntary work will rise from $8.5b in 2011 to $20b in 2031 and $35b in 2051.

The alternative Infometrics values can be used to scale up or scale down the overall estimates, as required. For example, using the Minimum Wage, the projected values would be 15 percent lower. On the other hand, if the Health Industry Care Wage of $28.63 per hour were to be used the projected values would be 78 percent higher.

6.   Expenditure and consumer market contribution of older people

As noted in the 2010 study, income (adjusted for tax) provides a practical means of projecting expected expenditure levels for older people, particularly as it is reasonable to assume that for most older people virtually all income will be allocated to consumption (with low levels of saving, and likely ongoing net dis-saving/divestment for the more affluent).

Income available for expenditure

Gross overall income includes government transfers (especially New Zealand Superannuation payments), investment income and other transfers, including gifts and the realisation of assets. Tax payments on income from paid employment and self-employment reduce the level of income available for expenditure.

Owing to the expected growth in those aged 65-plus (and the implied improvements in their health):

- the after-tax income for this group is projected to be more than $73b by 2051 – a significant increase on the 2013 projection of $68b

- spending by older people (including GST) is expected to rise from $13.8b per year in 2011 to about $39b in 2031 ($36.3b in the 2013 update), $65b in 2051 ($60.3b) and $85b in 2061.

Consumer market contributions

In the 2010-11 study, indicative average expenditure patterns were built up from models developed by Davey (2009). These had been based on discussions with focus groups of older people. The models apply only to the 87 per cent of older people who own their houses without a mortgage.

This data suggests that older people put a high value on running a car and local trips (16 per cent of expenditure) and entertainment (19 per cent). This leaves about 22 per cent of average income allocated to food and groceries, clothing, footwear and personal care.

Setting aside gifts and donations of 2.5 per cent of income, the remaining 40 per cent of income is allocated to insurance, utilities, housing overheads (e.g. rates and repairs) and medical payments.

More recent Retirement Guidelines have been produced by the Fin-Ed Centre [C. Matthews (2012)] – see Table A.13 in the Statistical Appendix to the 2013 Report.

These confirm that there is little evidence of high levels of disposable income among the bulk of older people and that consumption beyond 'No Frills' levels depends on mortgage-free home ownership and modest additional sources of income.

New data has now been made available by Statistics NZ as a consequence of its research for the 'Public Consultation on CPI Advisory Committee 2013 recommendations'. The data is summarised in Appendix A, Table 8.

Applying the alternative pattern of expenditures shown for Super-annuitants gives the results shown in Appendix 1, Table 8. Of the total value of expenditures by Older People some 27 percent is expected to be spent on Foodstuffs, Alcoholic Drinks and Tobacco and Clothing and Footwear, and a further 22 percent is expected to be spent on Housing and Housing related items. Health (11%), Transport (13%) and recreation and Culture (11%) constitute other important market segments.

As previously noted, despite relatively low levels of individual spending, the aggregate figures are clearly highly significant overall, in terms of market contributions - and therefore, of considerable interest to business and retailers.

Table 1.6

2015 Update Report [2013 Prices]											
OLDER PEOPLE (65+)	**2011**	**2016**	**2021**	**2026**	**2031**	**2036**	**2041**	**2046**	**2051**	**2056**	**2061**
POPULATION & WORKFORCE											
Numbers of Older People	587,020	701,100	829,200	977,800	1,124,000	1,244,600	1,324,600	1,364,000	1,408,100	1,488,400	1,584,000
Participating Males	65,490	97,433	125,905	156,792	181,453	195,859	199,610	197,976	205,020	227,912	252,774
Participating Females	48,380	78,872	109,350	147,018	168,947	181,706	185,532	195,764	205,786	207,662	218,376
TOTAL OLDER WORKFORCE	113,870	176,305	235,255	303,811	350,400	377,565	385,142	393,741	410,806	435,573	471,150
Participation Rate - Males	0.24	0.30	0.33	0.35	0.35	0.34	0.33	0.32	0.32	0.33	0.34
Participation Rate - Females	0.15	0.21	0.25	0.28	0.28	0.27	0.26	0.26	0.27	0.26	0.26
Overall Participation Rate	0.19	0.25	0.28	0.31	0.31	0.30	0.29	0.29	0.29	0.29	0.30
Older Workers % of Total Workforce	0.05	0.07	0.09	0.11	0.12	0.13	0.13	0.13	0.13	0.13	0.14
VALUE OF REMUNERATED WORK											
Paid Work ($ Bn)	2.39	3.92	5.64	7.88	9.69	11.30	12.48	13.75	15.54	17.79	20.78
Self-Employment ($ Bn)	0.41	0.67	0.96	1.34	1.65	1.92	2.12	2.34	2.64	3.03	3.54
TOTAL VALUE ($ Bn)	2.80	4.59	6.60	9.22	11.33	13.22	14.60	16.10	18.18	20.82	24.32
VALUE OF TAX PAID ($ Bn)											
Tax on Earnings from Remunerated Work (	0.38	0.62	0.89	1.25	1.53	1.79	1.97	2.18	2.46	2.81	3.29
Tax on Government Transfers ($ Bn)	1.02	1.29	1.65	2.10	2.57	3.09	3.56	3.95	4.41	5.04	5.79
Tax on Investments and Other Income ($ E	0.41	0.52	0.66	0.85	1.04	1.24	1.43	1.59	1.78	2.03	2.33
GST (all income spent)	1.79	2.38	3.12	4.08	5.00	5.95	6.78	7.52	8.43	9.63	11.11
All Tax including GST ($ Bn)	3.61	4.82	6.32	8.27	10.14	12.06	13.74	15.23	17.07	19.50	22.51
VALUE OF UNPAID WORK	8.46	10.35	12.94	16.26	19.91	23.99	27.86	30.98	34.56	39.40	45.11
TOTAL INCOME											
Remunerated Work ($ Bn)	2.80	4.59	6.60	9.22	11.33	13.22	14.60	16.10	18.18	20.82	24.32
Government Transfers ($ Bn)	9.74	12.30	15.68	20.01	24.51	29.39	33.86	37.60	42.02	47.97	55.14
Investments & Other ($ Bn)	3.02	3.82	4.87	6.21	7.61	9.12	10.51	11.67	13.04	14.89	17.11
TOTAL VALUE ($ Bn)	15.56	20.71	27.14	35.45	43.46	51.73	58.97	65.36	73.24	83.68	96.57
EXPENDITURE ($ Bn)											
Groceries, Clothing, Alcohol & Tobacco	3.88	5.16	6.75	8.82	10.81	12.87	14.68	16.27	18.23	20.82	24.03
Housing & Household Utilities	3.04	4.04	5.30	6.91	8.48	10.09	11.51	12.75	14.29	16.33	18.84
Health	1.46	1.94	2.54	3.32	4.06	4.84	5.52	6.12	6.85	7.83	9.04
Transport & Communication	2.33	3.09	4.05	5.29	6.49	7.72	8.81	9.76	10.94	12.49	14.42
Recreation, Culture & Education	1.55	2.06	2.70	3.53	4.32	5.15	5.87	6.51	7.29	8.33	9.61
Miscellaneous	1.33	1.77	2.32	3.03	3.72	4.43	5.05	5.60	6.27	7.16	8.27
Interest	0.25	0.33	0.43	0.56	0.69	0.82	0.94	1.04	1.17	1.33	1.54
TOTAL	13.84	18.40	24.10	31.47	38.57	45.93	52.36	58.04	65.04	74.30	85.74

Table 1.7

Previous Update in 2013 Summary Results [2013 Prices]

OLDER PEOPLE (65+)	2011	2016	2021	2026	2031	2036	2041	2046	2051
POPULATION & WORKFORCE									
Numbers of Older People	587,020	702,310	823,590	966,980	1,106,740	1,216,070	1,281,520	1,314,500	1,366,490
Participating Males	65,490	96,610	124,740	155,400	178,820	190,430	190,690	189,170	201,350
Participating Females	48,380	78,540	108,000	140,610	166,410	182,420	185,050	184,070	191,260
TOTAL OLDER WORKFORCE	113,870	175,150	232,740	296,010	345,230	372,850	375,740	373,240	392,610
Participation Rate - Males	0.24	0.30	0.33	0.35	0.35	0.34	0.33	0.32	0.33
Participation Rate - Females	0.15	0.21	0.25	0.27	0.28	0.28	0.26	0.26	0.26
Overall Participation Rate	0.19	0.25	0.28	0.31	0.31	0.31	0.29	0.28	0.29
Older Workers % of Total Workforce	0.05	0.07	0.09	0.11	0.12	0.13	0.13	0.12	0.13
VALUE OF REMUNERATED WORK									
Paid Work ($ Bn)	1.61	2.62	3.75	5.17	6.42	7.51	8.19	8.77	9.99
Self-Employment ($ Bn)	0.55	0.89	1.27	1.75	2.18	2.55	2.78	2.98	3.39
TOTAL VALUE ($ Bn)	2.16	3.51	5.02	6.92	8.60	10.05	10.97	11.75	13.38
VALUE OF TAX PAID ($ Bn)									
Tax on Earnings from Remunerated Work ($ Bn)	0.27	0.43	0.62	0.85	1.06	1.24	1.35	1.45	1.65
Tax on Government Transfers ($ Bn)	1.01	1.27	1.61	2.04	2.49	2.97	3.38	3.74	4.21
Tax on Investments and Other Income ($ Bn)	0.45	0.57	0.73	0.92	1.12	1.34	1.53	1.69	1.90
GST (all income spent)	1.76	2.32	2.99	3.86	4.73	5.61	6.34	6.97	7.86
All Tax including GST ($ Bn)	3.48	4.60	5.95	7.68	9.41	11.15	12.60	13.85	15.62
VALUE OF UNPAID WORK	6.58	8.08	10.02	12.52	15.18	18.03	20.63	22.84	25.65
TOTAL INCOME									
Remunerated Work ($ Bn)	2.16	3.51	5.02	6.92	8.60	10.05	10.97	11.75	13.38
Government Transfers ($ Bn)	9.58	12.12	15.31	19.47	23.74	28.24	32.22	35.64	40.11
Investments & Other ($ Bn)	3.48	4.40	5.56	7.07	8.62	10.25	11.70	12.94	14.56
TOTAL VALUE ($ Bn)	15.21	20.03	25.90	33.45	40.95	48.55	54.88	60.32	68.04
EXPENDITURE ($ Bn)									
Groceries, Clothing, Personal Care	2.96	3.90	5.04	6.51	7.97	9.45	10.68	11.74	13.24
Car & Transport	2.18	2.86	3.70	4.78	5.85	6.94	7.84	8.62	9.73
Entertainment	2.56	3.37	4.36	5.63	6.89	8.17	9.23	10.15	11.45
Overheads, Insurance, Medical	5.79	7.62	9.85	12.71	15.57	18.45	20.86	22.93	25.87
TOTAL VALUE	13.48	17.75	22.95	29.63	36.28	43.00	48.62	53.44	60.28

Table A.1

Income Distribution by Age

Numbers of people by annual personal income decile[1][2]

For year ended 30 June 2013

Personal demographic	Annual personal income decile										All income groups
	Under $600[3]	$600 to $10,499	$10,500 to $17,099	$17,100 to $22,799	$22,800 to $31,299	$31,300 to $39,999	$40,000 to $49,999	$50,000 to $62,499	$62,500 to $81,999	$82,000 +	
	Numbers of People aged 15 years and over (000)[4]										
Sex											
Male	161.2	142.7	146.9	122.2	123.3	161.5	178.9	204.0	209.3	244.3	1,694.4
Female	178.0	212.9	206.4	221.1	228.2	178.2	166.5	150.8	138.8	103.8	1,784.7
Total	**339.2**	**355.6**	**353.3**	**343.3**	**351.5**	**339.8**	**345.4**	**354.8**	**348.1**	**348.1**	**3,479.0**
Age group (years)											
15–19	164.6	93.3	18.3	S	S	S	S	S	S	S	298.6
20–24	S	56.5	48.6	39.3	38.9	42.5	38.8	24.0	S	S	324.1
25–29	15.4	31.8	S	16.3	28.2	32.4	45.0	48.5	S	17.0	296.9
30–34	S	27.2	22.0	S	28.0	30.8	38.4	33.9	39.9	23.7	278.8
35–39	26.8	20.4	S	9.8	21.9	43.5	25.9	38.1	35.8	37.0	273.5
40–44	21.2	20.4	S	21.0	33.5	29.6	31.2	35.9	47.9	53.0	309.0
45–49	15.5	17.0	16.1	19.6	27.0	31.0	42.4	43.6	38.0	57.5	307.6
50–54	S	29.0	23.5	S	27.7	23.4	40.9	38.8	36.2	58.3	305.3
55–59	S	20.0	27.3	22.0	25.9	29.2	26.0	24.9	42.3	32.6	264.0
60–64	S	24.4	28.4	21.8	19.5	20.4	19.2	29.9	25.9	27.7	235.2
65 +	S	S	122.1	152.6	94.8	48.7	35.7	37.2	32.0	40.6	586.1
Total	**339.2**	**355.6**	**353.3**	**343.3**	**351.5**	**339.8**	**345.4**	**354.8**	**348.1**	**348.1**	**3,479.0**

Table A.2

Income Distribution by Age											
Percentages in Income Bands of All Income Groups											
For year ended 30 June 2013											

Personal demographic		Annual personal income decile										All income groups
		Under $600[3]	$600 to $10,499	$10,500 to $17,099	$17,100 to $22,799	$22,800 to $31,299	$31,300 to $39,999	$40,000 to $49,999	$50,000 to $62,499	$62,500 to $81,999	$82,000 +	
		Percentage of People aged 15 years and over (000)[4]										
Sex												
	Male	10%	8%	9%	7%	7%	10%	11%	12%	12%	14%	100%
	Female	10%	12%	12%	12%	13%	10%	9%	8%	8%	6%	100%
Total		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	100%
Age group (years)												
	15–19	55%	31%	6%	S	S	S	S	S	S	S	100%
	20–24	S	17%	15%	12%	12%	13%	12%	7%	S	S	100%
	25–29	5%	11%	S	5%	9%	11%	15%	16%	S	6%	100%
	30–34	S	10%	8%	S	10%	11%	14%	12%	14%	9%	100%
	35–39	10%	7%	S	4%	8%	16%	9%	14%	13%	14%	100%
	40–44	7%	7%	S	7%	11%	10%	10%	12%	16%	17%	100%
	45–49	5%	6%	5%	6%	9%	10%	14%	14%	12%	19%	100%
	50–54	S	9%	8%	S	9%	8%	13%	13%	12%	19%	100%
	55–59	S	8%	10%	8%	10%	11%	10%	9%	16%	12%	100%
	60–64	S	10%	12%	9%	8%	9%	8%	13%	11%	12%	100%
	65 +	S	S	21%	26%	16%	8%	6%	6%	5%	7%	100%
Total		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	100%

NOTES

1. Income is before tax, from regular and recurring sources only. Income figures are collected for those aged 15 years or over. Income groups are deciles (to the nearest hundred dollars) of personal income.

2. Deciles are formed by dividing the population into 10 groups – ranking individuals by the amount of income they receive. The bottom decile (decile 1) is the lowest 10 percent of the population in terms of income, while the top decile (decile 10) is the highest 10 percent.

3. This decile includes loss from investment or self-employment income, or no income received.

4. People counts are rounded to the nearest hundred. Figures may not sum to stated totals, due to rounding.

5. Ethnic groups in this table are created using the total response method. People were able to identify with more than one ethnic group; therefore, figures will not sum to the total population.

6. MELAA represents all Middle Eastern, Latin American, and African ethnicity responses.

7. The category 'Other ethnic group' includes the 'New Zealander' responses.

8. Total ethnic group includes the 'not specified' category.

9. For further information on the qualifications framework, see the Statistical Standard for Qualifications on the Statistics NZ website.

10. Includes 'highest qualification unidentifiable' and 'not stated'.

Symbol:

S suppressed. Estimates have been suppressed for confidentiality and quality reasons if sampling errors are 51 percent or greater, or if there are less than five households contributing to the cells.

Source: Statistics New Zealand

Table A.3 [special 2013 Census tabulations]

2013 Census: Average Overall Incomes from All Sources of People reporting Income from the Sources Named

Age	No Source	Wages & Salaries	Self-employment	Interest & Investment	Work Accident Payment	NZ Super / Veterans Pension	Other Super	Unemploy-ment Benefit	Sickness Benefit	Domestic Purposes Benefit	Invalids Benefit	Student Allowance	Other Govt Benefits	Other n.e.s	Total Stated	Not Stated	Overall Total	Sources of personal Income	Age
MALES																			**MALES**
15-64	100	55,800	64,600	80,200	43,700	44,200	72,100	16,300	15,100	20,500	14,600	12,600	36,300	30,100	48,300	28,200	48,200		15-64
65-69	1,400	59,400	59,600	54,800	40,900	42,800	50,200	17,700	14,800	18,900	16,500	11,900	32,100	45,100	42,900	33,800	42,900		65-69
70-74	1,700	48,700	54,000	41,300	35,300	32,000	41,400	12,200	14,800	15,500	15,700	11,300	25,100	37,200	31,900	22,800	31,900		70-74
75+	2,500	41,600	49,700	34,200	25,700	26,500	35,700	11,300	49,000	15,000	17,000	13,900	25,600	31,200	26,400	21,100	26,300		75+
Total 65+	1,900	55,200	56,400	42,800	35,200	33,300	41,100	14,600	15,000	15,800	16,600	13,600	26,700	37,300	33,600	23,500	33,600		Total 65+
Total 15+	200	55,800	63,500	67,700	43,100	33,500	46,100	16,300	15,100	20,400	14,700	12,600	34,700	30,800	45,800	27,400	45,700		Total 15+
FEMALES																			**FEMALES**
15-64	100	39,200	44,900	49,500	35,500	19,000	38,100	14,700	14,600	20,700	15,200	12,200	24,300	31,600	31,800	19,700	31,800		15-64
65-69	1,100	41,300	44,600	36,400	31,900	29,700	32,800	13,600	13,900	17,100	16,700	27,000	19,700	35,400	29,300	24,700	29,300		65-69
70-74	1,600	35,700	41,400	31,100	25,100	24,900	29,300	10,300	15,000	12,200	17,900	14,700	17,200	30,100	24,500	18,600	24,500		70-74
75+	2,000	32,100	43,300	29,100	25,900	23,100	28,300	14,300	16,700	19,400	18,900	13,200	20,300	30,200	22,700	22,400	22,700		75+
Total 65+	1,700	39,500	43,500	31,900	28,900	25,600	29,700	14,100	15,000	16,700	17,200	22,700	19,700	31,600	25,300	22,300	25,300		Total 65+
Total 15+	100	39,300	44,800	43,300	34,900	25,300	31,100	14,700	14,600	20,700	15,300	12,200	24,000	31,600	30,700	20,400	30,600		Total 15+
TOTAL POPULATION																			**TOTAL POPULATION**
15-64	100	47,400	56,700	65,100	40,400	24,900	56,400	15,600	14,800	20,700	14,900	12,400	27,000	31,100	39,800	24,000	39,800		15-64
65-69	1,200	50,800	54,900	45,500	37,300	36,000	42,900	16,200	14,600	16,700	16,700	18,600	25,400	39,800	36,000	29,800	36,000		65-69
70-74	1,800	43,100	50,400	36,200	31,000	28,300	36,400	12,400	14,500	12,400	16,300	13,900	21,100	32,800	28,100	20,500	28,100		70-74
75+	2,000	38,000	48,000	31,500	25,900	24,600	32,200	13,200	15,900	17,600	17,700	14,400	22,900	30,300	24,300	22,000	24,300		75+
Total 65+	1,700	48,000	52,600	37,200	32,400	29,200	36,100	14,000	15,000	16,700	16,900	17,400	23,200	34,000	29,200	22,900	29,100		Total 65+
Total 15+	100	47,400	56,200	55,400	39,800	29,100	39,400	15,600	14,800	20,600	15,000	124,000	26,600	31,300	38,000	23,800	37,900		Total 15+

Table A.4 [special 2013 Census tabulations]

2013 Census: Numbers of People reporting Some Income from the Sources Named

Age	No Source	Wages & Salaries	Self-employment	Interest & Investment	Work Accident Payment	NZ Super / Veterans Pension	Other Super	Unemployment Benefit	Sickness Benefit	Domestic Purposes Benefit	Invalids Benefit	Student Allowance	Other Govt Benefits	Other n.e.s	Total Stated	Not Stated	Overall Total	Sources of personal Income	Age
MALES																		**MALES**	
15-64	91,626	845,232	254,895	216,345	19,950	3,210	7,164	48,822	36,513	8,358	34,350	39,924	26,562	17,925	1,238,952	104,019	1,342,971		15-64
65-69	870	31,911	22,542	35,361	825	76,098	10,767	582	1,218	90	1,350	93	1,212	597	90,453	5,100	95,553		65-69
70-74	570	10,992	11,031	29,202	357	61,659	9,354	270	564	81	519	33	1,185	534	68,004	4,008	72,009		70-74
75+	969	4,533	6,738	44,997	513	96,126	18,591	267	750	216	708	30	3,303	825	103,734	7,575	111,312		75+
Total 65+	2,406	47,433	40,311	109,560	1,698	233,883	38,715	1,119	2,535	384	2,571	153	313	1,959	262,194	16,683	278,877		Total 65+
Total 15+	94,032	892,665	295,206	325,902	21,648	237,093	45,879	49,941	39,048	8,745	36,921	40,080	32,259	19,884	1,501,146	120,702	1,621,848		Total 15+
Check	94,035	892,668	295,206	325,905	21,645	237,093	45,876	49,941	39,045	8,745	36,927	40,080	32,262	19,881	1,501,143	120,702	1,621,845		
FEMALES																		**FEMALES**	
15-64	135,789	876,501	171,300	210,960	13,272	10,539	6,297	40,506	36,852	76,617	34,692	49,179	92,712	37,638	1,325,517	100,899	1,426,413		15-64
65-69	1,203	29,079	10,179	36,411	597	83,130	7,950	489	1,191	303	1,512	66	1,443	780	94,908	5,559	100,464		65-69
70-74	789	8,595	4,419	29,355	276	67,629	6,810	255	570	126	594	15	1,206	630	73,755	4,350	78,102		70-74
75+	1,815	2,694	2,385	52,431	477	128,046	16,971	285	744	342	780	18	3,498	1,230	138,402	11,187	149,589		75+
Total 65+	3,804	40,365	16,980	118,197	1,350	278,802	31,728	1,032	2,508	774	2,886	102	6,147	2,640	307,059	21,096	328,155		Total 65+
Total 15+	139,593	916,866	188,280	329,157	14,622	289,344	38,025	41,538	39,363	77,391	37,575	49,281	98,859	40,278	1,632,576	121,995	1,754,571		Total 15+
Check	139,596	916,869	188,283	329,157	14,622	289,344	38,028	41,535	39,357	77,388	37,578	49,278	98,859	40,278	1,632,582	121,995	1,754,568		
TOTAL POPULATION																		**TOTAL POPULATION**	
15-64	227,415	1,721,733	426,195	427,302	33,222	13,746	13,461	89,328	73,368	84,978	69,042	89,106	119,274	55,566	2,564,466	204,918	2,769,384		15-64
65-69	2,070	60,990	32,718	71,772	1,422	159,228	18,720	1,071	2,412	393	2,862	156	2,658	1,377	185,361	10,659	196,020		65-69
70-74	1,359	19,584	15,450	58,560	636	129,285	16,164	528	1,134	210	1,110	48	2,391	1,167	141,756	8,355	150,114		70-74
75+	2,781	7,227	9,123	97,425	990	224,172	35,562	552	1,497	555	1,485	48	6,801	2,055	242,136	18,765	260,898		75+
Total 65+	6,210	87,801	57,291	227,757	3,048	512,688	70,446	2,151	5,043	1,161	5,457	255	11,844	4,599	569,256	37,776	607,032		Total 65+
Total 15+	233,625	1,809,534	483,486	655,059	36,267	526,437	83,904	91,479	78,411	86,136	74,499	89,361	131,121	60,165	3,133,722	242,697	3,376,416		Total 15+
Check	233,625	1,809,534	483,486	655,059	36,270	526,431	83,907	91,479	78,411	86,136	74,499	89,358	131,124	60,165	3,133,719	242,697	3,376,416	·	

Tables A.5, A.6 and A.7

Extracted from Table 2. 2013 Census

Table 5 — Unpaid Activities Undertaken by Age and Sex [Numbers]

Unpaid Activity	15-64 Years			65-69 Years			70-74 Years			Over 75 Years			Total 65 Years and Over			Total 15 Years and Over		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
No Activities	160,893	86,736	247,626	12,099	7,101	19,203	10,683	8,064	18,747	25,422	37,242	62,664	48,210	52,407	100,614	209,100	139,140	348,243
Own Household Work	1,006,380	1,186,407	2,192,784	70,740	80,013	150,753	49,875	57,159	107,034	62,655	77,073	139,728	183,273	214,245	397,515	1,189,653	1,400,649	2,590,302
Looking After Household Child	374,769	520,161	894,930	6,225	9,183	15,408	3,549	5,175	8,727	2,259	3,321	5,580	12,033	17,682	29,715	386,802	537,843	924,642
Looking After Household Disabled	72,843	118,575	191,418	4,323	6,498	10,821	3,321	5,040	8,364	6,033	6,522	12,555	13,677	18,060	31,737	86,520	136,635	223,155
Looking After Non-Household Child	130,728	267,156	397,884	12,174	22,659	34,833	7,680	12,105	19,782	4,449	6,423	10,872	24,303	41,187	65,490	155,034	308,340	463,374
Helping Non-Household Ill/Disabled	74,913	146,808	221,721	6,699	12,648	19,350	4,536	7,983	12,519	5,313	8,400	13,713	16,551	29,034	45,582	91,461	175,839	267,303
Other Helping/Voluntary Work	158,958	213,585	372,543	15,351	20,292	35,640	12,840	16,746	29,589	13,635	17,559	31,194	41,829	54,597	96,423	200,784	268,182	468,966
Total Stated	1,203,459	1,301,274	2,504,733	85,860	89,727	175,587	63,219	67,707	130,926	91,440	118,119	209,559	240,522	275,550	516,069	1,443,978	1,576,827	3,020,808
Not Elsewhere Included	139,512	125,139	264,651	9,693	10,740	20,436	8,790	10,398	19,188	19,869	31,470	51,342	38,355	52,605	90,963	177,867	177,747	355,614
Overall Total	1,342,971	1,426,416	2,769,387	95,556	100,467	196,020	72,012	78,102	150,114	111,309	149,589	260,898	278,877	328,155	607,035	1,621,845	1,754,571	3,376,419

Table 6 — Unpaid Activities Undertaken by Age and Sex [Percent of Totals Stated]

Unpaid Activity	15-64 Years			65-69 Years			70-74 Years			Over 75 Years			Total 65 Years and Over			Total 15 Years and Over		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
No Activities	13%	7%	10%	0.14	0.08	0.11	0.17	0.12	0.14	0.28	0.32	0.30	0.20	0.19	0.19	0.14	0.09	0.12
Own Household Work	84%	91%	88%	0.82	0.89	0.86	0.79	0.84	0.82	0.69	0.65	0.67	0.76	0.78	0.77	0.82	0.89	0.86
Looking After Household Child	31%	40%	36%	0.07	0.10	0.09	0.06	0.08	0.07	0.02	0.03	0.03	0.05	0.06	0.06	0.27	0.34	0.31
Looking After Household Disabled	6%	9%	8%	0.05	0.07	0.06	0.05	0.07	0.06	0.07	0.06	0.06	0.06	0.07	0.06	0.06	0.09	0.07
Looking After Non-Household Child	11%	21%	16%	0.14	0.25	0.20	0.12	0.18	0.15	0.05	0.05	0.05	0.10	0.15	0.13	0.11	0.20	0.15
Helping Non-Household Ill/Disabled	6%	11%	9%	0.08	0.14	0.11	0.07	0.12	0.10	0.06	0.07	0.07	0.07	0.11	0.09	0.06	0.11	0.09
Other Helping/Voluntary Work	13%	16%	15%	0.18	0.23	0.20	0.20	0.25	0.23	0.15	0.15	0.15	0.17	0.20	0.19	0.14	0.17	0.16
Total Stated	100%	100%	100%	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Table 7 — Unpaid Activities Undertaken by Age and Sex [Percent of Overall Total by Cohort]

Unpaid Activity	15-64 Years			65-69 Years			70-74 Years			Over 75 Years			Total 65 Years and Over			Total 15 Years and Over		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
No Activities	6%	3%	9%	6%	4%	10%	7%	5%	12%	10%	14%	24%	8%	9%	17%	6%	4%	10%
Own Household Work	36%	43%	79%	36%	41%	77%	33%	38%	71%	24%	30%	54%	30%	35%	65%	35%	41%	77%
Looking After Household Child	14%	19%	32%	3%	5%	8%	2%	3%	6%	1%	1%	2%	2%	3%	5%	11%	16%	27%
Looking After Household Disabled	3%	4%	7%	2%	3%	6%	2%	3%	6%	2%	2%	5%	2%	3%	5%	3%	4%	7%
Looking After Non-Household Child	5%	10%	14%	6%	12%	18%	5%	8%	13%	2%	2%	4%	4%	7%	11%	5%	9%	14%
Helping Non-Household Ill/Disabled	3%	5%	8%	3%	6%	10%	3%	5%	8%	2%	3%	5%	3%	5%	8%	3%	5%	8%
Other Helping/Voluntary Work	6%	8%	13%	8%	10%	18%	9%	11%	20%	5%	7%	12%	7%	9%	16%	6%	8%	14%
Total Stated	43%	47%	90%	44%	46%	90%	42%	45%	87%	35%	45%	80%	40%	45%	85%	43%	47%	89%
Not Elsewhere Included	5%	5%	10%	5%	5%	10%	6%	7%	13%	8%	12%	20%	6%	9%	15%	5%	5%	11%
Overall Total	48%	52%	100%	49%	51%	100%	48%	52%	100%	43%	57%	100%	46%	54%	100%	48%	52%	100%

Table A.8 [SNZ 'Public Consultation on CPI Advisory Committee 2013 recommendations']

Average weekly expenditures ($), June 2011 quarter prices	For Government Transfer Recipients by Household				For Government Transfer Recipients by Individual			
	Superannuitant & Beneficiary	Superannuitant	Beneficiary	Main Beneficiary	Superannuitant & Beneficiary	Superannuitant	Beneficiary	Main Beneficiary
Food	$135	$136	$133	$128	$64	$85	$53	$47
Alcoholic Beverages and Tobacco	$43	$38	$47	$50	$20	$24	$19	$19
Clothing and Footwear	$23	$26	$18	$15	$11	$16	$7	$6
Housing and Household Utilities	$164	$121	$206	$213	$78	$76	$82	$79
Household Contents and Services	$29	$35	$22	$19	$14	$22	$9	$7
Health	$53	$75	$28	$23	$25	$47	$11	$9
Transport	$86	$91	$75	$75	$41	$57	$30	$28
Communication	$27	$29	$26	$25	$13	$18	$10	$9
Recreation and Culture	$60	$78	$38	$34	$29	$49	$15	$13
Education	$7	$1	$13	$15	$3	$1	$5	$6
Miscellaneous Goods and Services	$57	$69	$42	$38	$27	$43	$17	$14
Interest	$25	$12	$38	$26	$12	$8	$15	$10
TOTAL	$708	$709	$685	$661	$337	$443	$274	$245

3. PART 2: ADDITIONAL INFERENCES

This section meets the requirements of Part 2 of the Study Terms of Reference. These are as follows:

Subject to discussion and agreement between the Ministry and the Provider, the Ministry requires the Provider to generate some additional data to complement the modelling described above. This includes:

1. *Disaggregating the projections into the following sub-groups:*
   - *all 65+ (the current model);*
   - *65 to 69;*
   - *70 to 74; and*
   - *75+; and*
   - *gender (subject to discussion, for some or all of the sub-groups above).*
   -
2. ***Generating additional information to support the development of targets for labour market participation as part of the Business of Ageing:***

   - *using current labour market participation as a base, the impact on GDP of increasing labour market participation amongst the following cohorts by 3% and 5% based on current average hours of paid work by the 65+ group:*

     - *all 65+ (the current model);*
     - *65 to 69;*
     - *70 to 74; and*
     - *75+; and*
     - *gender (for each of the sub-groups above).*

   - *using the current labour market participation as a base, the impact on GDP of increasing the average hours worked amongst the 65+ group (parameters to be agreed);*

   - *using the current labour market participation as a base, the impact on GDP of increasing both labour market participation and the average hours worked amongst the 65+ group (parameters to be agreed) for the following cohorts;all 65+ (the current model);*

     - *65 to 69;*
     - *70 to 74; and*
     - *75+; and*
     - *gender (for each of the sub-groups above).*

The intention is, on the basis of the additional information generated, to develop some targets for labour market participation for the 65+ group. For example:

1. *"Lifting the labour force participation rate among workers aged 65+ by 3 percentage points would result in a $xx boost to New Zealand's GDP – or around x.x% of national income."*

2. *"Lifting the labour force participation rate among females aged 65 to 69 by 5 percentage points would result in a $xx boost to New Zealand's GDP – or around x.x% of national income."*

3. *"Lifting the labour force participation rate among workers aged 65+ by 3 percentage points and increasing the average hours of paid employment from x to y hours per week, would result in a $xx boost to New Zealand's GDP – or around x.x% of national income."*

This will also complement the development of a business case for additional resources to support older workers/job seekers (50+).

OVERVIEW

The Terms of Reference for Part 2 provide a kind of 'Wish List' of what it would be nice to have to supplement the results of the Base Model Run.

But the degrees of differentiation of the input data requested raise two fundamental issues:

1. The total absence of prior projections for the suggested variables for the period 2016-2061
2. The dangers of building over-elaborate and complex projections on the narrow structure provided by the Base Model.

Indeed it is important to remember that the Model itself could not have been built in the absence of the input data that has been collated for The Treasury's Long Term Fiscal Model which provides detailed demographic and detailed labour force projections. The LTFM data is unique and extraordinarily detailed for such a long-term model. Deriving complementary data sets for the questions raised in Part 2 would be a monumental and likely largely futile exercise.

The approach that has been taken to meeting the Terms of Reference for Part 2 has therefore been to largely restrict analysis and comment to Statistics NZ's 2012 National Labour Force Projections. The latter complement the LTFM data to a large degree, are well-founded - and they originate from a highly reliable source.

DISAGGREGATION BY AGE AND SEX

The Model developed in this Study already provides a means of allocating the economic contributions of different age-cohorts for both genders for the period 2016-2051. This uses the Participation Rates than can be derived from the demographic assumptions inherent in latest version of The Treasury's Long-Term Fiscal Model [see Table 2.1 below].

Table 2.1: Update Model Base Case Participation Rates of Older People, by Age and Sex

LABOUR FORCE %			2011	2016	2021	2026	2031	2036	2041	2046	2051
OLDER MALES											
	65-69		0.35	0.34	0.30	0.28	0.26	0.24	0.22	0.21	0.22
	70-74		0.13	0.12	0.14	0.13	0.13	0.14	0.14	0.13	0.12
	75-79		0.06	0.06	0.06	0.07	0.07	0.08	0.09	0.09	0.08
	80+		0.03	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.08
TOTAL MALES			0.58	0.55	0.54	0.52	0.52	0.52	0.52	0.50	0.50
OLDER FEMALES											
	65-69		0.26	0.27	0.26	0.27	0.24	0.22	0.20	0.21	0.23
	70-74		0.10	0.10	0.12	0.11	0.12	0.13	0.13	0.12	0.11
	75-79		0.04	0.05	0.06	0.06	0.07	0.08	0.08	0.09	0.08
	80+		0.03	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.08
TOTAL FEMALES			0.42	0.45	0.46	0.48	0.48	0.48	0.48	0.50	0.50
TOTAL OLDER PEOPLE											
	65-69		0.60	0.61	0.56	0.55	0.51	0.46	0.42	0.42	0.45
	70-74		0.23	0.22	0.25	0.24	0.25	0.26	0.27	0.25	0.23
	75-79		0.10	0.11	0.12	0.14	0.14	0.16	0.17	0.17	0.16
	80+		0.06	0.06	0.07	0.08	0.10	0.12	0.14	0.15	0.16
OVERALL TOTALS			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

It is simply not possible to provide additional Participation Rate breakdowns according to alternative demographic projections.

Projecting the expected distribution of the economic activity of Older New Zealanders by Age and Sex to 2051 according to different demographic assumptions regarding fertility, mortality, migration and levels of participation is impractical. And it is important to recognize both the impossibility of such tasks and the dangers that attend assumed 'precision' in projections that extend out over 45 years.

Insofar as it is required to develop indicative numbers for say the $ contribution of Females in the cohort 70-74, the proportions shown in Table 2.1 are the best that can be applied.

The most important 'finding' from the LTFM projections is that women are expected to provide an increasing proportion of the Older New Zealander Labour Force – such that, by 2051, there will be an equal number of male and female participants [righting an imbalance of 0.58:0.42 in favour of males in 2011].

The projections also illustrate that, as the Grey Tsunami wave builds and breaks, the proportion of the Older People Labour Force in the 'Younger' cohorts is expected to shrink while the contribution of 'Older' people will rise. In 2011, 60 percent of all Older Workers were in the 65-69 year old group – by 2051, the contribution of this group is expected to have dropped to 45 percent. By way of contrast, the 2011 contribution of workers Over 75 was assessed at 26 percent but it is expected that the contribution of this group will rise to 32 percent by 2051.

RANGE OF PROJECTED 'WITHOUT INTERVENTION' WORKFORCE NUMBERS AND PARTICIPATION RATES FOR OLDER NEW ZELANDERS

1. The Statistical Base - 2012 Statistics NZ Labour Force Projections

As has been previously commented, it is important that spurious degrees of accuracy in projection are neither sought nor assumed. Accordingly, the following sections are based entirely on the Workforce Projections developed by Statistics NZ in 2012. [An update of these projections and their associated Participation Rates for Older New Zealanders is not expected to be available now before the end of 2015, at the earliest].

The 2012 Projections distinguish 5 levels of probability based on Monte Carlo simulations, centring around a 50th Percentile Projection. Five further Projection Scenarios are distinguished taking relatively extreme assumptions about Fertility, Mortality and Migration [see following tables].

- Percentiles indicate the probability that the actual result is lower than this percentile. For example, the 25th percentile indicates a 25 percent probability that the actual result for a given year is lower than this percentile.

- The High Fertility Scenario assumes a total fertility rate of 2.5 births per woman in the long term. The mortality and migration assumptions are consistent with the 50th percentile of the projected probability distribution.

- The Very Low Mortality Scenario assumes life expectancy at birth increases at a similar annual rate as between the 1975–77 and 2005–07 complete period life tables (i.e. by 0.31 and 0.23 years of life for males and females, respectively) reaching 95.0 years for both males and females in 2061. The inherent fertility and migration assumptions are consistent with the 50th percentile of the projected probability distribution.

- As suggested by the title the 'No Migration' Scenario assumes a 'closed' population.

- The Cyclic Migration Scenario assumes that annual net migration fluctuates between -10,000 and 30,000 over a 10-year cycle, with an average of 12,000. Net migration over the projection period ending in 2021, 2031, 2041, 2051 and 2061 is the same as the 50th percentile of the assumed net migration.

- The High Migration Scenario assumes annual net migration of 25,000 over the whole period to 2061.

[Professional Analysts are referred to the guide to the Projections issued by Statistics NZ. These make the central point that the Median Projection provides the only set within which cohort percentages are legitimately additive. In essence this is a further caution on the dangers of 'over-interpreting' the data].

2. Size of the Older NZ Labour Force

Table 2.2 shows relative deviations from the Median Labour Force numbers projected for Older New Zealanders according to alternative probability distributions and scenarios [for base data see Table A.1]. As far as the Older Workforce is concerned the Median, Very High Fertility and Cyclic Migration projections are identical.

However, looking at the 5th Percentile Projection for the Older NZ Workforce in 2061, this is 40 percent below that of the comparable Median figure. And in the case of the 95th Percentile, the figure for 2061 is 43 percent greater than that of the comparable Median figure.

In the broadest sense, this suggests that the central projections emanating from the model runs in this Study [which essentially use the Median data set] could be subject to $\pm$ 40 percent variances.

On the other hand, such extremes are highly unlikely [by definition] and most of the tracks of deviation [2011-2061] hug the Median [see Figure 1].

Two observations though are worth emphasising:

1. The Scenarios show comparatively little variance from the Median [with 10 percent being the largest negative deviation [in 2061 under the No Migration Scenario] and 13 percent being the largest positive deviation [in 2061 under the Very High Migration Scenario]. This points up the considerable importance of migration in determining outcomes.

2. Looking at the tracks of the numbers 2011-2061, it is clear that the Very High Migration profile 'Kicks Up' Older New Zealander Labour Force numbers after 2031. This is because migration has tended to oscillate around a modest + 12,000 per year over recent years such that, projecting this forward, it would have a very small impact on the rate at which the Younger Old [75 years old or less - who are more likely to be able to work] will move through the building and breaking Grey Tsunami.

   In the absence of significant in-migration of younger people 2011-2016 who will turn 65+, the Older NZ workforce will inevitably decline.

   However, a strong influx of younger working age migrants who will turn 65+ between 2011 and 2016 raises the numbers of the Younger Old and smoothes the Grey Tsunami Wave – assuming of course that many of these immigrants will wish to continue working past retirement age.

   This is an important point in assessing the fiscal burden of Older New Zealanders – especially beyond 2041 – if the view is taken that taxes paid by the working old offset to some degree the cost of NZ Super. Continued high levels of migration will smooth and ease the transition to lower participation towards mid-century.

Table 2.2:

	2012 Projections for Older New Zealander Labour Force Deviations from Median 2006 - 2061 by Scenario									
	Projected probability distribution (percentiles)[1]					Scenario				
	5th	25th	50th (Median)	75th	95th	Very high fertility[2]	Very low mortality[3]	No migration [4][5]	Cyclic migration [4][6]	Very high migration [4][7]
	Labour force aged 65+ years (000)									
2006 (base)	0.88	0.96	1.00	1.04	1.10	1.00	1.00	1.00	1.00	1.00
2011	0.80	0.92	1.00	1.08	1.20	1.00	1.00	1.00	1.00	1.00
2016	0.76	0.90	1.00	1.11	1.24	1.00	1.00	0.99	1.00	1.01
2021	0.73	0.88	1.00	1.11	1.27	1.00	1.00	0.98	1.00	1.01
2026	0.70	0.88	1.00	1.12	1.28	1.00	1.01	0.98	1.00	1.01
2031	0.68	0.88	1.00	1.13	1.31	1.00	1.01	0.99	1.00	1.02
2036	0.65	0.86	1.00	1.14	1.35	1.00	1.02	0.99	1.00	1.03
2041	0.63	0.84	1.00	1.15	1.40	1.00	1.03	1.00	1.00	1.04
2046	0.60	0.84	1.00	1.16	1.42	1.00	1.04	1.00	1.00	1.06
2051	0.60	0.84	1.00	1.16	1.41	1.00	1.04	0.97	1.00	1.08
2056	0.59	0.84	1.00	1.17	1.42	1.00	1.04	0.94	1.00	1.11
2061	0.60	0.84	1.00	1.18	1.43	1.00	1.05	0.90	1.00	1.13

Figure 1: Labour Force Projection Deviations from Median Projection
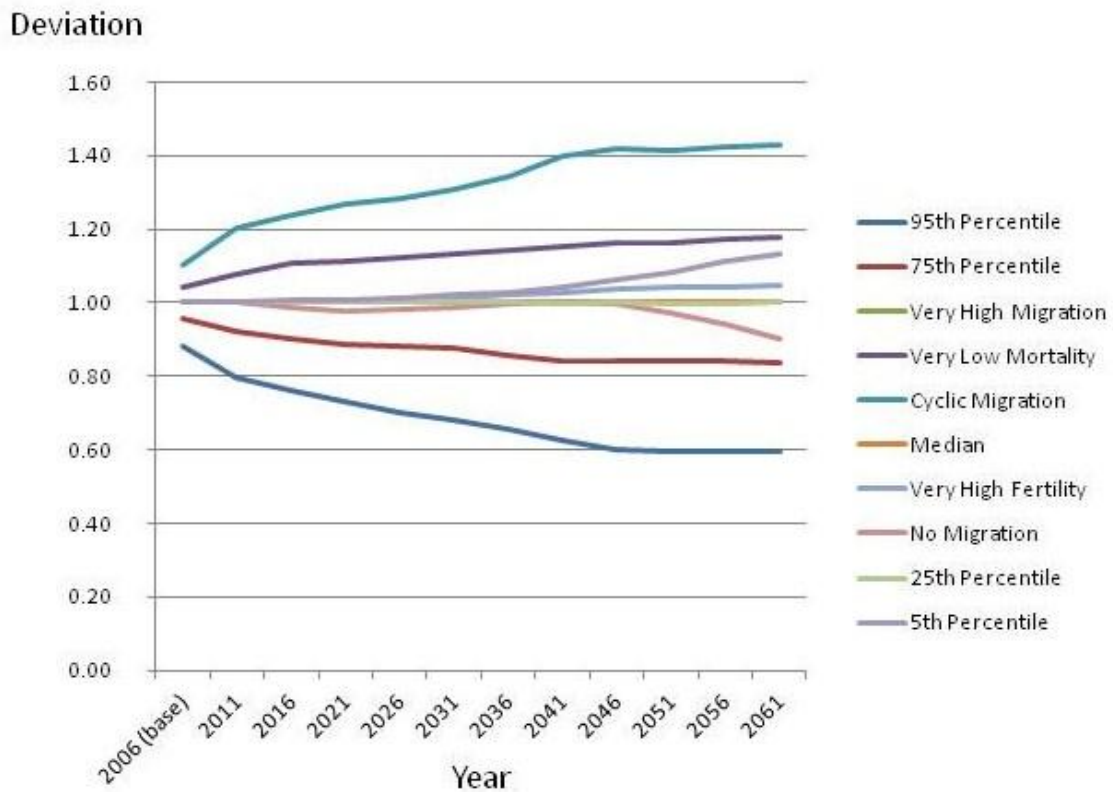
3. 'Implied' Participation Rates

The Labour Force Participation Rate measures the economically active portion of a given demographic. A person is deemed economically active if they are either employed or are actively looking for work. In the case of Older People, it is generally assumed that the PR equates to the ratio between those in work in the cohort and the overall population in the cohort [as 'seeking work' is less common and much more difficult through normal labour market and recruitment channels].

In the work that has been undertaken previously in the Business of Ageing Project, little attention has been given to the determinants of the dominator in the equation but it should be clear from the foregoing discussion that assumptions about fertility, mortality and migration can impact the denominator over the longer term – and therefore 'distort' projected PRs vis a vis contemporary conditions.

Consider for example the impact of high out-migration. Other things being equal this will lead to losses of Younger People and therefore Labour Market pressure. It might then tend to raise Participation Rates among Older New Zealanders. On the other hand, if New Zealand becomes the focus of Retirement Immigration from overseas destinations [USA, Europe etc.], the older immigrants are unlikely to either seek or be able to find work in New Zealand and their presence will depress Participation Rates.

Given the way in which the Study Model works, it is nevertheless interesting to explore the kinds of variations that could occur under different demographic conditions – in relationship to the central or Median projection.

This has been done by relating the Labour Force numbers shown in Table A.1 to Statistics NZ's Median Projections for the expected overall number of Older New Zealanders [the denominator implicit in all previous projections used in this Study].

The results are shown in Table 2.3 below and are illustrated in Figure 2 below.

Again the profiles for the Median, Very High Fertility and Cyclic Migration Scenarios are identical. And the trends noted above in the discussion of the Size of the Older NZ Labour Force are reinforced.

1. Most of the projection profiles cluster closely together. However, at the extremes it is not totally inconceivable that Participation Rates for Older New Zealanders could fall to 17 percent overall or rise to a maximum of 42 percent by 2061.

2. Again, the 'Kick-Up' effect is evident in the Very High Migration Scenario, reflecting the renewal of participation as migrants move into the Early Old cohorts from 2041 onwards.

It is also relevant to relate the profiles to the central profile that has been used in this Study, which originates from the demographic data provided in the 2013 Long Term Fiscal Model. The comparable Participation Rates are shown in the right-hand column of Table 3. They are very close to the Median projection profile but closest of all to the Very High Migration projection profile.

Table 2.3: Implied Participation Rates for Older New Zealanders of the 2012 StatsNZ Labour Force Projections [in relation to the Median Population Projections]

Year at 30 June	Projected probability distribution (percentiles)[1]					Scenario					Current of Ageing Assumptions
	5th	25th	50th (Median)	75th	95th	Very high fertility[2]	Very low mortality[3]	No migration [4][5]	Cyclic migration [4][6]	Very high migration [4][7]	
2016	0.19	0.23	0.25	0.28	0.31	0.25	0.25	0.25	0.25	0.25	0.25
2021	0.21	0.25	0.28	0.31	0.36	0.28	0.28	0.27	0.28	0.28	0.28
2026	0.21	0.27	0.30	0.34	0.39	0.30	0.31	0.30	0.30	0.31	0.31
2031	0.21	0.27	0.31	0.35	0.40	0.31	0.31	0.30	0.31	0.31	0.31
2036	0.20	0.26	0.30	0.34	0.40	0.30	0.31	0.30	0.30	0.31	0.31
2041	0.18	0.24	0.28	0.33	0.40	0.28	0.29	0.28	0.28	0.30	0.29
2046	0.16	0.23	0.27	0.32	0.39	0.27	0.28	0.27	0.27	0.29	0.28
2051	0.17	0.23	0.28	0.32	0.39	0.28	0.29	0.27	0.28	0.30	0.29
2056	0.17	0.24	0.29	0.34	0.41	0.29	0.30	0.27	0.29	0.32	
2061	0.17	0.24	0.29	0.34	0.42	0.29	0.30	0.26	0.29	0.33	

Figure 2: Implied Range in Participation Rates for Older New Zealanders
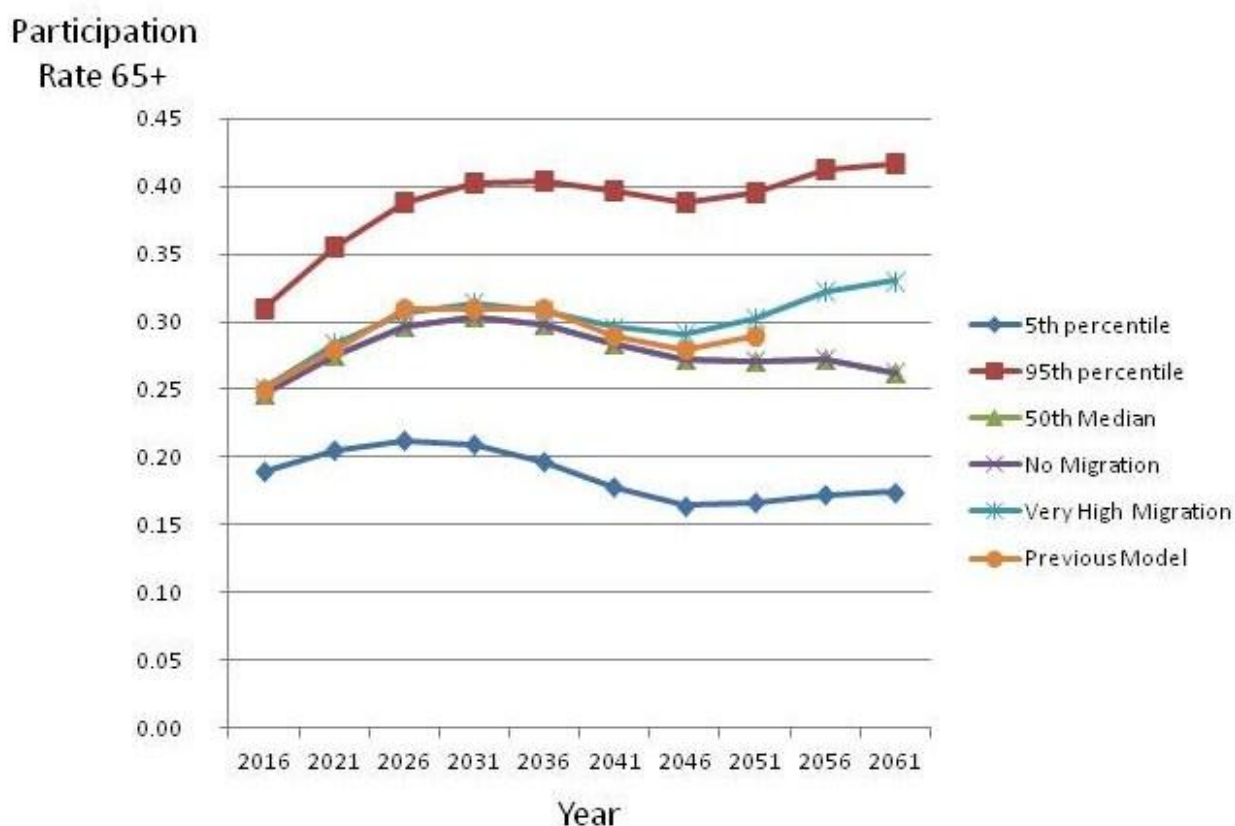
4. Implied Contribution to the National Economy

The Terms of Reference for the 2014-5 Update request comments on the expected impact of higher levels of participation by Older New Zealanders on GDP.

Assuming that the size of the Older NZ Labour Force can be used as a proxy for the contribution of Older NZ's to GDP, the data provided by Table A.2 can be utilized. Table 2.4 below recasts this data in terms of deviations from the central Median projection.

The highest deviation is the 31 percent recorded for the 95th Percentile projection in 2056. That is, under the assumptions inherent at the positive margin of all of the alternative projections, with the largest Older NZ Labour Force envisaged as being possible [with a 5 percent overall probability], the contribution to GDP could be 31 percent greater in 2056 than is suggested by the Base Model.

But Table 2.4 also suggests that such large deviations [which also include a one-third reduction at the negative margin i.e. 67 percent for the 5th Percentile Projection 2046-2056] are relatively improbable. A reasonable levels of tolerance is ± 10 percent. That is, relating the data to the derived Participation Rates to the range of more probable profiles shown in Figure 2 would not generally raise the contribution to of Older NZ's to GDP by more than 10 percent.

Table 2.4: Variations from the 50th Percentile Projection for Shares of Older New Zealanders in the National Labour Force by probability class and scenario [2012 StatsNZ Labour Force Projections]

| | Projected probability distribution (percentiles)[1] | | | | | Scenario | | | | |
	5th	25th	50th (Median)	75th	95th	Very high fertility[2]	Very low mortality[3]	No migration [4][5]	Cyclic migration [4][6]	Very high migration [4][7]
2006 (base)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2011	0.80	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2016	0.86	0.86	1.00	1.00	1.14	1.00	1.00	1.00	1.00	1.00
2021	0.78	0.89	1.00	1.00	1.11	1.00	1.00	1.00	1.00	0.89
2026	0.73	0.91	1.00	1.00	1.18	1.00	1.00	1.00	1.00	0.91
2031	0.75	0.92	1.00	1.08	1.17	1.00	1.00	1.08	1.00	0.92
2036	0.69	0.85	1.00	1.08	1.15	0.92	1.00	1.08	1.00	0.92
2041	0.75	0.92	1.00	1.17	1.25	1.00	1.08	1.17	1.00	1.00
2046	0.67	0.92	1.00	1.08	1.25	0.92	1.00	1.08	1.00	0.92
2051	0.67	0.92	1.00	1.17	1.25	0.92	1.08	1.17	1.00	1.00
2056	0.69	0.92	1.00	1.15	1.31	0.92	1.08	1.15	1.00	1.00
2061	0.71	0.86	1.00	1.14	1.29	0.86	1.07	1.07	1.00	1.00

5. Other Issues

The data provided in the Appendix permits some further observations on the impact of possible variations in the participation of Older New Zealanders on the national labour market.

For example, Table A.1 shows that the number of people 'Over 80' years old who may be participating in the national workforce varies between an estimated low of 27,000 and an estimated high of 98,000, reinforcing both the level of uncertainty surrounding the projections and the potential opportunities that may exist to improve participation in tandem with the implementation of appropriate health policies.

Secondly, Tables A.3 and A.4 illustrate again the very significant contribution to the national economy that can be made by workforce participation in general. The Dependency Ratio is defined as 'People not in the labour force per 100 people who are in the labour force'. Clearly a 2051 economy characterised by a '5th Percentile' workforce, with median working life of 44 years for males and 36 years for females with an economic dependency ratio of 57 workers per 100 dependents will be a very different economy from one where, in 2051, there is a median working life of 55 years of males and 50 years for females and the economic dependency ratio is 110 workers for every 100 dependents as envisaged in 95th Percentile projections.

6. Lifting Participation Rates, Hours Worked and Rates of Remuneration

As discussed in Section 5 of Part 1, the Base Model projections of the earnings of Older NZ's are driven by the average earnings attributed to Older NZs by the Statistics New Zealand Household Income Survey [June quarters]. These provide aggregate figures for earnings from Wage Employment and Self-Employment

It is not totally improbable then that overall Participation Rates of 40 percent could be achieved at least in the earlier years of the 'Grey Tsunami' (to 2035). And such rates could in turn be facilitated by policy adjustments.

However, it is important to note that the Base Model is agnostic about whether increased Earnings from Wage Employment and Self Employment originate from increases in hours worked or increases in Remuneration. Any attempt to project the nature of work in terms of its duration and remuneration over the next 4-5 decades is fraught with problems.

As the UK Commission for Employment and Skills comments in its 2014 Report: 'The future of work: jobs and skills in 2030':

It is not possible to predict the future. Twenty years ago, there was a widespread belief among commentators that the defining feature of the future UK labour market would be radically reduced working hours and increased leisure time.

Fast forward to 2014, the year in which mobile is set to overtake desktop to access the Internet, and work and leisure hours have become blurred by our increasingly 'mobile' lives. Jobs are being done on the move, at any time of day, in almost any location.

This quotation highlights the difficulties involved in forecasting change and the need to take a modest and cautious attitude when communicating the results of an exercise such as the Update.

However, it is also clear from the work that opportunities exist to develop a business case for measures to promote job-seeking by older workers and support older workers in expanding and sustaining their contributions to the future workforce.

STATISTICAL APPENDIX B: THE 2012 LABOUR FORCE BASE TABLES

Table B.1	2012 Projections for Older New Zealander Labour Force Numbers 2006 - 2061 by Scenario								
	Projected probability distribution (percentiles)[1]					Scenario			
	5th	25th	50th (Median)	75th	95th	Very high fertility[2]	Very low mortality[3]	No migration [4][5]	Cyclic migration [4][6]	Very high migration [4][7]
	Labour force aged 65+ years (000)								
2006 (base)	60	65	68	71	75	68	68	68	68	68
2011	91	105	114	123	137	114	114	114	114	114
2016	133	158	175	194	217	175	175	173	175	176
2021	170	206	233	259	295	233	234	228	233	235
2026	208	261	296	332	380	296	299	290	296	300
2031	235	302	345	390	452	345	350	341	345	353
2036	244	320	373	426	502	373	381	371	373	384
2041	235	317	376	433	525	376	386	376	375	392
2046	224	314	373	434	529	373	387	372	373	396
2051	234	330	393	456	556	393	409	382	392	426
2056	256	362	431	506	614	431	449	406	429	479
2061	276	387	462	543	660	462	483	416	462	523
	Labour force aged 80+ years (000)								
2006 (base)	1	2	3	3	4	3	3	3	3	3
2011	4	6	7	8	10	7	7	7	7	7
2016	6	9	11	13	17	11	11	11	11	11
2021	9	13	17	20	25	17	17	17	17	17
2026	12	19	24	29	35	24	25	23	24	24
2031	17	27	34	41	50	34	36	33	34	34
2036	21	34	42	51	64	42	46	41	42	43
2041	25	41	52	63	79	52	57	50	52	53
2046	27	46	59	71	91	59	66	58	59	61
2051	29	48	62	76	97	62	71	62	62	64
2056	28	48	61	75	97	61	71	61	61	64
2061	27	47	60	74	96	60	71	59	60	64

Table B.2	2012 Projections for Older New Zealander Labour Force Percentage in National Workforce 2006 - 2061 by Scenario									
	Projected probability distribution (percentiles)[1]					Scenario				
	5th	25th	50th (Median)	75th	95th	Very high fertility[2]	Very low mortality[3]	No migration [4][5]	Cyclic migration [4][6]	Very high migration [4][7]
Labour force aged 65+ years (percent)										
2006 (base)	3	3	3	3	3	3	3	3	3	3
2011	4	4	5	5	5	5	5	5	5	5
2016	6	6	7	7	8	7	7	7	7	7
2021	7	8	9	9	10	9	9	9	9	8
2026	8	10	11	11	13	11	11	11	11	10
2031	9	11	12	13	14	12	12	13	12	11
2036	9	11	13	14	15	12	13	14	13	12
2041	9	11	12	14	15	12	13	14	12	12
2046	8	11	12	13	15	11	12	13	12	11
2051	8	11	12	14	15	11	13	14	12	12
2056	9	12	13	15	17	12	14	15	13	13
2061	10	12	14	16	18	12	15	15	14	14
Labour force aged 80+ years (percent)										
2006 (base)	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	1	1	0	0	0	0	0
2021	0	1	1	1	1	1	1	1	1	1
2026	0	1	1	1	1	1	1	1	1	1
2031	1	1	1	1	2	1	1	1	1	1
2036	1	1	1	2	2	1	2	1	1	1
2041	1	1	2	2	2	2	2	2	2	2
2046	1	2	2	2	3	2	2	2	2	2
2051	1	2	2	2	3	2	2	2	2	2
2056	1	2	2	2	3	2	2	2	2	2
2061	1	2	2	2	3	2	2	2	2	2

Table B.3	2012 Projections for Median Age and Economic Dependency Ratios for National Workforce 2006 - 2061 by Scenario									

	Projected probability distribution (percentiles) [1]					Scenario				
	5th	25th	50th (Median)	75th	95th	Very high fertility [2]	Very low mortality [3]	No migration [4][5]	Cyclic migration [4][6]	Very high migration [4][7]
Median age [9] (years)										
2006 (base)	40.4	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5
2011	41.7	41.8	41.8	41.8	41.9	41.8	41.8	41.8	41.8	41.8
2016	42.4	42.5	42.6	42.7	42.8	42.6	42.6	43.0	42.6	42.3
2021	42.2	42.4	42.6	42.7	42.9	42.6	42.6	43.6	42.5	42.0
2026	42.1	42.4	42.6	42.8	43.0	42.6	42.6	43.9	42.6	42.0
2031	42.4	42.7	42.9	43.1	43.4	42.8	42.9	44.2	42.8	42.4
2036	42.9	43.3	43.6	43.8	44.2	43.3	43.6	44.9	43.6	43.2
2041	43.2	43.7	44.1	44.4	45.0	43.4	44.2	45.3	44.1	43.7
2046	43.2	43.9	44.4	45.0	45.7	43.1	44.6	45.5	44.5	44.1
2051	43.1	44.0	44.7	45.4	46.4	42.9	44.8	45.6	44.7	44.4
2056	43.0	44.2	45.1	46.0	47.2	42.6	45.3	46.0	45.1	44.7
2061	42.8	44.2	45.2	46.3	47.9	42.4	45.4	46.2	45.2	44.8
Economic dependency ratio [10]										
2006 (base)	82	85	87	88	91	87	87	87	87	87
2011	76	81	85	88	94	85	85	85	85	85
2016	70	76	81	86	94	82	81	82	81	81
2021	66	74	80	86	96	82	80	80	80	79
2026	64	72	79	87	98	84	80	80	79	79
2031	62	72	80	88	102	88	81	81	80	79
2036	61	72	81	90	105	90	82	82	81	80
2041	60	72	81	91	108	90	83	83	81	80
2046	59	71	81	91	110	90	84	84	81	79
2051	57	70	81	91	110	90	84	85	81	79
2056	57	70	81	92	113	90	86	86	81	79
2061	58	71	82	94	116	92	88	87	82	81

Table B.4	2012 Projections for Average Working Lives of Males and Females for National Workforce 2006 - 2061 by Scenario									
	Projected probability distribution (percentiles)[1]					Scenario				
	5th	25th	50th (Median)	75th	95th	Very high fertility[2]	Very low mortality[3]	No migration [4][5]	Cyclic migration [4][6]	Very high migration [4][7]
Average working life, male[11]										
2006 (base)	44	45	45	46	47	45	45	45	45	45
2011	44	45	46	47	48	46	46	46	46	46
2016	44	45	47	49	50	47	47	47	47	47
2021	44	46	48	50	52	48	48	48	48	48
2026	44	46	49	51	53	49	49	49	49	49
2031	44	46	49	52	54	49	49	49	49	49
2036	44	46	49	52	54	49	49	49	49	49
2041	44	46	49	52	55	49	49	49	49	49
2046	44	46	49	53	55	49	49	49	49	49
2051	44	46	49	53	55	49	49	49	49	49
2056	44	46	49	53	55	49	49	49	49	49
2061	44	46	49	53	55	49	49	49	49	49
Average working life, female[11]										
2006 (base)	36	36	37	38	38	37	37	37	37	37
2011	36	37	38	40	41	38	38	38	38	38
2016	37	38	40	42	43	40	40	40	40	40
2021	37	39	41	44	46	41	41	41	41	41
2026	37	39	42	45	47	42	42	42	42	42
2031	37	40	43	46	48	43	43	43	43	43
2036	37	40	43	47	49	43	43	43	43	43
2041	37	39	43	47	50	43	43	43	43	43
2046	36	39	43	47	50	43	43	43	43	43
2051	36	39	43	47	50	43	43	43	43	43
2056	36	39	43	47	50	43	43	43	43	43
2061	36	39	43	47	51	43	43	43	43	43

NOTES ON THE 2012 LABOUR FORCE PROJECTIONS

1. Percentiles indicate the probability that the actual result is lower than this percentile. For example, the 25th percentile indicates a 25 percent probability that the actual result for a given year is lower than this percentile.

2. Assumes a total fertility rate of 2.5 births per woman in the long term. The mortality and migration assumptions are consistent with the 50th percentile of the projected probability distribution.

3. Assumes life expectancy at birth increases at a similar annual rate as between the 1975–77 and 2005–07 complete period life tables (ie by 0.31 and 0.23 years of life for males and females, respectively) reaching 95.0 years for both males and females in 2061. Fertility and migration assumptions are consistent with the 50th percentile of the projected probability distribution.

4. The fertility and mortality assumptions are consistent with the 50th percentile of the projected probability distribution.

5. Assumes no external migration (ie a 'closed' population).

6. Assumes annual net migration fluctuates between -10,000 and 30,000 over a 10-year cycle, with an average of 12,000. Net migration over the projection period ending in 2021, 2031, 2041, 2051 and 2061 is the same as the 50th percentile of the assumed net migration.

7. Assumes annual net migration of 25,000.

8. Year ended 30 June.

9. Half the labour force is younger, and half older, than this age.

10. People not in the labour force per 100 people who are in the labour force

11. Average number of years that a person would spend in the labour force if they experienced the labour force participation rates of a given period, assuming they lived to age 80 years.

Note: Owing to rounding, individual figures may not sum to give the stated totals.

Percentiles are non-additive except the 50th percentile (median). For example, percentiles for the labour force aged 15–39 and 40–64 years cannot be added together to give the equivalent percentile for the labour force aged 15–64 years.

Source: Statistics New Zealand