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Mixed Fortunes

THE GEOGRAPHY OF ADVANTAGE AND DISADVANTAGE IN NEW ZEALAND

Alan Johnson | Social Policy Analyst

The Salvation Army Social Policy and Parliamentary Unit | **May 2015**

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EXECUTIVE SUMMARY

Geography matters in the real world, although it is often not that important in the worlds of economic theory and public policy. At the beginning of a seminal paper for economic geography Nobel Laureate Paul Krugman remarked that, 'It seems fair to say that economic geography plays at best a marginal role in economic theory… On the face of it this neglect is surprising. The facts of economic geography are amongst the most striking features of real-world economies, at least to laymen'[1]. This apparent bias in economic theory, and to some extent in the public policy which relies heavily on such theory, has meant that there is a reality gap between the everyday life experiences of people, and the imagined worlds of economists and policy analysts.

This report is an attempt to bridge this reality gap. It attempts to do so in part through reference to economic theory and public policy discourse, and in part through the demonstration of empirical data. The filter through which this task is undertaken is that of regions and specifically the 16 local government regions in mainland New Zealand.

The main thesis offered in this report is that place or location matter to the types of opportunities people have and the quality of life that they might expect. There are always parts of a city or a country that are comfortable, enjoyable places to live, and there are always places or locations which are not-so-good places to live – where life is more of a struggle and where outcomes can often be quite random and bad. While it is not entirely the case, geography does define advantage and disadvantage. This means that it is important that public policy both acknowledges the importance of location in questions of economic and social inequality, and offers policy responses which take account of location.

Within economic theory, and in particular in urban economic theory, the economics of agglomeration is understood and well canvased. Agglomeration most often works to the advantage of large cities in that big cities attract more business and so become even bigger. Thus, distant and more peripheral towns and communities often remain stagnant or even fade away. This certainly appears to be the case across New Zealand with the increasing dominance of Auckland, and the slow demise of most other regions, especially those in the North Island.

These forces of agglomeration seem almost unchallengeable – they are just the way business and investment work. While there may be some inevitability to this it is not altogether a done deal. In part this is because growing cities need public investment and various other State interventions. So while agglomeration works, it really only works with the blessing and support of local and central governments. In addition, not everyone shifts to the big city – some regions flourish despite agglomeration, while others flounder in its wake. This means that while big cities are served by public investment and public policy, large parts of society are neglected or ignored. This is not particularly fair and does not provide a reliable base for sound governance.

This report provides extensive empirical evidence of the mixed fortunes being experienced by people and communities across New Zealand. Of course, it would be difficult to imagine that every New Zealander and every community in New Zealand ever experienced the same circumstances or faced the same opportunities and challenges. The evidence offered here certainly confirms this, but it also offers some insights into both the extent of differences in the fortunes or misfortunes of regions, and the trends which are leading to a convergence or divergence in these fortunes.

The survey of social and economic indicators offered in this report fall under four headings – people and populations, work and incomes, our children and youth, and safety and social hazards. Each of the topic areas are considered in separate chapters and at the end of each of these chapters a ranking table is offered as a way of comparing the fortunes of each region across a number of the indicators reported in that chapter. These ranking tables are somewhat crude in at least two respects. The simply ordering of outcomes across a number of disparate indicators, as is done in these tables, clearly misses questions of the relative importance of these indicators to the quality of life experienced by individuals and their communities. Furthermore, and given the often close positions of regions in the middle of the range of many indicators, it is often the case that ranking scores can vary considerably despite this closeness which gives a misleading impression of differences.

These limitations notwithstanding the ranking tables do offer two sorts of insights. They indicate the areas where an individual region is doing relatively well or relatively poorly. From this it is possible to direct the attention of policy makers to gaining a better understanding of the sources of success or the seeds of failure, and so to design and develop better policy responses and to direct resources more effectively. The second type of insight is around the extent of difference between regions, and more specifically the way advantage and disadvantage is structured and concentrated. From the evidence offered in this report it is difficult not to see links between one type of indicator and another, although no attempt has been made here to confirm such associations in any formal way.

The demographic dominance of the baby boomer generation and their entry into retirement are well known although as a country it is doubtful that we have really considered the implications of these in any depth. For example, the aging of New Zealand is not uniform geographically. Auckland is younger and aging much slower than the rest of New Zealand, while provincial regions in both the North and South Islands are already much older and are aging more quickly than the national average. This process is as expected on account of migration – the loss of young people from smaller communities, towns and cities to Auckland and beyond, matched by the migration of older people from the larger cities to warmer regions where housing is less expensive. Such trends, of course, have been occurring for decades but what makes them more compelling now are the numbers. The numbers of young people are dwindling making their loss more damaging to local communities. The numbers of older people coming in are expanding thus making a larger impact on the communities they are shifting to. Recent population projections by Statistics New Zealand suggest by that 2040 almost one half of the population of some districts will be aged over 65 years. Such a dominance is unprecedented in New Zealand's history and points to some significant changes in how local communities will need to work and plan.

For most of New Zealand's human history it has been the case that resources and economic opportunities are not evenly distributed. This has meant, and still means today, that the economic fortunes of communities and regions vary considerably. Such variability is played out both in terms of underlying economic wealth as well as in incomes and dependency on Government transfers such as welfare benefits. The income and employment shocks caused by the Global Financial Crisis, or GFC, have to some extent, thrown these differences between regions into sharper contrast. It has been the case that most North Island regions have been slow in recovering from the GFC, both in terms of employment and incomes. These North Island regions include Auckland but exclude Taranaki and Wellington. In comparison, South Island regions have done relatively well both in terms of strong job figures and modest income growth. While Auckland's employment record over the past seven years or so has been exceptional, with the region receiving over 60% of the 150,000 new jobs created in the economy, the rapid growth in that region's working age population alongside rising job participation rates have left jobless numbers and rates higher than in the pre-GFC days.

There is a distinctive pattern of good or bad fortunes emerging for New Zealand's children and youth. This pattern is based on where they live. Outcomes for children and youth in regions such as Otago, Canterbury and Wellington are consistently good – at least in relative terms, with high rates of participation in early childhood education and low rates of reported harm or neglect to children. These have led to greater levels of educational success, lower youth unemployment and less youth offending. The exact opposite set of outcomes apply to Northland, Gisborne, Waikato and Manawatu-Wanganui. The spread in these fortunes is well illustrated in the aggregate ranking scores provided on the following table.

The same spread of fortunes is evident in the areas of safety and social hazards. Once again Wellington, Canterbury and Otago are consistently the safest places to be, and the regions with the lowest social hazards. Northland, Gisborne, Hawkes Bay and Manawatu-Wanganui have consistently done poorly here.

The following summary ranking table records the aggregate rankings from each of these four areas of focus. It is the spread of these scores which tells the most compelling story. The three regions that have consistently done well in these rankings are Canterbury, Wellington and Otago - in that order. Auckland has also done well, although its scores around work and incomes and children and youth are disappointing. The three regions which have consistently done poorly are Northland, Gisborne and Hawkes Bay (in that order) followed closely by Manawatu-Wanganui.

Regional rankings in aggregate – total scores in each focus area

	People & Populations	Work & Incomes	Children & Youth	Safety & Social Hazards
Northland	46	**96**	**143**	89
Auckland	**5**	43	89	32
Waikato	19	71	112	76
Bay of Plenty	43	85	87	75
Gisborne	42	87	124	**101**
Hawkes Bay	54	87	96	75
Taranaki	40	47	76	44
Manawatu-Wanganui	50	92	88	64
Wellington	30	39	**46**	**23**
Tasman	57	35	54	40
Nelson	39	35	63	38
Marlborough	**71**	35	60	57
West Coast	53	35	79	66
Canterbury	27	**15**	58	32
Otago	42	28	55	36
Southland	46	31	104	68

The inequalities evident in the outcomes reported in the above table may not be seen as problematic if you are unconcerned about distributional issues, or believe somehow that the fortunes of different regions and communities will somehow converge toward a sort of equilibrium.

It does not appear that the present Government's growth model is that concerned with distributional issues but instead with using private sector investment to drive economic growth. This is being done through the Business Growth Agenda which 'is central to the Government's priority of building a more productive and competitive economy. Lifting productivity and competitiveness is critical to creating business opportunities, more jobs and higher wages, and ultimately the higher living standards to which New Zealanders aspire'[2]. Key elements in this model are: a focus on extending private property rights, especially around access to water resources and development rights; using public subsidies to correct market failures especially around research and development (R&D); reducing regulation and especially environmental regulation; and providing public goods through the provision of infrastructure (as with the roll-out of ultra-fast broadband and 'roads of national significance').

There is a commonly held idea that the economic fortunes of countries or regions somehow converge toward an equilibrium where income growth is equalised. Within such a worldview there is little need for interventions to correct inequalities or disparities between regions. Rather, a form of benign neglect is required for things to come right through the migration of people and capital to areas of opportunity. History, however, suggests that such convergence does not occur, and instead divergence of economic fortunes is more commonplace.

Based on current trends it is apparent that New Zealand is on a divergent growth path and that this path risks the creation of two New Zealands – Auckland and the rest. Recently released population forecasts suggest that over the next 25 to 30 years Auckland may account for over 60% of New Zealand's population growth and that Aucklanders, in time, will make up about 40% of this population. In general, Aucklanders will be younger, wealthier, better skilled, and more ethnically diverse than the rest of New Zealand. Within such differences are the seeds for a growing divide in values and expectations. Even now there is building pressure on local government across New Zealand to continue to afford to maintain infrastructure and to sustain local institutions. Local government is becoming increasingly indebted and is proving less and less able to maintain infrastructure. It appears likely that these problems will be exacerbated in towns and small cities which have rapidly aging populations living on Government transfers such as New Zealand Superannuation.

This report suggests that as a national community we need to begin to plan and prepare for several historically significant challenges and to use such planning and preparation as the basis for a new regional development strategy or agenda. These challenges are around our aging population, climate change, resource scarcity (especially around oil and water), as well as increasing inequality. As a national community we are already facing significant costs in responding to these challenges – the problem right now is that we have not adopted an analytical framework or even presence of mind to accept this. The choices we face are to react to shocks and other crises once they have happened or become apparent, or alternatively, to plan for the changes through investment in capacity and resilience. Any planned approach requires us to adopt new technologies quickly and in the areas and regions where this is most needed. As well, we need to adapt our social institutions so that we can make better long-term decisions that take everyone's interests into account.

The regions in New Zealand which are most marginalised socially and economically have the least ability to respond to the challenges they face around an aging population, climate change, and resource scarcity. It is quite possible that these regions are the ones that will be first and worst affected by the shocks and trends emerging from these challenges. Investing in these regions now not only develops greater reliance to such adversity but provides jobs and economic activity to lift these regions out of the malaise they appear to be sinking into. Most of all, such investment indicates clearly that as a national community we care about the future of every community and region in New Zealand.

CHAPTER 1: **INTRODUCTION**

In real life, where you live matters. It matters in terms of how pleasant and safe your neighbourhood is, what you can buy locally, and how far you need to travel to work. Where you live also has a significant impact on your chances to gain decent housing and a worthwhile job, and the risks you face in terms of accidents and being a victim of crime. Yet despite the importance of location most of economic theory, and much of the public policy derived from it, pays little regard to location and space. For example, at the beginning of a seminal paper for economic geography Nobel Laureate Paul Krugman remarked that, 'It seems fair to say that economic geography plays at best a marginal role in economic theory... On the face of it this neglect is surprising. The facts of economic geography are amongst the most striking features of real-world economies, at least to laymen'[3].

This report considers the question of spatial inequality and, more precisely, the social and economic disparities which exist between communities and regions across New Zealand. This is an important social policy question because geography matters to inequality. So it also matters in terms of how we might address inequality. For example, public programmes which aim to address child poverty need not only to think of a child's needs or of those of his or her parents and family: to be effective such programmes need to also have regard for the challenges within the neighbourhood or community which poor children live and grow up in. This is because the surrounding social environment of friends, neighbours and peers, as well as local opportunities and limitations, have huge impacts in shaping the lives of children and teenagers.

Local neighbourhoods and the communities they contain are also shaped by the social and economic forces around them, particularly by markets. Markets, of course, have no regard for equity or fairness so it is often through markets that inequality or disparities are manifested. In particular, inequality is created or at least exacerbated though labour markets, housing markets and education markets. In such markets a zero sum game operates where one person's advantage is another's disadvantage. This advantage and disadvantage work at a spatial level as well as an economic one. This report considers the spatial distribution of advantage and disadvantage in New Zealand.

This consideration is done at a regional rather than a local scale, and both empirical and theoretical analysis is offered. The report begins by offering a brief background to regions in New Zealand and then goes on to compare a range of social, demographic and economic indicators on a region by region basis. These indicators are compared under four headings – populations and people, work and incomes, children and youth, and safety and social hazards. At the conclusion of each of the chapters dealing with these topics the report offers readers a ranking table where each region's outcome for each indicator is simply ranked and an aggregate score added up. Such an approach is accepted as being fairly crude – both in the way it makes comparisons between indicators that are not strictly comparable, and in the way it assumes that every indicator has equal weighting. The idea of using a ranking table along with an aggregate score is to illustrate, in summary form, both the structured nature of good and poor outcomes and the extent of the difference in outcomes between the most fortunate and least fortunate regions.

Following this empirical analysis some effort is made to offer a theoretical basis for current policy paradigms surrounding the geography of advantage and disadvantage. This in turn is followed by a critique of the present Government's growth model as a means of understanding the current policy settings and their stance toward regional disparities. The report finally starts focusing on the future by briefly reviewing recently released population forecasts and then by considering the future of local government in the light of these population forecasts.

The report ends with some somewhat speculative suggestions for alternative policy directions to address what are wide disparities and perhaps widening disparities in the fortunes of New Zealand's regions. Closing these regional gaps in social and economic opportunities is essential both to maintaining social cohesion at a national level, and to addressing disadvantage and poverty at a local level.

NEW ZEALAND'S REGIONS

Before considering the various fortunes of the 16 local government regions in New Zealand it is useful to provide some background and context to these regions.

For the sake of local government administration New Zealand is more or less divided into 16 distinct regions which vary considerably in terms of area and population. The boundaries between regions have, in some cases, been determined by water catchment boundaries, as in the boundaries between Waikato and Manawatu-Wanganui regions that closely follow the catchment boundaries of the Waikato and Wanganui Rivers. In other cases the boundaries are determined by rivers as in in the boundary between Canterbury and Otago at the Waitaki River. These boundaries match closely, but not exactly, city and district council boundaries. In some cases an entire region is made up of a single district or city council, as with Gisborne, Marlborough, Nelson, Tasman and Auckland. While regional boundaries closely follow the administrative boundaries used by government agencies there is sometimes not an entirely consistent alignment as with Police districts. Increasingly, however, most public statistics are reported on a local government region basis.

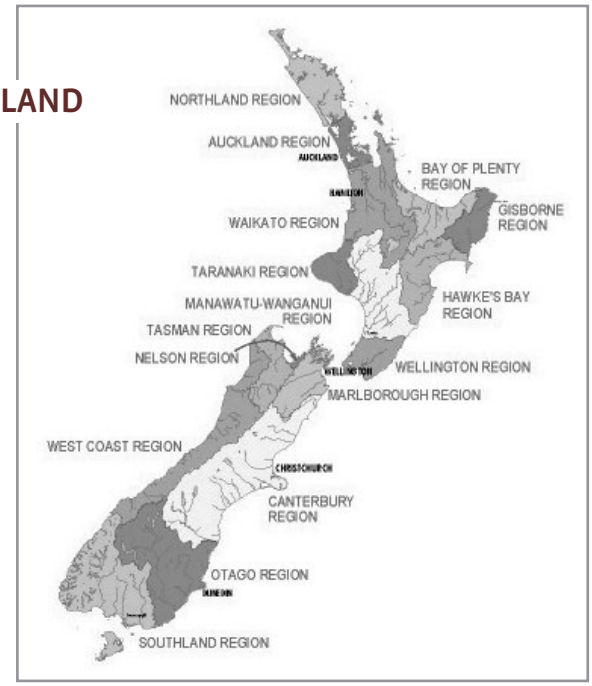
The variability in terms of population size and area makes comparisons of regions a little clumsy. Illustrating this variability Table 1 reports the area, population and share of the national economy. Table 1 shows that regions vary in size from Auckland to West Coast and from nearly 34% of the national population to less than one percent of it. In fact, the largest local board area in Auckland (Howick) is larger than six stand-alone regions, which tends to make a strict region by region comparison a little ridiculous given the scale of experiences which are being overlooked in Auckland. Such an omission is only addressed by considering the social and economic indicators relating to each of the 21 local boards in Auckland. This is considered to be outside the scope of this report.

For some economic indicators – especially those around employment, the statistics for smaller regions have been aggregated in the public databases reporting these statistics. This applies to Marlborough, Nelson, Tasman and West Coast, which have been combined into one multi-region denoted as M-N-T-WC in the following tables. The other combination of regions is Gisborne and Hawkes Bay.

Table 1: Main characteristics of New Zealand's regions[4]

	Area (km2)	Population 2014	Share of NZ population	Share of NZ GDP 2014
Northland	13,941	166,100	3.7%	2.5%
Auckland	5,600	1,527,100	33.9%	35.3%
Waikato	25,598	430,800	9.6%	9.0%
Bay of Plenty	12,447	282,300	6.3%	5.2%
Gisborne	8,351	47,100	1.0%	0.7%
Hawkes Bay	14,167	159,000	3.5%	2.8%
Taranaki	7,273	114,800	2.5%	4.0%
Manawatu-Wanganui	22,215	232,200	5.2%	4.0%
Wellington	8,124	491,500	10.9%	13.2%
Tasman	9,786	49,100	1.1%	1.8%
Nelson	445	49,300	1.1%	In Tasman figure
Marlborough	12,484	44,800	1.0%	1.0%
West Coast	23,336	32,800	0.7%	0.7%
Canterbury	45,346	574,300	12.7%	13.1%
Otago	31,990	211,700	4.7%	4.3%
Southland	34,347	96,500	2.1%	2.4%

FIGURE 1: THE REGIONS OF NEW ZEALAND



CHAPTER 2: **PEOPLE & POPULATIONS**

POPULATION GROWTH

Over the past decade New Zealand's population has grown by around 1% per year and from just under 4.1 million people in 2004, to slightly more than 4.5 million in mid-2014. This population is unevenly distributed, with more than 76% of New Zealanders living in the North Island and nearly half of them living in three regions – Auckland, Waikato and Bay of Plenty. In fact, at the time of the 2013 Census around 43% of New Zealanders lived within the triangle of Auckland, Hamilton and Tauranga[5] and this geographic area accounted for nearly two thirds (64%) of New Zealand's overall population growth between 2001 and 2013. This concentration of population and population growth is having a significant and profound effect on New Zealand's demographic, economic and social structures and so should also be influential in the design and delivery of public policy and programmes.

The distributions of New Zealand's population and of its growth for the decade 2004 to 2014 are shown in Table 2. This data shows that the only regions which had above average rates of population growth were Northland, Auckland, Waikato and Nelson and that some regions, including a swath across the central North Island from Gisborne to Wanganui, as well as Southland and West Coast had almost static population counts.

To some extent this pattern of static or even declining populations in rural areas and towns is a worldwide trend[6] but the countervailing pattern of high rates of urban growth is not entirely being played out in New Zealand. While by New Zealand standards Auckland's population growth is exceptional at around 50% more than the national average for the decade 2004 to 2014, growth rates in Wellington and Christchurch urban areas were below the national average at 7.4% and 9.3% respectively. This national average population growth rate has, however, been significantly buoyed up by Auckland's growth which over the decade 2004 to 2014 accounted for nearly half (47%) of New Zealand's overall population growth. This means, of course, that the average population growth for New Zealand out of Auckland is lower than the 10.3% which is shown in Table 2 and is around 8%, or almost half that of Auckland. Regardless of which comparison is made, population growth in Wellington and Christchurch remains modest and suggests that neither of these cities are sufficiently large to be experiencing the self-generating growth which appears now to be propelling the populations and economies of larger cities globally[7].

In summary, and probably of no surprise, is that the growth paths of New Zealand's regions and even New Zealand's cities appear quite different from each other. Rural areas and smaller provincial cities are scarcely growing while middle tier cities are growing only modestly. Auckland, on the other hand, has grown strongly and as discussed below this growth appears mainly due to natural increase with some influence from international migration.

Table 2: Regional population change 2004-2014[8]

	2004	2009	2014	Change 2004-2014	Change 2009-2014
Northland	149,500	159,600	166,100	11.1%	4.1%
Auckland	1,326,000	1,441,700	1,527,100	15.2%	5.9%
Waikato	384,500	411,400	430,800	12.0%	4.7%
Bay of Plenty	259,100	273,500	282,300	9.0%	3.2%
Gisborne	45,800	46,600	47,100	2.8%	1.1%
Hawkes Bay	150,400	155,500	159,000	5.7%	2.3%
Taranaki	106,800	110,900	114,800	7.5%	3.5%
Manawatu-Wanganui	229,200	230,400	232,200	1.3%	0.8%
Wellington	457,800	478,000	491,500	7.4%	2.8%
Tasman	45,000	47,500	49,100	9.1%	3.4%
Nelson	44,000	46,800	49,300	12.0%	5.3%
Marlborough	42,500	44,200	44,800	5.4%	1.4%
West Coast	31,500	32,600	32,800	4.1%	0.6%
Canterbury	524,800	553,000	574,300	9.4%	3.9%
Otago	195,900	204,900	211,700	8.1%	3.3%
Southland	94,100	94,800	96,500	2.6%	1.8%
New Zealand	4,087,500	4,331,400	4,509,900	10.3%	4.1%

Statistics New Zealand undertakes annual estimates of regional and local populations. The 2014 estimates contained revisions to prior figures based on the results of the 2013 Census. A comparison of the estimates from 2013 and those from 2014 are provided in Table 3.

A noticeable feature of the figures reported in Table 3 is the reduction in the estimate of Auckland's population by 36,000 people between 2013 estimates done in 2013 and those undertaken in 2014 with the benefit of the 2013 Census results. Drops of the same scale were also recorded for Otago and Marlborough while moderate drops were also recorded in Wellington and Canterbury. Offsetting increases were recorded in Northland, Hawkes Bay, Taranaki and Nelson.

Table 3: Regional population estimates from Statistics New Zealand

	2013 estimates from 2013	2013 estimates from 2014	2014 estimates from 2014
Northland	158,700	164,700	166,100
Auckland	1,529,300	1,493,200	1,527,100
Waikato	418,500	424,600	430,800
Bay of Plenty	278,100	279,700	282,300
Gisborne	46,700	47,000	47,100
Hawkes Bay	155,000	158,000	159,000
Taranaki	110,500	113,600	114,800
Manawatu-Wanganui	232,700	231,200	232,200
Wellington	492,500	486,700	491,500
Tasman	48,600	48,800	49,100
Nelson	46,800	48,700	49,300
Marlborough	45,900	44,700	44,800
West Coast	32,700	33,000	32,800
Canterbury	566,000	562,900	574,300
Otago	213,200	208,800	211,700
Southland	94,800	96,000	96,500
New Zealand	4,442,100	4,470,800	4,509,900

MIGRATION

While Statistics New Zealand has not provided a detailed explanation for these changes it has intimated that such discrepancies are due, in part, to difficulties in measuring domestic migration especially of younger adults[9]. This difficulty is compounded further by the overlay of often significant international migration flows.

Estimates of domestic migration patterns between 2008 and 2013 based on Census data are provided in Table 4[10]. The impact of migration, as measured by the proportion of the population shifting, is less in larger regions than in smaller ones. Less than 6% of Auckland's population was involved in shifting to another region between 2008 and 2013, while over 20% of the populations of smaller regions like Nelson and Tasman were. It appears from this that larger populations are more stable, at least in terms of domestic migration, although there are few apparent reasons why the size of a population should influence rates of such migration. As seen below, this relative stability may be due to the proportion of the region's population that is of working age and so less able to shift to regions with fewer employment opportunities.

There are no obvious migration patterns, although there is a weak tendency for people to be leaving the main cities such as Auckland and Christchurch for sunnier locations such as Northland, Bay of Plenty and Nelson. The most noticeable change here is the significant inward migration into Waikato region of almost 6,100 people. Almost three quarters of this net increase is from Auckland and more than half of this Auckland increase is due to 'migration' into Waikato District which is immediately adjacent to Auckland region. Much of this change may be due to either the redrawing of regional boundaries following the restructuring of Auckland local government in 2010, or to the extension of Auckland's commuter belt into Waikato District and to growing rural towns such as Tuakau, Pokeno and Te Kauwhata.

The net migration losses for Hawkes Bay (-0.7%), Manawatu-Wanganui (-0.8%), Southland (-1.3%) and Gisborne (-1.6%) can be seen as significant population trends for these communities.

Table 4: Estimates of domestic migration 2008-2013

	Shifted out	As % of 2008 population[11]	Shifted in	As % of 2008 population	Net migration
Northland	14,526	12.5%	14,838	12.8%	312
Auckland	61,578	5.8%	56,898	5.4%	-4,680
Waikato	34,467	11.2%	40,560	12.9%	6,093
Bay of Plenty	24,987	12.2%	26,985	13.0%	1,998
Gisborne	4,746	13.9%	4,011	12.0%	-735
Hawkes Bay	13,395	11.1%	12,207	10.2%	-1,188
Taranaki	8,760	10.1%	8,514	9.8%	-246
Manawatu-Wanganui	22,806	12.7%	20,928	11.8%	-1,878
Wellington	34,449	9.3%	34,953	9.4%	504
Tasman	6,555	17.6%	7,866	20.5%	1,311
Nelson	7,956	21.5%	8,013	21.7%	57
Marlborough	6,192	17.4%	5,472	15.7%	-720
West Coast	4,275	16.7%	3,930	15.6%	-345
Canterbury	38,625	8.9%	34,530	8.0%	-4,095
Otago	20,094	12.9%	24,780	15.4%	4,686
Southland	8,964	11.7%	7,752	10.3%	-1,212

International migration appears to have had a similar overall impact to that of internal migration on the turnover or churn of regional populations. Annually, over the past decade New Zealand received, on average, 75,000 arriving migrants from other countries or around 2.0% of the resident population, and farewelled on average 65,000 people or 1.7% of the resident population.

The distributions of these migration flows by region are provided in Appendix 1 while the net migration figures are reported in Table 5. The appendix tables show how uneven these flows have been. Over the period 2004 to 2014 Auckland accounted for nearly half (47%) of arriving migrants but only 40% of departing migrants. By comparison for the same period Wellington region received just under 11% of arriving migrants and lost 13% of the departing migrants, while Canterbury region received 13% of arriving migrants and lost 12% of the departing ones[12]. The Canterbury region's migration figures for 2014 show only a modest increase of inward migration above the long-term average, with perhaps an additional 2000 migrants arriving in the region during 2013/2014.

Table 5 reports estimates of net international migration from the regions for 2004, 2009 and 2014. These figures suggest that in net terms international migration is having little impact on the total populations of most regions with the exception of Auckland and more recently Canterbury, and perhaps Otago. Over the ten year period 2005 to 2014, the average annual net migration into New Zealand was 11,000 people, with three quarters of this net figure or around 8,000 people coming to Auckland. Over this period 13 of the 16 regions experienced a small annual average net loss of people generally of less than 200 people and only three regions, Auckland, Canterbury and Otago had a net gain from international migration.

Table 5: Net migration of international migrants by region 2004-2014

June years	Net migration 2004	Net migration 2009	Net migration 2014
Northland	-29	-692	33
Auckland	12,150	8,611	17,779
Waikato	747	-327	826
Bay of Plenty	-177	-1,092	284
Gisborne	-77	-261	-126
Hawkes Bay	-61	-762	-26
Taranaki	84	73	362
Manawatu-Wanganui	234	-111	463
Wellington	1,122	445	725
Tasman	69	-200	-30
Nelson	162	80	198
Marlborough	89	12	65
West Coast	-6	141	71
Canterbury	3,068	1,630	5,565
Otago	724	67	1,063
Southland	54	201	362
All regions	18,153	7,815	27,614
Total New Zealand	22,008	12,515	38,338
Not stated or outside region	7,238	11,578	6,166

BIRTHS & DEATHS

New Zealand experienced something of a mini baby boom between 2007 and 2012. The average number of live births increased from around 56,600 annually for the period 2002 to 2006, to 62,800 for the period 2007 to 2012, peaking at over 64,000 in 2010 - the highest number since 1963. It is difficult to understand why this occurred since New Zealand was unique amongst western countries in experiencing this phenomena of increasing birth rates (albeit temporarily). The direct cause, however, appears to have been a spike in fertility rates amongst 20 to 24 year old women as well as catch up amongst women who had delayed having children until their late thirties[13].

Since 2012 birth rates and fertility rates appear to have fallen to or below their longer term trend rates, although there are some regional variations in these as shown in Tables 6, and 7 and in Appendix 2. Crude birth rates are highest in Auckland at around 10% higher than the New Zealand wide average, which as discussed below appears to be mainly due to Auckland's relative youth rather than to higher fertility rates. Table 6 suggests that birth rates are also higher across the top half of the North Island from Northland through to Taranaki and Hawkes Bay, although the fall in these rates in these regions has been sharper since 2012 than elsewhere in New Zealand. Offsetting these high northern birth rates, all of the South Island has crude birth rates that are 10% to 15% below the national average and around 20% below that of Auckland. Crude birth rates have fallen by around 10% since the recent baby boom with the biggest declines being in Nelson and Tasman, and smallest decline in adjacent Marlborough, which has the second lowest birth rate as well.

A large part of these regional variations can be explained by differences in the age structures of regional populations. As discussed below regions such as Nelson, Tasman and Marlborough are relatively older than regions such as Auckland, Wellington and Canterbury, which are predominantly urban areas, and these differences in age structures should be expected to result in different birth rates. To take account of these age differences an attempt has been made in Table 7 to estimate fertility rates on a regional basis for the most recent ten years. These estimates are based on recorded births to women aged between 15 and 39 years and estimates of the populations of this age cohort in each region[14].

Table 7 reports a variation of around 40% between the least fertile region (in terms of producing children) which is Otago, with an estimated ten year average total fertility rate of 59 (births per 1000 women aged 15 to 39 years), and the most fertile regions of Northland and Gisborne with rates of 96 and 97 respectively. Fertility rates in cities appear to be lower, with Auckland having a rate close to the national average and Wellington and Canterbury having rates around 10% lower.

Table 8 reports crude death rates by region on an annual basis while Appendix 2 reports the total numbers of deaths by region for the period 2004 to 2014. Auckland is clearly an outlier in this data with a crude death rate of 5.1 deaths per 1000 population compared with a national rate of 6.7. Large parts of New Zealand have death rates considerably higher than this national average with rates of over 8.0 in 10 of the 16 regions. The average crude death rate across all the regions outside of Auckland is, in fact, 10% higher than national average of 6.7 and is about 7.5 deaths per 1000 population.

Once again this difference is related to the different age structures of the region's populations. To better understand these differences it is useful to consider regional differences in mortality and the rates at which people die young. Detailed data on deaths is not available and the most recent regional life expectancy tables are from 2005-2007[15]. This life expectancy data is provided in Table 9 and shows that there is little appreciable variation in life expectancies across the regions, except for Gisborne with a deficit for the 65 year expectancy of 2.4 years for men and 2.5 years for women, and Southland, with a deficit of 1.2 years for men. Against these deficits Auckland is the only one with significantly higher life expectancies with 0.7 years for men and 0.5 years for women.

The residual of birth and deaths is, of course, the natural increase which a population will experience and these natural increases are reported in total numbers in Table 10 and as a proportion of the region's population in Table 11. The regional distribution of these natural increases is relatively predictable given the patterns of fertility and mortality discussed above and the age structure discussed in a following section. Auckland, which accounts for 34% of New Zealand's population, receives approximately 46% of the country's natural population increase. The South Island, which is home to 24% of New Zealanders, gained just 15% of this increase over the past decade.

Of some note are the small and possibly declining rates of natural increase across the top of the South Island in Marlborough, Nelson and Tasman regions. Between 2005 and 2014 these three regions experienced a natural increase annual growth rate of just 0.4% against 0.7% nationally, and since 2012 this rate has fallen to 0.2%. These regions will most likely be the first to experience zero natural increase, as over the last three years the gap between the crude birth rate and the crude death rate narrowed from the long run average of 3.8 to 2.8. It may take some time for this gap to close to zero on present trends but this will depend more on migration patterns than on current demographic structures because, as reported in Table 4, internal migration rates in these regions are about twice the national average.

Figure 2, as well as a number of following graphs, use scatter graphs to compare the experiences of regions in two dimensions. This analysis provides a graphical representation of the differences between regions and in some cases allows for the clustering of regions around organising themes or descriptive narratives. In Figure 2 this clustering is not so apparent although the graph does illustrate the extent to which Auckland is an outlier and to which other regions in the northern part of the North Island are the source, or at least the site of, relatively high fertility rates albeit with moderate or low rates of natural increase. The other outlier is Otago, which is experiencing significantly lower fertility rates than the national average, and with its relatively older age is also experiencing quite low growth rates through natural increase.

Table 6: Crude birth rate by region 2004-2014 (births per 1000 population)

June years	2004	2009	2014	Change 2009-2014	Average 2005-2014
Northland	14.0	14.5	12.8	-1.7	14.2
Auckland	15.7	15.5	14.3	-1.3	15.4
Waikato	14.6	15.8	13.4	-2.4	14.7
Bay of Plenty	14.5	14.7	12.7	-2.0	14.3
Gisborne	16.0	16.9	14.7	-2.2	16.1
Hawkes Bay	13.9	14.7	13.7	-1.0	14.5
Taranaki	12.4	14.7	13.2	-1.4	14.0
Manawatu-Wanganui	12.8	14.1	12.7	-1.3	13.7
Wellington	14.0	14.4	12.4	-2.0	13.6
Tasman	12.9	10.5	8.9	-1.6	10.9
Nelson	13.3	13.5	11.0	-2.5	12.5
Marlborough	11.2	12.5	11.6	-0.9	11.6
West Coast	11.5	13.7	11.6	-2.1	12.5
Canterbury	12.5	13.0	11.4	-1.7	12.5
Otago	11.0	11.6	10.4	-1.1	11.1
Southland	13.3	14.4	12.9	-1.6	13.7
All regions	14.2	14.6	13.0	-1.6	14.2

Table 7: Estimated total fertility rate for 15-39 years olds 2004-2014 (births per 1000 population)

June years	2004	2009	2014	Change 2009-2014	Average 2005-2014
Northland	91	97	93	-4	96
Auckland	78	80	74	-6	79
Waikato	81	90	80	-10	84
Bay of Plenty	88	93	85	-8	91
Gisborne	93	101	92	-9	97
Hawkes Bay	85	92	93	1	92
Taranaki	75	90	86	-3	87
Manawatu-Wanganui	73	83	78	-5	81
Wellington	70	75	67	-8	71
Tasman	86	75	73	-2	80
Nelson	78	82	75	-7	78
Marlborough	74	89	85	-4	83
West Coast	74	90	83	-7	84
Canterbury	69	76	70	-6	73
Otago	56	61	57	-4	59
Southland	80	88	81	-7	84
All regions	76	81	75	-6	79

Table 8: Crude death rate by region 2004-2014 (deaths per 1000 population)

June years	2004	2009	2014	Change 2009-2014	Average 2005-2014
Northland	8.3	8.6	8.2	-0.4	8.1
Auckland	5.4	5.1	5.1	0.0	5.1
Waikato	6.8	6.9	6.7	-0.2	6.9
Bay of Plenty	7.8	8.2	7.9	-0.3	8.0
Gisborne	8.5	7.9	8.2	0.3	8.3
Hawkes Bay	8.3	7.8	8.0	0.2	8.2
Taranaki	8.7	8.4	7.8	-0.7	8.4
Manawatu-Wanganui	8.4	8.5	8.6	0.1	8.3
Wellington	6.4	6.3	6.2	-0.1	6.2
Tasman	6.5	6.1	7.2	1.1	6.9
Nelson	8.3	8.9	8.4	-0.5	8.4
Marlborough	8.3	8.8	8.5	-0.3	8.5
West Coast	9.6	8.4	8.4	0.0	8.0
Canterbury	7.6	7.3	7.3	0.0	7.5
Otago	7.9	7.8	7.6	-0.2	7.4
Southland	8.3	8.2	8.2	0.1	8.2
All regions	6.9	6.7	6.6	-0.1	6.7

Table 9: Regional life expectancy from 2005-2007 (years)

	Males at birth	Females at birth	Males at 65	Females at 65
Northland	76.3	81.2	17.6	20.5
Auckland	79.4	83.2	18.9	21.4
Waikato	77.2	81.8	17.8	20.7
Bay of Plenty	77.1	81.9	17.8	20.8
Gisborne	73.8	78.1	15.8	18.4
Hawkes Bay	76.3	80.7	17.3	19.7
Taranaki	77.2	81.5	17.5	20.3
Manawatu-Wanganui	76.5	81.4	17.4	20.3
Wellington	78.9	83.0	18.4	21.2
Tasman	78.9	82.5	18.7	20.6
Nelson	78.9	82.3	18.5	20.7
Marlborough	78.1	82.1	18.0	20.3
West Coast	76.9	81.6	17.3	20.8
Canterbury	79.0	82.6	18.4	20.8
Otago	78.7	82.7	18.1	21.0
Southland	75.9	81.9	17.0	20.5
New Zealand	78.2	82.4	18.2	20.9

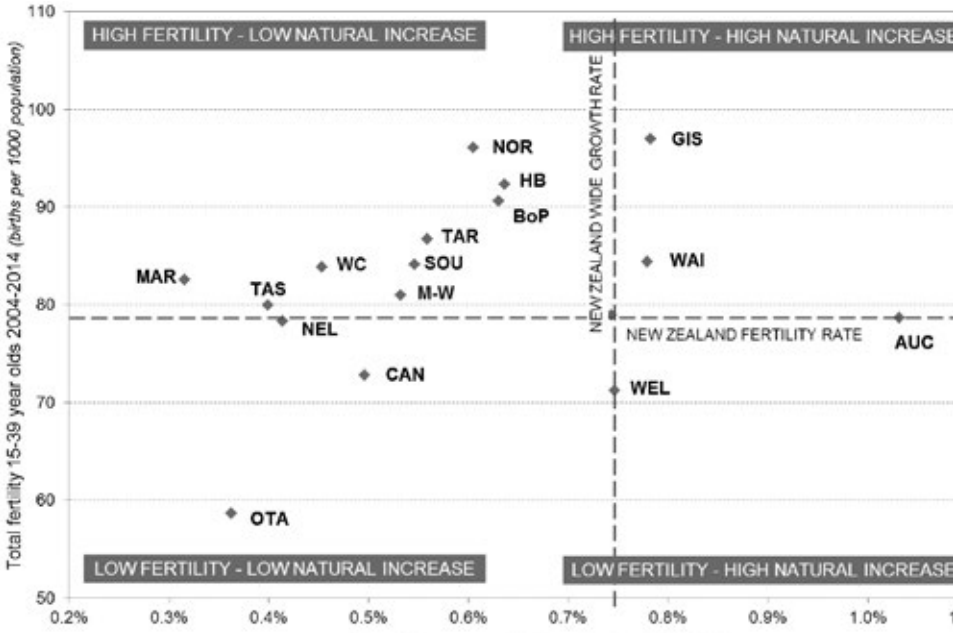
Table 10: Natural population increase by region 2004-2014 (total numbers)

June years	2004	2009	2014	Change 2009-2014	Average 2005-2014
Northland	855	922	769	-153	949
Auckland	13,621	15,083	14,018	-1,065	14,888
Waikato	2,991	3,568	2,874	-694	3,171
Bay of Plenty	1,750	1,769	1,368	-401	1,717
Gisborne	344	416	308	-108	363
Hawkes Bay	846	1,059	906	-153	982
Taranaki	396	677	629	-48	611
Manawatu-Wanganui	1,014	1,283	963	-320	1,228
Wellington	3,476	3,912	3,060	-852	3,572
Tasman	290	208	86	-122	188
Nelson	221	205	127	-78	189
Marlborough	123	165	136	-29	141
West Coast	60	174	104	-70	148
Canterbury	2,605	3,207	2,348	-859	2,751
Otago	626	788	611	-177	745
Southland	473	586	446	-140	515
All regions	29,736	34,003	28,727	-5,276	32,148

Table 11: Natural population increase by region 2004-2014 (as % of total population)

June years	2004	2009	2014	Change 2009-2014	Average 2005-2014
Northland	0.6%	0.6%	0.5%	-0.1%	0.6%
Auckland	1.0%	1.0%	0.9%	-0.1%	1.0%
Waikato	0.8%	0.9%	0.7%	-0.2%	0.8%
Bay of Plenty	0.7%	0.6%	0.5%	-0.2%	0.6%
Gisborne	0.8%	0.9%	0.7%	-0.2%	0.8%
Hawkes Bay	0.6%	0.7%	0.6%	-0.1%	0.6%
Taranaki	0.4%	0.6%	0.5%	-0.1%	0.6%
Manawatu-Wanganui	0.4%	0.6%	0.4%	-0.1%	0.5%
Wellington	0.8%	0.8%	0.6%	-0.2%	0.7%
Tasman	0.6%	0.4%	0.2%	-0.3%	0.4%
Nelson	0.5%	0.5%	0.3%	-0.2%	0.4%
Marlborough	0.3%	0.4%	0.3%	-0.1%	0.3%
West Coast	0.2%	0.5%	0.3%	-0.2%	0.5%
Canterbury	0.5%	0.6%	0.4%	-0.2%	0.5%
Otago	0.3%	0.4%	0.3%	-0.1%	0.4%
Southland	0.5%	0.6%	0.5%	-0.2%	0.5%
All regions	0.7%	0.8%	0.6%	-0.2%	0.7%

Figure 2: A comparison of fertility rates and growth from natural increase 2004-2014



AGE STRUCTURE

Tables 12 through 16 provide a variety of snapshots of what is happening to the age structures of regional populations in New Zealand. To some extent these snapshots are all of the same view, although taken from different angles, so it should be expected that they demonstrate local versions of the overall theme or trend – that of an aging population. Table 16 shows that the median age of New Zealand's population grew by 1.7 years over an eight year period 2006 to 2014, or the equivalent of 2.6 months every year. In a similar vein Table 14 reports that the proportion of New Zealand's population aged over 65 year grew from 12.2% in 2006 to 15.5% in 2014, and by 27% in total numbers of over 65's over this period. Much of this is quite predictable given that the baby boomer generation is now reaching retirement.

What is not so predictable is the spatial dimension to this aging of New Zealand society. Data provided in Tables 14 and 16 suggest that some regions are aging more quickly than others on account of migration patterns, historic fertility and mortality rates, and because of the age structure of local populations which have emerged from these. For example, Table 16 shows that the median age of the populations of Tasman and Marlborough are extending at more than four times the rate of Auckland and nearly three times the rate of Southland. Somewhat consistent with this pattern is the data provided in Table 14, which shows that a higher proportion of the Tasman and Marlborough populations are aged over 65 than of Auckland's population. Southland's population age structure is, however, a little different in that it is, by national standards, aging relatively slowly – most likely on account of outward migration of older people.

This overall aging process is not, however, only about the number of older people in a local population but also about the number of young people who are also present in these populations. A regional population will, for example, age more quickly overall if the numbers of older people increase quickly while at the same time the numbers of young people fall. Conversely, a region's population will age more slowly if the numbers of older people living there grows slowly – perhaps through outward migration, while the numbers of younger people grows quickly – perhaps through migration or higher fertility. A comparison of these two growth trends is offered in Figure 3 for the period 2004-2014 and the data behind this graph is provided in Appendix 3.

Figure 3 compares regional experiences of growth in the populations of children (aged under 15) and of the elderly (aged over 65) over the period 2004 to 2014. The descriptive narratives provided in Figure 3 are those of the growth in the population of children and in the population of the elderly. Using these indicators the experiences of regions can be grouped into one of four themes as follows:

- **strong growth in both the population of children and elderly** – regions in this cluster include Auckland, Waikato, Northland and Nelson
- **weak growth in the elderly population and some growth in the child population** – these regions are likely to be aging slowly and include Taranaki, Canterbury and Southland
- **weak growth in the elderly population and decline on the child population** – regions include Gisborne, Manawatu-Wanganui, Wellington, Otago, and West Coast
- **strong growth in the elderly population alongside decline in the child population** – these regions are likely to be aging quickly and include Bay of Plenty, Hawkes Bay, Tasman and Marlborough.

A limitation in this analysis is that the impact of overall population growth has not been taken into account. One of the reasons why regions such as Northland, Auckland, Waikato and Nelson have experienced high rates of growth in populations of children and the elderly is because these regions' populations have grown strongly. In addition, Northland and Nelson have experienced significant shifts in the age structure of their populations as reported in Tables 14 and 16. Between 2006 and 2014 the proportion of the Northland population aged over 65 grew 5.3% (from 14.5% to 19.8%) and the proportion aged under 15 shrunk 1.2% from (23.1% to 21.9%). The equivalent figures for Nelson are 5.4% and 0.3% respectively. Clearly, the elderly are becoming more dominant within these regions' populations, and this trend is not identified in Figure 3.

Figures 4 and 5 to some extent address this limitation in the analysis behind Figure 3. Figure 4 compares the growth in each region's working age population with the change in its dependency ratio[16]. Given the mathematical relationship between the working age population and the dependency ratio some statistical relationship might be expected between the two variables. This is not entirely the case as shown in Figure 4, mainly on account of the overall population growth which, as can be seen from Table 3, is an influential factor in high growth regions, but not necessarily in low growth regions. Regions with relatively high growth, Auckland in particular, are able to maintain lower rates of dependency while at the same time aging because of strong growth in the working age population. Clearly, in many other regions such as Marlborough, Manawatu-Wanganui and Hawkes Bay with stable working age populations (in terms of numbers) alongside growing over 65's populations, dependency rates are likely to climb quickly.

Figure 4 reports an outcome that is consistent theme throughout this report – the outlier status of Auckland. In this case Auckland is the only region which has significant growth in its working age population (twice the national average) and quite low rates of increase in the dependency ratio. The exact opposite experience of rapidly increasing rates of dependency and a stable or even shrinking working age population is found in regions such as Hawkes Bay, Manawatu-Wanganui, Tasman, Marlborough and West Coast. The more populous regions outside of Auckland, such as Waikato, Wellington, Canterbury and Otago are clustered around the middle of this comparison.

Figure 5 makes a more direct comparison between population growth and aging. This analysis compares regional population growth for the period 2006-2014 with the rate at which the median age is extending for each region. This extension of the median age is measured as the number of months the median age grew for each year during the 2006-2014 period. Figure 4 offers a fairly polarised landscape, once again with Auckland as an outlier, which is growing quickly and aging slowly. Regions that appear to be experiencing the opposite trends of slow growth and rapid aging include Northland, Hawkes Bay, Gisborne and Manawatu-Wanganui. More stable regions that are aging slowly and growing slowly as well include Taranaki, Southland and Wellington.

These different growth trends overall, and for the young and the old populations are important, not just in order to understand the dynamics of how a community or region is aging but also to assist in gaining an understanding of the social and economic dynamics which may be at play in these places. For example, the economic dynamics of a region or community with a growing population of children, and hence of younger families, is likely to have an energy or outlook which can also cope with the challenges of a growing population of older people. These challenges include being able to provide the services and tax

revenues necessary to support this elderly population. Such communities or regions may also have a longer-term focus in terms of their planning and in how they frame their challenges.

On the other hand, communities and regions with declining populations of children alongside rapidly growing populations of elderly may have quite a different set of social and economic dynamics. Local labour markets might be quite restricted, either in terms of opportunity ('just no jobs'), or capacity ('just no workers'). The local economy and local leadership may become significantly focused on meeting the needs of the elderly rather than on generating new opportunities for the young. The political dominance of the elderly might easily bring such a dynamic about.

The trends of sharply rising rates of dependency in some regions as identified in Table 15 and Figure 4 should be viewed with some concern, although not alarm. These trends may be pointing to some regions and communities becoming more dependent on the wider national community for economic support, and perhaps becoming stuck on a particular growth or development pathway that is not sustainable socially and economically. These regions and communities may struggle to gain the resources necessary to rejuvenate and reinvent themselves and perhaps then lack the capacity and opportunity to choose a future. It seems unlikely, however, that the trends of increasing rates of dependency will continue indefinitely, partly because these are driven by an aging population and declining birth and fertility rates which are themselves likely to stabilise. The effects of migration, and in particular of migration of older people, away from large cities and high housing costs may continue for some time yet, however, and the social and economic consequences of these changes need to be anticipated by public policy.

Table 12: Regional populations aged under 15 years 2006-2014

	Number of people under 15 years			% of population under 15		
	2006	2013	2014	2006	2013	2014
Northland	35,300	36,400	36,300	23.1%	22.1%	21.9%
Auckland	298,200	311,500	313,900	21.7%	20.9%	20.6%
Waikato	88,700	92,500	92,800	22.6%	21.8%	21.5%
Bay of Plenty	60,300	60,400	60,200	22.7%	21.6%	21.3%
Gisborne	11,900	11,700	11,600	25.9%	24.9%	24.6%
Hawkes Bay	34,600	34,500	34,600	22.7%	21.8%	21.8%
Taranaki	23,100	24,100	24,100	21.5%	21.2%	21.0%
Manawatu-Wanganui	49,400	47,500	47,300	21.5%	20.5%	20.4%
Wellington	94,900	95,000	94,700	20.4%	19.5%	19.3%
Tasman	9,700	9,700	9,600	21.2%	19.9%	19.6%
Nelson	8,400	9,200	9,200	19.0%	18.9%	18.7%
Marlborough	8,000	8,100	8,000	18.3%	18.1%	17.9%
West Coast	6,500	6,300	6,200	20.2%	19.1%	18.9%
Canterbury	104,700	105,700	106,500	19.4%	18.8%	18.5%
Otago	34,800	36,100	36,300	17.4%	17.3%	17.1%
Southland	19,600	19,800	19,800	21.0%	20.6%	20.5%
New Zealand	888,300	908,800	911,300	21.2%	20.5%	20.2%

Table 13: Regional working age populations 15-64 years 2006-2014

	Number of people age 15-64 years			% of population aged 15-64		
	2006	2013	2014	2006	2013	2014
Northland	95,300	99,400	99,600	62.4%	60.4%	60.0%
Auckland	940,800	1,011,900	1,036,000	68.5%	67.8%	67.8%
Waikato	255,600	270,500	273,800	65.0%	63.7%	63.6%
Bay of Plenty	165,800	171,100	171,900	62.5%	61.2%	60.9%
Gisborne	28,600	28,900	29,000	62.2%	61.5%	61.6%
Hawkes Bay	96,500	97,300	97,100	63.4%	61.6%	61.1%
Taranaki	68,300	71,300	71,800	63.7%	62.8%	62.5%
Manawatu-Wanganui	147,500	145,700	145,800	64.3%	63.0%	62.8%
Wellington	318,300	327,600	330,300	68.3%	67.3%	67.2%
Tasman	29,900	30,400	30,300	65.3%	62.3%	61.7%
Nelson	29,500	31,100	31,300	66.6%	63.9%	63.5%
Marlborough	28,500	27,500	27,400	65.4%	61.5%	61.2%
West Coast	21,100	21,400	21,100	65.7%	64.8%	64.3%
Canterbury	360,600	371,400	379,300	66.8%	66.0%	66.0%
Otago	137,500	140,300	141,800	68.8%	67.2%	67.0%
Southland	60,600	61,300	61,400	65.0%	63.9%	63.6%
New Zealand	2,784,700	2,907,300	2,948,200	66.5%	65.4%	65.4%

Table 14: Regional populations aged over 65 years 2006-2014

	Number of people aged over 65 years			% of population aged over 65		
	2006	2013	2014	2006	2013	2014
Northland	22,100	28,900	30,200	14.5%	18.9%	19.8%
Auckland	134,000	169,800	177,200	9.8%	12.4%	12.9%
Waikato	48,900	61,600	64,200	12.4%	15.7%	16.3%
Bay of Plenty	39,200	48,200	50,200	14.8%	18.2%	18.9%
Gisborne	5,500	6,400	6,500	12.0%	13.9%	14.1%
Hawkes Bay	21,000	26,200	27,300	13.8%	17.2%	17.9%
Taranaki	15,900	18,200	18,900	14.8%	17.0%	17.6%
Manawatu-Wanganui	32,500	38,000	39,100	14.2%	16.6%	17.0%
Wellington	53,100	64,100	66,500	11.4%	13.7%	14.3%
Tasman	6,200	8,700	9,200	13.5%	19.0%	20.1%
Nelson	6,400	8,400	8,800	14.4%	19.0%	19.9%
Marlborough	7,100	9,100	9,400	16.3%	20.9%	21.6%
West Coast	4,500	5,300	5,500	14.0%	16.5%	17.1%
Canterbury	74,700	85,800	88,500	13.8%	15.9%	16.4%
Otago	27,500	32,400	33,600	13.8%	16.2%	16.8%
Southland	13,000	14,900	15,300	13.9%	16.0%	16.4%
New Zealand	511,600	626,000	650,400	12.2%	15.0%	15.5%

Table 15: Regional dependency ratios 2006-2014

	2006	2013	2014	Change 2006-2014
Northland	60.2	65.7	66.8	6.6
Auckland	45.9	47.6	47.4	1.5
Waikato	53.8	57.0	57.3	3.5
Bay of Plenty	60.0	63.5	64.2	4.2
Gisborne	60.8	62.6	62.4	2.6
Hawkes Bay	57.6	62.4	63.7	6.1
Taranaki	57.1	59.3	59.9	2.8
Manawatu-Wanganui	55.5	58.7	59.3	3.8
Wellington	46.5	48.6	48.8	2.3
Tasman	53.2	60.5	62.0	8.8
Nelson	50.2	56.6	57.5	7.3
Marlborough	53.0	62.5	63.5	10.5
West Coast	52.1	54.2	55.5	3.4
Canterbury	49.8	51.6	51.4	2.6
Otago	45.3	48.8	49.3	4.6
Southland	53.8	56.6	57.2	3.4
New Zealand	50.3	52.8	53.0	2.7

Table 16: Regional median age 2006-2014 (years)

	2006	2013	2014	Change 2006-2014
Northland	38.8	41.5	41.9	2.1
Auckland	33.7	34.8	34.6	0.9
Waikato	35.5	37.1	37.2	1.7
Bay of Plenty	37.7	40.2	40.5	2.8
Gisborne	34.6	35.8	36.1	1.7
Hawkes Bay	37.5	40.2	40.5	3.0
Taranaki	37.9	39.5	39.7	1.8
Manawatu-Wanganui	36.6	38.7	39.0	2.4
Wellington	35.3	37.0	37.2	1.9
Tasman	40.3	44.0	44.6	4.3
Nelson	39.4	42.2	42.4	3.0
Marlborough	41.7	44.6	45.1	4.4
West Coast	40.3	42.6	43.1	1.8
Canterbury	37.6	39.4	39.3	1.7
Otago	36.8	38.7	38.7	1.9
Southland	38.0	39.2	39.3	1.3
New Zealand	35.8	37.5	37.5	1.7

Figure 3: A comparison of population change for under 15's & over 65's 2004-2014

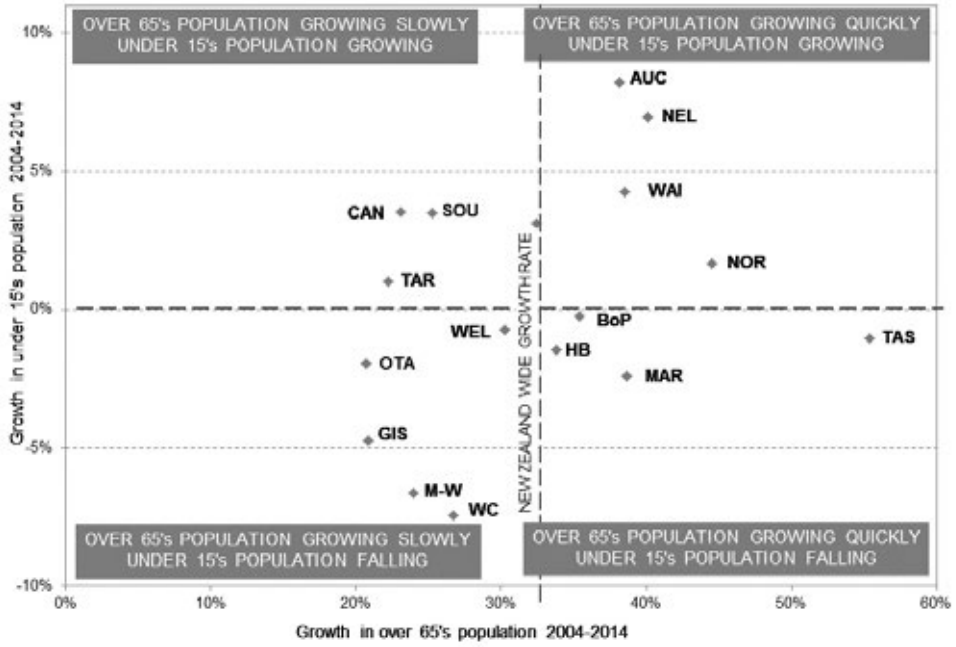


Figure 4: A comparison of changes working age population and dependency ratio 2004-2014

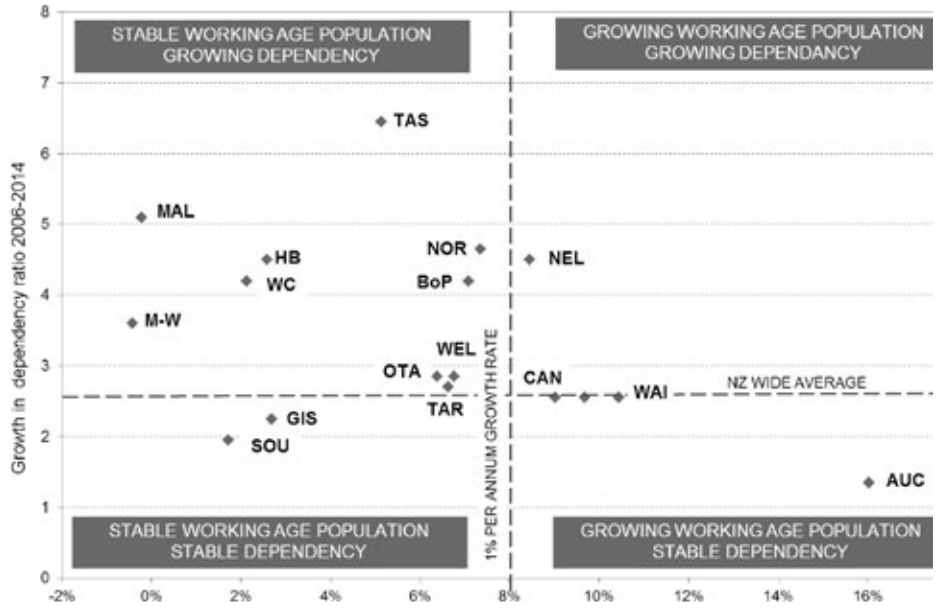
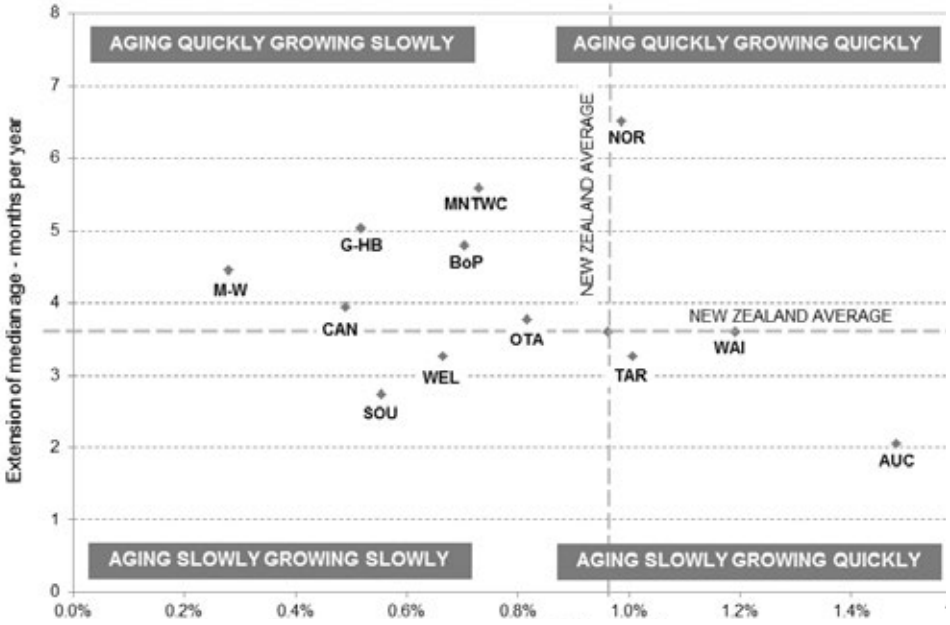


Figure 5: A comparison of growth and aging of regional populations 2004-2014



CHANGING ETHNIC DISTRIBUTIONS

There is, of course, an ethnic overlay to these regional differences and variations which cannot be ignored because it so marked. While regional populations are becoming more diverse ethnically three features of the 'ethnic picture' of these populations stand out. The first of these features is the contest over ethnicity as an idea that is able to be adequately defined and accurately measured. Within this philosophical contest, the prevailing view of the value of, and acceptability of, ethnic definitions and identities has changed. For example, it is becoming more acceptable to report minority ethnic identities[17]. While such a change in attitudes should be seen as a sign of a growing tolerance and diversity it makes the idea of ethnicity as a population characteristic a lot more fluid.

The second feature is the changing concept of ethnicity that appears to be playing out in how people report their ethnicity. In the 2013 Census 4,011,399 million people reported 4,450,356 ethnic identities, which means that around 400,000 people or about 10% of those reporting an ethnicity claimed two or more ethnic identities. Given the long history of inter-marriage between ethnic groups and the self-defining nature of ethnicity such reported outcomes are to be expected. Related to this self-definition is the possibility that people change their declared ethnicity from one census to the next, making it difficult to construct a longer-term picture of what is happening in terms of the distribution of ethnic populations.

The most obvious example of this is the change in reporting of ethnic identities by Pakeha-European New Zealanders between the 2001, 2006 and 2013 censuses. In 2001 2.87 million people identified as European but by 2006 this number had fallen to 2.61 million then rose again to 2.97 million in 2013. The reason for the significant dip in 2006 is that perhaps as many 380,000 people who had previously identified as European people chose to define themselves as New Zealanders, and so have been included in the "Other" ethnicities for the sake of 2006 Census reporting. To overcome this shift in the following analysis the European ethnic count has been combined with the 'Other' ethnic count for all three censuses.

The final major feature of the ethnicity in New Zealand is the high concentration of some ethnic groups in Auckland and the continuing numerical dominance of Pakeha-Europeans in the South Island. At the time of the 2013 Census 66% of the 296,000 Pacific people and 65% of the 472,000 Asian people living in New Zealand lived in Auckland. At the same time 90% of South Islanders reported being European or 'Other' while just 61% of Aucklanders did so.

Against this background there is some evidence that New Zealand's population is becoming more diverse across most regions, particularly for Maori. Table 17 reports the share of each region's population that identifying as Maori. While the overall New Zealand wide share of the population identifying as Maori changed little between 2001 and 2013 across the regions, especially in the South Island the proportion of the population made up of Maori has increased appreciably. In 2001 7.3% of the South Island's population was Maori and this proportion rose to 8.7% at the time of the 2013 Census. The offset here is the decline in the proportion of the Auckland population who identify as Maori. This proportion fell from 11.6% in 2001 to 10.7% in 2013, although the number of people in Auckland who identified as Maori increased by 12% over this period to 142,800.

The increase in share of regional populations which are Pacific or Asian has increased more modestly as shown in Tables 19 and 20. The growth in these populations, has as might be expected, been most pronounced in Auckland which has received 62% of Pacific population growth and 66% of Asian population growth between 2001 and 2013.

The proportion of New Zealand's population that identifies as European or Other ethnicities fell from 80% in 2001 to just under 76% in 2013 with the greatest decline of 8% of share being seen in Auckland as reported in Table 21. Table 21 summarises the changing ethnic composition of the regions' during the period 2001-2013 and shows that the European-Other population declined as a share in every region, with the exception of Northland where there was a very modest share growth of 0.3%.

Table 17: Share of regions' population identifying as Maori 2001-2013

	2001	2006	2013
Northland	31.6%	31.7%	32.4%
Auckland	11.6%	11.1%	10.7%
Waikato	21.2%	21.0%	21.9%
Bay of Plenty	27.9%	27.5%	27.5%
Gisborne	46.2%	47.3%	48.9%
Hawkes Bay	23.3%	23.5%	24.3%
Taranaki	14.7%	15.8%	17.4%
Manawatu-Wanganui	18.5%	19.6%	20.6%
Wellington	12.5%	12.8%	13.0%
Tasman	7.0%	7.1%	7.6%
Nelson	8.0%	8.7%	9.4%
Marlborough	10.1%	10.5%	11.5%
West Coast	8.7%	9.7%	10.5%
Canterbury	6.8%	7.2%	8.1%
Otago	6.0%	6.6%	7.5%
Southland	11.3%	11.8%	13.0%
New Zealand	14.7%	14.6%	14.9%

Table 18: Share of regions' population identifying as European or Other Ethnicity 2001-2013

	2001	2006	2013
Northland	77.3%	78.7%	77.5%
Auckland	68.6%	64.6%	60.5%
Waikato	81.6%	81.9%	79.1%
Bay of Plenty	78.3%	79.4%	77.4%
Gisborne	63.2%	63.5%	62.4%
Hawkes Bay	80.0%	81.2%	79.6%
Taranaki	90.1%	90.6%	88.3%
Manawatu-Wanganui	85.2%	85.4%	83.4%
Wellington	80.9%	80.7%	78.8%
Tasman	96.2%	97.4%	95.5%
Nelson	93.6%	94.4%	91.4%
Marlborough	94.2%	94.7%	91.7%
West Coast	95.5%	96.4%	94.0%
Canterbury	91.8%	91.2%	88.9%
Otago	93.7%	93.7%	91.3%
Southland	93.4%	94.3%	91.2%
New Zealand	80.1%	78.8%	75.7%

Table 19: Share of regions' population identifying as Pacific 2001-2013

	2001	2006	2013
Northland	2.3%	2.7%	3.2%
Auckland	14.0%	14.4%	14.6%
Waikato	3.1%	3.2%	3.8%
Bay of Plenty	2.4%	2.6%	3.1%
Gisborne	2.7%	3.1%	3.8%
Hawkes Bay	3.4%	3.7%	4.4%
Taranaki	1.1%	1.4%	1.6%
Manawatu-Wanganui	2.4%	2.7%	3.5%
Wellington	7.9%	8.0%	8.0%
Tasman	0.6%	0.8%	1.1%
Nelson	1.5%	1.7%	1.8%
Marlborough	1.1%	1.6%	2.3%
West Coast	0.6%	0.9%	1.0%
Canterbury	1.8%	2.2%	2.5%
Otago	1.5%	1.7%	2.0%
Southland	1.4%	1.7%	2.1%
New Zealand	6.5%	6.9%	7.4%

Table 20: Share of regions' population identifying as Asian 2001-2013

	2001	2006	2013
Northland	1.5%	1.9%	2.8%
Auckland	13.8%	18.9%	23.1%
Waikato	3.5%	5.0%	6.9%
Bay of Plenty	2.3%	3.2%	5.2%
Gisborne	1.5%	1.8%	2.4%
Hawkes Bay	2.1%	2.5%	3.6%
Taranaki	1.5%	2.1%	3.5%
Manawatu-Wanganui	3.1%	3.8%	5.1%
Wellington	6.8%	8.4%	10.5%
Tasman	0.9%	1.3%	2.0%
Nelson	2.1%	2.6%	4.4%
Marlborough	1.0%	1.6%	2.8%
West Coast	0.8%	1.1%	2.3%
Canterbury	4.1%	5.7%	6.9%
Otago	3.3%	4.2%	5.2%
Southland	1.0%	1.3%	3.2%
New Zealand	6.6%	9.2%	11.8%

Table 21: Changes in shares of regions' populations by ethnicity 2001-2013

	Maori	Pacific	Asian	European + Other
Northland	0.8%	0.9%	1.3%	0.3%
Auckland	-0.9%	0.6%	9.3%	-8.1%
Waikato	0.7%	0.8%	3.4%	-2.5%
Bay of Plenty	-0.4%	0.7%	2.9%	-0.8%
Gisborne	2.7%	1.1%	0.9%	-0.8%
Hawkes Bay	0.9%	1.0%	1.4%	-0.4%
Taranaki	2.8%	0.6%	1.9%	-1.8%
Manawatu-Wanganui	2.1%	1.1%	2.0%	-1.8%
Wellington	0.5%	0.2%	3.7%	-2.1%
Tasman	0.6%	0.5%	1.0%	-0.7%
Nelson	1.4%	0.3%	2.3%	-2.1%
Marlborough	1.4%	1.3%	1.8%	-2.5%
West Coast	1.8%	0.4%	1.4%	-1.5%
Canterbury	1.4%	0.6%	2.8%	-3.0%
Otago	1.5%	0.5%	1.9%	-2.4%
Southland	1.7%	0.7%	2.2%	-2.2%
New Zealand	0.2%	0.9%	5.1%	-4.4%

SUMMARY

The overall trends for the New Zealand population is that it is aging relatively quickly, and this aging in terms of increasing median age may speed up if birth rates and fertility rates continue to fall. Furthermore, while the population has recently grown by around 1% per year, it seems likely that sustaining this rate will require higher levels of net external migration to offset falling rates of growth through natural increase.

The regional distribution of these trends is complex with a three-way mix of fortunes. At one extreme is Auckland, which as the data offered above shows, has a set of virtuous circumstances which appear to enhance its population growth prospects. These include a relatively young population and a size and economic scale that are attractive to 50% or more of foreign migrants.

At the other extreme, there are regions such as Bay of Plenty, Hawkes Bay, Manawatu-Wanganui, Tasman and Marlborough which are experiencing aging populations, low or falling birth rates and minimal net growth through migration. These regions and their communities face a number of challenges around growing rates of dependency, loss of local talent and the dominance of the needs of an aging population in local economies and social life.

Between these experiences are a variety of circumstances that are difficult to generalise. Dairy regions such as Waikato, Taranaki and Southland appear to be doing moderately well in population terms with modest growth rates, a stable working age population, higher than average fertility rates and strong (or at least sound) population growth through natural increases. The second tier urban regions of Wellington and Canterbury appear to be doing moderately well in growth terms with only small gains through migration, populations aging at close to the national average, and low fertility rates. These regions do not appear to have captured the growth dynamic of Auckland, although the opportunities offered with the Canterbury rebuild may yet provide Canterbury with such a dynamic. Northland appears to be living in the shadow of Auckland's housing market and is experiencing migration of older people from Auckland, while Otago is the recipient of relatively high rates of migration both from within New Zealand and overseas.

The outlook, especially for the regions experiencing low and faltering growth, most likely relies on the spill-over effects from high growth regions, and the mechanisms of high housing costs and retiring baby boomers to inject some new energy and resources. For some of the worst affected regions, the future of falling and rapidly aging populations might be unavoidable unless greater policy effort is given to assisting these communities to develop an alternative future.

Table 22: Regional ranking table for people & populations

	Population growth 2004-2014	Natural increase 2004-2014	Growth in working age population 2004-2014	Dependency ratio 2014	Increase in median age 2004-2014	Aggregate score
Northland	4	7	5	16	14	46
Auckland	1	1	1	1	1	5
Waikato	2	2	2	7	6	19
Bay of Plenty	7	5	6	15	10	43
Gisborne	14	2	11	12	3	42
Hawkes Bay	11	5	12	14	12	54
Taranaki	9	8	8	10	5	40
Manawatu-Wanganui	6	10	16	9	9	50
Wellington	10	4	7	2	7	30
Tasman	6	14	10	11	16	57
Nelson	2	13	4	8	12	39
Marlborough	12	16	15	13	15	71
West Coast	13	12	13	5	10	53
Canterbury	5	11	3	4	4	27
Otago	8	15	9	3	7	42
Southland	15	9	14	6	2	46

CHAPTER 3: **WORK & INCOMES**

Between 2000 and 2007 the New Zealand economy experienced an extended period of growth and this growth was felt, to some extent, in all of New Zealand's regional economies. During this period the economy grew 26% in real terms and 17% in real per capita terms, while unemployment fell by more than 30% and real wages rose nearly 8%[18].

These fortunes reversed following the GFC of late 2007 and 2008, which some have labelled the worst economic downturn since the Great Depression. While New Zealand appears to have emerged from the GFC relatively well, its economy nonetheless contracted by around 4% between mid-2008 and mid-2009 and only recovered this lost ground in early 2012[19]. Moreover, this recovery has been patchy and somewhat fragile, as it has relied heavily on surging dairy prices and production and a construction boom arising from the Canterbury earthquake re-build and Auckland's population growth[20].

This fragile and patchy recovery has meant that regional economies have not recovered from the GFC at the same rates. In fact, there are clear signs that some regional economies were in worse shape in 2014 than they were in 2007 despite overall economic growth of almost 9% since 2012.

Against the population trends discussed in the previous chapter these mixed economic fortunes have meant rising and persistent unemployment and joblessness in some North Island regions alongside falling household incomes and higher rates of dependency on welfare support.

The tables and analysis in this chapter use data taken from Statistics New Zealand's Household Labour Force Survey (HLFS), Quarterly Employment Survey (QES) and the New Zealand Income Survey (NZIS). These surveys report regional data in a more abbreviated way than the Census and many other data sets, combining Gisborne and Hawkes Bay in one regional grouping and Tasman, Nelson, Marlborough and West Coast in another. For consistency, these groupings have been used throughout this chapter even when more detailed data (as with population data) is available.

Because the GFC is so important to this story the following analysis uses 2004 and 2007 as the reference years against the present period. Wherever possible, June year figures have been used.

JOBS & JOBLESSNESS

Table 23 provides a breakdown of changes in regional employment between 2004 and 2014, with pre-GFC job numbers as an additional reference point. An overall pattern to emerge from this data is that there was quite strong job growth between 2004 and 2007 across most regions with the exception of Otago, which saw a net loss of around 6% of its jobs. Regions such as Northland, Waikato, Taranaki and Wellington experienced double-digit growth during this period with Northland gaining almost 20% more people in jobs.

The post GFC period story is, however, quite different with four regions still not having recovered to pre-GFC job numbers by mid-2014. Furthermore, four regions each saw fewer than 5,000 jobs added to the local economy. While the number of people in jobs has grown by a credible 9.4% nationwide since 2007, a huge 44% of this job growth was in Auckland, while 10% was in Canterbury and 15% in Otago.

Rates of participation of working age adults in the labour market have tended to fluctuate with these changing employment fortunes, as shown in Table 24 and Figure 6. The general pattern to emerge from this data is that the participation rate has risen in regions such as Otago, Auckland, and to some extent Canterbury, which experienced strong post-GFC growth in employment numbers. Conversely, regions that have not recovered from the GFC driven recession, or that have seen minimal job growth, have witnessed a fall in participation rates. This fall most likely is on account of increasing numbers of potential workers in these regions becoming discouraged with their job prospects and not looking for work regularly enough to be officially defined as being unemployed. The most obvious example of this is Northland, which between 2007 and 2014 has seen a 5.5% decline in the number of jobs matched by a 4.3% decline in the participation rate.

Tables 25 and 26 report the official unemployment rate and the jobless rate for each of the 12 regions included in labour market survey data. The official unemployment rate is simply the percentage of the labour force that is out of work but actively looking for a job. The so-called 'discouraged unemployed' are not included in unemployment numbers but are included in a broader category known as the jobless. The jobless rates reported in Table 26, therefore, include both the total numbers of people judged either to be unemployed and actively seeking work, as well as those who are amongst the discouraged unemployed[21].

Table 25 shows what has happened to regional unemployment rates since 2004 and 2007. In all but two regions - Canterbury and Otago, the unemployment rate was higher in mid- 2014 than it was a decade earlier and in three regions (Northland, Auckland and Waikato) it was 2.5% or more higher. The post-GFC economic recovery has not resulted in a return of unemployment rates to pre GFC levels, and across New Zealand overall this rate is 2% higher. The regions with the worse recovery record are across the top of the North Island from Northland through to Hawkes Bay–Gisborne. Northland had an unemployment rate in mid- 2014 which was nearly twice that of pre-GFC times. On the other hand, most of the South Island – perhaps with the exception of Southland, has recovered more strongly in unemployment terms than the rest of the country.

Table 26 presents a similar distribution of fortunes for the broader unemployment measure of the jobless rate. This rate is the highest and has fallen the least in the post GFC recovery for the northern half of the Northland and for Manawatu-Wanganui. As with unemployment rates, the jobless rates of the South Island are below the national average and have fallen quicker than the national average.

By comparing Table 25 and 26 we gain some insight into possible changes in what may be termed disguised unemployed – that is the gap between the unemployment rate and jobless rate. This gap is highest in Northland (4.8%) and Manawatu-Wanganui (4.1%) and lowest in Southland (2.7%) and Canterbury (2.4%).

The link between job growth and joblessness is complex as it is mediated by growth in the working age population and labour market participation rates. As shown in Figure 6 these participation rates are, in turn, influenced by job growth. An analysis of the relationships between these variables on a region-by-region basis does not show any strong relationships, although four patterns of change can be identified as follows:

- **low growth and low participation** – these regions include Northland, Bay of Plenty, Hawkes Bay-Gisborne and Manawatu-Wanganui, which over the past decade have experienced low rates of growth in both jobs and the working-age population growth. These have combined with below average, and on occasion falling rates, of labour market participation to generate high and persistent rates of joblessness
- **low growth and high participation** - which has taken place in the Wellington Region. This experience involves low rates of growth in both jobs and working age population alongside relatively high (against national averages) rates of labour market participation. The historical outcome of these factors has been relatively low rates of joblessness
- **high growth and low participation** - which has taken place in Auckland and Otago regions. Here both job growth and working age population growth have been strong over the past ten years although this has been alongside fairly modest rates of participation. The result has been slightly higher than national average rates of joblessness
- **low growth and modest participation** - which typifies the experiences of Taranaki and all South Island regions except Otago. Here the employment growth has been sluggish, while participation rates have remained close to national averages and have changed little – most likely on account of little overall growth in the job market.

Something of an outlier here is Waikato region, which has experienced relatively poor rates of job growth alongside substantial growth in its working age population (see Table 17). These growth patterns have combined with a slight fall in rates of labour market participation to end in rising rates of joblessness as shown in Table 26.

Some of these patterns are a little counter-intuitive. For example, below average rates of growth in jobs and the working age population should not necessarily result in rising rates of joblessness as it has done in four North Island regions. These complexities may be due to history – such as having a legacy of high unemployment, or to context - such as the structure of the local economy.

On any account it is probably the outliers which show us the starkest experiences and from this the places and circumstance which most need to be considered in any review of policies and allocations. While each region has its challenges in terms of jobs and workers, it is the regions with low rates of growth in both jobs and working age populations which should be the greatest source of concern. There is a risk in these regions of a downward spiral of declining employment prospects leading to rising or persistently high rates of joblessness, which in turn is greeted with declines in the working age population most likely through outward migration of younger people. This is the prospect facing North Island regions with the exception of Auckland and Taranaki, and perhaps Waikato.

Table 23: Persons employed in regional labour forces 2004-2014 (000's)

	2004	2007	2014	Change 2004-2014	Change 2007-2014
Northland	60.7	72.7	68.7	13.2%	-5.5%
Auckland	602.0	657.8	750.9	24.7%	14.2%
Waikato	177.8	201.7	196.2	10.3%	-2.7%
Bay of Plenty	111.9	118.7	118.5	5.9%	-0.2%
Hawkes Bay-Gisborne	93.1	97.4	101.5	9.0%	4.2%
Taranaki	53.0	59.0	61.8	16.6%	4.7%
Manawatu-Wanganui	109.4	114.2	111.7	2.1%	-2.2%
Wellington	246.4	273.7	275.7	11.9%	0.7%
M-N-T-WC	84.2	86.9	95.7	13.7%	10.1%
Canterbury	298.2	325.4	346.6	16.2%	6.5%
Otago	100.5	94.0	124.6	24.0%	32.6%
Southland	49.7	52.0	52.0	4.6%	0.0%
New Zealand	1,986.9	2,153.5	2,303.9	16.0%	7.0%

Table 24: Labour force participation rates 2004-2014 (% of working age population)

	2004	2007	2014	Change 2004-2014	Change 2007-2014
Northland	60.2%	66.0%	61.7%	1.6%	-4.3%
Auckland	66.5%	67.3%	68.7%	2.2%	1.4%
Waikato	68.3%	69.2%	68.5%	0.3%	-0.7%
Bay of Plenty	64.4%	66.7%	65.0%	0.6%	-1.7%
Hawkes Bay-Gisborne	63.9%	67.2%	65.7%	1.8%	-1.5%
Taranaki	66.9%	69.2%	69.8%	2.9%	0.6%
Manawatu-Wanganui	62.7%	66.6%	64.6%	1.9%	-2.0%
Wellington	68.7%	70.4%	72.9%	4.3%	2.5%
M-N-T-WC	66.5%	67.5%	67.5%	1.0%	0.0%
Canterbury	68.8%	70.5%	71.5%	2.7%	1.0%
Otago	65.9%	66.6%	70.2%	4.4%	3.6%
Southland	67.6%	71.7%	72.5%	4.9%	0.8%
New Zealand	67.5%	69.1%	70.1%	2.6%	1.0%

Figure 6: A comparison of employment growth and labour market participation 2007-2014

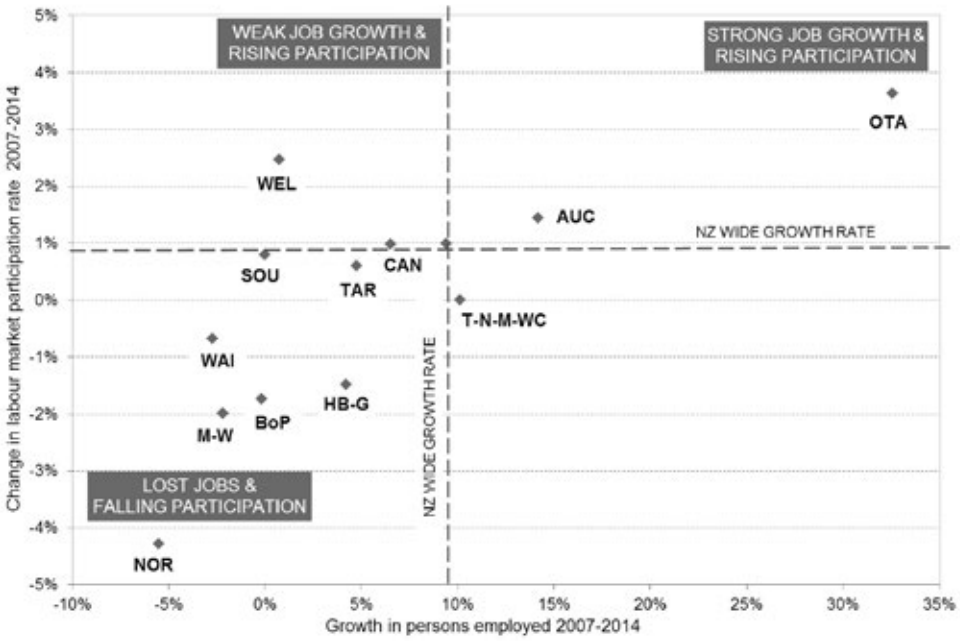


Table 25: Official unemployment rates by region 2004-2014 (% of labour force)

	2004	2007	2014	Change 2004-2014	Change 2007-2014
Northland	6.3%	4.5%	8.8%	2.5%	4.3%
Auckland	3.9%	4.0%	6.6%	2.7%	2.6%
Waikato	3.7%	3.7%	6.5%	2.8%	2.8%
Bay of Plenty	6.0%	3.7%	7.3%	1.3%	3.6%
Hawkes Bay-Gisborne	5.4%	4.9%	7.7%	2.3%	2.8%
Taranaki	4.7%	3.6%	5.7%	1.0%	2.1%
Manawatu-Wanganui	4.8%	4.7%	7.0%	2.2%	2.3%
Wellington	5.0%	4.1%	5.7%	0.7%	1.6%
M-N-T-WC	3.4%	3.0%	4.3%	0.9%	1.3%
Canterbury	4.1%	3.1%	3.4%	-0.7%	0.3%
Otago	5.0%	3.5%	4.2%	-0.8%	0.7%
Southland	3.2%	2.7%	4.8%	1.6%	2.1%
New Zealand	4.4%	3.8%	5.9%	1.5%	2.1%

Table 26: Rates of joblessness in regional labour forces 2004-2014 (% of adjusted labour force)

	2004	2007	2014	Change 2004-2014	Change 2007-2014
Northland	10.5%	8.0%	13.6%	3.1%	5.7%
Auckland	6.3%	6.8%	10.2%	3.9%	3.4%
Waikato	6.2%	7.0%	10.1%	3.8%	3.1%
Bay of Plenty	9.7%	6.6%	10.1%	0.4%	3.5%
Hawkes Bay-Gisborne	9.9%	8.7%	11.2%	1.3%	2.6%
Taranaki	8.3%	6.7%	8.8%	0.5%	2.1%
Manawatu-Wanganui	8.1%	8.3%	11.1%	3.0%	2.8%
Wellington	7.4%	7.4%	9.2%	1.8%	1.8%
M-N-T-WC	6.0%	5.5%	7.5%	1.5%	2.0%
Canterbury	7.1%	5.7%	5.8%	-1.3%	0.1%
Otago	9.2%	6.7%	7.7%	-1.5%	1.0%
Southland	6.6%	5.5%	7.5%	0.9%	2.0%
New Zealand	7.1%	6.6%	8.8%	1.8%	2.2%

INCOMES

Information on individual and household incomes is available from a number of sources including the Census, Gross Domestic Product (GDP) data and Statistics New Zealand's New Zealand Income Survey and Quarterly Employment Survey. These various sources do not present a consistent picture either of the significance of individual or household incomes or of the relativities between regions, including over time[22]. This lack of consistency means that the data offers a number of pictures of what is happening to incomes.

Table 27 provides estimates of regional per capita GDP between 2007 and 2014, in 2014 prices. This table shows that per-capita GDP nationwide moved by around 7% in real terms between 2007 and 2014, although some regions such as Taranaki, West Coast, Canterbury and Southland have experienced quite strong real per capita GDP growth. The good fortunes of West Coast and Taranaki are most likely due to the importance of energy production to these regions and the relatively small populations relative to the value of this production. Southland's and Canterbury's growth is probably in part due to the rapid expansion of the dairy industry in these regions[23]. At the other end of the range of experiences, regions such as Northland, Auckland and Hawkes Bay have experienced minimal real growth in per-capita GDP.

Table 28 offers a different perspective of incomes – that of median household incomes for the period 2004 to 2014. Over the decade 2004 to 2014 median household incomes appear to have grown by 13% in inflation adjusted terms and since the GFC these have grown by a modest but still credible 4%. As with

per-capita GDP, the variability of regional household incomes is considerable – both in terms of their value and their recent change. A general pattern emerging from Table 28 is that income growth has been strongest in Taranaki, Wellington and the South Island with the exception of Marlborough-Nelson-Tasman-West Coast, and weakest in northern and central North Island. In fact, there have been real declines in median household incomes since the GFC in five of the eight North Island regions listed in Table 28.

The fortunes of median incomes of employed individuals is provided in Table 29. Once again the focus is on the period 2004 to 2014, with 2007 provided as a benchmark year for recording change since the GFC. The distributive pattern of incomes is roughly the same as for household income with relatively strong growth in Taranaki, Wellington and most of the South Island, and relatively weak growth or even real income decline in most of the rest of the North Island.

The exception here is Northland, which contrary to local trends of falling per capita GDP and median household incomes was able to post quite high recent growth in individual incomes for those who are working. The Northland story does, however, need to be prefaced with the story told in tables 23, 24 and 26, which show high and growing rates of joblessness as well as declining levels of participation and net job losses from the regional economy. It appears that incomes for those in work in Northland are improving, while the story remains grim for those without work.

Of some note in the data offered in Tables 25 to 29 is the relatively poor performance of Auckland. While Aucklanders generally enjoy higher incomes than all other New Zealanders, with the exception of Wellingtonians, these incomes have fallen in real terms, or as in the case of individual incomes, risen by just less than half the national average.

Table 27: Regional annual per capita GDP 2007-2014 (at 2014 $ values)

	2007	2014	Average 2010-2014	Change 2007-2014
Northland	36,100	34,800	33,500	-4%
Auckland	52,800	53,800	52,000	2%
Waikato	44,700	48,100	45,100	8%
Bay of Plenty	39,600	42,200	40,600	7%
Gisborne	33,100	34,600	33,900	5%
Hawkes Bay	41,800	40,100	39,200	-4%
Taranaki	62,400	80,300	79,500	29%
Manawatu-Wanganui	37,000	39,400	38,600	7%
Wellington	59,800	62,000	60,800	4%
Nelson-Tasman	40,300	42,700	40,700	6%
Marlborough	46,100	51,100	47,700	11%
West Coast	43,000	52,300	50,200	22%
Canterbury	45,600	53,100	48,500	16%
Otago	43,200	46,700	45,000	8%
Southland	46,900	57,100	54,100	22%
New Zealand	48,200	51,300	49,200	7%

Table 28: Median weekly household income 2004-2014 (in nominal $s)

	2004	2007	2014	Real change 2004-2014	Real change 2007-2014
Northland	802	1,038	1,100	6.7%	-10.4%
Auckland	1,108	1,258	1,507	5.8%	1.3%
Waikato	892	1,157	1,258	9.7%	-8.0%
Bay of Plenty	901	1,164	1,265	9.2%	-8.1%
Hawkes Bay/Gisborne	863	1,082	1,197	7.9%	-6.4%
Taranaki	895	1,196	1,443	25.4%	2.1%
Manawatu-Wanganui	882	992	1,168	3.0%	-0.4%
Wellington	1,093	1,343	1,659	18.1%	4.5%
M-N-T-WC	880	1,161	1,324	17.1%	-3.5%
Canterbury	981	1,211	1,560	23.7%	9.0%
Otago	1,006	1,259	1,735	34.2%	16.6%
Southland	1,082	1,341	1,670	20.1%	5.4%
New Zealand	978	1,190	1,422	13.1%	1.1%

Table 29: Median weekly personal income for those employed 2004-2014 (in nominal $s)

	2004	2007	2014	Real change 2004-2014	Real change 2007-2014
Northland	532	600	800	17.0%	12.8%
Auckland	671	750	900	4.4%	1.5%
Waikato	614	681	800	1.4%	-0.6%
Bay of Plenty	556	671	788	10.3%	-0.7%
Hawkes Bay-Gisborne	560	640	767	6.6%	1.4%
Taranaki	575	671	885	19.7%	11.6%
Manawatu-Wanganui	595	633	744	-2.7%	-0.6%
Wellington	671	767	959	11.2%	5.8%
M-N-T-WC	552	672	767	8.1%	-3.4%
Canterbury	600	688	829	7.5%	1.9%
Otago	552	671	815	14.9%	2.8%
Southland	560	671	840	16.7%	5.9%
New Zealand	614	707	860	9.0%	2.9%

BENEFITS & WELFARE DEPENDENCY

Household incomes are a mix of incomes derived from employment, from business or investment income and from Government transfers such as ACC payments, working age benefits and New Zealand Superannuation. In households or communities which have a high reliance on Government transfers we should expect median household incomes to be lower simply because these payments are low relative to wages and salaries, and in the case of working age benefits gradually losing their relative value. This means that the incomes earned or otherwise gained in regions will be related both to the levels of labour market participation reported in Table 24 and to levels of dependency on benefits and Superannuation payments.

Table 30 reports the numbers of working age benefits being paid out at the end on June 2004, 2007 and 2014 while Table 31 presents these numbers as a proportion of the working age population in each region. This data shows both the across the board reduction in benefits numbers and the dependency rates between 2004 and 2007, and the subsequent increase in these measures post 2007. Both Tables 30 and 31 show the patchy recovery since 2007, with regions in the South Island experiencing declining dependency rates or, as in the case of Southland, only minor increases. On the other hand, most of the North Island experienced dependency rates in 2014 higher than in 2007. The exceptions to this trend are Taranaki, and to a lesser extent Auckland. Furthermore, in the North Island (again with the exception of Taranaki), benefit numbers were 11% to 23% higher in June 2014 than they were in 2007. In other words, the post GFC recovery has yet to register as lower benefit numbers and lower benefit dependency rates across most of the North Island.

Figure 7 considers the relationship between rates of benefit reliance and median household income for each of the 12 regions considered in this analysis. As expected, there is a clear although not statistically significant relationship between these two variables, but what is apparent from this analysis is the clear clustering of regions around two sorts of outcomes. These outcomes are as follows:

- **high rates of benefit dependency and low median household incomes** as experienced in all North Island regions, with the exception of Auckland, Taranaki and Wellington
- **low rates of benefit dependency and high median household incomes** as experienced in all the South Island regions with the exception of the Tasman-Nelson-Marlborough-West Coast combined regions, as well as in Auckland, Wellington and Taranaki.

The outlier here is Tasman-Nelson-Marlborough-West Coast, which has comparatively low rates of benefit dependency and low median household income. This anomaly is most likely caused by the high proportion of the populations in these regions being made up of people over 65 years and their likely reliance on some form of retirement income including New Zealand Superannuation. As seen in Table 14 this proportion is around 20%, compared with a national average of just over 15%. Northland and Bay of Plenty also have comparatively high proportions of their populations aged over 65, which would partly explain their comparatively low median household incomes as shown on Figure 7 and reported in Table 28.

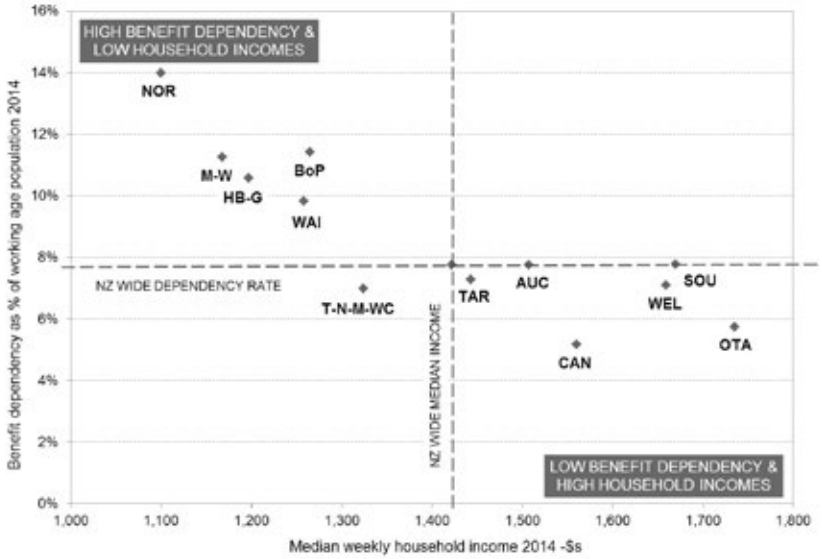
Table 30: Numbers of working age benefits paid 2004-2014

	2004	2007	2014	Change 2004-2014	Change 2007-2014
Northland	16,849	14,126	17,055	1.2%	20.7%
Auckland	89,922	80,164	90,756	0.9%	13.2%
Waikato	29,997	25,285	30,106	0.4%	19.1%
Bay of Plenty	23,549	18,165	22,445	-4.7%	23.6%
Hawkes Bay-Gisborne	19,224	15,923	17,711	-7.9%	11.2%
Taranaki	8,777	6,681	6,821	-22.3%	2.1%
Manawatu-Wanganui	22,204	18,565	20,919	-5.8%	12.7%
Wellington	33,050	25,556	28,455	-13.9%	11.3%
M-N-T-WC	11,643	9,790	10,333	-11.3%	5.5%
Canterbury	33,929	28,989	25,986	-23.4%	-10.4%
Otago	11,766	9,842	10,632	-9.6%	8.0%
Southland	7,455	5,569	5,849	-21.5%	5.0%
New Zealand	308,365	258,655	287,068	-6.9%	11.0%

Table 31: Benefit dependency 2004-2014 (benefits paid as % of working age population)

	2004	2007	2014	Change 2004-2014	Change 2007-2014
Northland	15.6%	12.3%	14.0%	-1.7%	1.7%
Auckland	9.5%	7.9%	7.8%	-1.8%	-0.1%
Waikato	11.1%	8.4%	9.8%	-1.3%	1.5%
Bay of Plenty	12.7%	9.8%	11.4%	-1.3%	1.6%
Hawkes Bay-Gisborne	12.5%	10.4%	10.6%	-1.9%	0.1%
Taranaki	10.6%	7.6%	7.3%	-3.3%	-0.3%
Manawatu-Wanganui	12.1%	10.3%	11.3%	-0.9%	0.9%
Wellington	8.8%	6.3%	7.1%	-1.7%	0.8%
M-N-T-WC	8.9%	7.4%	7.0%	-1.9%	-0.4%
Canterbury	7.5%	6.1%	5.2%	-2.3%	-0.9%
Otago	7.3%	6.7%	5.7%	-1.6%	-1.0%
Southland	9.8%	7.5%	7.8%	-2.1%	0.3%
New Zealand	9.6%	7.7%	7.8%	-1.8%	0.1%

Figure 7: A comparison of benefit dependency & household income 2014



SUMMARY

The past ten years have shown that the regions of New Zealand are on quite different pathways in terms of jobs and incomes. These differences appear to have become particularly pronounced since the GFC, and the patchy recovery from the recession that has followed this. There is a clear north-south division within the job/income experiences of the regions, although there are a few regions such as Auckland, Taranaki, Wellington and the combined regions of Nelson-Tasman-Marlborough-West Coast whose experiences are somewhere between these north-south extremes.

All regions in the North Island, with the exception of Auckland, Wellington and Taranaki, have suffered similar misfortunes of below average or even minimal job growth which has resulted in persistently high rates of joblessness. This in turn has contributed to below average incomes and above average rates of benefit dependency. These misfortunes are, of course, linked as are the reverse fortunes of high job growth, low and perhaps falling rates of joblessness, a solid income base and relatively low rates of benefit dependency. This virtuous sequence of outcomes characterises the experiences of Canterbury, Southland and especially Otago, which has been a star performer in terms of job and income growth.

While Auckland's performance in the incomes stakes and joblessness stakes has not been exceptional, job growth in the region over the decade 2004 to 2014 has made up nearly 65% of all the job growth nationally. This job growth is matched by similar rates of growth in both the working age population (as indicated in Table 13) and the labour force. This growth has perhaps subdued income growth in a labour market, which remains quite competitive and continues to have higher than average rates of joblessness.

The following ranking table compares the fortunes of each region across seven job and incomes indicators either for the June 2014 year or for the period 2004-2014 when a growth rate is the indicator.

TABLE 32: Regional ranking table for work & incomes

	Growth in number of people employed	Jobless rate	Overall NEET rate	Labour force participation rate	Individual median income for those in employment	Change in median household income	Rates of benefit dependency	Aggregate score
Northland	9	16	16	16	7	16	16	96
Auckland	1	12	7	6	2	6	9	43
Waikato	11	10	11	7	7	14	11	71
Bay of Plenty	14	10	12	12	9	14	14	85
Gisborne	12	14	14	14	9	12	12	87
Hawkes Bay	12	14	14	14	9	12	12	87
Taranaki	8	8	10	5	3	5	8	47
Manawatu-Wanganui	13	13	13	15	16	7	15	92
Wellington	9	9	8	1	1	4	7	39
Tasman	2	2	3	8	9	8	3	35
Nelson	2	2	3	8	9	8	3	35
Marlborough	2	2	3	8	9	8	3	35
West Coast	2	2	3	8	9	8	3	35
Canterbury	1	1	2	3	5	2	1	15
Otago	7	7	1	4	6	1	2	28
Southland	2	2	9	2	4	3	9	31

CHAPTER 4: **OUR CHILDREN & YOUTH**

This chapter considers the experiences of children and youth in each of the regions and compares these experiences against a national average. The areas of focus are education, safety, unemployment and criminal offending. Across these focus areas a clear pattern of relative advantage and disadvantage is apparent. Within this pattern there appears to be a clear link between one indicator and others, in that children and youth in some regions do consistently worse than others, while some do consistently better. As with the economic fortunes of regions discussed in the previous chapter there is a clear north-south division here, and to some extent a rural-urban one as well.

EARLY CHILDHOOD EDUCATION (ECE)

Table 33 reports the proportion of children aged under five who are enrolled in a Government licensed early childhood centre or service by region. Government policy and subsidies emphasise the ECE participation of three and four year olds, so to get some insight into how these programmes are distributed regionally, Table 38 reports the proportion for four year olds attending a licensed ECE centre or service. In some regions this proportion is over 100% meaning, of course, that many children are enrolled in two or more centres and services.

Nationally, just under two thirds (63.5%) of children under five are participating in some recognised early childhood education opportunity, although the distribution of this participation and these opportunities are by no means even. Participation rates are lower than average at either end of the country in Northland, Auckland and Southland while relatively high participation rates are enjoyed in Bay of Plenty, Hawkes Bay and the top of the South Island across Tasman, Nelson and Marlborough. These changes are against a pattern of rising participation rates nationally and across most regions. This rate has not improved in Northland and appears to have fallen slightly in Southland as well.

The picture for enrolments of four year olds shows almost complete participation across all regions with the exception of Northland, Auckland, and Gisborne. While there has been some increase in rates of participation of four year olds nationally, and specifically in Auckland, Waikato and Gisborne, the participation rates in Northland appear fragile, with some improvement between 2008 and 2012 but with some decline in 2013.

Ministry of Education publish data on the prior ECE participation of children entering primary school[24]. This data consistently shows a much rosier picture of such participation than does Table 34 which considers average participation rates of children during the year before they go to school. For example, the Ministry's survey suggests that 92% of Northland new entrants have participated in ECE before they went to school. Table 34, on the other hand, suggests that on average only around 85% of Northland four year old children were enrolled in a licensed ECE centre or service. Similar, but often smaller discrepancies, arise in some Auckland suburbs and in Gisborne. While the Ministry offers no explanation for this difference it may be explained by some children only attending ECE for a few months before going to school, or having participated intermittently during their pre-school years.

Table 33: ECE enrolments as proportion of children aged under five 2008-2013 (%)[25]

	2008	2013	Change 2008-2013
Northland	55.3%	55.3%	-0.1%
Auckland	49.4%	56.7%	7.3%
Waikato	57.4%	61.3%	3.9%
Bay of Plenty	68.3%	80.5%	12.2%
Gisborne	55.6%	61.2%	5.6%
Hawkes Bay	71.4%	76.1%	4.7%
Taranaki	58.0%	61.8%	3.8%
Manawatu-Wanganui	59.9%	68.7%	8.8%
Wellington	62.9%	67.3%	4.4%
Tasman	60.7%	66.8%	6.1%
Nelson	60.6%	69.0%	8.4%
Marlborough	62.5%	69.6%	7.1%
West Coast	61.4%	62.5%	1.1%
Canterbury	67.1%	67.6%	0.5%
Otago	68.4%	70.8%	2.4%
Southland	60.2%	58.2%	-1.9%
New Zealand	58.4%	63.7%	5.3%

Table 34: ECE enrolments as proportion of children aged four years 2008-2013 (%)[26]

	2008	2013	Change 2008-2013
Northland	85.5%	83.4%	-2.1%
Auckland	90.3%	94.5%	4.2%
Waikato	95.2%	98.5%	3.4%
Bay of Plenty	104.6%	114.6%	10.0%
Gisborne	82.9%	94.0%	11.1%
Hawkes Bay	107.7%	110.3%	2.6%
Taranaki	99.4%	102.7%	3.4%
Manawatu-Wanganui	99.1%	109.2%	10.1%
Wellington	104.0%	106.7%	2.7%
Tasman	117.5%	107.4%	-10.1%
Nelson	113.8%	104.7%	-9.1%
Marlborough	114.3%	122.0%	7.7%
West Coast	103.1%	111.5%	8.4%
Canterbury	111.0%	104.4%	-6.6%
Otago	107.9%	105.7%	-2.2%
Southland	107.5%	96.0%	-11.5%
New Zealand	99.1%	101.2%	2.1%

STUDENT ACHIEVEMENT

While the veracity of National Standards has been questioned by some leading educationalists[27], in part because student assessments are not externally moderated, there is no reason to believe that there is any regional bias in the way student achievement is reported. Based on this assumption the data in Table 35 is offered as an indicator of how younger school students are doing educationally by region. Table 35 reports the proportion of students by region who are achieving at or above the National Standards across the three core curriculum areas of reading, writing and mathematics. For the sake of comparison, these proportions are averaged to derive an aggregate proportion that is reported in the right hand column.

The results offered in Table 35 show only a small variation of around 7% across the regions, with Northland having achievement rates of around 93% of the national average, and Otago having rates about 107% of this average. Most regions are within 3% of the national average, although Gisborne region is slightly below this and Tasman is slight above.

There are a number of available indicators to compare student achievement at NCEA level. These indicators, or at least the results they are based on, have some external moderation and a nationally administered evaluation system, so can be seen as being more reliable than locally assessed and administered National Standards. Based on NCEA achievement data Table 36 reports the proportion of students leaving school with University Entrance (UE) for the period 2008 to 2013.

UE results show greater variations between the regions than do National Standards data, with the poorly performing regions being over 20% below the national average, and the better performing regions being 10% above this. It appears that the more remote regions of Northland, Gisborne and West Coast consistently see a relatively small share (below 36%) of their school leavers exit with UE. Only just ahead of these regions is Waikato, with an average achievement rate of 38%. At the other end of these fortune stakes are Auckland, Wellington, Nelson and Otago – all of which have achievement rates of over 50%.

Table 35: Proportion of students achieving at or above National Standards 2013 (%)

	Reading	Mathematics	Writing	Aggregate
Northland	73.0%	69.9%	65.4%	69.4%
Auckland	76.7%	75.0%	70.6%	74.1%
Waikato	76.0%	72.6%	67.9%	72.2%
Bay of Plenty	77.5%	74.6%	71.4%	74.5%
Gisborne	74.9%	71.3%	67.8%	71.3%
Hawkes Bay	75.3%	71.3%	69.0%	71.9%
Taranaki	78.2%	72.1%	68.5%	72.9%
Manawatu-Wanganui	78.6%	73.2%	69.5%	73.8%
Wellington	80.4%	75.5%	71.1%	75.7%
Tasman	82.4%	78.6%	74.0%	78.3%
Nelson	81.7%	75.8%	72.9%	76.8%
Marlborough	79.3%	75.5%	72.4%	75.7%
West Coast	78.2%	72.8%	67.2%	72.7%
Canterbury	80.1%	76.7%	73.0%	76.6%
Otago	83.6%	78.9%	76.4%	79.6%
Southland	81.2%	76.3%	71.7%	76.4%
New Zealand	77.9%	74.6%	70.6%	74.4%

Table 36: Proportion of students leaving school with UE 2008-2013 (%)

	2009	2013	Average 2009-2013
Northland	32.6%	41.3%	35.6%
Auckland	47.2%	57.1%	52.2%
Waikato	34.3%	42.3%	38.2%
Bay of Plenty	36.7%	47.0%	42.7%
Gisborne	31.5%	42.0%	36.0%
Hawkes Bay	38.5%	49.5%	44.4%
Taranaki	40.5%	43.5%	41.9%
Manawatu-Wanganui	39.3%	44.6%	43.0%
Wellington	46.6%	54.7%	51.4%
Tasman	40.1%	44.8%	45.3%
Nelson	49.8%	53.9%	52.2%
Marlborough	38.2%	42.2%	40.1%
West Coast	25.6%	31.5%	29.1%
Canterbury	45.7%	50.8%	48.1%
Otago	48.3%	52.5%	50.5%
Southland	36.7%	42.6%	41.1%
New Zealand	41.7%	49.0%	45.8%

STUDENT ENGAGEMENT

The Ministry of Education publish summary data on what it terms student engagement, which should more accurately be termed student non-engagement. This data provides regional estimates of age standardised rates of stand-downs, suspensions, exclusions and expulsions of students from primary, and more commonly, secondary schools. These estimates are provided in Table 37.

The rate for the various actions against misbehaving or non-compliant students varies considerably from region to region. Some regions such as Northland and Manawatu-Wanganui have rates of stand-downs, suspensions, exclusions and expulsions that are 1.5 to 3 times the national average. Other regions such as Gisborne, Wellington, Tasman and West Coast have rates that are 0.5 to 0.7 times this national average. As well, some regions appear to make more use of one form of disciplinary response against students than of others – for example, Taranaki had around the national average rate for suspensions and stand-downs but rates of expulsions which were half the national average.

There does not appear to have been any assessment undertaken on why there is such a wide variation from region to region. Regions such as Northland and Gisborne, which in many respects are very similar in other educational indicators such as student achievement, have quite different rates of taking actions against students for behavioural problems. These differences are clear in Table 37. There is no evidence available publicly to indicate whether these differences are due to different patterns of student behaviour or to local differences in the responses to student behavioural issues.

Table 37: Student engagement 2013 (age standardised rates per 1000 students)

	Stand downs	Suspensions	Exclusions	Expulsions
Northland	36.8	8.7	2.6	4.4
Auckland	21.1	3.4	1.5	1.6
Waikato	30.8	6.5	2.4	1.6
Bay of Plenty	17.0	6.6	2.1	0.8
Gisborne	23.9	5.8	0.8	0.0
Hawkes Bay	27.0	6.3	2.6	1.2
Taranaki	26.5	4.5	1.7	0.8
Manawatu-Wanganui	34.3	7.8	3.1	3.2
Wellington	17.9	2.5	0.8	0.5
Tasman	12.1	2.1	0.6	1.1
Nelson	14.8	2.8	2.0	2.1
Marlborough	14.2	8.8	1.6	0.0
West Coast	24.1	5.4	1.2	0.0
Canterbury	22.7	4.7	2.0	0.9
Otago	22.2	3.3	1.6	0.7
Southland	28.7	5.7	2.0	0.5
New Zealand	23.4	4.7	1.8	1.4

CHILDREN'S SAFETY

Accident Compensation Corporation (ACC) and Child Youth and Family (CYF) publish useful data on child safety indicators and these are included in Table 38 and 39 respectively. Table 38 provides estimates of rates of injury accidents notified to ACC between 2010 and 2014. Table 39 provides estimates of the rate of substantiations of cases of child abuse or neglect notified to CYF for individual children (not of multiple cases involving the same child).

Injury rates vary considerably from a low of 1.6 injuries per 1000 people aged under 15 in Canterbury, to a high almost four times greater at 6 injuries per 1000 in Bay of Plenty. There does not appear to be any obvious geographical pattern to the distribution of child injury rates. Although injury rates appear to be uniformly high across a large part of the upper North Island from Waikato to Hawkes Bay, they are also much higher in Otago than elsewhere in the South Island.

The regional distribution of CYF substantiations for child abuse or neglect appears to have a more pronounced geographic pattern that follows many of the distributions of other variables considered in this report. Substantiation rates are relatively high across most of the North Island, with the exception of Taranaki and Wellington, and relatively low across all of the South island. This pattern is illustrated in Table 39.

Table 38: Rates of ACC injury claims for children under 15 years 2010-2014
(claims per 1000 children aged under 15)

	2010	2014	Average 2010-2014
Northland	4.7	3.6	3.8
Auckland	4.8	4.5	4.2
Waikato	6.1	6.5	5.9
Bay of Plenty	5.7	7.1	6.0
Gisborne	2.8	4.4	4.0
Hawkes Bay	5.9	5.5	5.7
Taranaki	3.0	3.9	3.3
Manawatu-Wanganui	4.0	3.9	4.0
Wellington	2.8	3.5	2.9
Tasman	1.6	1.8	1.8
Nelson	3.8	3.5	3.6
Marlborough	2.4	2.7	3.0
West Coast	3.9	4.0	3.5
Canterbury	1.4	1.8	1.6
Otago	6.1	5.6	5.7
Southland	2.1	4.2	3.2
New Zealand	4.4	4.3	4.1

Table 39: Rates of CYF substantiations for individual children 2010-2014
(claims per 1000 children aged under 15)

	2010	2014	Average 2010-2014
Northland	28.3	28.1	31.5
Auckland	20.9	18.5	21.1
Waikato	25.8	24.4	23.9
Bay of Plenty	31.2	30.5	31.0
Hawkes Bay - Gisborne	19.9	23.8	22.9
Taranaki	8.4	13.3	11.1
Manawatu-Wanganui	16.1	22.7	21.1
Wellington	12.1	13.2	13.3
M-N-T-WC	13.5	17.4	17.9
Canterbury	11.8	12.6	13.2
Otago	9.9	11.6	11.0
Southland	19.5	17.0	17.2
New Zealand	19.0	19.0	20.0

YOUTH UNEMPLOYMENT

Rates of youth unemployment are estimated on a regional basis by Statistics as part of its Household Labour Force Survey. These estimates are for the proportion of 15 to 19 year olds and 20 to 24 year olds said to be NEET – not in education, employment or training. These estimates averaged over the preceding four quarters are reported on a regional basis for the period 2004 to 2014 and are provided in Tables 40 and 41. These tables have 2004, 2007 and 2014 as reference years - 2007 because it was just prior to the GFC. Data from these reference years provides a picture of what has happened in youth unemployment before and after the GFC. As with some other data, some regions are combined because of small populations and the risk of higher error rates because of sample sizes[28].

Across both age groups, NEET rates are highest in Northland and lowest in Otago, although there is a wide variation in regional fortunes between the experiences of 15 to 19 year olds and those of 20 to 24 year olds. For example, Bay of Plenty has a relatively low NEET rate for 15 to 19 year olds, at a rate of 7.4% in 2014 or around 0.9 of the national average rate. At the same time amongst 20 to 24 year olds this rate was 24.9% or 1.7 times the nationwide rate[29].

In six of the 12 regions covered by the NEET data the rates are higher in 2014 than they were in 2007, suggesting that the post GFC recovery in some parts of New Zealand has been weak or at least fragile. Slowest in this recovery has been Waikato.

Table 40: NEET for 15 to 19 year olds 2004-2014

	2004	2007	2014
Northland	15.3	12.7	12.9
Auckland	7.2	7.8	6.8
Waikato	7.6	8.9	11.6
Bay of Plenty	11.2	9.5	7.4
Hawkes Bay–Gisborne	11.1	10.2	11.7
Taranaki	NA	13.0	6.2
Manawatu-Wanganui	12.9	9.5	10.8
Wellington	6.2	7.2	9.4
M-N-T-WC	9.8	10.1	9.4
Canterbury	6.7	5.6	6.4
Otago	NA	8.6	6.3
Southland	NA	14.0	11.6
New Zealand	8.0	8.1	8.1

Table 41: NEET for 20 to 24 year olds 2004-2014

	2004	2007	2014
Northland	21.1	24.8	31.3
Auckland	14.6	13.1	11.9
Waikato	13.2	15.8	17.9
Bay of Plenty	21.9	17.1	24.9
Hawkes Bay–Gisborne	23.9	25.0	23.2
Taranaki	28.1	22.0	21.4
Manawatu-Wanganui	18.0	13.1	21.3
Wellington	13.7	13.3	14.3
M-N-T-WC	17.6	17.5	11.8
Canterbury	8.7	11.5	10.1
Otago	9.6	8.7	10.0
Southland	23.4	18.6	17.1
New Zealand	14.4	14.0	14.4

YOUTH OFFENDING

Criminal offending by young people can, of course, only be measured by apprehension data so for the sake of making regional comparisons rates of apprehension have been used here as a proxy indicator for such offending. There are, however, some limitations to making the assumption offered here that actual rates of youth offending are somehow proportionate to apprehension rates of youth offenders. The most obvious limitation is that the proportion of recorded offences that are resolved varies considerably from region to region, meaning perhaps that the rates at which youth offenders are apprehended will also vary considerably[30]. As well, possibly only one third of all criminal offending is recorded by the police[31]. The data offered in Tables 42 and 43 should be used with these limitations in mind.

Table 42 provides estimates of apprehension rates for youth aged 14 to 16 years by region, while Table 43 provides similar estimates for youth aged 17 to 20 years. In both tables the data records the number of offenders apprehended, not the number of offences they have been apprehended for. This data most likely sometimes counts the same individual several times, given that it is possible for someone to be apprehended on several occasions for separate offences while they fall into the age range being reported.

Table 42 shows that apprehension rates for 14 to 16 year olds was highest in the Tasman Police District, which is the Marlborough, Nelson, Tasman and West Coast regions, at around 230 apprehensions per 1000 population aged 14 to 16. This rate is 1.7 times the national average rate of 132. The regions were closely followed by Southland at 229 and Gisborne at 221. The lowest apprehension rate was recorded in Auckland region where it was 93 per 10000 or about 0.7 times the national average.

Apprehension rates for 17 to 20 years are about one third higher than for 14 to 16 years and this is reflected in the data reported in Table 43. Once again the Gisborne and Marlborough, Nelson, Tasman and West Coast regions top the table in terms of apprehension rates at 320 and 316 respectively, followed by Southland with a rate of 269. At the bottom of the table are the urban regions with Auckland having a rate of 141 followed closely by Wellington with a rate of 142 and Canterbury at 160.

What happens subsequently to apprehended young offenders also varies considerable from region to region as shown in Tables 44 and 45. Table 44 reports the proportion of 14 to 16 year olds who were prosecuted by Police by region. Table 45 offer the same analysis for 17 to 20 year olds.

Average prosecution rates over the past five years for 14 to 16 year olds vary from 19% of all apprehended offenders in the Tasman Police District to 42% in the Tairawhiti Police District, which more or less corresponds with Gisborne District. Prosecution rates are also high in Otago and Southland, and relatively low in Waikato and Wellington.

Prosecution rates for 17 to 20 years are more tightly clustered, and have tended to vary by 10 to 15% around the national average. Bay of Plenty has the highest prosecution rate for this age group at nearly 75%, while Auckland has the lowest at just under 60%. As with 14-16 year olds Waikato appears to have a more lenient attitude to offenders, while Southland and Otago have a more stringent approach.

Table 42: Rates of apprehension for criminal offences by 14-16 year olds 2010-2014
(apprehensions per 1000 population)

	2010	2014	Average 2010-2014
Northland	218	180	196
Auckland	109	76	93
Waikato	154	106	136
Bay of Plenty	244	138	195
Gisborne	222	160	221
Hawkes Bay	244	135	187
Taranaki	179	156	158
Manawatu-Wanganui	169	109	138
Wellington	148	62	104
M-N-T-WC	307	171	230
Canterbury	172	96	135
Otago	155	78	128
Southland	358	119	229
New Zealand	164	99	132

Table 43 Rates of apprehension for criminal offences by 17-20 year olds 2010-2014
(apprehensions per 1000 population)

	2010	2014	Average 2010-2014
Northland	270	168	235
Auckland	175	91	141
Waikato	210	160	192
Bay of Plenty	321	167	241
Gisborne	336	254	320
Hawkes Bay	299	171	231
Taranaki	306	158	223
Manawatu-Wanganui	207	126	169
Wellington	189	90	142
M-N-T-WC	425	199	316
Canterbury	202	110	160
Otago	225	120	170
Southland	345	178	269
New Zealand	222	122	177

Table 44: Rates of prosecution of 14-16 year old offenders 2010-2014

	2010	2014	Average 2010-2014
Northland	30.8%	35.5%	32.7%
Auckland	28.9%	32.8%	30.3%
Waikato	22.5%	24.8%	23.1%
Bay of Plenty	32.1%	32.1%	31.6%
Gisborne	48.4%	35.9%	42.2%
Hawkes Bay	27.0%	25.4%	26.2%
Taranaki	29.6%	29.3%	30.5%
Manawatu-Wanganui	24.7%	28.9%	25.6%
Wellington	20.1%	21.6%	21.9%
M-N-T-WC	15.2%	21.0%	18.9%
Canterbury	28.9%	36.9%	32.0%
Otago	40.1%	40.8%	38.5%
Southland	31.8%	29.4%	34.4%
New Zealand	27.8%	30.8%	29.2%

Table 45: Rates of prosecution of 17-20 year old offenders 2010-2014

	2010	2014	Average 2010-2014
Northland	81.8%	67.9%	72.0%
Auckland	65.6%	59.2%	59.3%
Waikato	77.7%	60.1%	62.1%
Bay of Plenty	90.3%	67.4%	74.7%
Gisborne	81.6%	69.2%	69.2%
Hawkes Bay	77.4%	61.9%	64.8%
Taranaki	85.3%	60.8%	67.8%
Manawatu-Wanganui	81.9%	68.7%	72.6%
Wellington	85.6%	61.8%	71.0%
M-N-T-WC	74.1%	58.0%	62.9%
Canterbury	84.5%	57.8%	65.3%
Otago	88.0%	65.1%	73.4%
Southland	82.8%	73.1%	76.8%
New Zealand	78.4%	62.2%	66.2%

ANALYSIS

In terms of regional comparisons, there appears to be a clear link between poor educational outcomes in early childhood and poor educational outcomes later on. As well, and probably unsurprisingly, there appears to be some relationship between educational outcomes at school and employment post-school. However, the relationship between poor employment outcomes and youth offending does not appear strong, although it is still possible to categorise regional experiences across a spectrum.

Table 46 reports rates of ECE enrolment, achievement against National Standards and UE pass rates by region. The indicators being reported here are these regional rates as a percentage of the national average for these rates. This table shows three types of experiences:

- **uniformly poor outcomes** - with relatively low rates of ECE enrolment, low levels of achievement against national Standards and poor UE pass rates as seen in Northland, Waikato and Gisborne
- **consistently good outcomes** - with initially high rates of ECE engagement being associated with above national average rates of National Standards achievement and relatively high UE pass rates. These outcomes are experienced in Wellington, Nelson, Canterbury and Otago
- **a mixed bag of outcomes** - with some regions such as Auckland experiencing comparatively low rates of ECE enrolment but recovering to gain high levels of UE pass rates, and other regions such as Bay of Plenty and Manawatu-Wanganui with the opposite set of experiences.

While the link between regional pass rates and unemployment does not appear to be significant, it is nonetheless possible to characterise regional experiences into two clusters as shown in the scatter graph in Figure 8. This figure makes pairwise comparisons of each region's UE pass rate and its NEET rate for 20 to 24 year olds. The data shows two clear groupings of regions although the combined region of Tasman -Nelson-Marlborough-West Coast is a clear outlier. One cluster of regions has experienced relatively high rates of unemployment amongst young workers aged 20 to 24, alongside relatively low UE pass rates. These regions include all the North Island regions outside of Auckland and Wellington, as well as Southland. The polar opposite of these regions' experiences have been those of the predominantly urban regions of Auckland, Wellington and Canterbury, as well as Otago, which have experienced relatively high UE pass rates alongside low rates of unemployment amongst 20 to 24 year olds.

This link between relatively poor educational outcomes and higher rates of unemployment should probably be expected. It does, however, appear that urban regions have done comparatively better than regions which are predominantly rural, most likely on account of the more diverse labour markets in cities. The Otago region is an exception to this urban-rural dimension.

While youth unemployment may be associated with higher rates of criminal offending by young adults, this is not apparent in the comparisons made in Figure 9. This figure makes pairwise comparisons of each region's apprehension rate for 17 to 19 year olds with its NEET rate for 15 to 19 year olds. While these regional experiences are diverse – with positions in each quadrant, there is a pattern of recurring advantage or disadvantage in comparison with the outcomes reported in Figure 8, and to some extent in Table 46. For example, Auckland, Canterbury and Otago experience both comparatively low rates of youth unemployment and youth offending. On the other hand, Northland, Hawkes Bay-Gisborne and

Southland experience the exact opposite – high rates of youth unemployment alongside high rates of youth offending. The outlier regions such as Nelson-Tasman-Marlborough-West Coast and to some extent Waikato, however, undermine any claim that high rates of youth unemployment lead to high rates of youth offending.

Table 46: Regional comparison of key education indicators (% of NZ average rate)

	ECE enrolment of 4 year olds	Achieving at or above National Standards	School leavers with UE
Northland	82%	93%	78%
Auckland	93%	100%	114%
Waikato	97%	97%	84%
Bay of Plenty	113%	100%	93%
Gisborne	93%	96%	79%
Hawkes Bay	109%	97%	97%
Taranaki	102%	98%	92%
Manawatu-Wanganui	108%	99%	94%
Wellington	106%	102%	112%
Tasman	106%	105%	99%
Nelson	104%	103%	114%
Marlborough	121%	102%	88%
West Coast	110%	98%	64%
Canterbury	103%	103%	105%
Otago	104%	107%	110%
Southland	95%	103%	90%

Figure 8: A comparison of UE pass rates and NEET rates for 20-24 year olds[32]

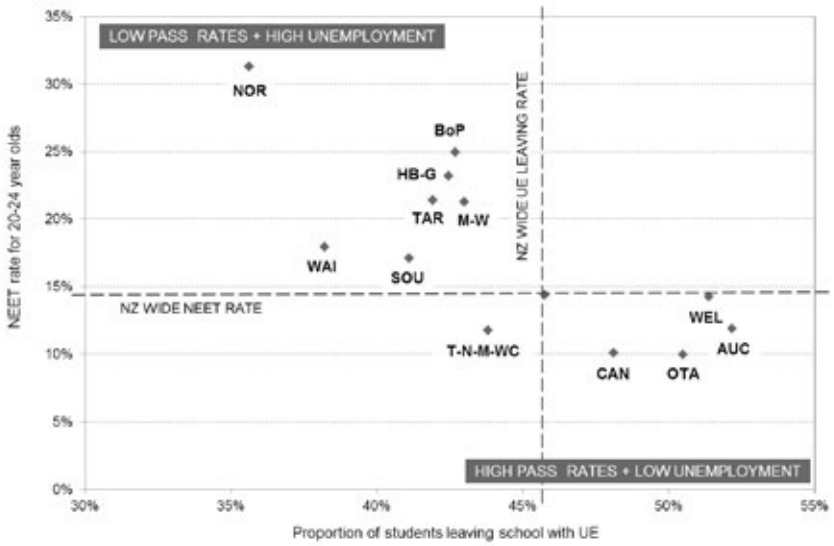
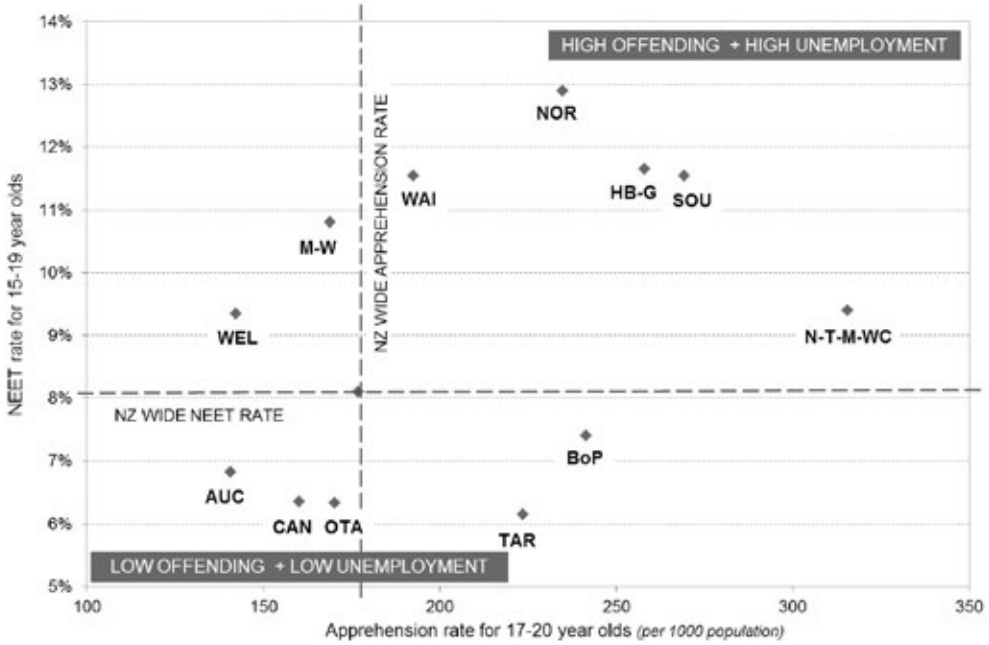


Figure 9: A comparison of youth offending and unemployment[33]



SUMMARY

Table 47 reports the regional rankings across ten of the indicators presented in this chapter on the wellbeing and status of children and young adults in the regions of New Zealand. The shortcomings of using rankings and aggregate ranking scores have already been discussed in earlier chapters, so once again some caution should be taken in reading too much into the detail offered in Table 47. Table 47 does, however, offer some part of the big picture of the overall pattern of the distribution of advantage and disadvantage across New Zealand. Some regions such as Otago, Canterbury, Nelson, Tasman, and Marlborough are doing consistently well in terms of child and youth wellbeing. The opposite experience of consistently poor outcomes emerges in Northland and Gisborne, and to some extent Southland and Waikato.

TABLE 47: Regional ranking table for children & youth

	ECE under 5's	ECE 4 year olds	National Standards	School engagement	School leavers with UE	Injuries under 15's	CYF substantiations	NEET 15-19	Apprehensions 14-16	Prosecutions 14-16	Aggregate score
Northland	16	16	16	16	15	9	16	16	10	13	143
Auckland	15	14	13	8	2	12	11	4	1	9	89
Waikato	12	12	9	14	13	15	14	12	5	6	112
Bay of Plenty	1	2	8	11	9	16	15	5	9	11	87
Gisborne	13	15	15	3	14	11	12	14	11	16	124
Hawkes Bay	2	4	14	13	7	14	12	14	8	8	96
Taranaki	11	11	11	7	10	6	2	1	7	10	76
Manawatu-Wanganui	6	5	10	15	8	10	10	11	6	7	88
Wellington	8	7	7	1	3	3	4	6	2	5	46
Tasman	9	6	2	2	6	2	6	7	13	1	54
Nelson	5	9	3	10	1	8	6	7	13	1	63
Marlborough	4	1	6	6	12	4	6	7	13	1	60
West Coast	10	3	12	4	16	7	6	7	13	1	79
Canterbury	7	10	4	9	5	1	3	3	4	12	58
Otago	3	8	1	5	4	13	1	2	3	15	55
Southland	14	13	5	12	11	5	5	13	12	14	104

CHAPTER 5: **SAFETY AND SOCIAL HAZARDS**

This chapter considers the various fortunes of New Zealand's regions in terms of safety and social hazards.

'Social hazard' is a term used to describe a range of activities – some legal and some illegal, which pose a harmful risk to those engaging in them, as well as to those people around them, including their families and neighbours. This harm often arises because of the potential for those involved to become addicted or habitually dependent on the activity, and for their behaviours to be affected and judgement impaired. The social hazards covered in the following analysis include gambling from Class 4 – non-casino gaming machines, illicit drug use, and the misuse of alcohol.

Safety in this chapter covers the risk or incidence of accidents – both at work and more generally, and the risk or incidence of being a victim of a domestic violence or burglary in your home.

GAMBLING

Tables 48 and 49 offer data on the regional distribution of Class 4 – non-casino electronic gaming machines, or 'pokies'. Annually around $800 million is lost in these machines in pubs and clubs throughout New Zealand[34]. Of the four main forms of regulated gambling in New Zealand, betting on Class 4 machines is by far the most harmful. Of those people seeking assistance from problem gambling services to manage a gambling addiction 54% report Class 4 machines as their main form of gambling[35].

The availability of Class 4 gaming machines and the incidence of gambling losses from them vary considerably from region to region as shown in Tables 48 and 49. Table 48 compares the availability of machines in late 2009 with availability in late 2014, a period of decline for the gaming industry with a 14% drop in the numbers of machines New Zealand wide. This drop was largest in Hawkes Bay and Canterbury, although the decline in Canterbury followed the 2010 and 2011 earthquakes and closure of venues as a result. Gisborne region bucked the trend of declining numbers, and saw a small increase of just one machine between 2009 and 2014. Other regions that saw only modest declines in numbers include Waikato and Bay of Plenty. While Nelson saw a 28% decline this region is contiguous with Tasman, and on a combined basis this decline was around 15%.

The availability of machines is highest in West Coast, where at the end of 2014 there were 77 machines for every 10,000 people in the local population. This is more than three times the rate in Auckland, where there were just 25 machines per 10,000 people. The variation in availability of machines across Auckland is, however, considerable with the general trend for higher concentrations in poorer communities[36]. Other regions with a relatively high availability of gaming machines include Southland, Marlborough, Manawatu-Wanganui and Bay of Plenty.

Table 49 compares per capita losses from Class 4 machines on a region-by-region basis for the five year period 2010 to 2014. As can be seen in this data the average amount lost per person per year has been dropping for this period, so for the sake of comparison an average for the five year period is also reported in Table 49. As would be expected, given the high level of availability of Class 4 machines, West Coast region reports the highest per-capita losses at an average of $257 per year, followed closely by Bay of Plenty at $249 per person per year. At the other end of the scale Otago region has seen the lowest losses, which at $125 per person per year is less than half the rate of West Coast. While the availability of machines in Otago is middle of the range as shown in Table 48, what is not taken into account in this data is the presence of three of the country's six casinos in the region. Class 4 machine gambling losses

in Auckland are also relatively low, although these losses vary considerable from suburb to suburb, and these figures do not account for gambling losses at the Auckland casino.

Table 48: Availability of Class 4 gaming machines on a regional basis 2009-2014[37]

	No of machines Dec 2009	No of machines Dec 2014	Change 2009-2014	Machines per 10,000 people Dec 2014
Northland	774	687	-11%	41
Auckland	4,450	3,783	-15%	25
Waikato	2,080	1,935	-7%	45
Bay of Plenty	1,538	1,415	-8%	50
Gisborne	208	209	0%	44
Hawkes Bay	908	729	-20%	46
Taranaki	585	511	-13%	45
Manawatu-Wanganui	1,323	1,159	-12%	50
Wellington	2,200	1,910	-13%	39
Nelson	250	180	-28%	37
Tasman	181	180	-1%	37
Marlborough	260	246	-5%	55
West Coast	268	254	-5%	77
Canterbury	2,711	2,143	-21%	37
Otago	1,060	886	-16%	42
Southland	561	488	-13%	51
New Zealand	19,359	16,717	-14%	37

Table 49: Per capita spend on Class 4 gaming machines 2010-2014 ($s)

Year ending	Dec 2010	Dec 2011	Dec 2012	Dec 2013	Dec 2014	Average 2010-2014
Northland	204	203	199	178	177	192
Auckland	170	171	163	160	158	164
Waikato	189	189	176	170	167	178
Bay of Plenty	256	254	247	236	236	246
Gisborne	200	214	210	197	192	203
Hawkes Bay	242	246	234	220	221	233
Taranaki	211	215	198	176	175	195
Manawatu-Wanganui	211	209	202	192	187	200
Wellington	210	215	215	212	205	211
Nelson	209	221	205	203	189	205
Tasman	143	153	155	142	141	147
Marlborough	205	217	204	198	198	205
West Coast	265	272	275	239	235	257
Canterbury	193	216	209	205	203	205
Otago	130	130	126	122	118	125
Southland	240	238	221	199	196	219
New Zealand	192	197	189	182	180	188

ILLICIT DRUGS

It is difficult to determine peoples' use of illicit drugs with any confidence due to the illegality of this activity and its hidden nature. Health surveys suggest that use of illicit drugs is quite common across many parts of New Zealand society. Perhaps half of adult New Zealanders aged between 16 and 64 years have used illicit drugs at some point in their lives, and as many as one in six may have used such drugs within the most recent 12 months[38]. Of the illicit drugs used, cannabis is by far the most popular, with perhaps 95% of those people reporting having used drugs saying they used cannabis.

This level of drug use – especially cannabis use, suggests that official statistics on drug related offences present only a very small part of the picture. For example, if health surveys on drug use are accurate, perhaps as many as 400,000 to 450,000 New Zealanders use cannabis every year, yet over the past five years there has been on average around 20,000 people apprehended each year for the possession or use of this drug[39].

Official statistics on drug related offences also rely on police practice and priorities, and it seems likely that these vary from year to year and from region to region. To compensate for some of this variability data offered in Tables 50 and 51 includes averages from the past five years. To provide for useful comparisons between regions the population based rates of recorded drug offences have been reported. These rates are for the number of recorded offences for every 10,000 people of working age within the regions' populations. This working age bias is based on an assumption that it is generally younger people who use illicit drugs and compensates for the different age profiles of the regions as reported elsewhere in this report.

Table 50 reports rates for all types of recorded drug offences, including the offences for classes A and B drugs and more serious offending around manufacture, cultivation and possession for supply. The regional distribution of drug offending reported in Table 50 probably reinforces many New Zealanders' views on drug use in New Zealand. Clearly, remote regions such as Gisborne, Northland and West Coast have high rates of drug related crime. Perhaps this could be expected given that this is where cannabis is most likely to be cultivated. At the other end of the scale, urban areas tend to have lower overall rates of drug offences with rates at around half of what they are in the remoter regions.

Table 51 reports the incidence of more minor cannabis related drug offences. These offences include personal use or possession of cannabis, and not the more serious offending around cultivation, manufacture or supply. Minor cannabis related offences are generally not the target of Police efforts to curb drug crime but arise most likely as a consequence of other Police activities where the possession and/or use of cannabis become apparent. During the year to 30 June 2014 there were 15,390 recorded offences for personal possession or use of cannabis, which is 38% fewer than five years previously when there were 24,923 such offences[40]. The reasons for this decline are unknown, although it seems unlikely that drug use has fallen by this amount over this period.

The regional variations reported in Table 50 largely mirror the differences reported in Table 51. Rates of offences are twice as high in remoter regions such as Northland, Gisborne and Marlborough-Nelson-Tasman-West Coast than they are in cities or urban regions such as Auckland and Wellington. An obvious outlier to this picture is the experience of Otago, which has relatively low rates of recorded drug offences, ranking the lowest in Table 50 and second lowest in Table 51.

Table 50: Recorded illicit drug offences 2010–2014

Recorded offences per 10,000 working age population

Year ending June	2010	2011	2012	2013	2014	Average 2010-2014
Northland	205.2	110.3	113.5	96.4	90.7	123
Auckland	76.8	61.8	63.1	52.5	50.4	61
Waikato	106.4	82.6	95.7	61.1	63.9	82
Bay of Plenty	133.4	116.8	123.2	101.6	79.4	111
Gisborne	164.3	117.0	130.2	190.3	142.2	149
Hawkes Bay	79.6	63.5	78.2	49.5	43.7	63
Taranaki	90.6	101.9	86.9	63.6	48.7	79
Manawatu-Wanganui	74.4	65.4	75.0	61.2	48.0	65
Wellington	66.5	62.4	77.3	42.9	52.0	60
M-N-T-WC	140.9	123.4	172.1	97.5	70.2	121
Canterbury	65.6	50.9	54.7	44.5	33.7	50
Otago	84.7	69.9	52.1	47.8	33.8	58
Southland	111.2	96.7	66.0	69.6	34.7	76
New Zealand	90	73	78	59	53	71

Table 51: Recorded minor cannabis offences 2010–2014

Recorded offences per 10,000 working age population

Year ending June	2010	2011	2012	2013	2014	Average 2010-2014
Northland	59.4	44.4	37.3	38.2	27.1	41.2
Auckland	28.0	22.7	23.5	19.3	16.7	22.0
Waikato	42.6	35.8	35.3	22.4	24.2	32.1
Bay of Plenty	56.2	45.8	41.7	34.9	26.8	41.1
Gisborne	73.8	53.5	53.1	60.9	53.3	58.9
Hawkes Bay	33.0	25.5	26.7	19.1	16.3	24.1
Taranaki	39.4	44.3	34.1	26.4	25.2	33.9
Manawatu-Wanganui	35.5	29.2	30.2	24.1	16.8	27.2
Wellington	30.1	23.2	19.5	15.3	13.3	20.3
M-N-T-WC	62.1	51.8	45.8	38.4	29.0	45.4
Canterbury	27.1	24.2	25.5	19.6	13.8	22.1
Otago	31.3	27.2	18.9	14.8	11.7	20.8
Southland	48.7	40.7	28.3	19.8	11.9	29.9
New Zealand	35.5	29.3	27.7	22.1	18.3	26.6

ACCIDENTS

New Zealand's centralised accident insurance scheme, the Accident Compensation Corporation (ACC) publishes extensive data on accident related claims which offers valuable insights into the distribution of accidents across New Zealand. Some of this data is offered in Tables 52 and 53.

Table 52 reports new claims to ACC for injuries by June years and by region. This data indicates a wide variation in the rates of such claims - a threefold variation from a low of 50 claims per 10,000 population in Canterbury, to high of 149 per 10,000 in Gisborne. There are probably several plausible reasons for this wide variation and some of these are indicated in following tables on work related accidents, traffic accidents and domestic violence. This related data, however, really only explains the patterns of accidents and injuries and not the causes of these. Table 52 indicates clearly that regions such as Canterbury and Otago are considerably safer places to live than regions such as Gisborne and Northland.

Table 52: New claims to Accident Compensation Commission 2010-2014[41]

Claims per 10,000 population

Year ending June	2010	2011	2012	2013	2014	Average 2010-2014
Northland	205	110	114	96	91	123
Auckland	77	62	63	53	50	61
Waikato	106	83	96	61	64	82
Bay of Plenty	133	117	123	102	79	111
Gisborne	164.3	117.0	130.2	190.3	142.2	149
Hawkes Bay	79.6	63.5	78.2	49.5	43.7	63
Taranaki	90.6	101.9	86.9	63.6	48.7	78
Manawatu-Wanganui	74.4	65.4	75.0	61.2	48.0	65
Wellington	66.5	62.4	77.3	42.9	52.0	60
M-N-T-WC	140.9	123.4	172.1	97.5	70.2	121
Canterbury	65.6	50.9	54.7	44.5	33.7	50
Otago	84.7	69.9	52.1	47.8	33.8	58
Southland	111.2	96.7	66.0	69.6	34.7	76
New Zealand	90	73	78	59	53	71

Table 53 reports work related injuries by region for the five year period between 2009 and 2014 (June years). This data is a little inconsistent with overall claims data offered in Table 52, where the relative positions of regions such as Canterbury and Otago are worse in the work related accident stakes than in overall claims. The distribution of work related injuries reported in Table 53 is largely related to the occupational structure of regional labour markets, although not entirely so. Predominantly urban regions such as Auckland and Wellington have rates of work related injury claims that are around half to two-thirds of those arising in rural regions, where physical and outdoor work is more commonplace. The outlier in this pattern is Taranaki, which has a relatively low rate of claims for work related injuries

despite its predominantly rural and industrial occupational structure. Table 53 shows clearly that the North Island regions of Northland, Waikato, Bay of Plenty and Gisborne are considerably more dangerous places to work than elsewhere in New Zealand. This higher incidence is perhaps due to a concentration of the forestry industry in these regions – a sector with a high injury rate[42].

Table 53: New claims to ACC for work related accidents 2010-2014[43]

Claims per 10,000 workers

June years	2010	2011	2012	2013	2014	Average 2010-2014
Northland	1,300	1,222	1,136	1,164	1,182	1,201
Auckland	854	823	748	754	731	782
Waikato	1,259	1,134	1,125	1,145	1,132	1,159
Bay of Plenty	1,215	1,122	1,046	1,088	1,074	1,109
Gisborne - Hawkes Bay	1,351	1,190	1,326	1,164	1,145	1,235
Taranaki	929	903	825	767	795	844
Manawatu-Wanganui	1,021	981	962	960	967	978
Wellington	555	521	514	504	514	522
M-N-T-WC	1,002	950	828	846	842	894
Canterbury	883	849	932	895	894	891
Otago	1,098	896	829	870	821	903
Southland	1,080	913	880	820	855	910
New Zealand	965	900	868	845	848	885

TRAFFIC SAFETY

The Land Transport Agency publishes a wealth of data on traffic accidents. This data records, at quite a local level, the seriousness and causes of every reported motor vehicle accident in New Zealand. Information from this dataset for the five year period 2010 to 2014 has been used to compile Tables 54, 55, 56 and 57. Table 54 reports road accident fatalities, on a regional basis, for the most recent five years. Table 55 reports serious injury accidents for the same period. Tables 56 and 57 report fatalities and serious injury accidents where alcohol was involved as a cause of the accident. All of these tables make regional comparisons on the basis of an accident rate per 100,000 people living in the region at the time.

The regional comparisons offered in Table 54 through 57 show quite a consistent pattern – that overall West Coast, Gisborne, and to some extent Northland have very poor road safety records, while Auckland, Wellington and to some extent Nelson-Tasman have relatively good records.

The location of regions relative to both tourist traffic and other inter-regional traffic flows will, of course, affect traffic accident statistics. In the case of West Coast, and to a more limited extent Gisborne, the location of main state highways through quite sparsely populated areas will tend to increase the population based accident rates reported here. Similarly, regions such as Waikato which, although not sparsely populated, will have high volumes of traffic passing through should also expect to see higher than average accident rates.

Alcohol related accidents, deaths and injuries are also more common in regions such as West Coast, Northland, Gisborne and Waikato and it is not altogether apparent that this association can be explained by the 'through traffic' or tourist traffic argument. For example, Gisborne has a relatively low rate of serious injury accidents as reported in Table 55 yet the region has a relatively high rate of accidents where alcohol is a contributing cause as reported in Table 57. In comparison, Canterbury appears to have relatively low incidences of alcohol related accidents, alongside quite high rates of accidents overall.

Table 54: Road accident fatalities 2010-2014[44]

December years	2010	2011	2012	2013	2014	Average	Accidents per 100,000 people
Northland	22	7	18	21	17	17	10.4
Auckland	53	51	41	49	34	46	3.1
Waikato	64	64	66	32	45	54	12.9
Bay of Plenty	40	20	22	17	31	26	9.3
Gisborne	6	1	10	3	3	5	9.8
Hawkes Bay	19	16	21	6	14	15	9.7
Taranaki	11	9	17	7	10	11	9.6
Manawatu-Wanganui	41	28	29	16	33	29	12.7
Wellington	10	13	11	18	12	13	2.6
Tasman	8	2	2	4	4	4	8.2
Nelson	7	1	2	2	2	3	5.8
Marlborough	9	7	5	3	1	5	11.2
West Coast	7	9	7	9	9	8	24.8
Canterbury	47	33	33	50	33	39	7.1
Otago	19	16	17	14	19	17	8.2
Southland	12	7	7	2	12	8	8.3
New Zealand	375	284	308	253	279	300	6.8

Table 55: Serious injury road accidents 2010-2014

December years	2010	2011	2012	2013	2014	Average	Accidents per 100,000 people
Northland	88	84	96	80	97	89	54.4
Auckland	384	355	325	365	392	364	24.7
Waikato	207	263	236	213	202	224	53.2
Bay of Plenty	135	130	135	122	83	121	43.4
Gisborne	19	12	10	21	21	17	35.3
Hawkes Bay	89	56	60	67	67	68	43.0
Taranaki	44	43	58	43	41	46	40.6
Manawatu-Wanganui	128	102	118	110	124	116	50.3
Wellington	161	159	172	98	136	145	29.9
Tasman	24	19	21	22	19	21	43.2
Nelson	14	12	24	15	19	17	34.9
Marlborough	27	17	17	9	17	17	39.0
West Coast	40	28	24	30	24	29	88.2
Canterbury	317	263	248	260	280	274	49.2
Otago	142	130	157	130	141	140	67.5
Southland	73	54	58	50	42	55	57.8
New Zealand	1,892	1,727	1,759	1,635	1,705	1,744	39.6

Table 56: Road fatalities involving alcohol 2010-2014

December years	2010	2011	2012	2013	2014	Average	Accidents per 100,000 people
Northland	16	5	8	7	3	8	4.8
Auckland	35	34	25	22	15	26	1.8
Waikato	52	37	44	12	5	30	7.1
Bay of Plenty	25	14	15	5	4	13	4.5
Gisborne	6	1	8	1	1	3	7.2
Hawkes Bay	12	12	13	0	5	8	5.3
Taranaki	7	8	12	1	5	7	5.9
Manawatu-Wanganui	26	22	21	5	7	16	7.0
Wellington	6	9	8	9	4	7	1.5
Tasman	8	2	2	0	0	2	4.9
Nelson	7	1	1	0	1	2	4.1
Marlborough	8	6	4	0	0	4	8.1
West Coast	5	3	4	1	1	3	8.5
Canterbury	27	24	21	13	8	19	3.3
Otago	10	10	7	4	6	7	3.6
Southland	8	3	3	0	5	4	4.0
New Zealand	258	191	196	80	70	159	3.6

Table 57: Serious injury road accidents involving alcohol 2010-2014

December years	2010	2011	2012	2013	2014	Average	Accidents per 100,000 people
Northland	31	34	36	23	31	31	19.0
Auckland	128	104	87	93	91	101	6.8
Waikato	59	58	44	51	43	51	12.1
Bay of Plenty	28	33	22	39	10	26	9.5
Gisborne	7	12	1	10	8	8	16.2
Hawkes Bay	18	14	21	17	11	16	10.3
Taranaki	16	13	17	9	10	13	11.5
Manawatu-Wanganui	30	37	25	21	26	28	12.0
Wellington	29	24	30	15	30	26	5.3
Tasman	5	5	4	4	2	4	8.2
Nelson	1	1	4	1	1	2	3.3
Marlborough	6	3	6	2	3	4	9.0
West Coast	8	8	9	7	5	7	22.4
Canterbury	55	45	42	32	48	44	8.0
Otago	31	31	28	24	32	29	14.1
Southland	13	16	17	10	9	13	13.6
New Zealand	465	438	393	358	360	403	9.1

DOMESTIC VIOLENCE

Domestic violence is not defined specifically as an offence or offence category in offence classifications. However, because most of such violence occurs in homes and also because most violence in homes is between people known to each other, a useful proxy for domestic violence is the numbers of recorded assaults in dwellings. Such a proxy is, of course, still only approximate due to the fact that as many as two-thirds of assaults go unreported or unrecorded[45]. This proxy is used in generating the data and analysis offered in Table 58.

Table 58 reports the regional distribution of recorded assaults in dwellings for the five year period 2009/2010 to 2013/2014. An offending rate based on a five year average of these recorded offences and population estimates is also reported in Table 58[46]. This data shows clearly that Gisborne region is an extreme outlier with a rate of recorded offences of 201 per 10,000 people against a nation-wide average of around 58. While such a figure for Gisborne no doubt represents actual assaults, this figure also possibly indicates a major local variation in the way such assaults are reported to police and then recorded by them. As seen elsewhere in the report in relation to reported offending by youth, the Gisborne police district stands as an outlier and this local approach might be demonstrated in Table 58 as well.

While most regions are closely clustered around the national average rate of recorded offences, it is apparent that Otago and Canterbury have significantly lower recorded rates, while Northland, Hawkes Bay and of Gisborne have much higher than average rates.

Table 58: Recorded assaults in dwellings 2010-2014[47]

June year ending	2010	2011	2012	2013	2014	Average 2010-2014	Offences per 10,000 people
Northland	1,345	1,297	1,345	1,657	1,233	1,375	87
Auckland	9,163	8,781	7,813	8,080	7,688	8,305	55
Waikato	3,200	3,077	2,918	2,650	2,921	2,953	71
Bay of Plenty	2,115	2,040	1,882	1,848	1,886	1,954	70
Gisborne	780	997	817	962	1,158	943	201
Hawkes Bay	1,447	1,440	1,319	1,340	1,309	1,371	88
Taranaki	605	615	613	534	495	572	52
Manawatu-Wanganui	1,584	1,613	1,580	1,522	1,528	1,565	67
Wellington	2,771	2,606	2,241	2,120	2,152	2,378	49
M-N-T-WC	873	897	944	973	851	908	52
Canterbury	2,053	2,000	1,981	1,996	2,045	2,015	36
Otago	1,018	879	830	865	851	889	42
Southland	642	662	685	631	586	641	68
New Zealand	27,596	26,904	24,968	25,178	24,703	25,870	58

HOME BURGLARIES

A further useful indictor of safety at home is that of recorded burglaries, and breaking and entry into dwellings. As with other types of crime, burglary tends to be under-reported[48] so as an indicator, home burglaries are at best only a partial indication of peoples' experiences. However, if it is assumed that this under-reporting is uniform geographically, then it follows that any pattern of reported offences remains indicative of an actual distribution.

Table 59 reports the numbers of recorded burglaries and unlawful entries into dwellings by regions. These recorded offences are averaged over the five year period and this average is reported as a rate per 10,000 people in the local population[49].

There is a fourfold difference between the highest and lowest rates of recorded burglaries. The safest regions to be in terms of burglaries are Otago, followed by Taranaki, while the regions most prone to burglaries are Gisborne, Hawkes Bay and Northland.

Table 59: Recorded burglaries of dwellings 2010-2014[50]

June year ending	2010	2011	2012	2013	2014	Average 2010-2014	Offences per 10,000 people
Northland	1,816	1,955	1,740	1,649	2,173	1,867	118
Auckland	16,493	16,300	16,095	13,678	12,999	15,113	100
Waikato	4,711	4,343	4,996	4,934	4,957	4,788	115
Bay of Plenty	3,118	3,526	3,340	3,147	2,647	3,156	114
Gisborne	735	954	799	761	651	780	167
Hawkes Bay	1,813	1,935	1,934	1,741	2,139	1,912	123
Taranaki	545	552	450	467	562	515	47
Manawatu-Wanganui	2,662	2,625	2,831	2,742	2,637	2,699	116
Wellington	3,279	3,341	3,718	3,323	3,133	3,359	69
M-N-T-WC	864	758	852	867	1,097	888	51
Canterbury	4,938	5,109	4,168	4,521	4,215	4,590	82
Otago	875	859	720	745	1,055	851	40
Southland	591	560	507	493	649	560	59
New Zealand	42,440	42,817	42,150	39,068	38,914	41,078	93

SUMMARY

This chapter has attempted to combine a small number of disparate and perhaps unrelated social indicators under one theme, that of safety and risk. In some respects, some of these risks are unrelated and in other respects they are closely related. For example, there is no direct observable link between availability of Class 4 gaming machines and home burglaries except, perhaps, in the general observation that they seem more common in poorer communities. There is, however, an attributable link between misuse of drugs and accident rates, and between alcohol related traffic accidents and domestic violence. The common factor in such relationships is the use or misuse of drugs and alcohol.

While such a link is easy to draw in theory, it is more difficult to make such attributions in practice, especially when it comes to labelling a community. This is because other factors such as poverty, unemployment and history also condition peoples' behaviours and perhaps the predominant behaviours of whole communities. If we ignore such background contributors it becomes much easier to frame the poor outcomes we see in the data offered in this chapter simply as a matter of choice. Such arguments suggest that the reason a community has much higher rates of domestic violence and serious road accidents is because it has chosen to misuse alcohol and drugs. The deeper and generally more complex reasons for such community behaviours are not considered in such arguments.

Table 60 summarises most of the indicators presented in this chapter according to the ranking of each region in each indicator. While many of the minor differences in scores between regions are somewhat arbitrary, the extent of the differences from top to bottom as reported in Table 60 are huge. Gisborne's score of 101, out of a worse possible score of 112, points to its multiple disadvantages in terms of safety and risk. Northland faces similar levels of disadvantage and it is only saved by having relatively few Class 4 gaming machines.

At the other end of the scale Wellington, with an aggregate score of 23, is consistently privileged in terms of the low risks the region faces. Auckland and Canterbury have only slightly less favoured positions. This appears, in part, to be an urban bias to being safe and facing fewer social hazards, although rural regions such as Taranaki and Tasman also appear to have fewer overall risks.

Table 60: Regional ranking table for safety & social hazards

	Class 4 gaming machine availability	Minor cannabis offences	Alcohol related serious traffic accidents	All new claims to ACC	Work related injuries	Assaults in dwellings	Home burglaries	Aggregate score
Northland	6	11	15	15	14	14	14	89
Auckland	1	3	3	4	2	9	10	32
Waikato	10	8	11	9	13	13	12	76
Bay of Plenty	13	10	7	10	12	12	11	75
Gisborne	8	16	14	16	15	16	16	101
Hawkes Bay	11	5	9	5	15	15	15	75
Taranaki	9	9	10	7	3	4	2	44
Manawatu-Wanganui	12	6	8	6	11	10	13	64
Wellington	5	1	2	3	1	3	8	23
Tasman	2	12	4	11	4	4	3	40
Nelson	3	12	1	11	4	4	3	38
Marlborough	15	12	6	11	4	4	3	57
West Coast	16	12	16	11	4	4	3	66
Canterbury	4	4	5	1	8	1	9	32
Otago	7	2	13	2	9	2	1	36
Southland	14	7	12	7	10	11	7	68

CHAPTER 6: **LOCATION, LOCATION, LOCATION**

The well-known adage in real estate circles is that three things matter when it comes to property: location, location, location. The underlying sentiment is that there are popular places to be and not-so-popular places to be. The business and property media are not particularly concerned about the not-so-popular places to be, in part because such places are not usually inhabited by glamorous or wealthy people. However, the not-so-popular, and the outright unpopular places to be, say as much (if not more) about the social and economic climate of New Zealand as do the popular places.

One purpose of this report is to offer some balance to this debate by considering the fortunes of these not-so-popular places to be. This will be done by firstly considering the nature of economic and social forces that drive changes in local communities and regional economies across New Zealand. Following this some effort is spent in examining the status of the 16 regions in New Zealand across a number of social and economic indicators. The intention of such an examination is to gain insights into how each region has fared over the recent decade or so, in terms of social and economic wellbeing. The results of this assessment are then used to critique both the Government's growth model and possible alternatives to this which might provide better outcomes for every region.

The question of how New Zealand can or should develop socially and economically is a complex one, although it has not received any fundamental attention for at least the past 30 years. This lack of attention is due, in part, to the dominance of neoliberal thinking around how the world works, how people lead their lives and make decisions, and on the appropriate roles of markets and the State. While the flavour of this neoliberalism has changed from government to government, the overwhelming acceptance of the primacy of markets to decide allocations has remained as the main organising idea since 1984. This orthodoxy, or way of thinking, has become hegemonic in that most New Zealanders, and especially those born after 1970, struggle to even contemplate that things might be different.

This dominance notwithstanding, there appears to be growing disquiet around what neoliberalism is delivering. This disquiet began with the GFC of 2007/2008 and has fermented, especially in Europe, as the impacts of this crisis continue to be felt. These impacts have in turn elevated the problems of growing indebtedness and inequality, which along with a failure to address climate change have caused many people to reflect on the usefulness and legitimacy of current political frameworks.

This report has highlighted the growing inequalities between regions and communities within New Zealand. These inequalities are multi-dimensional in that they involve different elements of social and economic life, and different groups of people. They are also variable in that different regions face different inequalities and few regions are uniformly advantaged or disadvantaged – at least according to the indicators offered here.

THE ECONOMICS OF AGGLOMERATION

While it does not have to be so, it is often the case that the good fortunes of some are mirrored in the misfortunes of others. This means that communities, towns and cities that are successful in terms of growth and rising incomes have this success at the expense of other communities, towns and cities. In part, this zero sum game is due to some basic rules of human settlement patterns – that people shift for opportunity, resulting in some places losing population and its associated investment, while other places gain these.

There is something of a virtuous or vicious circle to this age old phenomenon of migration, growth and decline. There is a virtuous circle of sorts around the popular idea in urban economics of agglomeration. This is the concept that economic activity is spatially concentrated in cities on account of production efficiencies – such as increasing returns to scale, as well as spill-over effects or externalities such as those associated with easier transport and communication through being located close together[51]. Often agglomeration effects become reinforcing in that size attracts greater concentrations of economic activities so dominant cities grow more quickly than other cities and towns. At some point this growth may choke itself through congestion, pollution and social distress – effects which may be seen as dis-economies of scale. Thus, the trick in urban planning and growth management is to nurture the positive agglomeration forces while at the same time addressing the negative effects, mainly through public investment in infrastructure. The demands by Auckland for greater investment in transport infrastructure and affordable housing are part of this dynamic.

The opposite effect - a vicious cycle of self-reinforcing decline, occurs in smaller cities, towns and in rural areas. This decline occurs through a number of well-known mechanisms, including the remoteness of markets and suppliers and the associated higher transport costs. As well, businesses in smaller communities have access to a narrower labour pool which may limit their ability to attract and retain specific skills. In addition, smaller communities tend to lose younger people continuously because of the attraction of the bright lights of the city and the promise of further education, better employment opportunities and higher wages[52].

Such growth and decline is captured well in the idea of core and periphery, as developed by trade economist and Nobel laureate Paul Krugman. The idea of a modern wealthy core exploiting a backward or less advanced periphery predated Krugman's interest through the writings in the 1970s of development theorists such as Immanuel Wallerstein and Samir Amin. Wallerstein developed ideas around 'world system theory' where the world could be divided into core, semi-periphery and periphery countries and where the global economy is dominated not by some political centre, as with an empire, but by the capitalist method of production[53]. Amin is one of the leading thinkers behind dependency theory and the idea that the so-called Third World are forced into and held back through their dependency on the first world for capital and technology[54]. Krugman's work on core and periphery was less interested in the global economy than in a notional regional or small nation economy. His seminal 1991 article provided a fairly simple mathematical model of a two region economy involving two kinds of production – manufacturing and agriculture. He showed that as economies of scale in manufacturing increased and as transport costs declined, it was likely that manufacturing activity would become more and more concentrated at the so-called 'core'[55]. Krugman's insights here have been further developed, or at least copied in more specific examples ever since. As an explanation for the concentration of economic activity these insights have become something of a conventional wisdom.

Taken to an extreme, agglomeration may lead to the dominance of global cities such as has been suggested by urban theorist Saskia Sassen[56]. There are a handful of globally dominant cities that have become, or will become the financial and organisational centres of the global economy. While the current

thinking around urban and regional development in a global economy is more complex and richer than Sassen's idea of globally dominant cities, the idea of urban agglomeration on a global scale raises some serious practical challenges for New Zealand, and specifically for Auckland. In particular, if urban agglomeration works on a global rather than a national basis what is to stop it eventually working against Auckland but in favour of Sydney, for example?

It has become fashionable to rank cities on some form of global league table, although the ranking of smaller or poorer cities depends significantly on what criterion are applied. The boosterism which often accompanies promotion of cities and of local economic development predictably plays down criteria which are not favourable to a high global ranking and emphasises those that are. Such choices subsequently drive the narrative which is behind city or regional promotion and even the framing of policy priorities[57]. These policy priorities can end up having little to do with the social and economic needs of the resident population, and more to do with how city leaders see themselves in relation to the rest of the world.

A useful insight which Sassen's work offers into the sphere of global cities is the way in which her 'Global Cities' have become polarised both in terms of labour and housing markets. While this report considers questions of inequality between regions rather than within cities, this question of polarisation and its consequences will be considered in the final chapter.

There is something of a countervailing set of theories and experiences that challenge the idea of an increasing dominance of global cities through the pervasive effect of agglomeration. Richard Florida has promoted the idea that cities succeed through the type of people they attract and retain. He suggests that cities which have high amenity values, are liberal and tolerant and which have a vibrant arts and culture expression, will be successful in building a stronger 'creative sector' or class, and that these people are the ones who create value for cities in a global economy[58]. An empirical study of 80 small cities (under 200,000 population) in the United States undertaken by Jon Norman suggests that such cities have experienced mixed fortunes over the past two or three decades. He credits this variability to a number of factors including: connectedness to the global economy and global networks; the quality of human capital and creativity in the local economy; and place-specific attributes like access to unique local resources such as high physical and social amenities or the presence of good quality tertiary education or important health facilities[59]. Norman also suggests that it is smaller cities that have grown at a modest, but not a fast or rapid rate, through a balance of inward migration of foreign workers and some local natural increase, have been the most successful in raising per-capita incomes. Faster growing cities often do not achieve this, and instead the benefits of growth evaporate in higher housing costs, greater inequality, and static household incomes for some (if not most) local people.

There is no single answer to the question of how and why cities grow, and it remains to be seen if urban planners and local economic development specialists have that much influence on the distribution of regional growth and development. It does, however, appear that a slavish reliance on markets and the economics of agglomeration as if they are intractable forces shaping cities and regions, risks selling out those people and communities who are being left behind in the spatial restructuring of New Zealand.

CONVERGENCE OR DIVERGENCE?

Neoclassical economic theory would have us believe that eventually the fortunes of New Zealand's regions will converge around some new and most likely optimal position, where the disparities discussed in previous chapters are smoothed out. Under such a scenario there is little reason for direct and local interventions. Rather, it is a matter of ensuring a uniform approach to influencing macro-economic factors such as saving rates and the formation of physical and human capital, then waiting until the forces of change and economic adjustment work their magic to deliver a new set of arrangements around where people live and work. In this scenario there is no guarantee that the journey to this new equilibrium will be painless. Essentially, a form of benign neglect is by default being adopted on the assumption that this will result in communities and local economies reaching this neoclassical economic utopia.

Neoclassical growth models promise convergence at a variety of levels providing, of course, the prescriptions offered by neoclassical economic theory are followed[60]. The main area of convergence is in growth rates in per-capita income, although not necessarily in per-capita income per se. Differences in per-capita income between countries and regions can be explained by differences in labour productivity and in stocks of physical and human capital.

Although the idea of convergence remained controversial even amongst neoclassical economists who subscribed to one or other of the main conceptual growth models, the mechanisms by which such convergence could emerge have been consistently identified. One theory was that poorer economies tend to grow at a faster rate than richer ones due to diminishing returns to capital as an economy matures[61]. Another explanation for convergence is that of knowledge spill-overs, which are often associated with investment in physical capital. Here the additional or new knowledge required to operate new technologies introduced by a firm quickly spreads throughout the local economy, making it easier for other firms and neighbouring communities or regions to also adopt this technology[62]. A third line of explanation is around human capital. Here the explanation is that with a fairly uniform public education system and other public institutions within a country, human capital between regions should be more or less equally distributed so contributing equially to labour productivity, and hence to personal incomes[63].

Despite this theoretical promise, much of the economic development and development economics literature appears to focus on identifying cases of divergence or on explaining why convergence has not occurred. Such theoretical explanations are attempts to explain real life – especially as it relates to persistent inequalities between the third and first worlds[64]. These discussions of exceptions to convergence do well in identifying both the forces that lead to divergence and the fact that this divergence is a more commonplace trend than convergence[65].

To some extent the proposition that the economies of countries or regions converge to a common rate of income growth – or some other relevant indicator, relies on the mobility of capital, labour and ideas. The idea that capital leaves high income countries and regions, and flows to lower income economies in search of higher rates of return is an example of such supposed mobility. Patently this has not been the case over much of the past century[66] and there are sound theoretical explanations for this[67]. These explanations illustrate some of the reasons for the divergence in fortunes observed in reality. Most of these reasons revolve around urban economic concepts such as agglomeration, increasing returns to scale, and spillovers or externalities as discussed in the preceding section.

In particular, there is a rich vein of explanations for the lack of convergence in the area of human capital. By presenting human capital arguments as a key driver of economic growth the failure of neoclassical growth models to address regional inequality is often presented un-problematically by many analysts. For example, Caragliu and Nijkamp suggest that in 'a knowledge-intensive economy human capital is a major driver of regional performance: hence small differences in human capital endowments may induce large long-run differences in economic performance in a spatial economy'[68].

This advantage stemming from human capital has a number of strands. Some authors have suggested that cities not only attract more able workers – with higher human capital, but they also enhance this human capital by providing greater opportunity for information sharing, skills development and education[69].

This attraction of higher human capital to cities only partly explains the difference between wages and salaries in cities and elsewhere. This differential may be as much as 1% for each additional 100,000 people in an urban area[70] and is probably illustrated in New Zealand with the income differences reported in Tables 28 and 29. While some of this difference is due to higher human capital, and hence greater labour productivity, it is also due to various urban agglomeration effects identified in this chapter. In the end this means that wages are higher in cities due to what might be seen as a virtuous circle, or a self-reinforcing cycle, of advantage. This can work as follows: firms in large cities are more productive (despite urban problems such as congestion) because of agglomeration and knowledge spillover effects; because they are more productive they are able to pay higher wages; because they pay higher wages they attract more talented workers from rural and/or less prosperous regions; these more talented workers are able to enhance their skills because of access to better education, training and information networks; because they become more skilled they become more productive; because they are more productive the firms they work for become more productive, and so on.

There is clear empirical evidence of such effects. Hadjimichalis (2011), in citing European Commission data, suggests that European economies converged for a period until the mid- 1990s. However, since 1999 and monetary union, inequality had worsened and by 2007 it had reached levels last seen in 1987. He also suggests that there was convergence for the comparatively wealthy countries, while there was divergence for the poorer ones[71]. Artelaris and Petrakos (2014) offer empirical evidence from the European Union which overturns (literally) the inverted U hypothesis of Williamson, which posited that regional disparities rose during the early part of a country's development then reduced (that is, converged) as the economy matured[72]. They showed the opposite - that inequality, at least in Europe, rose as incomes rose[73]. In an investigation of unemployment patterns in the United Kingdom post GFC, Neil (2014) suggests that cities that had a specialist industrial/employment basis suffered most in the post GFC era in terms of unemployment, and that it was these cities that already had the least capacity to absorb these shocks[74]. Rickman and Guettabi (2015) show that non-metropolitan United States benefited less from the expansion preceding the GFC, suffered more from loss of jobs following the GFC, and has seen a more subdued recovery since[75]. Lindley and Machin (2014) found increasing spatial inequality in US labour markets on account of reinforcing concentrations in some states and metropolitan statistical areas (MSA's) of universities, university graduates in local labour markets, higher incomes, and firms associated with education and technology. In such areas, there was evidence of a polarising labour market where

high income workers generated demand for low paid workers in service industry such as child care and cleaning[76]. Peters (2013) finds a similar relationship in the United States and that as a consequence of polarised labour markets, areas which are growing quickly tend to be more unequal[77]. Breau (2014), utilising data from the 1990's, identified a similar growing inequality between provinces and between rural and urban communities in Canada. In general, western provinces and urban areas tended to be wealthier and more unequal, while eastern provinces and rural areas experienced less economic growth but were more equal[78].

The framing of development outcomes as convergent or divergent is not without some political motivation. Those who espouse neoclassical economic theory and the neoliberal ideology which is derived from this are likely to overplay the experiences of convergence, and perhaps downplay or ignore divergence. Those arguing from alternative economic theories and political ideologies will emphasise divergence and the resulting inequality as a sign of failure of both neoclassical theory and neoliberalism more generally.

In an analysis of the use of the metaphor of the 'North-South divide' to paraphrase regional inequality in the United Kingdom and Italy, Sara González suggests that the abandonment of such a term in the 1990's served the purpose of abolishing regional subsidies and other forms of assistance to poorer regions. She says,

> The dissolution of the North/South divide as a relevant 'policy geography' is part of a more general reconceptualization of 'sociospatial relations'. There has been a move from a territorial view of uneven development and regional disparities, where subsidies and government institutions were bound to particular spaces, to a more network-like geography, where uneven development is regarded as fluid and changing and institutional arrangements to tackle it are multi-level partnerships or voluntary agreements. Regions are still important economic objects but the focus has shifted from administrative to city regions, from central government regional policies to regional competition...[79].

Gonzalez makes reference to 'archipelago' geography where regions are linked somehow as an archipelago of islands with of course the last few islands of the archipelago being the most remote. She says,

> A language of archipelagos, districts and networks, if not contexturalized in longer historical trends and wider socioeconomic processes, can lead to the victimisation of those poorer communities, who are made responsible for their own problems and 'empowered' to resolve them. If the territorial approach adopted by the old regional policy relied on hierarchical and top down governance mechanisms, the current network view of economic geography operates through non-accountable, privatized and business-led organisations[80].

The idea of networked non-accountable, privatized and business-led organisations being solely responsible for addressing regional development neatly describes the present set of arrangements. These are based on local economic development agencies, research projects and infrastructure projects initiated by private sector interests and investments, and by the erosion of local democratic control over resource allocation decisions.

However the present experiences of New Zealand's regions are framed – as a pathway to convergence, as islands of innovation, or as archipelagos and networks, the evidence of divergence across many social and economic indicators presented in this report is quite apparent. The current conventional wisdom around economic development realistically acknowledges both the importance of the cities as the sites and sources of investment and economic development and of the disadvantages New Zealand faces, with its relatively small cities, in this global market such investment and development[81]. Within such a conventional wisdom there is little choice but to emphasise the investment appeal of cities as the basis of an economic development strategy. However, little if any thought is ever given to the people and communities outside of Auckland, and perhaps the other main cities, who are overlooked in such a strategic focus.

DIVERGENCE TO WHAT?

While there is a theoretical basis for claiming the possibility of convergence within neoclassical growth models, the bulk of the empirical evidence suggests that divergence is a more common experience both between rich and poor countries, and rich and poor regions. Furthermore, while these models would prescribe the movement of capital and labour to places of higher productivity, the reality is that there are limits to such movements – particularly in the movement of labour, and especially in the movement of unskilled labour.

The neoclassical models and the policy frameworks based on them have little to say about the people and resources left behind or excluded from any economic growth, except perhaps, in their vague promises of convergence. At least two important policy questions emerge from such an omission: where will divergence in the economic and social fortunes of regions or communities lead to; and to what extent can, or should, this divergence simply be condoned?

It is clear from the data offered in this report that there are tangible differences in the experiences of regions and communities across New Zealand. These divisions are not as sharp as a North-South divide, such as that presented in political discourse in the United Kingdom or Italy. This is partly because the differences in New Zealand are a little more mixed up, and partly because the geographic distribution of these differences has both a North-South dimension and to some extent a rural-urban one. As discussed in this report, urban regions are doing better than rural ones, and regions in the South Island are doing better than those in the North Island. In addition, with the exception of Northland at one extreme and Otago at the other, the fortunes of all other regions are somewhat mixed with some good and some poor outcomes.

There is, however, a general pattern of linked outcomes where, perhaps quite predictably, poor educational outcomes are associated with high rates of youth offending and youth unemployment, which in turn is linked to lower than average incomes and relatively poor outcomes for children. While the data offered in this report cannot prove or refute claims that such associated inequality is inter-generational, the impression gained from the data is that this inequality is deeply embedded, and not just the result of a cyclical turn or random reversal. Poor educational outcomes across a whole set of nearby communities illustrate a systemic issue which a standardised and uniformly funded education system has been unable to address. There may be a small number of common features in such outcomes such as ethnicity, household income, or remoteness. However, by themselves such features don't explain the failures, they merely make it easier to predict them.

If the tendency is not for things to converge around a commonly accepted and widely shared standard, but for gaps to continue to widen, then the divergence we see might not be around just one need or indicator but across a number of related needs or indicators. Such decline is probably tolerable for some time but may eventually become embedded into unique local cultures that do not share the same values and expectations of the mainstream culture. In other words, despite such things as nation-wide ECE provision policies, a national school curriculum backed by a national set of assessment processes, and a nationally consistent set of income support programmes, local differences become so embedded that a disconnect between the centre and the periphery takes place where those on the periphery no longer see mainstream social values as applying to them. As a result a sub-culture of poverty, disaffection and social dysfunction can take root. The concentration and persistence of child poverty is a good example of such a process[82]. This process of distancing and even alienation may be reinforced by changes in income support policies such as those offered in the Government's welfare reform programme, which in part appear to be designed to limit access to welfare benefits.

The epitome of this disconnection is the emergence and persistence of the informal economy or sector. The informal economy can be defined as 'economic activities that take place outside the framework of bureaucratic public sector and private sector establishments'[83]. While governments tend not to be supportive of the informal economy, as it is un-enumerated and untaxed, its existence and perhaps growth is probably inevitable in communities with high levels of unemployment, casual employment, and relative poverty. Such activity can be quite diverse and broadly labelled from the 'flea market economy' to the black economy of organised crime, to small scale production utilising barter and other alternative forms of exchange.

The extent to which New Zealand has become a country of divergent fortunes, with a growing sub-culture of persistent poverty and disaffection is difficult to determine. Working against such a trend is the fact that the country is relatively small, has good communication and transport links between regions, is centrally governed, and has strong and corrupt-free public institutions. These institutions in turn offer citizens a variety of centrally directed and resourced programmes in health, education and income support that ensure a good degree of uniformity and consistency of experiences and opportunities between communities and regions. It seems likely that New Zealanders' continued enjoyment of this equality depends on the strength of the connections between regions and of the public institutions in each region.

The experience of living in different regions and communities and the opportunities available within these are not uniform, however, as indicated by the data offered in this report. This suggests that indications of divergent fortunes, disaffection and separateness are most likely to emerge in regions and urban communities which are on the margin economically, and amongst groups – especially ethnic groups, which suffer most from unemployment or uncertain employment, and from the poverty which attends this.

CHAPTER 7: **A CRITIQUE OF THE GOVERNMENT'S GROWTH MODEL**

Addressing regional disparities as well as broader issues of inequality and poverty most properly lies within a nation's development goals. In most cases such goals are closely connected to the Government's growth model. This is because the government is often seen as the agent responsible for leading social change, and because development and economic growth are seen as synonymous.

This chapter is an attempt to critique, or at least study, the Government's growth model or the underlying conceptual framework for its policies and programmes. This is done firstly by identifying the key propositions or claims which make up the Government's policy agenda, and then considering key programmes which are expected (by Government) to deliver this agenda. Finally, an attempt is made to interpret both the rhetoric and practices of this agenda against a conventional neo-classical economics framework.

AN OVERVIEW OF GOVERNMENT'S GROWTH MODEL

The National led Government's overall political agenda appears to be based on four priorities, which it believes will 'deliver a stronger and more prosperous New Zealand'. These four priorities are:

- building a more productive and competitive economy
- responsibly managing the Government's finances
- delivering better public services within tight fiscal constraints
- supporting the rebuilding of Christchurch.

This political agenda is largely bereft of any broader social goals and is typically neoliberal in its stance. The emphasis here is on the government as a manager, fiscal conservatism, operational efficiency and material prosperity. Broader nation-building goals are missing, although the re-building of a region is offered up as the only worthwhile aspiration outside of managing the economy and government finances.

Central to the goal of building a more productive and competitive economy is the Business Growth Agenda. 'The Business Growth Agenda (BGA) is central to the Government's priority of building a more productive and competitive economy. Lifting productivity and competitiveness is critical to creating business opportunities, more jobs and higher wages, and ultimately the higher living standards to which New Zealanders aspire'[84].

In essence, the Government's growth model is the Business Growth Agenda, and at first glance this model appears comprehensive and thoroughly considered. 'This Business Growth Agenda aims to build a more productive and competitive economy by building business confidence and addressing the issues that matter most to firms'. This is to be done by 'focusing on six key inputs that businesses need to succeed, grow and add jobs: export markets, capital markets, innovation, skilled and safe workplaces, natural resources and infrastructure[85].

Under each of these six headings the Government has bundled or packaged a number of its policy initiatives, sometimes in ways which seem simply convenient and not entirely credible. This packaging is as follows:

- **export markets** – include the Government's efforts to advance its free trade agenda through the Trans-Pacific Partnership as well as standard trade missions and international marketing efforts, although with an apparently increased emphasis on international education[86]
- **capital markets** – aside from small regulatory changes to reduce financial reporting requirements on small and medium sized business, and further improvements to regulate behaviour in the finance sector, this element also includes the Government's recent partial privatisations of energy companies, the housing accords which are intended to facilitate faster residential development approvals and a minor programme to improve financial literacy around KiwiSaver schemes. The Government's fiscal policy stance also gets included as a capital market initiative[87]
- **innovation initiatives** - include 56 actions which range from small increases in the science and innovation investment budget ($57 million over three years), the Callaghan Innovation programme of R&D grants to businesses and students which have totalled almost $300 million to date[88] and the Primary Growth Partnership, a programme worth over $700 million over ten years (see Appendix 4 for details)
- **skilled and safe workforce** - actions include attempts to lift NCEA pass rates and to reduce the numbers of people on benefits. Also included are a new tertiary education strategy, a new safe place safety organisation (WorkSafe New Zealand), a revamped apprenticeship programme and changes to business migrant rules which will 'ensure that migrants create more ambitious and productive businesses'[89]
- **natural resources initiatives** - include the publication of the National Policy Statement for Freshwater Management that will both 'help improve freshwater quality and increase the economic return from our freshwater assets'. Other initiatives include an extension of oil and gas exploration permits, a small scale waste minimisation project and the insulation of 250,000 houses under the 'Heat Smart and Healthy Homes' programme[90]
- **infrastructure projects** - include longstanding programmes such the 'Roads of National Significance', the now almost completed electrification of Auckland's rail, and the roll out of ultra-fast broadband. Additional projects or programmes claimed under this heading are start up work around irrigation projects under the Irrigation Acceleration Fund, the housing accords in Auckland and Christchurch, and the Christchurch re-build[91].

The extent to which these various programmes and projects coalesce into a coherent growth strategy is debateable. Perhaps the single unifying feature of this approach is that they presume that private sector firms will determine New Zealand's economic development and prosperity, and that the role of the State is to provide infrastructure largely to support this plan. As an agenda they might simply be seen as lists of initiatives which address some philosophical position of the Government (such as reducing welfare numbers) grouped under some convenient and obvious headings. This potential lack of any coherence is to some extent borne out by a recent review of the Ministry of Business, Innovation and Employment (MBIE), which concluded inter alia that:

> Government has recently published its Progress Report on the 346 actions that make up the BGA (Business Growth Agenda). It shows significant progress over the 12 months to November 2013, with 42% of these actions completed, a further 34% being implemented and only 22% still 'in progress'. There were only three new actions added during this period.
>
> While each of these actions will help achieve the BGA goals, and the Report records significant progress on these actions, there is no sense of the extent to which these actions are contributing, or will be sufficient, to achieve the BGA goals[92].

Either way, the reliance on private investment decisions to drive New Zealand's future development is apparent and is no secret as being the basis of the Government's worldview.

The problem with relying heavily and perhaps almost exclusively on private investment decisions is that these decisions can have little or no relevance to social objectives or social concerns. Indeed, such objectives and concerns are relegated to a secondary status within such a policy framework – they become outcomes which are incidental or coincidental to the main policy focus of safeguarding and improving profitability. Few people would argue that the sustained profitability of private enterprise is not essential both to our collective prosperity and to any development strategy that might underpin this prosperity. However, a singular focus on profitability as the basis for making social allocations not only risks ignoring social and environment issues but also limits broader goals we might like to pursue as a society.

Amongst such broader goals is the idea of a shared prosperity – that increased income and wealth, and the progress which these bring, are distributed fairly across the whole society to ensure both that effort is rewarded and no one is left behind. Such a shared prosperity applies across individuals and households as well as between communities and regions.

It is by no means apparent that the National Government growth model gives much consideration to distributional issues either at a personal or regional level. At an individual level it does not appear that levels of inequality have changed much over the past five years, although recognition should be given to continuing reviews and increases in the minimum wage. These increases appear to have limited any trend for increasing income inequality, although such inequality remains very large[93]. At a regional level, however, the Government's growth agenda appears casual, somewhat cursory and certainly not directed at addressing regional disparities.

The Ministry of Business Innovation and Employment's website devotes considerable attention to the current and past status of regional economies[94]. This attention offers extensive analysis of the strengths and weaknesses of each region but very little on what Government is doing to address the apparent disparities between regions. In Part 2 of the most recent regional economic publication some mention is made of Business Growth Agenda actions that are relevant to each region. These are simply a list of projects or other actions stemming from the Business Growth Agenda, which might possibly be picked up in each region.

A notable initiative with a regional dimension is New Zealand Trade and Enterprise's Regional Investment Attraction and its 'Regional Investment Profiles'. These profiles are designed 'to identify investment opportunities where there is a regional advantage, to help guide investors more quickly and effectively to those regions where opportunities are strongest'[95]. This programme appears to be quite a passive

facilitation role based on the idea that investors, especially foreign investors, may wish to invest in a particular region if they know a little more about its relative strengths and merits.

These is, in fact, no evidence that any of the policies, projects or programmes within the Business Growth Agenda have been designed to specifically address the economic or social development needs of individual regions. The approach taken is very much a generic 'one size fits all' approach, where the solutions available to regions are very much 'off the shelf' options for other parties to take or leave as they will. While some good analysis is available on the economic circumstances of regions there is no evidence that this analysis has informed policy and budget decisions.

One result from this scattergun approach is that regional distribution of the benefits of projects and programmes is, to a degree, driven either by the initial focus of the programme or by the existing distribution of economic advantage.

An example of where the initial focus of a programme drives its distribution is in the Government's support for investigation and development of irrigation schemes. Under its growth model the Government has identified the need for more extensive irrigation infrastructure in drylands in order to extend opportunities for more extensive pastoral agriculture, particularly dairying. In picking a winner in irrigation and dairying the Government has made available up to $400 million for commercially focused investment in rural irrigation schemes, mainly through a newly formed Crown enterprise known as Crown Irrigation Investment Ltd (CIIL). In justifying its mandate CIIL claim that 'market failures for private sector investment necessitate Crown involvement to realise the considerable benefits irrigation schemes can provide for the New Zealand economy' without indicating what these market failures are[96]. While Government reports claims that $120 million has been spent on these efforts to 'kickstart' regional irrigation projects[97] CIIL in its most recent annual report claim to have only invested $5.8 million into the Central Plains irrigation scheme[98] and the total equity of CIIL is just $8 million[99].

In addition to this investment vehicle, the Government is also offering matching grant funding through its Irrigation Acceleration Fund for costs of feasibility studies, initial design and the consenting of irrigation projects. By mid-2014 this fund had allocated almost $28 million to six proposed regional irrigation projects. Of these projects three were in Canterbury, and one each in Otago, Wairarapa and Hawkes Bay. This regional distribution is hardly surprising given official estimates of where the remaining potential for irrigation of agricultural land lies. These estimates suggest that more than 60% of the remaining 300,000 hectares of pastoral land which may productively be irrigated lie within Canterbury Region, while 16% lies in Wellington (principally in Wairarapa) and around 10% lare in each of Hawkes Bay and Otago[100]. Somewhat ironically, however, the Ministry for Environment suggests that by far the largest constraints on water availability lie in Canterbury and Otago[101].

It also appears that the scattergun approach to support economic development further concentrates the economic advantage enjoyed by some regions and more or less ignores the economic and social disadvantage of other regions. Callaghan Innovation is a recently formed flagship agency which 'accelerates the commercialisation of innovation by firms in New Zealand'. The agency administers three R&D grants programmes as well as offering technical R&D related advice and support to companies. The grants programmes offer subsidies of between 20% and 50% of R&D costs, although most of the expenditure on subsidies is through the 'R&D Growth' programme which offers a 20% subsidy on R&D expenditure of up to $5 million per annum for a period of up to four years for a single project[102].

At the end of 2014 Callaghan Innovation reported that a 'total of 125 hi-tech companies have been awarded Growth Grants worth up to $309 million over three years since the grants were introduced in Budget 2013'[103]. Notwithstanding that at the time of this announcement it was only 18 months since the 2013 Budget, it appears that the grants themselves can run for up to three years and that on average each recipient firm will receive a subsidy of around $2.5 million. While most of the recipients appear to be either software developers or involved in technology based manufacturing, also included are companies involved in mineral exploration and marketing.

During 2014, Callaghan Innovation reported having made R&D growth grants to 120 companies and provided the names of these companies. Closer investigation of these companies suggests that over 50% of them (64 in total) were Auckland based while 15% (18 in total) were based in Christchurch or Canterbury, 7.5% (9 in total) were Wellington based and a further 5% (6 in total) were based in Hamilton. In other words, more than 75% of the grants were to companies based in the four largest cities[104].

Clearly, Callaghan Innovation's R&D grants are not addressing regional disparities, but given the expected audience for these grants and the way they are administered this should not be surprising.

A similar focus on research and innovation is being taken through the Government's Primary Growth Partnerships programme. Government announcements claim that this programme involves 18 individual programmes and a commitment of $708 million in government and private sector funding[105]. A list of these 18 programmes is provided in Appendix 4. These programmes are sector based and commercially focused and if successful will add considerable value to the competitiveness of the industries concerned. As such the benefits derived from the programme are not specific to one company or one region but to the entire sector as well as the regions in which that sector is active. Of the 18 separate programmes, three are in forestry, two in aquaculture, two in dairying, five are in sheep or beef faming and meat production, three are focused on pasture management while there is one each in viticulture, apiculture and horticulture. With this broad focus the value created by these programmes is likely to be widespread geographically. The total value of the Crown's contribution is expected to be $325 million and over a ten year period from late 2010 to early 2020.

AN ASSESSMENT OF GOVERNMENT'S GROWTH MODEL

A higher level view of Government's Business Growth Agenda suggests that the Government's growth model includes the following four key features:

Extending private property rights

Perhaps the most obvious example of the extension of private property rights are in the reforms and programmes around freshwater management. Three elements are notable here.

The first is the recent review of the National Policy Statement for Freshwater Management 2014. Although much of the 2014 National Policy Statement (NPS) is unchanged from the 2011 version, a significant change has been the introduction of 'compulsory national values' which regional councils must include when they identify the values of freshwater resources and the objectives which should direct their management. While these compulsory values are couched in fairly rosy terms such as 'Te Hauora o te Wai – the health and mauri of the water' and 'Te Hauora o te Tangata – the health and mauri of the people', somewhat paradoxically these compulsory values condone water pollution which threatens human health. Under the compulsory value of 'Te Hauora o te Tangata – the health and mauri of the people' regional councils are required to accept water quality standards that as 'a minimum the freshwater unit will present no more than a moderate risk to infection to people when they are wading or boating or involved in similar activities that involve only the occasional immersion in the water'[106]. Note that such contact with water does not involve swimming so by omission water quality where there is more than a moderate risk to swimmers is an acceptable standard. Clearly, the beneficiaries of such a standard are those activities which may pollute lakes, streams and rivers especially through the discharge of nitrogen and other nutrients. In effect the reviewed national policy statement on freshwater explicitly allocates pollution rights to such activities.

The second notable change is the policy and financial support being given to farmers to develop irrigation schemes. As noted above, this support includes start-up funding through the Irrigation Acceleration Fund and capital funding through the Crown Irrigation Investment Limited. These initiatives are, however, relatively minor in scale relative to the Government's overall budget and the size of the irrigation schemes currently being considered.

The third way in which the National led Government has acted to extend private property rights around irrigation is through the interference with local democracy through the sacking of the elected members of the Canterbury Regional Council, otherwise known as Environment Canterbury (EC). In March 2010, the Government dismissed the elected members of EC as a result of its concern that EC was slow in approving water resource consents. At the time of this dismissal the Environment Minister Nick Smith said, 'Canterbury is strategically important with it holding more than half of the country's irrigation water and hydro storage. Government leadership is needed to address Canterbury's lack of a proper allocation plan, increasing problems with water quality and the failure to progress opportunities for water storage'[107].

The Government promised new elections for EC in 2013 yet these never took place, and the organisation and its resource consenting continued to be administered by Government appointed commissioners.

Addressing market failures and subsidies to optimise social value

Standard neo-classical economic theory suggests that the State (or some other public agent) might intervene in markets in cases of market failure. These failures can emerge for a number of reasons including poorly defined property rights, externalities and imperfect information. A related phenomenon, although not strictly a market failure, is the problem of increasing returns to scale – that bigger is better (or at least more efficient) to the point that there is, or should be, only one supplier in a market – in others words a monopoly.

Much of the Government's growth agenda interventions are based either loosely (and sometimes directly) on ideas of market failure. The more direct examples include the promotion and marketing undertaken by New Zealand Trade and Enterprise and initiatives to improve financial literacy where it is assumed that decision makers do not have sufficient information to make informed and perhaps socially optimal decisions.

Various externality arguments are behind justifications for public subsidies for innovation and primary industries research. Here it might be argued that the social value of the information and technology created is somehow greater than its private value; that without public subsidies there will be an under-investment in such research and development.

A similar argument around the gap between social and private value can be offered in support of home insulation and waste minimisation programmes.

Allocation of prospecting and mining licences and the strengthening, or at least clarifying, of water use rights address potential problems around poorly defined property rights and the attendant reluctance by investors to develop these under circumstances of uncertainty.

Additional regulatory efforts to improve the reliability and robustness of capital markets is driven, in part, by market failures around information problems and poorly defined property rights.

A focus on reducing regulation and the cost of Government

A small number of initiatives such as those of the housing accords in Auckland and Christchurch and changes in financial reporting requirements for Small and Medium Enterprises (SMEs) are examples of the Government attempting to create the environment for more profitable and competitive business by reducing regulation and compliance costs. The dismissal of the elected councillors of Environment Canterbury in order to speed up water consents processes is a further example of this approach.

Providing public goods

The provision of public goods and services remains the core business of the State and much of what is offered up in the Government's growth agenda – especially in terms of total spend, is simply this. Clearly encompassed in the provision of public goods and services are such activities as road building and public education – including tertiary education. The argument is less convincing in the case of subsidies for infrastructure for ultra-fast broadband given that this market is largely a private one, although there are some valid arguments around network and economic development externalities as a justification for such spending[108]. A similar less compelling argument can be offered in support of the Government's various irrigation subsidies.

SUMMARY

Much of the Government's Business Growth Agenda is simply existing programmes repackaged and perhaps redirected a little. This is certainly the case with the big ticket items such as infrastructure and education. While this packaging usefully identifies one of the long-term purposes of this spending (that is improvements to connections, communication and skills and knowledge) it is difficult to accept an argument that such spending is part of a new integrated and coherent strategy to bolster incomes and some national prosperity. Even the recent touch-ups of these programmes, such as the emphasis of 'roads of national importance' and the recovery of apprenticeship numbers are simply recent modifications to long-running programmes which most New Zealanders would accept as part of the core role of the State.

The additional programmes such as the Callaghan Innovation initiative, the Primary Growth Partnership and the Irrigation Acceleration Fund are relatively minor in the context of a Crown that will spend nearly $72 billion during 2014/2015. Many of the figures cited for budgets are either over extended periods of up to ten years or cannot be substantiated by closer analysis of official reports. The Primary Growth Partnership, for example, is cited as a $700 million programme although only around $325 million is from the Crown and this is to be distributed over a ten year period. The Crown has proposed that it will soon invest $400 million into irrigation projects yet its vehicle for this, Crown Irrigation Investment Limited, has a net equity of $5.3 million at 30 June 2014 and ran a $2.8 million deficit during 2013/2014.

The Business Growth Agenda is, however, an emphatic statement of how the Government sees economic growth occurring, and to some extent of how it defines prosperity. Through this agenda the Government has firmly backed a winner – that of dairying based on a radical expansion of irrigation, particularly in Canterbury.

This growth model has, however, shown little or no regard for distributional issues. There is no indication within the media material surrounding the Business Growth Agenda that any thought has been given to how the wealth and additional incomes created by business growth will be shared. In addition, there appears to have been little or no thought given to the regional distribution of any economic growth and improved prosperity and certainly no attention paid to the existing disparities between regions.

CHAPTER 8: **REGIONAL POPULATION FORECASTS**

Recent regional population trends are expected to be accentuated further over the next 28 years, at least according to mid-range population forecasts from Statistics New Zealand. A summary of these forecasts is provided in Table 61. A further table, Table 62, takes the data offered in Table 61 and creates four combined regions – those of Auckland, all other main cities[109], provincial North Island, and provincial South Island. As can be seen in Tables 62 and 63 and in Figure 10, this categorisation is useful as it demonstrates the stark differences between some broadly defined areas of New Zealand.

Table 62 reports the vastly different population growth paths of parts of New Zealand. While none of this should come as a surprise to those who are already aware of recent regional population trends, the scale of the different fortunes may be of surprise. Table 62 indicates that almost two thirds of the expected population growth over the next 30 years or so will take place in Auckland and that regions outside of the main cities in both the South Island and North Island will have little (if any) population growth. In fact, the more detailed forecasts based on cities and districts, rather than regions, suggests that 27 of the 68 cities or districts will lose population, with losses of over 20% in five districts. All these larger losses are in the central North Island.

Table 61: Regional population projections 2013-2043[110]

	2013	2043	Change 2013-2043
Northland	164,700	182,900	11%
Auckland	1,493,200	2,229,300	49%
Waikato	424,600	517,400	22%
Bay of Plenty	279,700	328,700	18%
Gisborne	47,000	47,600	1%
Hawkes Bay	158,000	164,000	4%
Taranaki	113,600	130,200	15%
Manawatu-Wanganui	231,200	234,700	2%
Wellington	486,700	548,400	13%
Marlborough	48,800	54,000	11%
Nelson	44,700	46,700	4%
Tasman	48,700	55,900	15%
West Coast	33,000	33,200	1%
Canterbury	562,900	729,200	30%
Otago	208,800	239,800	15%
Southland	96,000	96,800	1%
New Zealand	4,442,100	5,639,000	27%

Table 62: Population projections of broadly defined regions 2013-2043[111]

	2013	2043	Change 2013-2043	Share of NZ growth 2013-2043
Auckland	1,493,200	2,229,300	49%	62%
Other main cities	1,288,400	1,617,000	26%	27%
Provincial North Island	1,196,300	1,271,700	6%	6%
Provincial South Island	463,600	520,600	12%	5%
New Zealand	4,442,100	5,639,000	27%	

Table 63 and Figure 10 provide some insight into the nature of population changes in the age structure in these broadly defined regions of New Zealand. Table 63 provides projections of the over 65's population in 2043 which most likely will be around the peak of the Baby Boom generation[112]. As expected, the size and longevity of this generation will increase the numbers of people aged over 65 and so also their share of the total population. However, the impact of an aging population is forecast to be felt more keenly in provincial New Zealand than in urban New Zealand mainly on account of expected migration patterns. While the share of the population aged over 65 is expected to rise across all of New Zealand, the sharpest increase will be in provincial South Island (18% in 2013 to 33% in 2043), and smallest impact will be in Auckland (11% to 19%). In essence, the whole population growth dynamic of provincial New Zealand (both North and South Islands) appears to be dominated by this aging, and the migration of retirees. As seen in Table 63 231% of the expected population growth in provincial North Island, and 159% of this growth in provincial South Island is due to growth in the over 65's population. It is difficult to avoid concluding that such a dominant social/demographic trend will capture much of the energy and focus of local leaders and their planners and policy advisors.

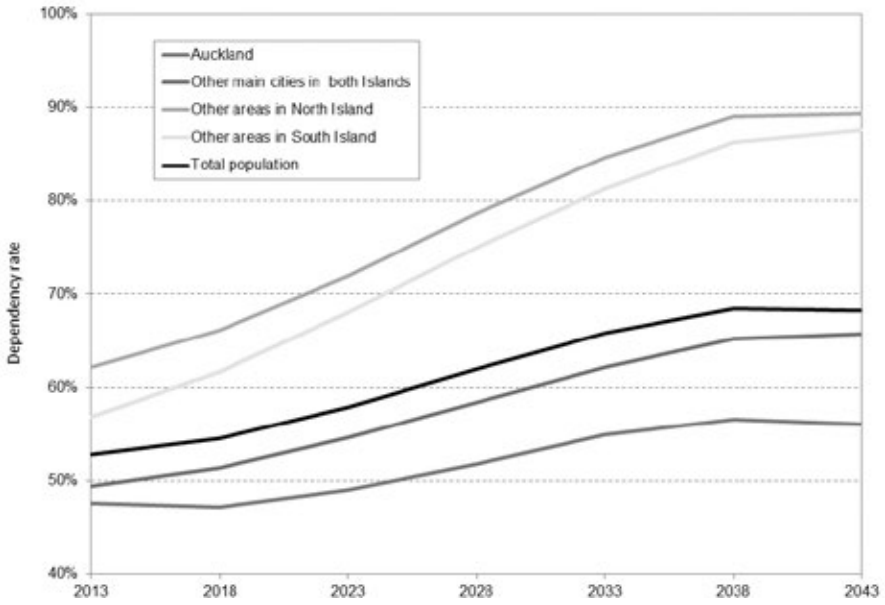
Of some interest at a national level is the overall dominance that this aging population has on overall dependency rates. These dependency rates are reported graphically in Figure 10 for the broadly defined regions identified in Tables 62 and 63. As identified in Table 63 provincial New Zealand will see the sharpest increase in rates of dependency[113] over the next 25 to 30 years, with most of this increase occurring before 2038 and at a continuous rate from now until then. Essentially the aging process which we presently see occurring in small cities and provincial towns across New Zealand will continue unabated for the next 20 years. While urban areas are also impacted by this shift, the speed of the change in larger cities is expected to be much slower. The dependency rate in provincial South Island communities will increase by 30% over the next 25 years from around 57% to 87%. Over the same period the dependency rate in Auckland will increase by 9% from 47% to 56%.

These demographic shifts are of some interest nationally, as well as locally. Depending on how well paid local workers are, and on how retirement incomes are funded, it may be possible that some parts of New Zealand will become net recipients of taxes on account of dependency rates of nearly 90%. Such rates are unprecedented in New Zealand's history. In other words and by default, Government and urban taxpayers will be paying for the provincial regions' public services and income support programmes. It also seems likely that it is these transfers that will allow these regions and communities to remain viable economically, and perhaps socially as well.

Table 63: Projections of over 65's population for broadly defined regions 2013-2043[114]

	2013	2043	Share of population 2013	Share of population 2043	Over 65's as share of growth 2013-2043
Auckland	169,800	425,400	11%	19%	38%
Other main cities	172,200	368,400	13%	23%	60%
Provincial North Island	199,900	374,200	17%	29%	231%
Provincial South Island	84,000	172,800	18%	33%	159%
New Zealand	625,900	1,340,800	14%	24%	60%

Figure 10: Forecasted dependency rates for broadly defined regions 2013-2043



CHAPTER 9: **THE CHANGING FORTUNES OF LOCAL GOVERNMENT**

One outcome of the current struggle which some regions are having with aging populations, minimal population growth and high levels of dependency, is that their ability to support local infrastructure and services is diminishing. While it is difficult to identify the exact causes of this trend it must in part be due to aging infrastructure and the inability of local households to afford the costs of maintaining this infrastructure. For example, in a 2014 report the Office of the Auditor General (OAG) warned that:

> Managing the funding and timing for infrastructure development in areas of growth is challenging. For most of the last hundred years, as a country, we have built for growth. Now, up to nine regions face declining forecasts. For places in these regions managing networked infrastructure services in conditions of economic and population decline while standard and service-level expectations increase might be more than challenging. Although New Zealand has seen population movements before, today's population and economic changes could present funding and infrastructure challenges with which we have little experience[115].

The OAG found that over the 2013/2014 financial year 21 local authorities spent less than their depreciation allowance on asset renewal and other capital expenditures and that six of these councils spent less than 40% of this depreciation allowance[116]. The Office also estimated overall that asset renewals on roads was around 91% of depreciation, while that on waste water assets was 58% and on stormwater assets just 32%. Renewal spending on community and social assets was expected to fall from 85% of depreciation in 2012/2013 to 45% in 2021/2022. Over this ten year period the 'renewals/depreciation gap' - the difference between depreciation expenses and renewals expenditure, was estimated at between $6 billion and $7 billion[117].

The Expert Advisory Group on Local Government Infrastructure Efficiency (EAG) also recognised 'that significant issues are aging infrastructure, affordability against rising standards and customer expectations, as well as changing demographics affecting the ability of the community to pay'[118]. In considering New Zealand's demographic change the EAG commented that:

> Although it may be a generalisation, we consider the situation paints an emerging picture of "two New Zealands." One is urban, more wealthy and younger, and able to afford high standards of environmental health and public facilities. The other is rural, poorer and older, facing population decline and a future of living with lower standards and lesser service. Of course this does not apply across the board, much less within each council area. Nevertheless, it is a broad reflection of the demographic reality that is fast emerging and which we consider to be so profound that it needs to be a basic premise of local government decision making in all aspects of infrastructure delivery[119].

The Group's terms of reference from the Minister of Local Government was, however, limited to considering the costs and benefits of local infrastructure rather than its affordability. Its recommendations were, as could be expected, limited to such questions and revolved around improving management practices and amalgamating councils to achieve expected economies of scale[120]. While acknowledging the difficulties that an aging and perhaps poorer provincial/rural population will face in meeting infrastructure costs, the EAG's solution was simply better planning.

Such a solution appears quite inadequate in the face of rising Council rates, growing debt and a wide, and perhaps growing gap, between depreciation and asset renewals. Serious questions need to be asked around the sustainability of New Zealand's local government in its present form, especially of its financial viability. The financial data offered below illustrates this.

Table 64 offers some indications of the levels of rates paid to city, district and regional councils on a regional basis[121]. A more extensive discussion of this and the financial data which follows, is offered later in this report, although the noticeable trends in this table are as follows:

- per capita rates are highest in Otago and Nelson, Tasman and Marlborough and lowest in Auckland
- rates have risen the most – on both a per-capita and total basis in Nelson-Tasman and Bay of Plenty followed closely by Northland
- rates have risen the least – especially on a per-capita basis in Auckland.

Table 64: Local government rates on a regional basis 2004-2013[122]
Rates on a per capita basis in nominal dollars

	2004	2008	2013	Change in per-capita rates 2004-2013	Change in rates revenue 2004-2013
Northland	586	891	1,062	81%	100%
Auckland	637	811	908	43%	62%
Waikato	694	947	1,187	71%	90%
Bay of Plenty	614	835	1,144	86%	104%
Gisborne	693	846	1,058	53%	57%
Hawkes Bay	654	805	953	46%	54%
Taranaki	594	803	1,016	71%	81%
Manawatu-Wanganui	655	862	1,120	71%	73%
Wellington	775	954	1,187	53%	64%
Marlborough	770	965	1,188	54%	64%
Nelson	615	913	1,183	92%	113%
Tasman	596	895	1,131	90%	109%
West Coast	643	867	1,127	75%	85%
Canterbury	564	747	990	75%	89%
Otago	736	930	1,248	70%	82%
Southland	640	841	1,123	75%	79%
New Zealand	652	849	1,044	60%	75%
Rest of NZ excluding Auckland	659	867	1,113	69%	81%

Table 65 reports some aspects of local government's operating revenue and performance over the decade from 2004 to 2013. This data includes five year averages of the operating surpluses or deficits for all city, district and regional councils on a region by region basis. The estimates of operating surpluses or deficits are simply the differences between operating revenues and operating expenditures on an annual basis. This table offers two notable results.

The first is the general deterioration of local government's operating position over the decade 2004 to 2013. Between 2004 and 2008 local government generated an average annual surplus of $90 million but over the following five years this position deteriorated to an average annual deficit of $433 million. Granted, most of this deficit can be attributed to Auckland Council, but even if Auckland is excluded the remaining local authorities racked up an average annual deficit of $178 million, compared with an average annual surplus of $124 million over the previous five years.

Essentially these deficits are not funding depreciation and they illustrate well the extent to which local government is struggling to sustain local infrastructures as the OAG have identified. Over the five years between 2009 and 2013, total depreciation expenses for local government totalled $7.7 billion, while the cumulative operating deficits reached $2.2 billion or almost 28% of the depreciation cost[123]. Even if Auckland is taken out of the equation, the remaining local government units accumulated deficits of $892 million between 2009 and 2013, or 16% of the $5.6 billion in depreciation expenses over this period.

The second notable result is the size of the operating deficits in Auckland and the extent to which these weigh on nation-wide figures. Deficits generated by Auckland Council and its subsidiaries were around 10% of its operating revenue and, somewhat coincidentally, where of the size which could be eliminated if Aucklanders paid the same per-capita rates bill as other New Zealanders[124]. Also of note is the size of the operating deficit in Northland, which is over 10% of operating revenue and comes at the end of significant rates increases as reported in Table 64.

Table 65: Local government operating revenues & surpluses 2004-2013[125]

$ millions nominal

	Operating revenue 2004	Operating revenue 2013	Average operating surplus/deficit 2004-2008	Average operating surplus/deficit 2009-2013
Northland	153	283	5	-30
Auckland	1,333	2,433	-34	-254
Waikato	421	703	10	-41
Bay of Plenty	290	494	12	-11
Gisborne	60	72	-1	-3
Hawkes Bay	175	255	19	2
Taranaki	134	193	-1	-13
Manawatu-Wanganui	270	368	17	-18
Wellington	589	926	-8	-26
Marlborough	52	95	8	4
Nelson	49	89	7	2
Tasman	51	90	0	-5
West Coast	49	72	3	-7
Canterbury	594	1,157	36	-15
Otago	263	424	13	-12
Southland	114	168	3	-8
New Zealand	4,626	7,875	90	-433
Rest of NZ excluding Auckland	3,293	5,442	124	-178

The deficits reported in Table 65, along with the need for capital spending, have significantly increased local government's debt and the burden of this debt on ratepayers. This is shown in Tables 66 and 67.

Table 66 reports the total liabilities of councils in 2004 and 2013, while Table 67 offers estimates of the burden of these liabilities on residents and ratepayers. Over this period consumer prices rose by just under 26%, so the four fold increase in total liabilities identified in Table 66, and the three fold increase in the per-capita burden of this debt need to be seen in this context. Table 66 indicates that across the whole local government sector total liabilities, as a proportion of operating revenue, more than doubled from 70% in 2004 to 169% in 2013. As with other local government financial indicators Auckland has contributed to the majority of this shift. In Auckland total liabilities as a proportion of operating revenue increased more than three-fold from 79% in 2004 to 258% in 2013. A similar increase occurred in Canterbury, although much of this was due to the 2010 and 2011 earthquakes. Outside of Auckland local government indebtedness as a proportion of operating revenue doubled from 67% in 2004 to 129% in 2013, clearly indicating a structural shift in local councils' finances.

This increasing indebtedness overall is reflected in rising rates of per-capita debt both in Auckland and elsewhere. These increases are shown in Table 67. In Auckland and on a per-capita basis council indebtedness increased more than five-fold between 2004 and 2013, from $813 per person to $4248 per person. Across the rest of New Zealand such indebtedness grew three-fold from $805 per person in 2004 to $2401 in 2013.

As expected, interest costs have increased as a share of Council's expenses in line with these debt increases. In Auckland interest costs accounted for 5.4% of rates revenue in 2004, and by 2013 this share had risen almost three and a half times to 18.5%. For the rest of New Zealand this increase was a more modest 70% rise, from 5.4% of rates revenue in 2004 to 11.9% in 2013. Although Auckland is the run-away winner in the share of rates spent on interest, other regions also well ahead of the pack include Bay of Plenty and Tasman.

Table 66: Local government liabilities 2004 and 2013[126]

	Total liabilities 2004 $ millions	Total liabilities 2013 $ millions	Liabilities as % of operating revenue 2004	Liabilities as % of operating revenue 2013
Northland	127	396	71%	151%
Auckland	1,055	6,272	79%	258%
Waikato	269	1,051	64%	149%
Bay of Plenty	289	1,008	100%	204%
Gisborne	42	45	69%	63%
Hawkes Bay	98	142	56%	56%
Taranaki	79	248	59%	129%
Manawatu-Wanganui	219	448	81%	122%
Wellington	509	1,223	86%	132%
Marlborough	14	41	27%	43%
Nelson	43	87	88%	98%
Tasman	60	177	117%	196%
West Coast	26	95	52%	133%
Canterbury	244	1,526	41%	132%
Otago	111	446	42%	105%
Southland	66	85	58%	50%
New Zealand	3,251	13,312	70%	169%
Rest of NZ excluding Auckland	2,196	7,040	67%	129%

Table 67: Local government debt burden 2004 and 2013[127]

	Per-capita liabilities 2004 $s	Per-capita liabilities 2013 $s	Interest expense as % of rates revenue 2004	Interest expense as % of rates revenue 2013
Northland	858	2,422	5.5%	10.6%
Auckland	813	4,248	5.4%	18.5%
Waikato	709	2,494	4.5%	9.6%
Bay of Plenty	1,135	3,615	9.0%	13.6%
Gisborne	909	966	6.8%	4.0%
Hawkes Bay	657	903	5.5%	3.6%
Taranaki	744	2,196	5.6%	11.8%
Manawatu-Wanganui	958	1,938	5.8%	8.6%
Wellington	1,125	2,521	8.1%	8.3%
Marlborough	334	914	0.4%	2.0%
Nelson	993	1,806	6.1%	6.0%
Tasman	1,366	3,644	8.4%	13.9%
West Coast	821	2,885	5.7%	8.7%
Canterbury	473	2,745	2.6%	10.9%
Otago	571	2,150	2.1%	6.8%
Southland	702	885	4.5%	2.6%
New Zealand	807	3,020	5.4%	11.9%
Rest of NZ excluding Auckland	805	2,401	5.4%	9.1%

Table 68 reports the distribution of grants, subsidies and donations received by councils between 2004 and 2013 and on a regional basis. Two things are immediately apparent from this data. The first is the extent to which Auckland and Canterbury have been the only beneficiaries of changes in the value and distribution of grants and subsidies from central government to local government. The average annual value of such subsidies and grants rose by $287 million between 2004-2008 and 2009-2013, from $694 million to $981 million. From this increase Auckland received an increase of $211 million each year, while Canterbury gained a further $92 million annually. In other words, the remainder of New Zealand got less, even in nominal terms, and in fact 10 of the 16 regions received reductions of 10% or more. Such reductions are in nominal terms so the real reductions will be in the order of 35%.

The second apparent point from data offered in Table 68 is the inequity in the new distributions, even on a population basis, let alone on a needs or income basis. Auckland and Canterbury comprise 47% of the country's population yet are receiving 58% of grants and subsidies. While many regions are close to parity between the shares of grants and subsidies and population, Waikato and Bay of Plenty are the outright losers. Combined these regions make up 16% of the national population and yet receive only 8% of the subsidies and grants.

Table 68: Distribution of grants, subsidies & donations to local government 2004-2008[128]

	Annual average subsidies 2004-2008	Annual average subsidies 2009-2013	Share of total subsidies 2004-2008	Share of total subsidies 2009-2013	Share of population 2013
Northland	45.9	29.8	6.6%	3.0%	3.7%
Auckland	198.2	411.5	28.6%	42.0%	33.9%
Waikato	58.2	47.6	8.4%	4.9%	9.6%
Bay of Plenty	35.5	29.8	5.1%	3.0%	6.3%
Gisborne	11.9	10.4	1.7%	1.1%	1.0%
Hawkes Bay	25.1	26.8	3.6%	2.7%	3.5%
Taranaki	17.2	17.8	2.5%	1.8%	2.5%
Manawatu-Wanganui	64.6	42.4	9.3%	4.3%	5.2%
Wellington	71.6	83.7	10.3%	8.5%	10.9%
Marlborough	7.7	5.8	1.1%	0.6%	1.0%
Nelson	3.7	3.9	0.5%	0.4%	1.1%
Tasman	6.5	5.7	0.9%	0.6%	1.1%
West Coast	10.6	9.5	1.5%	1.0%	0.7%
Canterbury	66.6	158.5	9.6%	16.2%	12.7%
Otago	39.5	26.7	5.7%	2.7%	4.7%
Southland	28.0	17.9	4.0%	1.8%	2.1%
New Zealand	693.6	980.9	100.0%	100.0%	100.0%

tables 65 to 68 offer some stark insights into the vulnerable status of local government in many regions, especially in regions, which according to indicators offered in this report, are not doing well. This is especially the case for Northland and Waikato, and also to some extent for Bay of Plenty and Manawatu-Wanganui. The apparent favoured status of Canterbury is most likely a consequence of the earthquake recovery and re-build, although closer analysis is required to confirm this.

Auckland's situation, at least in local government terms, is compelling although not from an equity perspective. While median incomes in the region are generally higher than in other parts of New Zealand, the per-capita rates take is significantly less. There are probably a number of reasons for this including the fact that Aucklanders pay their water charges directly rather than through rates, as is often the practice in other regions. It does, however, seem that some of this lower level of local taxation is a matter of local choice. This local choice appears to have two consequences – rising debt and a growing expectation of higher subsidies from Government. The data offered above suggests that both these consequences are playing out.

The preference given to Auckland in terms of central government subsidies is difficult to explain against the Government's growth model and other priorities. This preference appears to be carried over into funding from the New Zealand Land Transport Fund where, in 2013/2014, Auckland received nearly 37% or $1.1 billion of the Fund's $2.9 billion budget. At the same time Auckland accounted for around 31% of the national vehicle fleet[129]. Clearly these priorities are at the expense of other regions, as is demonstrated by declining subsidies reported in Table 68.

While these funding shifts are no doubt decided by funding policies, from the distributions being achieved it would appear that neither the policies nor these distributions are addressing the challenges faced by regions with dispersed, aging and often poorer populations. This failure is leading to continuing under-investment in infrastructural renewals alongside rising levels of debt, as well as growing problems with debt servicing. As many local populations age further the ability of these regions to sustain themselves socially and fiscally is in some doubt, and it appears that the present policies that direct subsidies and grants from central to local government are not addressing this challenge. Auckland's fiscal position appears amongst the worst of local governments in New Zealand, although for different reasons to those of other regions.

It is essential that we engage in robust and courageous national debate around how resources are shared between central and local government. There is, however, a danger that because of Auckland's size and its importance as New Zealand's only global scale city, its needs will dominate such a debate. It is, of course, entirely possible not only to have revenue sharing policies that address the present imbalances more equitably, but to also use these policies to direct the delivery of national goals. Such ideas are picked up in the final chapter.

CHAPTER 10: **SOME INITIAL IDEAS FOR CHANGE**

This final chapter offers some tentative ideas for a shift in New Zealand's policy focus in order to reduce the extent of the regional disparities identified in this report. A conventional approach to reducing such disparities would be to design policies and programmes which specifically address each of the gaps identified in chapters 2 to 5. Given that these gaps were not intentional but rather a consequence both of the existing policy approaches and settings and underlying social structures, it seems unlikely that fine tuning existing policy will achieve change of the extent required to address regional disparities of the scale that is identified here.

The approach offered here as an alternative is to accept the need for a more comprehensive and deliberate approach to regional development and to tie such an approach into an overall growth model which may utilise some or all of the existing approach as well.

Although some people may hold onto the view that fortunes of New Zealand's regions will somehow converge toward a prosperous shared future, there are few signs of this occurring under the present growth model. There is strong evidence that several regions in New Zealand are slipping back and perhaps even slipping away from mainstream New Zealand. While the present growth model may not have contributed to such slippage it has offered nothing to stop it happening either.

This growth model is very much focused on lifting incomes through private sector led investment and while the philosophy underlying this approach is very much neoliberal it has also subtly picked a winner in the form of dairy farming. This preference is expressed through the focus on State sponsored irrigation schemes into regions such as Central Otago, Canterbury and Hawkes Bay, which have traditionally been dry farming areas. It is also demonstrated by the political takeover of Environment Canterbury to facilitate the rapid allocation of water rights, and it is shown in the acceptance of poorer freshwater quality standards as a mandatory national standard.

But there is nothing wrong with picking winners even though it is an approach which has been rejected on philosophical grounds by most governments over the past 30 years. Addressing regional disparities and the declining fortunes of some regions will require the State to be more hands on and to have a deliberate regional development strategy. Such an approach will require the State and local communities to pick winners – to stake an idea and to invest in it.

It is really only a small step from the present growth model's selective interventions to being more deliberate in our intention to pick winners and to use State intervention as a means of achieving identified goals and ambitions around regional development. Such a regional development strategy and programme could take a number of approaches so the suggestions offered below can only be seen as initial ideas, which might be developed further into a more elaborate and comprehensive set of policies and programmes.

A CORE ORGANISING IDEA

These suggestions are based on a core organising idea – that of using the need and opportunity to plan for change as a basis for a broad regional development programme. There is a twofold value in such an approach. Firstly, it seems likely that over the next two decades New Zealand will be impacted by a small number of shifts or shocks which will radically and perhaps quickly shift the attention of public policy and public expenditures. These shifts or shocks can be seen as historically significant in that their scale and structural nature might fundamentally change New Zealand society. The choices we face as a national community are to react to these changes after they have taken place or to prepare for them and begin to adapt our economy and social systems to cope with the demands brought about by them. Secondly, it seems likely that the poorest and most marginalised regions will be most affected by these shifts and shocks so that something of a turning point might be reached where a choice has to be made to either assist these regions to adjust, or allow them to fail economically and perhaps socially.

Deciding what to do and what not to do in response to change requires us to have some idea of what it is that we want our future to be. For example, the decision to commit significant national resources to the rebuilding of Christchurch, following the earthquakes of 2010 and 2011, was based on the vision and belief that the city could and should be rebuilt in its original location and largely around the existing institutions. The scale of the shock caused by the earthquakes was such that such an emphatic and comprehensive response was easy to make and justify politically. Smaller scale and perhaps more widespread shocks, such as repeated flooding in a small rural community, might not receive the same national attention and commitment, leaving locals to fend for themselves. Under such scenarios change might be managed on a default basis – by what is not done rather than by what is done. Contemplating such change beforehand allows us to be more deliberate about the responses which are made if and when shocks occur, and to justify (or at least explain) why some unwelcome resource allocations are being made.

Based on this core organising idea of working around change and having a preference toward the regions which appear to be struggling most, the following three elements need some initial expansion in order to illustrate this approach:

- **goals** - having national development goals to direct our efforts
- **plans** – planning for the social and environmental changes we already face
- **technological change** and **institutional reforms.**

NATIONAL DEVELOPMENT GOALS

As a national community, New Zealanders have never discussed the idea of national goals. Instead, we rely on the promises and proposals of politicians each election time, accepting their often patchy and piecemeal ideas as the basis for some form of political agenda for the subsequent three years. We have not talked much about such fundamental issues as the place of the Treaty of Waitangi in our political framework, the role of immigration in shaping the face of New Zealand, or the function of our education system in recreating our society. Rather, change is foisted on us, often without mandate as with the introduction of neoliberalism by the Labour Government led by David Lange. Furthermore, it seems that

the only political consensus our political leaders can build is around ignoring difficult questions, such as the future of our retirement income arrangements.

At some point change is inevitable, just as it was in the 1980's as the demands of globalisation reached New Zealand and became impossible to ignore any longer. The problem then, and it appears to be the problem now, is that we are not prepared for this change. Just as Europe and North America blindly walked into the GFC we are assuming that tomorrow will be much the same as yesterday, and that what we will be doing in the future is going to be much the same as we have done in the past.

While the biblical proverb that 'where there is no vision the people perish' is perhaps a little too apocalyptical for the challenges we face presently, it is still perhaps apt as it is apparent that as a national community we need to be lifting our sights higher than the three yearly political promises we rely on at present. Instead, we need to think about longer term national goals and to gain a better understanding of the hard choices we face.

It seems also that to find suitable national goals we do not need to reinvent the wheel, to start from scratch, or to look for the visionary who will lead us out of the desert. A great deal of thinking internationally has gone into broader societal and global goals – especially around the organising idea of sustainability. Just as the present and recent Governments have been keen to embrace internationalism when it comes to financial management practices and the liberalisation of trade, as a country we would do well to be internationalist by embracing and signing on for international development goals. The Sustainable Development Goals (SDG's), as proposed recently by the United Nations Open Working Group, offer a good starting point for internationally sourced national development goals for New Zealand. These proposed goals are included as Appendix 5 to this report.

The idea of goals for Government is not unusual. In embracing the idea of 'better public service' targets and in agreeing to report on progress on these, the present Government has established a worthwhile practice and precedence both for directing the efforts of the State toward some specific outcomes, and for holding itself to account for these. We suggest the identified outcomes could be loftier, more ambitious and longer-term but the basic idea and practice is a worthwhile start.

Loftier, more ambitious and longer-term goals are, however, more problematic as a political project for at least two reasons. Firstly, goals that extend beyond one electoral cycle are often ignored because of the short-term focus of most governments, and because of a lack of responsibility and accountability for things that may happen 10 or 20 years hence. A second problem is around how accountability is framed in political terms. Governments are often held to account, especially by opposition parties, for everything that happens during their term – even if such events or outcomes are beyond their direct influence. This can lead to very risk-adverse political and bureaucratic cultures where accountability is avoided and policies and programmes constructed so that fault and blame can be quickly shifted[130]. A blame culture leads politicians and political parties to avoid things that they might fail in – even if the project or programme is worthwhile and was likely to achieve gains alongside some disappointments.

In an ideal world, it would be possible to gain a broad political consensus around national development goals, to accept and agree to a practice of regularly reporting on progress against these goals, and to nurture a culture where setbacks and disappointments are not used as political capital but as sources of learning, improvement and renewed effort.

TECHNOLOGICAL FIX OR REGIME CHANGE?

Those who attempt to refute arguments that as a society we are on the brink of some form of ecological limit, point to the potential of new technologies to overcome our difficulties. This is the so-called 'technological fix' argument. The idea that we can invent our way past environmental limits has been commonplace in recent history and in fact, a technological fix has even been proposed for inequality .

Those who dismiss technological fix arguments argue instead for regime change - a radical restructuring of society in order to meet the crisis that they anticipate.

Most likely the eventual pathway forward will be somewhere between these extremes – humankind will find new technologies to solve some of their problems and they will adapt social systems – including the economy, in order to live more or less within the limits imposed by ecological systems.

This, of course, suggests an on-going role for technological innovation and adoption as a means of safeguarding and improving our prosperity. However, critical to the questions of building a shared prosperity and addressing the marginalisation of whole communities, is the need to ensure that new technologies are widely available. An example of where we have struggled with this challenge is the emergence and persistence of the 'digital divide' between wealthy or middle income communities and poor and remote communities[131].

The ultra-fast broadband project is, in some respects, a response to this digital divide and it provides us with an excellent example of the failure of markets to provide optimal, let alone equitable, access to technology. This example is useful, too, in the way it has been framed by both Government and others as a regional development project[132]. Perhaps the big lesson to be drawn from the ultra-fast broadband project is that markets may only roll out new technologies in densely settled regions and high and middle income communities, and that they are far less likely to do so in more sparsely settled and/or poor areas.

It is, perhaps, somewhat naïve to believe that things could be any different. When the imperative of much of the emerging technology is toward globalisation, increasing scale and centralisation, it is unlikely a small society such as New Zealand would use technology to shape its social arrangements, such as regional development programmes. Several responses to this challenge are available. The first is that much of the emerging technologies have potential to be used on a variety of scales from the global to the local and often all that is required to adapt some technologies to local needs is having local talent and some local infrastructure to support innovation. The second response is that most technical innovation is undertaken for a purpose, and that such a purpose might as easily be directed by the demands of global markets as by the needs of regional economies. The various projects commenced under the Government's Primary Growth Partnership programme provide good examples of the focus on both global markets and local opportunities. A list of these projects is provided in Appendix 4.

The idea of focusing on new technologies as a basis for regional development has at least two elements. The first is the preference given to the most marginalised regions for the earliest access to whatever technology is seen as having value. There is clearly a level of public subsidy or some form of intervention required in such approaches. The approach proposed here is an alternative to some of the current subsidy programmes that allow subsidies to be distributed haphazardly, or according to funding rules which in effect give preference to wealthier communities[133]. Instead, deliberate efforts should be made to ensure

that the early application of such assistance occurs in the poorest, most marginalised regions.

The second element in such a strategy is that of deciding where efforts at scientific research and technological development need to be directed. The present direction of such work is toward ideas and products which are viable commercially, especially in global markets[134]. A new focus on regional development could potentially broaden the criterion for fundable research and development to include regional development outcomes, perhaps based on resource efficiencies and other sustainability objectives.

Areas where there may be potential for technology-focused regional development programmes involve renewable energy including distributed energy production, energy efficiency, waste resource recovery, and catchment management to build greater resilience to climate change impacts. This technology could be hard or soft although thought must be given to how it can be made appropriate to local needs and conditions. While the outcomes sought from a technology-focused regional programme might be about financial outcomes such as sales, profitability and higher incomes, they could equally be focused on private and social savings or on regional self-sufficiency so that existing incomes can be spent on other things or recycled further into local economies.

The idea that we can, or will, quietly adjust our social systems to meet limits imposed by the environment is probably more than a little hopeful. For example, the use of natural resources, and especially water, is already a source of dispute and conflict internationally and even nationally. As a national community we have not seriously examined how we might allocate and use water resources in ways which are ecologically sensible, economically efficient, and socially just. Addressing such allocations may prove to be a considerable challenge to social cohesion and perhaps even the legitimacy of the State given the commercial and cultural interests at stake, and the very deep conflict over competing worldviews which are behind these. Such conflicts most likely will play out in rural rather than urban areas, given the increasing reliance that agriculture and horticulture have on water access, and the threats which this access poses to environmental and cultural values.

Furthermore, in the face of arguments that proposed resource access and allocations are not sustainable, we are likely to see disputes over the validity or relevance of the scientific evidence available[135]. This suggests that we have major challenges on at least two fronts – the generation and sharing of scientific knowledge, and the design of new social arrangements to more wisely and peacefully manage natural resources through the use of this knowledge. Some countries with more compelling natural resource limits are already addressing such challenges and New Zealand has much to learn from these efforts[136].

It appears that much of the progress made in other countries around the sustainable management of resources has been achieved through collaborative processes and through the so-called ‘co-production’ of knowledge, ideas and solutions. Within such processes lie the seeds for building stronger and more cohesive communities. Such processes, as well as the need to focus on important issues of shared concern, offer great opportunities for community development at both a local and a regional level. While it may not always be possible to build consensus through such activities, these activities may still bring about important compromises or concessions that allow people and communities to get along and to acknowledge the legitimacy and reasonableness of others’ interests and concerns.

PLANNING FOR CHANGE

New Zealand society faces two, three, or perhaps four historically significant challenges – the exact number will depend on individuals' views on the plausibility of the evidence available, and the relevance of the challenge to our future prosperity. The four possible challenges are:

- **our aging population** and the challenges around the social changes which this will bring, alongside the cost and effort of caring for larger numbers of older people
- **climate change** and the challenges around being prepared for climate related shocks, and in making the necessary societal adjustments to improve our resilience following these shocks
- **resource scarcity** and/or uncertainty, especially around water and oil
- **rising inequality** and the challenge this raises to maximising human potential, and the risk it poses to social stability.

As an overall strategy for regional development in New Zealand it may be worthwhile to use the efforts and investments required to meet these historic challenges as the basis for supporting and developing marginalised regions and communities. The value of such an approach is perhaps three-fold:

1. **Risk** - our most marginalised regions and communities are likely to be most at risk from the stresses and shocks posed by these challenges. Clearly, it is the smaller and more remote communities that will likely see the quickest aging of their populations, and perhaps the increased concentration of older people through internal migration. Experience has already shown us that extreme weather events impact most on Northland, the eastern Bay of Plenty and East Coast – the regions and communities that are the poorest in New Zealand. As oil becomes increasingly scarce transport costs will rise and those regions and communities that are on the margins of the transport network and the economy will face the highest additional costs. If rising inequality undermines human potential and social stability, clearly the places where the poorest people live will mostly likely be the locations of any increasing social malaise and instability;
2. **Resilience** – the ability of regions and communities to withstand shocks caused by economic, social or environment disruption is related to their economic wealth and quality of their social capital[137]. Data on incomes in Tables 28 and 29 and on local government finances provided in Chapter 9 offer clear indications of which regions and communities have the least resources to withstand environmental shocks. American scientist and author Jared Diamond has suggested that societies collapse catastrophically due to social or cultural practices making them vulnerable to environmental changes, or shocks such as extended droughts or temperature change[138]. It seems possible too, that whole communities in New Zealand may simply fail and their infrastructure be abandoned due to extreme weather events arising from climate change. Rather than accept there is an inevitability about such withdrawal or collapse, there is currently time to plan for such shocks, and make the necessary investments and adjustments;

3. **Resourcing** – any investment in marginalised regions will, of course, generate initial jobs and through multiplier effects, downstream jobs. Public investment as the basis of planning for change, anticipating risk and building resilience will, if it utilises local workers and businesses, generate jobs and other economic benefits for the regions where they are located. While these will in effect be tax-subsidised jobs, the argument that they will be an additional drain on taxpayers' resources may not be entirely true. The association between jobs and better social outcomes is apparent from the data offered here so there is likely to be some social benefits from additional jobs being created – regardless of how they are created. Such an association is well understood already. There is, however, potential both for avoided costs and better social outcomes if pre-emptive investment is undertaken and these additional benefits need to be taken into account in any evaluation of such a regional development programme.

CONCLUDING COMMENTS

The biggest challenge presently facing marginalised regions and communities in New Zealand is relevance. In the present Government's growth model and within the broader neoclassical/neoliberal policy framework, the idea of the increasing concentration of population, jobs and economic activity into one globally competitive city is seen as a good thing. Presently the prospect of some convergence and the trickling out of Auckland's good fortunes to other regions does not appear to be that important to policy makers. It appears the fortunes of other regions is becoming quite incidental to the economic future of New Zealand. The exception here might be toward the fortunes of the dairy industry which is certainly seen as being important to New Zealand's economic future. This is obviously the reason the Government has picked this sector as its winner and allocated resources and preference toward it. However, the favours offered to dairying are specific to this industry and probably bear little or no relevance to the wider development needs of the several regions where this industry is concentrated. They certainly have no relevance to regions that are unimportant to the dairy industry.

In 25 years time, even assuming that population trends continue to favour Auckland, the majority of New Zealanders will still not be Aucklanders. These other New Zealanders will be considerably older and far less ethnically diverse than Aucklanders, and they may also be less skilled and poorer. These differences may well become the cracks which begin to divide New Zealand society.

These cracks may be plastered over for some time with promises of bridge upgrades, tourist roads and State sponsored irrigation schemes, but such promises do little to ensure that New Zealand's prosperity is shared. Inequality has a spatial and well as a social and economic dimension and there is clear evidence that this inequality is concentrated, and may even becoming more concentrated. The first and immediate challenge we face is to create a political environment where such a trend is relevant. Only then will we have an opportunity for more imaginative approaches to regional development in New Zealand.

APPENDICES

APPENDIX 1: International migration on a regional basis

Arrivals of international migrants by region 2004-2014

June years	People arriving 2004	Proportion of resident population 2004	People arriving 2009	Proportion of resident population 2009	People arriving 2014	Proportion of resident population 2014
Northland	1,462	1.1%	1,623	1.2%	1,680	1.2%
Auckland	33,859	3.0%	35,319	2.9%	41,308	3.2%
Waikato	5,143	1.5%	5,369	1.5%	5,400	1.5%
Bay of Plenty	3,197	1.4%	3,585	1.5%	3,885	1.7%
Gisborne	372	0.9%	385	1.0%	378	1.0%
Hawkes Bay	1,665	1.3%	1,640	1.2%	1,615	1.2%
Taranaki	1,249	1.3%	1,411	1.5%	1,417	1.5%
Manawatu-Wanganui	2,876	1.4%	2,719	1.4%	2,613	1.4%
Wellington	7,603	1.9%	8,369	2.0%	7,582	1.9%
Tasman	324	0.8%	279	0.7%	458	1.1%
Nelson	857	2.2%	897	2.2%	755	1.8%
Marlborough	505	1.4%	592	1.5%	537	1.4%
West Coast	241	0.9%	404	1.4%	335	1.2%
Canterbury	9,874	2.2%	9,919	2.1%	11,316	2.4%
Otago	3,066	1.8%	3,060	1.7%	3,562	2.0%
Southland	899	1.1%	1,098	1.3%	1,051	1.3%
All regions	73,192		76,669		83,892	
Total New Zealand	84,285	2.1%	88,251	2.1%	100,784	2.2%
Not stated or outside region	11,092		11,578		14,098	

Departures of international migrants by region 2004-2014

June years	People leaving 2004	Proportion of resident population 2004	People leaving 2009	Proportion of resident population 2009	People leaving 2014	Proportion of resident population 2014
Northland	1,491	1.1%	1,623	1.6%	1,647	1.1%
Auckland	21,709	1.9%	35,319	2.1%	23,529	1.7%
Waikato	4,396	1.3%	5,369	1.5%	4,574	1.2%
Bay of Plenty	3,374	1.5%	3,585	1.9%	3,601	1.4%
Gisborne	449	1.1%	385	1.5%	504	1.2%
Hawkes Bay	1,726	1.3%	1,640	1.7%	1,641	1.1%
Taranaki	1,165	1.2%	1,411	1.3%	1,055	1.0%
Manawatu-Wanganui	2,642	1.3%	2,719	1.4%	2,150	1.0%
Wellington	6,481	1.6%	8,369	1.8%	6,857	1.5%
Tasman	255	0.6%	279	1.1%	488	1.1%
Nelson	695	1.8%	897	1.9%	557	1.3%
Marlborough	416	1.1%	592	1.4%	472	1.2%
West Coast	247	0.9%	404	0.9%	264	0.9%
Canterbury	6,806	1.5%	9,919	1.7%	5,751	1.1%
Otago	2,342	1.4%	3,060	1.6%	2,499	1.3%
Southland	845	1.0%	1,098	1.0%	689	0.8%
All regions	55,039		76,669		56,278	
Total New Zealand	62,277	1.5%	88,251	1.8%	62,446	1.4%
Not stated or outside region	7,238		11,578		6,166	

APPENDIX 2: Live births and deaths by region 2004-2014

Live births by region 2004-2014

June years	2004	2009	2014	Change 2009-2014	Average 2005-2014
Northland	2,099	2,255	2,124	-131	2,226
Auckland	20,789	22,366	21,786	-580	22,269
Waikato	5,598	6,373	5,757	-616	5,972
Bay of Plenty	3,760	4,014	3,598	-416	3,889
Gisborne	734	781	694	-87	748
Hawkes Bay	2,098	2,250	2,179	-71	2,244
Taranaki	1,324	1,586	1,519	-67	1,529
Manawatu-Wanganui	2,934	3,238	2,958	-280	3,149
Wellington	6,414	6,906	6,102	-804	6,534
Tasman	582	492	438	-54	514
Nelson	585	607	542	-65	573
Marlborough	476	563	518	-45	520
West Coast	361	448	381	-67	408
Canterbury	6,580	7,295	6,543	-752	6,914
Otago	2,164	2,380	2,212	-168	2,275
Southland	1,255	1,349	1,242	-107	1,291
All regions	57,870	62,964	58,610	-4,354	61,124

Total deaths by region 2004-2014

June years	2004	2009	2014	Change 2009-2014	Average 2005-2014
Northland	1,244	1,333	1,355	22	1,277
Auckland	7,168	7,283	7,768	485	7,381
Waikato	2,607	2,805	2,883	78	2,801
Bay of Plenty	2,010	2,245	2,230	-15	2,172
Gisborne	390	365	386	21	385
Hawkes Bay	1,252	1,191	1,273	82	1,262
Taranaki	928	909	890	-19	918
Manawatu-Wanganui	1,920	1,955	1,995	40	1,922
Wellington	2,938	2,994	3,042	48	2,962
Tasman	292	284	352	68	327
Nelson	364	402	415	13	385
Marlborough	353	398	382	-16	379
West Coast	301	274	277	3	261
Canterbury	3,975	4,088	4,195	107	4,163
Otago	1,538	1,592	1,601	9	1,530
Southland	782	763	796	33	776
All regions	28,134	28,961	29,883	922	28,976

APPENDIX 3: Estimates of under 15's and over 65's population 2004 and 2014

	Under 15's population		Over 65's population	
June years	**2004**	**2014**	**2004**	**2014**
Northland	35,700	36,300	20,900	30,200
Auckland	290,040	313,900	128,240	177,200
Waikato	89,020	92,800	46,340	64,200
Bay of Plenty	60,340	60,200	37,080	50,200
Gisborne	12,180	11,600	5,380	6,500
Hawkes Bay	35,120	34,600	20,400	27,300
Taranaki	23,860	24,100	15,460	18,900
Manawatu-Wanganui	50,680	47,300	31,540	39,100
Wellington	95,420	94,700	51,060	66,500
Tasman	9,700	9,600	5,920	9,200
Nelson	8,600	9,200	6,280	8,800
Marlborough	8,200	8,000	6,780	9,400
West Coast	6,700	6,200	4,340	5,500
Canterbury	102,860	106,500	71,900	88,500
Otago	35,080	36,300	26,820	33,600
Southland	20,200	19,800	12,680	15,300
New Zealand	883,860	911,300	491,200	650,400

APPENDIX 4: Government's Primary Growth Partnerships programmes

SECTOR	PROJECT NAME	CROWN CONTRIBUTION	TOTAL VALUE OF PROJECT	COMPLETION	PROJECTED ECONOMIC VALUE
Beekeeping	High performance Manuka plantations	$1.4 million	$2.89 million	March 2018	$1.2 billion annually by 2027
Dairying	Transforming the dairy chain	$85 million	$171 million	April 2018	$2.7 billion annually by 2025
Dairying	Whai Hua	$1.75 million	$3 million	June 2016	$8.6 million annually by 2021
Fishing	Precision seafood harvesting	$24 million	$48 million	April 2018	$44 million annually by 2015
Fishing	SPATnz	$13 million	$26 million	November 2019	$81 million annually by 2026
Forestry	Steepland harvesting	$3 million	$3 million	November 2016	$100 million annually by 2025
Horticulture	NZ Avocados Go Global	$4.3 million	$4.3 million	June 2019	$280 million annually by 2023
Meat	FarmIQ	$59 million	$150 million	November 2017	$1.1 billion annually by 2025
Meat	Foodplus	$39 million	$77 million	November 2019	$630 million annually by 2025
Meat	Marbled Grass Feed Beef	$11 million	$23 million	August 2019	$80 million annually by 2025
Meat	Red Meat Profit Partnership	$32 million	$64 million	November 2020	$880 million annually by 2025
Pastoral	Clearview Innovations	$10 million	$20 million	October 2018	$348 million annually by 2025
Pastoral	Pioneering to Precision	$10 million	$20 million	October 2020	$120 million annually by 2030
Pastoral	Seed and Nutritional Technology Development	$7 million	$15 million	February 2019	$200 million annually by 2025
Viticulture	Lifestyle Wines	$8 million	$17 million	March 2021	$285 million annually by 2023
Wool	New Zealand Sheep Industry Transformation Project	$15 million	$36 million	September 2016	$250 million annually by 2025
Forestry	Stakeholders in Methyl Bromide Reduction	$1 million	$3 million	Completed	
Forestry	Stump to Pump	$2 million	$4million	Completed	$1 billion annually by 2033

APPENDIX 5: Sustainable Development Goals

United Nation's Open Working Group's proposed goals for sustainable development - 2015

Goal 1	End poverty in all its forms everywhere
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3	Ensure healthy lives and promote well-being for all at all ages
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5	Achieve gender equality and empower all women and girls
Goal 6	Ensure availability and sustainable management of water and sanitation for all
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Goal 10	Reduce inequality within and among countries
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable
Goal 12	Ensure sustainable consumption and production patterns
Goal 13	Take urgent action to combat climate change and its impacts*
Goal 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Goal 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
Goal 17	Strengthen the means of implementation and revitalize the global partnership for sustainable development

ENDNOTES

1. Krugman, P. (1991) *Increasing Returns and Economic Geography.* Journal of Political Economy Vol.93/3 pp. 483-499. Quote from p.483.
2. Ministry of Business, Innovation and Employment (2014) The Business Growth Agenda: Future Direction 2014; p.9. Available at http://www.mbie.govt.nz/pdf-library/what-we-do/business-growth-agenda/bga-reports/future-direction-2014.pdf
3. Krugman, P. (1991) *Increasing Returns and Economic Geography.* Journal of Political Economy Vol.93/3 pp. 483-499 Quote from p.483.
4. Source: Statistics New Zealand and individual council websites.
5. The geographic area this estimate is based on Includes Auckland, Hamilton and Tauranga cities and Hauraki, Waikato, Matamata-Piako and Western Bay of Plenty Districts. These combined local authority areas had a total usually resident population at the 2013 Census of 1.82 million people or 43% of New Zealand's 4.24 million people. Source – Statistics New Zealand Census dataset.
6. The United Nations have recent forecast the following changes over the next 35 years

(Billions of people)	**Urban 2014**	**Urban 2050**	**Rural 2014**	**Rural 2050**
High income countries	1.035	1.212	0.288	0.256
Middle income countries	2.556	4.284	2.485	2.140
Low income countries	0.265	0.828	0.616	0.884
Total global population	3.880	6.339	3.364	3.212

Source: United Nations, Department of Economic and Social Affairs, Population Division (2014). *World Urbanization Prospects: The 2014 Revision, Highlights.* Table 1.p.19.

7. This idea of self-generating urban growth is considered in a literature review which is offered in Chapter 6. The following table offers urban population estimates and forecasts from United Nations (2014) (ibid) for the 28 largest cities/urban agglomerations with a population of more than 10 million people. This data suggests in general that the very largest cities grew at a faster rate than the rest of the country including smaller cities between 1990 and 2014 but that they are expected to grow at a slower rate than smaller cities for the next two or three decades.

	Population 2014 millions	City share of country 1990	City share of country 2014	City share of country 2050	City share of urban 1990	City share of urban 2014	City share of urban 2050
Tokyo	37,833	26.6%	25.9%	32.4%	34.4%	32.0%	35.2%
Delhi	24,953	1.1%	2.0%	2.2%	4.4%	6.1%	4.4%
Shanghai	22,991	0.7%	1.6%	2.2%	2.5%	3.0%	2.9%
Mexico City	20,843	18.2%	16.8%	15.3%	25.4%	21.3%	17.7%
Sao Paulo	20,831	9.9%	10.3%	10.1%	13.4%	12.1%	11.2%
Mumbai	20,741	1.4%	1.6%	1.7%	5.6%	5.1%	3.4%
Osaka	20,123	15.0%	13.8%	17.4%	19.4%	17.0%	18.9%
Beijing	19,520	0.6%	1.4%	2.0%	2.2%	2.6%	2.6%
New York	18,591	6.3%	5.8%	5.0%	8.4%	7.1%	5.7%
Cairo	18,419	17.6%	22.1%	20.1%	40.4%	51.3%	35.6%
Dhaka	16,982	6.2%	10.7%	13.6%	31.1%	32.0%	24.3%
Karachi	16,126	6.4%	8.7%	9.2%	21.0%	22.7%	15.9%
Buenos Aires	15,024	32.2%	35.9%	33.2%	37.0%	39.2%	35.1%
Kolkata	14,766	1.3%	1.2%	1.2%	4.9%	3.6%	2.3%
Istanbul	13,954	12.1%	18.4%	17.6%	20.5%	25.2%	21.1%
Chongqing	12,916	0.3%	0.9%	1.3%	1.3%	1.7%	1.7%
Rio de Janeiro	12,825	6.5%	6.3%	6.1%	8.8%	7.4%	6.7%
Manila	12,764	12.9%	12.8%	10.7%	26.5%	28.7%	19.0%
Lagos	12,614	5.0%	7.1%	5.5%	16.8%	15.1%	8.2%
Los Angeles	12,308	4.3%	3.8%	3.3%	5.7%	4.7%	3.8%
Moscow	12,063	6.1%	8.5%	10.1%	8.3%	11.5%	12.4%
Guangzhou	11,843	0.3%	0.8%	1.3%	1.0%	1.6%	1.7%
Kinshasa	11,116	10.4%	16.0%	12.9%	34.0%	38.2%	21.3%
Tianjin	10,860	0.4%	0.8%	1.1%	1.5%	1.4%	1.4%
Paris	10,764	16.4%	16.7%	16.1%	22.2%	21.0%	18.7%
Shenzhen	10,680	0.1%	0.8%	0.9%	0.3%	1.4%	1.2%
London	10,189	14.1%	16.0%	15.7%	18.0%	19.5%	17.7%
Jakarta	10,176	4.6%	4.0%	4.3%	15.0%	7.6%	6.1%

8. Source: Statistics New Zealand's population estimates.

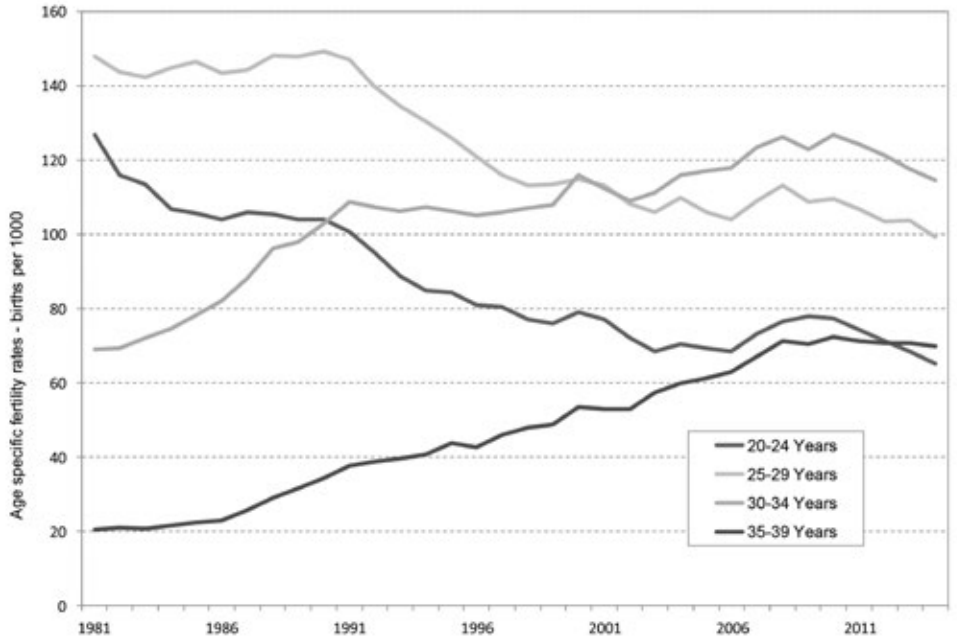
9. http://www.stats.govt.nz/browse_for_stats/population/estimates_and_projections/SubnationalPopulationEstimates_HOTPAt30Jun14/Data%20Quality.aspx

10. These estimates are based on individual's census returns which reported where they lived five years earlier. Around 9% of respondents failed to identify any region, while 7% were not born and a further 7% lived overseas. These complications make the estimated offered in Table 3 indicative only what the patterns and extent of internal migration was likely to be between 2008 and 2013.

11. This proportion is of those individuals reporting a resident region five years previously.

12. These estimates of regional shares are based on Statistics New Zealand's international arrivals and departures data. These estimates are based the numbers of permanent and long-term migrants who report a region of residence. Over the last 10 years around 15% of arriving migrants and 10% of departing migrants have not answered this question. It seems likely however that the Auckland share of arriving and departing migrants is around those cited here. For example in the 2013 Census 46% of the 284,700 people reporting that they lived overseas five years previously lived in Auckland.

13. The following graph tracks the age specific fertility rates of women aged between 20 and 40. This shows a spike in fertility for 20-24 year olds and for 35-39 year olds between 2007 and 2012. Source Statistics New Zealand's births database.



14. Because data on births by the age of mother by her region of residence is not available an assumption has been made here that the New Zealand wide proportion of all births which are to women aged 15 to 39 years old will apply regionally. This proportion was consistently around 96% of all births during the 11 year period 2004 to 2014 but was around 99% in the 1950's and 1960's.

15. Statistics New Zealand (2009) New Zealand Life Table 2005-07; Statistics New Zealand – available at http://www.stats.govt.nz/browse_for_stats/health/life_expectancy/new-zealand-life-tables-2005-07.aspx

16. The dependency ratio = $\frac{\text{Under 15s population + over 65s population}}{\text{Working age population (15-64)}}$

17. See Cormack, D. (2010) *The politics and practice of counting: ethnicity in official statistics in Aotearoa-New Zealand;* Te Roopu Rangahauu Hauora a Eru Pomare. Available at http://www.ethnicity.maori.nz/files/politics_and_practice_of_counting.pdf. Didham, R. and Callister, P. (2012). *The effect of ethnic prioritisation on ethnic health analysis: a research note.* The New Zealand Medical Journal, vol. 125 no.1359 pp.58-66.

18. Background data for these estimates of changes between 2000 and 2014 are provided on the following table. All this data is sourced from Statistics New Zealand's Infos database. GDP data is based on SNA 2008 series.

June years	**2000**	**2007**	**2010**	**2012**	**2014**
GDP -expenditure based - annual nominal & seasonally adjusted	115,673	174,967	195,401	212,334	234,184
GDP -expenditure based - in Jun-14 $s seasonally adjusted	162,894	204,986	212,470	217,242	234,184
Growth in real GDP		26%	4%	2%	8%
Real per-capita GDP - expenditure series	38,299	44,636	44,923	45,469	47,087
Growth in per-capita GDP		17%	1%	1%	4%
HLFS Official unemployment - June quarter seasonally adjusted	120,000	83,000	160,000	160,000	138,000
Change in unemployment		-31%	93%	0%	-14%
Average weekly wage - seasonally adjusted	672	869	966	1039	1088
Average weekly wage - seasonally adjusted in Jun-14$s	946	1,018	1,050	1,063	1,088
Growth in real average weekly wages		8%	3%	1%	2%
CPI All groups June quarters	849	1020	1099	1168	1195

19. This assessment is based on Statistics New Zealand's quarterly estimates of nominal GDP on an expenditure basis and indexed by the CPI. In June 2014 $ values GDP for the year to June 2008 was $216.5 billion. This figure was not exceeded until the year to March 2012. Other estimates of GDP trends suggest an earlier recovery by mid-2010 however.

20. Between 2010 and 2014 GDP grew in nominal terms by between $37 billion (Production based estimate for March years) and $39 billion (expenditure based estimate for June years). Over this period (June years), the value of dairy exports grew by $7 billion and from 4.6% of GDP to 6.9%. Over the same period new building activity in Auckland expanded by $1.2 billion while that in Canterbury grew by $2billion. In other words, around 27% of the GDP growth between 2010 and 2014 is directly attributable to these three factors. Data is sourced from Statistics New Zealand's Infos data base.

21. For this table the

$$\text{jobless rate} = \frac{\text{Number of people officially unemployed + Number of people who are discouraged employed}}{\text{Total number of people in the labour force + Number of people who are discouraged employed}}$$

22. The following estimates of annual incomes are taken from the New Zealand Income Survey for June 2013, the Quarterly Employment Survey for June 2013, the 2013 Census of March 2013 and Inland Revenue income data for the 2011/13 tax year.

Comparisons of income estimates

	Weekly	Annual
New Zealand Income Survey -June 2013		
Average income wages & salaries	516	26,832
Median earnings from full-time employment	962	50,024
Median earnings from part-time employment	300	15,600
Weighted average median earnings FT & PT	812	42,202
Median income from all income sources	575	29,900
Average income from all income sources	737	38,324
Quarterly Employment Survey - June 2013		
Average FTE earnings all sectors	1,059.14	54,703
2013 Census		
Median personal income all sources		29,600
IRD income tax data 2012/13 tax year		
Median income - all income sources		26,436
Average income - all sources		60,442
Median earnings from wages & salaries		34,684
Average earnings from wages & salaries		41,502

23. Between 2007 and 2013 the dairy herd grew 73% in Canterbury and 42% in Southland. These two regions accounted for 60% of the additional dairy cows raised and managed in New Zealand over this period, yet only made up 23% of the national dairy herd in 2007. Data on dairy herd numbers by region are provided in the following table. This data is sourced from Statistics New Zealand's Infos database.

Dairy herd numbers by region 2007 and 2013

Region	2007	2013	Growth in numbers	Share of NZ wide growth
Northland	367,183	383,057	4.3%	1.3%
Auckland	113,344	110,288	-2.7%	-0.2%
Waikato	1,669,472	1,837,858	10.1%	13.8%
Bay of Plenty	299,013	314,679	5.2%	1.3%
Gisborne	7,891	19,332	145.0%	0.9%
Hawkes Bay	80,200	95,098	18.6%	1.2%
Taranaki	589,573	595,014	0.9%	0.4%
Manawatu-Wanganui	393,453	448,030	13.9%	4.5%
Wellington	92,787	108,647	17.1%	1.3%
Tasman/Nelson	65,711	77,542	18.0%	1.0%
Marlborough	23,899	27,811	16.4%	0.3%
West Coast	152,481	178,907	17.3%	2.2%
Canterbury	754,937	1,304,618	72.8%	45.0%
Otago	218,264	367,292	68.3%	12.2%
Southland	432,642	615,428	42.2%	14.9%
New Zealand	5,260,850	6,483,601	23.2%	100.0%

24. This data is available at https://www.educationcounts.govt.nz/statistics/early-childhood-education/participation. One data set published records the proportion of new entrants to primary school who have had prior participation in early childhood education. There is no information presented in this data on the extent of such participation. Such participation may have been brief or intermittent and this is not recorded.

25. This data is sourced from Education Counts website at https://www.educationcounts.govt.nz/statistics/early-childhood-education/participation. The percentage figures reported in this table are the numbers of ECE enrolments as a proportion of the child population. In some cases this proportion is over 100% so clearly multiple enrolments is widespread. The regional distribution of such multiple enrolment is unknown.

26. Ibid.

27. See for example a media report at the time of the first release of National Standards results in 2012 'Understanding National Standards result' by John Hartevelt which is available at http://www.stuff.co.nz/national/education/7712173/Understanding-National-Standards-results. Here he makes reference to an evaluation report which suggested that at this time teachers and principals had not been well supported in their implementation of National Standards which are based in part on qualitative and un-moderated assessments known as Overall Teacher Judgements or OTJ's. In this media report Edendale School principal Dave McKenzie is quoted as saying 'Data hides a lot of stuff... Numbers conceal human beings with all the events that shape and make up their lives'.

28. See Statistics New Zealand's commentary on data quality of the samples included in the Household Labour Force Survey at http://www.stats.govt.nz/browse_for_stats/income-and-work/employment_and_unemployment/HouseholdLabourForceSurvey_HOTPSep14qtr/Data%20Quality.aspx

29. This difference is both significant and difficult to explain. It may point to more effective placement and recruitment services of unemployed youth in some regions than in others or to better vocational training programmes for equipping younger adults to find work.

30. For example the average resolution rate of recorded crime over the period 2010-2014 was 27% in parts of the Auckland Police District and as high as 57% in Southland and 60% in Taranaki. Source Statistics NZ crime data series.

31. See Ministry of Justice (2010) *The New Zealand Crime and Safety Survey 2009: Main Findings Report*. Figure 3.3 p.37. This report is available at http://www.justice.govt.nz/publications/global-publications/n/nzcass-2009/documents/The%20New%20Zealand%20Crime%20and%20Safety%20Survey%202009%20Main%20Findings%20Rep.pdf

32. The UE pass rate is averaged over 2009-2013 while the NEET data is for the June 2014 year. UE data sourced from Education Counts website. NEET data from Statistics New Zealand's Household Labour Force Survey.

33. Youth apprehension data is taken from Statistics New Zealand's crime database and in averaged over the five over period 2010-14 (June years). NEET data is for the June 2014 year and is sourced from Statistics New Zealand's Household Labour Force Survey data base.

34. Gaming expenditure data is available from the Department of Internal Affairs website at http://www.dia.govt.nz/diawebsite.nsf/wpg_URL/Resource-material-Information-We-Provide-Gaming-Statistics?OpenDocument#two

35. This figure is for the 2013/13 year. See Ministry of Health data on problem gambling services 'intervention client data' at http://www.health.govt.nz/our-work/mental-health-and-addictions/problem-gambling/service-user-data/intervention-client-data

36. The availability of Class 4 machines varies considerably across Auckland depending in part on the distribution of bars and clubs. In March 2015 Papakura had the highest availability of such machines with 4.6 machines per 1000 people followed by Tamaki-Maungakiekie at 3.9. At the other end of the scale Orakei had 0.8 machines per 1000 people while Puketapapa had 0.6 machines per 1000 people. Data source Department of Internal Affairs gambling statistics (available at http://www.dia.govt.nz/diawebsite.nsf/wpg_URL/Resource-material-Information-We-Provide-Gaming-Machine-Venues-Numbers-and-Expenditure-by-Territorial-AuthorityDistrict)

37. Ibid.

38. Ministry of Health (2010) *Drug Use in New Zealand: Key Results from the New Zealand Alcohol and Drug Use Survey.* Ministry of Health. p.15.

39. These estimates are based on the Ministry of Health (2010) Drug Use in New Zealand estimates that 13-15% of 16 to 64 year olds reported having used cannabis in the past 12 months. (see Table 2 p.15) This age group number around three million people. The estimate of 20,000 apprehensions is based on recorded offences for cannabis possession for personal use over the period 2009/10 to 2013/14 and not on more serious offences around cultivation and supply of cannabis.

40. Source: Statistics New Zealand's crime statistics data base.

41. Source: Accident Compensation Corporation website at http://www.acc.co.nz/about-acc/statistics/injury-statistics/index.htm#

42. Department of Labour reported that in 2011 and 2012 3% of serious injury accidents at workplaces were in the forestry sector while 11% of the workplace fatalities between 2010 and 2012 were also in the forestry sector. Data available at http://www.dol.govt.nz/hs/resources/stats/serious-harm-per-industry.shtml. The Quarter Employment Survey reported that employment in the forestry and mining sector in 2014 accounted for just 0.6% of all jobs.

43. Ibid.

44. Data for Table 54 to 57 is taken from the New Zealand Transport Agency's Crash Analysis System which is available at http://www.nzta.govt.nz/resources/crash-analysis-system-data/index.html

45. See Ministry of Justice (2010) *The New Zealand Crime and Safety Survey 2009: Main Findings Report* Figure 4.1 p44.

46. 2012 population figures are used as the basis for these estimates given that the offences statistics are averaged over the period 2009 to 2014.

47. Source: Statistics New Zealand's crime statistics database.

48. See endote 45 for reference.

49. These population estimates are for the year to 30 June 2012 – midway through the five year period.

50. Source: Statistics New Zealand's crime statistics database.

51. Strange, W. (2008) Article on urban agglomeration in *The New Palgrave Dictionary of Economics.* 2nd Edition. Eds. Durlauf, S. and Blume. E, Palgrave Macmillan.

52. See for example Baun-Snow, N. and Pavan, R. (2012) *Understanding the City Size Wage Gap,* Review of Economic Studies 79. Pp.88-127 who suggest that wages might increase by 1% on a comparable basis for every additional 100,000 population living in an urban centre.

53. See Wallerstein's four volume epic '*The Modern World-System*' which is a Marxist interpretation of economic history from the 16th century through to the eve of World War 1.

54. Amin, S. (1972) Unequal Development: *An Essay on the Social Formation of Peripheral Capitalism.* translated by Brian Pearce; The Harvester Press. pp.200-203.

55. Krugman, P. (1991) endnote 1 above. Here Krugman suggests that this concentration of economic activity is due more to pecuniary externalities or the forward (to customers) and backward (from suppliers) linkages which are present in any production process and which are enhanced or made more lucrative if the market of local supplier and/or customers is larger. Furthermore Krugman suggests that the actual location of this concentration of economic activity might be an accident of history – or simply this was where more people happened to live when the effects of rising economies of scale and falling transport prices began.

56. Sassen, S (1991) *The Global City: New York, London, Tokyo.* Princeton University Press.

57. See for example Greg Clark's presentation at the Mayoral Conversations series in January 2013 titled *Liveable and Business Friendly Cities.* His emphasis here is on investment promotion, tourism related events and facilities, tertiary education and R&D. While he does mention an 'Inclusion Agenda' (p.55) this is not explained or elaborated on and he proposes that the private sector should be responsible for 'leadership in the housing sector' (p.25) without considering how this will ensure the supply and adequate and affordable housing. He concludes (p.57) that the key issues for Auckland are '*Scale, Knowledge, Commerialisation, Identity , Reputation, Buzz, Connectivity and Investment Rate*'. No mention is made of housing affordability, community safety or inequality. This presentation is available at http://cdn.e-cast.co.nz/aucklandconversations/related_materials/greg_clark_presentation.pdf

58. See Florida, R. (2005) *Cities and the Creative Class,* Routledge. In a review of Florida's work and thesis Ed Glaeser has suggested that differences in growth rates of cities are due to differences in human capital and skill levels rather the some concentration of certain lifestyle opportunities – see Glaeser, E. (2005) *Review of Richard Florida's Cities and the Creative Class*, Regional Science and Urban Economics, 35.5 pp.593-596.

59. Norman, J.(2013) *Small Cities USA: Growth Diversity and Inequality. Rutgers.*

60. See Barro, R. and Sala-i-Martin, X (1992) *Convergence*, Journal of Political Economy 29 pp.155-73 for their study of the convergence of per-capita incomes across the states of United States. They find that the diminishing returns to capital effect is quite small but still consistent over an extended period.

61. See for example Robert Lucas' pioneering analysis of economic development in Lucas, R. (1988) *On the mechanics of economic development.* Journal of Monetary Economics, Vol.22 pp.3-42.

62. Blakely, N. Lewis, G and Mills, D (2005) *The Economics of Knowledge: What Makes Ideas Special for Economic Growth?* New Zealand Treasury and Audretsch, D, and Feldman, M. (2004) *Knowledge Spillovers and the Geography of Innovation* in Handbook of Urban and Regional Economics Vol.4 Chapter 61 pp. 2713-2739.

63. For example Barro, R. and Sala-i-Martin (1995) *Economic Growth.* McGraw-Hill make reference to the equalising effect of national public institutions (p.382) while the Toland, J. and Yoong, P. (2012) *The development of learning regions in New Zealand: the "6-I" framework.* Australasian Journal of Regional Studies, Vol.18(3) pp.283-314; emphasise the uniformity of a public educations system as the useful tool for regional development strategies.

64. See Stiglitz, J. (1989) *Markets, Market Failures, and Development.* American Economic Review Vol.79/2 as an example of this theoretical explanation.

65. For useful discussions of regional divergence in practice see for example Martin, R. (2001) *EMU versus the regions? Regional convergence and divergence in Euroland.* Journal of Economic Geography Vol.1 pp 51-80.

66. For recent empirical evidence in regional disparities see Atems, B. (2013) *The spatial dynamic of growth and inequality: Evidence using US county-level data.* Economic Letters Vol.118 pp19-22, Peters, D. (2013) *American income inequality across economic and geographic space, 1970-2010.* Social Science Research Vol.42 pp.1490-1504, Breau, S. (2014) *Rising inequality in Canada: A regional perspective.* Applied Geography, Saunders, P and Wong, M. (2014) *Locational differences in material deprivation and social exclusion in Australia.* Vol. 20(1) pp. 131-158, Artelaris, P. and Petrokos. G. (2014) *Intraregional spatial inequalities and regional income levels in the European Union: Beyond the Inverted U Hypothesis.* International Regional Science Review pp.1-27 and for New Zealand Eaqub, S. and Stephenson, J. (2014) *Regional economies: shape, performance and drivers.* New Zealand Institute of Economic Research.

67. See Stiglitz (1989) in endnote 64 as well as Romer, P. (1986) *Increasing returns and long-run growth. Journal of Political Economy;* Vol.94(5) pp.1002-1057 and Lucas, R. (1990) *Why doesn't capital flow from rich to poor countries.* American Economic Review ; Vol. 80(2) pp.92-96.

68. Caragliu, A and Nijkamp P (2014) *Cognitive Capital and Islands of Innovation: The Lucas Growth Model from Regional Perspective.* Regional Studies; Vol.48.4 pp. 624-645. Quote from p.625.

69. Glaeser, E. and Maré, D. (2001) *Cities and skills.* Journal of Labor Economics Vol.19(2) pp.316-342.

70. Baun-Snow, N. and Parvan, R. (2012) *Understanding the City Size Wage Gap.* Journal of Economic Studies Vol.79 pp.88-127.

71. Hadjimichalis, C. (2011) *Uneven geographical development and socio-spatial justice and solidarity: European regions after the 2009 financial crisis.* European Urban and Regional Studies; Vol. 18(3) pp.254-274.

72. Kuznets, S. (1955) *Economic growth and income inequality.* American Economic Review Vol. 45(1) pp.1-28 and Williamson, J. (1965) *Regional inequality and the process of national development: a description of patterns.* Economic Development and Cultural Changes Vol. 13(4) pp. 3-45.

73. Artelaris, P. and Petrokos. G. (2014) *Intraregional spatial inequalities and regional income levels in the European Union: Beyond the Inverted U Hypothesis.* International Regional Science Review pp.1-27.

74. Lee, N. (2014) Grim Down South: *The Determinants of Unemployment Increases in British Cities in the 2008-2009 Recession.* Regional Studies; Vol.48(11) pp. 1761-1778.

75. Rickman, D. and Guettabi, M (2015) *The great recession and nonmetropolitan America.* Journal of Regional Science Vol. 51.1 pp. 93-112.

76. Lindley, J and Machin, S. (2014) *Spatial changes in labour market inequality.* Journal of Urban Economics; Vol.79 pp.121-138.

77. Peters. D. (2013) *American income inequality across economic and geographic space, 1970-2010.* Social Science Research Vol.42 pp.1490-1505.

78. Breau, S. (2014) *Rising inequality in Canada: A regional perspective.* Applied Geography.

79. González, S.(2011) *The North/South divide in Italy and England: Discursive construction of regional inequality.* European Urban and Regional Studies 18(1) pp. 62-76. Quote from p.70.

80. Ibid p.72 .

81. See Ministry of Business, Innovation and Employment (2012) *NZ Core Cities Research Summary,* for a discussion of the role of New Zealand's cities in globally focused promotion of investment and development. This report is available at http://www.med.govt.nz/sectors-industries/regions-cities/pdf-docs-library/core-cities-research/Core%20Cities%20Research%20Summary.pdf

82. See Perry, B. (2014) *Household incomes in New Zealand: Trends in indicators of inequality and hardship 1982 to 2013.* Ministry of Social Development for estimates of child poverty (pp. 154-166) and for estimates of the persistence of low incomes (pp. 201-210). Perry's estimates of the persistence of low income and hardship offer a variety of results. Reported results from the Survey of Family Income and Employment (SOFIE) suggest that around 45% of people receiving the lowest decile of income remained in this group for the whole six years of the survey (p.202) while 11% of people and 16% of children were assessed as having chronic low income (p.208).

83. Hart, K. (2008) *Informal economy* chapter in Durlauf, S. and Blume, L. (eds) *The New Plagrave Dictionary of Economics* - 2nd Edition.

84. Ministry of Business, Innovation and Employment (2014) *The Business Growth Agenda: Future Direction 2014*. p.9.

85. Ibid p.3.

86. Ibid p.6.

87. Ibid p.6.

88. At October 2014 the Callaghan Innovation project has distributed $309 million to 125 companies through its R&D Growth programme which subsidises 20% of a company's R&D expenditure up to $5million – source http://www.callaghaninnovation.govt.nz/news-events/growth-grants-lift-nzs-business-rd-spend

89. Ministry of Business Innovation and Employment (2014) *The Business Growth Agenda: Future Direction 2014.* p.7.

90. Ibid p.8.

91. Ibid p.8.

92. State Services Commission (2014) Review of Ministry of Business, Innovation and Employment *(MBIE).* p.24. Available at http://www.ssc.govt.nz/sites/all/files/pif-review-mbie-dec14.PDF

93. Johnson, A. (2015) *Recent trends in income and wealth in New Zealand*- paper presented at Wellington School of Medicine Summer School – available at http://www.salvationarmy.org.nz/research-media/social-policy-and-parliamentary-unit/speeches

94. Ministry of Business, Innovation and Employment (2014) *Regional Economic Activity Report 2014.* available at http://www.mbie.govt.nz/what-we-do/business-growth-agenda/regions/published-report

95. Source: New Zealand Trade and Enterprise website at https://www.nzte.govt.nz/en/news-and-media/new-regional-investment-tool/

96. Crown Irrigation Investment Ltd (2014) *Annual Report for the year ended 30 June 2014.* p.9. Available at http://www.crownirrigation.co.nz/assets/publications/annual_report_2014.pdf

97. See speech by the Minister for Primary Industries the Hon. Nathan Guy at https://www.beehive.govt.nz/speech/speech-crown-irrigation-investment-ltd-stakeholders

98. Crown Irrigation Investment Ltd (2014) *Annual Report for the year ended 30 June 2014.* p.5.

99. Ibid p.21.

100. Ministry of Business Innovation and Employment (2014) *The Business Growth Agenda: Future Direction 2014.* p.88.

101. See Ministry for Environment's summary report on fresh water quality and which is available at http://www.mfe.govt.nz/fresh-water/overview-fresh-water/quality-and-availability

102. Source: Callaghan Innovation website at http://www.callaghaninnovation.govt.nz/funding/rd-growth-grants

103. News release from Callaghan Innovation on 10th December 2014 'Growth Grants to lift NZ's business R&D spend' Downloaded from https://www.callaghaninnovation.govt.nz/news-events/growth-grants-lift-nzs-business-rd-spend

104. Ibid.

105. MBIE (2014) *The Business Growth Agenda: Future Direction 2014*. p.7.

106. Ministry for the Environment (2014) *National Policy Statement for Freshwater Management 2014*. p.20.

107. Source: http://www.stuff.co.nz/the-press/news/3526047/ECan-councillors-sacked

108. Externalities here refer to spill-over benefits or costs between one economic agent and another. A network externality is the benefit which is gained by having access to larger and larger networks – the more users there are in a network the cheaper per user it becomes and the more useful the network becomes to everyone involved. An economic development externality is a benefit which is gained by economic agents from access to a larger market when this market has become larger on account of economic or population growth. Such an advantage might arise through having more potential customers, or employers in the case of workers, and having customers and/or employers with more income.

109. Here the main cities are taken to be Hamilton (Hamilton City), Tauranga (Tauranga City and Western Bays District), Wellington (Porirua City, Lower Hutt City, Upper Hutt City and Wellington City), Christchurch (Christchurch City, Waimakariri District and Selwyn District) and Dunedin (Dunedin City).

110. Data source Statistics New Zealand NZ.Stat data base of subnational population projections and based on the 'medium' projection. Available at http://nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE7517

111. Data source Statistics New Zealand NZ.Stat data base of subnational population projections and based on the 'medium' projection. Available at http://nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE7517

112. Baby Boomers were born between 1946 and 1966 so by 2013 they were aged between 47 and 67 years old. In 2013 Statistics New Zealand estimated the life expectancy of a 45 year old man at 36.5 years while that of a 45 year woman at 39.5 years meaning that the youngest baby boomers alive in 2013 could on average expect to live to around 2039 for men and 2042 for women. In 2013 the life expectancy for 65 year old men was estimated at 19 years and for 65 year old women at 21.4 years suggesting that the oldest living baby boomers could expect on average to live to 3032 for men and 2035 for women. The proportion of the national population made up of baby boomers is probably only likely to fall quickly after 2035.

113. See endnote 16 above.

114. Data source Statistics New Zealand NZ.Stat data base of subnational population projections and based on the 'medium' projection. Available at http://nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE7517

115. Office of Auditor General (2014) *Water and roads: funding and management challenges.* p.6. Report available at http://www.oag.govt.nz/2014/assets/docs/water-and-roads.pdf

116. Office of Auditor General (2014) Local Government: Results of 2013/14 audits, p.14. Report available at http://www.oag.govt.nz/2015/local-govt

117. Office of Auditor General (2014) *Water and roads: funding and management challenges.* pp.33-34.

118. Department of Internal Affairs (2013) *Report of the Local Government Infrastructure Efficiency Expert Advisory Group*. p.33.

119. Ibid p.37.

120. Ibid p.141.

121. There is not a one to one relationship between city and district council boundaries and regional boundaries. For example, Rotorua District is in both Waikato and Bay of Plenty regions although most of its population is in Bay of Plenty. In such cases of overlap the district has been placed in the region where it has the majority of its population.

122. Data source Statistics New Zealand Infos data base on local government financial statistics. Population related estimates are based on Statistics New Zealand's regional population estimates.

123. Ibid.

124. As shown in Table 64 rates in Auckland were $908 per person in 2012/13 compared with $1113 per person for the rest of New Zealand. If the 1.5 million Aucklanders agreed to pay an additional $200 per person in rates this would an extra $300 million in revenue for the Council.

125. Data source Statistics New Zealand Infos data base on local government financial statistics.

126. Ibid.

127. Ibid.

128. Ibid.

129. New Zealand Transport Agency (2014) *New Zealand motor vehicle registrations statistics 2013*. Table 36 p.60.

130. An example of such obscure accountabilities is around the operation of prisons by private companies. In July 2012 when the private operator of Mt Eden prison Serco was reported to have failed to meet half its performance targets in response Department of Corrections' Deputy Chief Executive Christine Stevenson said that 'Serco's performance at MECF (Mt Eden Correctional Facility) is steady or strengthening, as we expected it would. While it has fallen short in some of the first year targets I expect the trend to be one of gradual improvement,' and then went on to say " There are a number of innovations Serco has put in place at MECF that the Department is looking at closely to assess the potential for expansion into publicly managed prisons.' Source - http://www.stuff.co.nz/national/politics/7227769/Serco-failing-to-meet-Mt-Eden-prison-targets

131. The 2013 Census indicated that in 2013 77% of households had access to the internet a jump of 16% from 2006 when 61% of household had access. Urban regions predictably had the highest access with Auckland with 82% access, Wellington 81% and Canterbury 78%. Predominantly rural regions had the lowest rates of access with Gisborne a clear last at 63% access followed by Northland at 68% while Manwatu-Wanganui and West Coast also recorded less than 70% access. An international study of internet access showed that the elderly had poorest internet access followed by Maori and Pacific Island households. See NZ Herald article of 21 November 2013 at http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11160785

132. See for example the Ministry of Business Innovation and Employment's discussion of the benefits of the fast broadband project at http://www.med.govt.nz/sectors-industries/technology-communication/fast-broadband/benefits-of-fast-broadband. Also see Toland, J. and Yoong, P. (2012) *The development of learning regions in New Zealand: the '6I' framework.* Australasian Journal of Regional Studies; Vol.18(3) pp.283-314. Their conclusion was that at the time of their research businesses in two regions – Wellington and Southland had failed to fully utilise the potential of ultra-fast broadband to expand economic development opportunities. They offer a useful framework for assembling regional development ideas around the 'learning region' and point to strong social capital and a strong commitment to learning alongside a quick willingness to embrace new technologies p.306.

133. Funding rules such as those offered by the Land Transport Agency adopt a uniform subsidy rate. This allows wealthier communities the same access to these subsidies as poorer ones which has meant that poorer communities have not always been able to make the necessary investments in road infrastructure maintenance as reported in Chapter 9. Further example is the provision of home insulation subsidies under the Warm Up New Zealand programme. This programme provided 60% subsidies for retro-fit house insulation for houses built prior to 2000. This subsidy rate was the same regardless of household income or wealth. In four years – 2009/10 to 2012/13, almost 225,000 houses were insulated although only 43% were for low-income households. Source: Grimes, A. et al (2012) *Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme.* Ministry of Economic Development and annual reports from Energy Efficiency and Conservation Authority.

134. See for example the linking of innovations and R&D subsidies to business investment decisions and in exports in the Government's Business Growth Agenda – New Zealand Government (2014) *The Business Growth Agenda Future direction 2014.* p.45.

135. An example of such a dispute is around the setting of acceptable nitrogen discharge levels associated with the proposed Ruataniwha irrigation dam in Central Hawkes Bay. At the conclusion of hearings by a Government appointed Board of Inquiry, the Board attempted to negotiate more liberal nitrogen discharge levels with the dam's promoters, the Hawkes Bay Regional Investment Company (HBRIC) and outside of input from other affected parties. This move was overturned by the High Court in December 2014 on the basis of an error in law. Subsequently the earlier nitrogen levels which had been opposed by HBRIC were finally upheld by the inquiry board. Source: New Zealand article of 3rd May 2015 'Dam opponents welcome amended conditions' http://www.nzherald.co.nz/hawkes-bay-today/news/article.cfm?c_id=1503462&objectid=11442505

136. As example of such work see the academic journal Ecology and Society at http://www.ecologyandsociety.org/. A recent issue which was themed around *'Science and governance in a diverse world: Coproduction and coproductive capacities for environmental management'* is representative of the subject material and overall approach taken by this publication. Australian examples feature prominently in its issues.

137. See for example see Johnston, D. et al (2011) *Exploring elements of an effective recovery process.* A paper presented at the Ninth Pacific Conference on Earthquake Engineering – Auckland April 2011. This paper offers an extensive literature on the links between community cohesion and social impacts and recovery from natural disasters. The paper is available at http://db.nzsee.org.nz/2011/027.pdf

138. Diamond, J. (2005) *Collapse: How societies choose to fail or succeed.* Viking Press.

139. Source: Ministry of Primary Industries website at https://www.mpi.govt.nz/funding-and-programmes/primary-growth-partnership/primary-growth-partnership-programmes/

140. Source: https://sustainabledevelopment.un.org/sdgsproposal

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