Māori: Ko te Whakatipu Tāngata hei Huanga Ohanga

Māori: Demographic Dividend for Economic Return
The framework above identifies three key enablers that are fundamental to Māori achieving Te Ira Tangata (improved life quality) and realising their potential. All our written information has been organised within these three key enablers or Te Ira Tangata.

1. Mātauranga – Building of knowledge and skills.
2. Whakamana – Strengthening of leadership and decision-making.

The outcome state of realised potential described within the framework is Te Ira Tangata which refers to the Māori person and the full realisation of their spiritual, emotional, psychological and physical wellbeing. As wellbeing ultimately depends on people having a sense of choice or control over their lives, the framework describes the state of Te Ira Tangata as one in which Māori are exercising confident and responsible choices about the quality of life they experience.

‘Ka riro he au heke, e kore e hoki ki tōna mātāpuna anō.’

‘The flowing current moves on and never will return to its source again.’
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Consultants Report for New Zealand
Institute of Economic Research

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PURPOSE STATEMENT

The purpose of this research is to help create an evidence base on the impacts of demographic trends and their implications for Māori economic futures.

This research piece is part of wider research undertaken by the New Zealand Institute of Economic Research, commissioned by Te Puni Kōkiri.

Better understanding of Māori demographic trends follows from the famous whatakuā (Māori proverb):

He aha te mea nui o te ao? He tangata! He tangata! He tangata!

What is the most important thing in the world? It is people! It is people! It is people!

INTRODUCTION

This paper outlines key elements of Māori demographic trends and discusses their implications for the achievement of Māori economic growth aspirations. It does so in response to NZIER's (2011) paper 'Positioning the Māori economy to 2025', which makes the following key points:

- The Māori economy is growing and accounting for an ever larger share of the New Zealand economy
- Māori production is skewed towards the primary sector, especially agriculture, forestry and fishing, which exposes the Māori economy to several levels of risk (global and local)
- Māori secondary and tertiary education outcomes are improving. However Māori remain under-represented in degree level courses and over represented in low skill occupations
- Wages remain the dominant source of income for Māori households
- While much Māori business is focussed on commercial objectives, there is also a need for social, cultural and environmental objectives to be met

The paper will show that Māori demographic trends – alongside those of non-Māori New Zealanders, present the Māori population with significant opportunities that address all of the above points. Central to the exercise is the recently but now widely acknowledged concept of the 'demographic dividend' – sometimes also referred to as the demographic 'bonus' or 'gift'. The concept refers to a period during demographic transition (the shift from high to low mortality and fertility levels), which is viewed in economic terms because it has the potential to convert into an economic dividend.

The structure of the paper is as follows. First the demographic dividend concept is outlined in a little more detail, followed by the argument that, for Māori, a different type of dividend may also exist, resulting from the historical coincidence of being a structurally youthful population located alongside a significantly older one (Jackson 1998, 2002, 2011a, b). The paper then considers the dividend-related implications of regional and industrial differences in structural ageing, and concludes by echoing comments made by most scholars examining the opportunities offered by the dividend. All are emphatic that just having the demographic dividend present does not ensure it will result in an economic dividend. That requires foresight, planning, political will, and leadership.

1 Structural ageing refers to declining proportions at younger ages and increasing proportions at older ages.
KEY POINTS

1. Differences in the timing and speed of demographic transition between the Māori and European-origin populations have led to significant differences in age structure. In 2006 the median age of the Māori population was just 23 years, compared with 38 years for the European / New Zealander / Other population.

2. The differences have many positive implications for Māori. Uppermost among these is a potential economic dividend to be gained from the historical coincidence of being a structurally youthful population located alongside a significantly older one. This ‘window of opportunity’ can be termed a potential ‘collateral’ demographic dividend.

3. The opportunities for the conversion of the collateral demographic dividend to an economic dividend will accelerate from this year, as New Zealand’s Baby Boomers (and the Baby Boomers of other European countries) begin to enter retirement. As each successively larger wave of New Zealand’s ‘Boomers retires across the following two decades, it will be replaced by a successively smaller cohort, resulting in a ‘demographically tight’ labour market. The situation and its positive implications for the structurally younger Māori population will be reinforced by a sizeable ‘bite’ in the total age structure which currently exists across ages 25-39 years and which, in combination with the foregoing trends, will generate a vacuum in the New Zealand labour market that Māori can disproportionately fill.

4. The opportunities will be further reinforced in many non-urban areas, and also in many industries, where structural ageing is further advanced, leading to severe labour and skill shortages and the potential for the more youthful Māori population to capitalise on these deficits.

5. Importantly the proposal that a potential collateral dividend exists follows two other demographic dividends recently identified in the demographic literature, neither of which have yet been explored in detail for Māori. The first arises as fertility falls and the proportion of the population at the youngest ages declines, and that at the key working ages (15-64 years), increases. During this finite period the working age population grows somewhat faster than the total population, and there is a potential economic dividend because the bulk of the population is potentially employed and earning. This period may have already peaked for Māori, but the proposition is inconclusive and further research is urgently needed, because the extent to which it can be realised depends on proactive investment in social capital, particularly education. The second potential dividend builds on the first and arises as structural ageing continues and a disproportion of the population reaches the highest income earning and saving age groups, before reaching retirement age. Despite its relative youth, the Māori population is presently entering this period, which, if adequately invested in and facilitated by an appropriate policy environment, has the potential to be long-standing. However failure to invest in the first dividend will compromise the realisation of the second dividend. The proposed ‘collateral dividend’ is a third interpretation of these trends, and has investment needs similar to the first dividend.

6. Taken together the trends have significant positive implications for Māori in industries and regions in which Māori have a high level of social, cultural and economic interest. Identifying these opportunities and then strategically investing in them will deliver the economic gains that Māori seek.

7. The paper echoes comments made by most scholars examining the opportunities offered by the demographic dividend, which must be seen as windows of opportunity. All scholars are emphatic that just having the demographic dividend present does not ensure it will result in an economic dividend. That requires foresight, planning, political will, and leadership.
The paper should be read with three important caveats in mind. First, the classification ‘Māori’ reflects a multiple ethnic origin count, meaning that a sizeable proportion of the Māori population is counted in both the Māori and non-Māori populations – and vice versa. This does not greatly affect the relative age structures of each population, nor the arguments presented herein. Second, the concept of the demographic dividend has thus far been conceptualised as occurring for ‘nations’ only – that is, at national level. It is argued here that, for the purposes outlined above, the concept is equally relevant at sub-population level, particularly for a relatively large sub-population such as Māori. Third, the comments regarding the fact that the dividend exists as a window of opportunity, and not as a fait accompli, should not be taken lightly, as it is only with the onset of the first dividend period in today’s developing countries that the developed world has become aware of what has, for them, already passed.
SECTION TWO: DEMOGRAPHICS
THE DEMOGRAPHIC DIVIDEND

In its present formulation the demographic dividend refers to two consecutive periods which occur during demographic transition, an historical process along which the Māori population is well advanced (see Appendix A for underlying trends in fertility and mortality).

The first [potential] dividend arises as fertility levels fall and the proportion of the population that is at the youngest ages (0–14 years) reduces. Concomitantly, the proportion in key working ages (15–64 years) increases. During these years – which may last two to three decades – the working age / primary income-earning population grows at a much faster rate than the total population, increasing the ‘potential support ratio’ (the ratio of those at working age to those notionally dependent at 0–14 and 65+ years). During these years the potential exists for significant economic advancement at population level, as the majority of the population is in the income-earning age groups. However, the potential gains can be realised only if employment opportunities expand as rapidly as the number of persons seeking new jobs and there is proactive investment in human capital, particularly education (Ogawa, Chawla and Matsukura 2010: 114).

As will be shown below, the first potential dividend period for Māori may have already passed, and with it many of the opportunities it offered. Of importance to this paper, however, is that the issue has not yet been explored in much detail, and thus the proposition [that it has already passed] is inconclusive; more definitive research is required (Jackson forthcoming).

The second dividend begins – or has the potential to begin - when prime working age adults, who anticipate longer life expectancy, save more to provide for their forthcoming retirement (Ogawa et al. 2010: 103, 114). This stage, intrinsically linked to the level of investment in the first dividend- is characterised by an increase in the share of individuals who are reaching the end of their income-generating years – and also the years when they have completed most of their childbearing responsibilities. During this phase, a greater proportion of the working age population moves through the (potentially) higher income earning and/or saving age groups. The phase occurs approximately from the point that the maximum proportion of the population in the working ages is reached, but significant proportions have not yet arrived at the oldest ages where they are notionally dependent – and/or begin to use their accumulated savings. As with the first dividend period, the potential economic gains of the second dividend do not emerge in and of themselves, but rather require a policy environment which facilitates productivity and saving – and not least, adequate incomes from which to save. Of utmost importance it builds on the investments made in the first demographic dividend period, so failure to invest in the first dividend can mean that the second dividend is also ‘squandered’ (Pool 2007).

In the following section it will be proposed that the Māori population is now entering the second dividend stage, but that failure to invest in the first dividend will, in all likelihood, render the second window of opportunity, mute. Additionally it should be noted that the magnitude (monetary value) of the second demographic dividend may be compromised in a pay-as-you-go type of welfare state. Ogawa et al. (2010: 115) show that the magnitude differs markedly among the Asian countries they examined, because the choice of financing method [for income support in old age] affects the accumulation of capital available to be utilized.

Thus as argued by Ogawa et al. (2010) and many others, the two demographic dividend periods have to be understood as defining a number of possibilities, but their outcome is heavily dependent on non-demographic factors, most pertinently the creation of an appropriate investment and policy environment via which to capitalise on the opportunities (Ogawa et al. 2010; see also Birdsall, Kelly and Sinding 2001; Bloom and Canning 2003; Mason 2003; Jackson and Felmingham 2004; Pool 2007; Bloom and Williamson 1998).
Jackson (2011b), however, argues that a third interpretation, not previously spelled out in existing literature, may exist for Māori. This is a collateral demographic dividend which has the potential to emerge from opportunities arising where a structurally younger population co-exists alongside a much older population – the case of Māori and European-origin New Zealanders. These opportunities will now be accelerated by the retirement of the Baby Boom generation. For example, as each successively larger Baby Boom cohort retires, as it will do from this year, it will be replaced by a successively smaller cohort at labour market entry age (Jackson 2011a). This situation will usher in a demographically-tight labour market, in which youthful cohorts will be in short supply and great demand – notably among them Māori youth who currently comprise one in five young New Zealanders, by comparison with one in seven across all ages. A further characteristic of the total New Zealand age structure that will ensure this labour market tightness is the existence of a ‘bite’ out of the age structure between the two groups, across ages 25–39 (Jackson 2011a). The three circumstances will together generate a vacuum in the labour market which will draw in younger and older workers alike. I will return to this issue below.

Three important caveats to these arguments exist. The first is that the classification ‘Māori’ has been subject to many changes over New Zealand’s history and is presently based on a multiple ethnic origin count. This means that a sizeable proportion of the current and projected Māori population is included in both the Māori and non-Māori populations – and vice versa. This does not greatly affect the relative age structures of each population, nor the arguments presented herein, but it does to some extent compromise the rigor of longitudinal analysis (see Pool 1991: 11–25). Second, the concept of the demographic dividend has typically been conceptualised as occurring for ‘nations’ – that is, at national level. However it is surely relevant for a sub population group such as Māori which is relatively large and is at a markedly different stage of its demographic transition to the national population of which it is part (see also Jackson 2008: 9 on Australia). Third, the comments regarding the fact that the dividend exists as a window of opportunity, and not as a fait accompli, should not be taken lightly, as it is only with the onset of the first dividend period in today’s developing countries that the developed world has become aware of what has, for them, already passed, despite it having delivered to them empirically verifiable economic benefits (Mason 2003, Jackson 2003). As a result, many countries such as New Zealand ‘squandered’ their first dividend years by not assisting their large baby boom ‘echo’ cohorts born around 1970 into the labour market – for example during the high structural unemployment of the early 1990s (Pool 2007).

THE DEMOGRAPHIC TRANSITION AND MĀORI

Differences in the timing and speed of demographic transition between the Māori and European-origin populations have led to significant differences in age structure. In 2006 the median age of the Māori population was just 23 years; that is, 50% of the Māori population was aged less than 23 years. By comparison the median age for the European / New Zealander / Other population (hereafter European) was 38 years.2

Projected data for 2011 illustrate these enormous disparities (Figure 1), along with those for the Pacific Island and Asian populations (see Appendix B for assumptions). The relative youth of the Māori population means that the proportion in the key working age groups 15–64 years (61% in 2011) is somewhat lower than for European (65%), because a considerably greater proportion

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2 Alongside the historical factors that have caused these differences (Pool 1991).
3 The caveat regarding multiple count ethnicity noted above should be recalled here. It means that some Māori are counted among the non-Māori populations, and vice-versa. However as is clear from the relative shape of the European and Asian age structures, the impact on the Māori age structure is relatively small.
of Māori has yet to reach that age. As Figure 1 also shows, the disparity continues throughout the working age groups because the bulk of working age Māori are also much younger than their European counterparts. While these disparities have a number of negative implications, for example disproportionately exposing young Māori to the risk of unemployment (Jackson 2002), they also have many positive implications as the overall labour supply dwindles – a situation that is not confined to New Zealand.

As indicated, these disparities convert into significantly different proportions of the total population accounted for by Māori at different ages, compared with their 14 % national share. At 0-14 years Māori account for approximately 21% of all 0-14 year olds (one in five), and at 15-24 years, for 18% of all 15-24 year olds (Table 1). By comparison they account for less than 5% of those aged 65+ years, that is, only one in every 20. Due to their relative youth, Māori comprise a smaller proportion of the total working age population (13%) than their total share.

Figure 1: Age-sex structure by major ethnic group* (2011 on 2006 Base)

*Based on multiple count ethnicity (Series 6 – see Appendix B)
Table 1: Population Share (percentage) by Ethnic Group* and Broad Age Group, Projected 2011

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Māori</th>
<th>European/New Zealander</th>
<th>Pacific Island</th>
<th>Asian</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14 years</td>
<td>21</td>
<td>58</td>
<td>11</td>
<td>9</td>
<td>100</td>
</tr>
<tr>
<td>15-24 years</td>
<td>18</td>
<td>61</td>
<td>9</td>
<td>13</td>
<td>100</td>
</tr>
<tr>
<td>25-54 years</td>
<td>13</td>
<td>68</td>
<td>6</td>
<td>13</td>
<td>100</td>
</tr>
<tr>
<td>55-64 years</td>
<td>9</td>
<td>80</td>
<td>4</td>
<td>7</td>
<td>100</td>
</tr>
<tr>
<td>65+ years</td>
<td>5</td>
<td>87</td>
<td>2</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>69</td>
<td>7</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>Working Age</td>
<td>13</td>
<td>69</td>
<td>7</td>
<td>12</td>
<td>100</td>
</tr>
</tbody>
</table>


Of related import is the relatively youthful age of the Pacific Island population, which, while only half the size of the present Māori population, closely resembles the latter in structure, and the predominantly 'young adult' structure of the Asian population, which is closer in size to the Māori population but exhibits a relative deficit of children. As is shown below, these differences will generate an element of competition in the future labour market.

Figure 2 and Table 2 show the projected changes by 2026. The Māori age structure will have 'aged', but not significantly, due to the assumption of the birth rate continuing at a relatively high level (2.5 births per woman, compared with 1.85 for European), combined with a large proportion of the population in the key reproductive age groups. Under the accompanying medium assumption of life expectancy increasing to approximately 75.4 years for males and 79.2 years for females (from 70.8 and 75.6 years respectively in 2007), the proportion aged 65+ years will have almost doubled, to 8.5%. Due to this increase at older ages, the proportion at the youngest ages (0-14 years) will have fallen from its present 34.2%, to 31.9%, and in the key working age groups, from 61.0 to 60.0% – a proportion which will by then be identical for the Māori, European, and Pacific Island populations. However as Figure 2 clearly shows, the similarity is superficial only, with the bulk of Māori still to enter the working age population, while for European the bulk will by then be close to, or in, retirement (again the issue of multiple count ethnicity, which sees a proportion of Māori counted in both populations, should be recalled).

By 2026 (under these projection and classification assumptions) the median age for Māori is projected to be 25.4 years, compared with its current 23 years. The difference portends well for the opportunities indicated above, as the European population ages and the Māori population retains its relative youth. However before developing this point further it should be noted that concomitant changes (projected) for the New Zealand Asian population will, as indicated above, present an element of competition. By 2026 – under these projection assumptions - the Māori population will account for 15% of the total population and 14% of the working age population, while the Asian population will account for 14% of the total and 16% of the working age population, and most will be older than – and occupationally senior to – Māori (Table 2). The proportion of the population that is of Pacific Island origin will have changed very little – increasing from 7 to 9% of the total, and from 7 to 8% of the working age population.

The remaining sections focus on how these trends relate to the proposed collateral demographic dividend.
Figure 2: Age-sex structure by major ethnic group* (2026 on 2006 Base)

Table 2: Population Share (percentage) by Ethnic Group* and Broad Age Group, Projected 2026

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Māori</th>
<th>European/New Zealander</th>
<th>Pacific Island</th>
<th>Asian</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–14 years</td>
<td>22</td>
<td>51</td>
<td>14</td>
<td>14</td>
<td>100</td>
</tr>
<tr>
<td>15–24 years</td>
<td>19</td>
<td>54</td>
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<tr>
<td>25–54 years</td>
<td>14</td>
<td>61</td>
<td>8</td>
<td>18</td>
<td>100</td>
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<td>55–64 years</td>
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<td>72</td>
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<td>65+ years</td>
<td>7</td>
<td>81</td>
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<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>62</td>
<td>9</td>
<td>14</td>
<td>100</td>
</tr>
<tr>
<td>Working Age</td>
<td>14</td>
<td>61</td>
<td>8</td>
<td>16</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Statistics New Zealand (2006) Projected Ethnic Population of New Zealand, by Age and Sex, 2006 base - 2026 Update (*Based on multiple count ethnicity; Series 6 – see Appendix B)
THE DEMOGRAPHIC DIVIDEND AND MĀORI

As outlined above, the demographic differences between the Māori and Total populations have very positive implications for Māori economic aspirations (NZIER 2011) – as long as the opportunities are appropriately prepared for and then strategically capitalised on. A range of indices for estimating the magnitude and length of each of the two currently articulated dividends is given in Ogawa et al. (2010) but it is not the purpose of this paper to apply them here – that work needs to be carried out by a research team which includes both economists and demographers. For the present purposes, I simply refer to background work which suggests that for Māori it is the third interpretation – the collateral dividend outlined above – which presents Māori with the greatest opportunities and which must be urgently engaged with.

According to Jackson (2011b), the first demographic dividend for Māori began around 1961 and ended around 2006 – its precise onset and end varying depending on which index is used for its estimation. The onset of the first dividend period was certainly underway by 1964 when Māori fertility rates began to fall and did so dramatically, from above 6.0 births per woman to below 3.0 in just 13 years – and from 5.0 to 2.8 over the five years 1973-1978 – making it one of the world’s most rapid reproductive revolutions (Pool 1991: 170). Concomitantly, between 1966 and 2006, the proportion at the youngest ages (0-14 years) fell from 50.3% to 35%, while that for the working age population increased from 48% to over 60% (Statistics New Zealand Subnational Population Estimates).

The proportion at working age is now projected to slowly decline, falling below 60% by 2026 (Jackson 2011b). When considered in terms of the Potential Support Ratio (the ratio of those at working age to those notionally dependent) it is clear that the working age population is currently at its maximum and the proportion notionally dependent at its lowest. Presently ‘dependency’ at older ages (65+ years) is relatively low because the major gains in life expectancy are yet to work through the age structure.

The first demographic dividend period for Māori was thus relatively brief, and would appear to correlate with the rapidity of Māori fertility decline in the 1960s and ’70s: the more rapid the decline, the more rapid the pace of structural ageing, and the more rapid the loss of the first dividend years.

By definition, the ending of the first dividend period heralds the onset of the second dividend – the period during which an increasing proportion of the working age population is moving towards and into the ostensibly higher income earning and saving age groups. However, from a broad range of perspectives, it is difficult to see how the second demographic dividend for Māori is likely to be realised, since the critically important prior investment in social capital over the first dividend years did not take place. Instead, an untimely regime of political economic changes saw unemployment rates soar across the 1980s and ’90s (Jackson 1998) and remain relatively high. This is not to say that there has been no increase in the proportion of young Māori gaining higher educational qualifications (Jackson 2002) or being employed, but rather that the policies that would prioritise full employment for all, or appropriately remunerate those qualifications – that is, proactively capitalise on the demographic dividend period – have been lamentably absent. The comments apply equally to the first demographic dividend period of non-Māori New Zealanders, which unfolded across a similar timeframe, but because of different demographic drivers which are not the topic of this paper.

4 It should be noted that changes in the classification of Māori over the period under discussion introduce an unknown but unavoidable element of error. The trends are, nevertheless, a valid approximation.
While the first demographic dividend may have passed for Māori, and I reiterate that this proposition remains inconclusive, its opportunities for economic advancement remain in another form – that of the potential collateral dividend proposed above. As the data in Figures 1 and 2 show very clearly, the Māori population will remain extremely youthful for the foreseeable future, and that ever larger cohorts will enter the working ages for many years yet, while the total population and workforce will undergo pronounced structural ageing.

MĀORI AND THE 'COLLATERAL' DEMOGRAPHIC DIVIDEND

The potential for a collateral demographic dividend arises from the coincidence of the structurally youthful Māori population living alongside the larger non-Māori, predominantly European-origin population which is significantly further advanced in the structural ageing process. To illustrate this argument I turn first to a brief overview of New Zealand’s ‘unique’ experience of population ageing, then to regional differences across New Zealand, and finally to age structural data for a small selection of industries. The data and arguments below are drawn almost directly from Jackson 2011a.

New Zealand’s structural ageing is not [only] of the conventional kind. Rather, it is being accelerated through a migration-driven bite in the age structure at young adult ages which is causing the median age to increase at a faster rate than would otherwise be expected given New Zealand’s relatively high birth rate. This bite – which in many sub-national areas is taking on a pronounced hour-glass shape – ushers in a very profound problem for the labour market. The baby boomers start entering the retirement zone en masse this year: who will be there to replace them?

Figure 3 illustrates the scenario that is unfolding. As the first large baby boom cohort retires it will be more than replaced by the cohorts currently aged 20-29 years and the even larger 15-19 year old ‘blip’ that was born around 1991 (1989-1993). However the deep bite above those cohorts will also move north in the age structure, in all likelihood creating a vacuum that will reinforce an already demographically tight labour market. Thereafter, as each successively larger wave of boomers retires, it will be ‘replaced’ by a successively smaller cohort. There will be little excess labour supply. If realised, the assumption of a net international migration gain of 10,000 per year in Statistics New Zealand’s medium case projections will to some extent offset these dynamics at the national level, the numbers of ‘entrants’ to ‘exits’ not expected to reach one for one until the mid 2020s. But it may scarcely be noticed in the non-urban areas, where – as will be outlined below – more than 40% of New Zealand’s Territorial Authorities (TA’s) already have fewer labour market entrants than exits.
In the interim, the forthcoming youth deficit – as smaller cohorts replace the currently larger 15-19 year old cohort – has profound implications. If just a small proportion of the current 15-19 year cohort leaves New Zealand and doesn’t return, New Zealand employers will be faced with a labour shortage of crisis proportions. We are not talking about 20 years hence when new technology may require fewer workers (a scenario often proposed when this story is outlined), but rather, a situation that has already begun, is significant outside of the main centres, and will become painfully evident within the next five years. The smaller cohorts following the 1991 Baby Blip – the labour market entrants of 2016-2026 - can only be enlarged by strong positive family-stream migration. It is 15 years before the next large cohort\(^5\) (that currently being born) arrives at labour market entry age.

Accompanying – or in essence driving these changes – is that the young will be in ever shorter supply and ever-greater demand. Their relative deficit will increase competition for them – between industries (including between the labour market and the educational institutions), and between regions and countries – most obviously across the Tasman where more than half of Australia’s local government areas (LGAs) already have similar hour glass age structures and already have fewer labour market entrants than exits (Jackson 2009). As competition increases it

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\(^5\) I have elsewhere termed this generation ‘Gen TGyH’ (‘Thank God You’re Here’) – Jackson 2011.
is not difficult to imagine that labour costs will go up, and if labour costs go up, so too will the cost of services and consumption items.

Of related importance is that the trends are strongly associated with a slowing and in most cases arguably permanent ending of growth in severely affected regions. Between 2006 and 2010, 15 of New Zealand’s Territorial Authorities (22%) either stopped growing or declined in size (Jackson 2011a – see Appendix B). Several of these regions have high proportions of Māori and should thus be of particular interest for the economic opportunities they may offer.

It should also be remembered that, on a daily basis, labour supply is needed locally, not nationally. The following section illustrates that population ageing is unfolding most unevenly across the country, and that current arguments such as the importing of health care workers from the Philippines is a reflection of ‘jobs that New Zealanders don’t want’ (TV 3, The Nation, May 2011), may instead reflect a lack of New Zealanders where many such jobs are.

Figure 4 gives data for nine of the country’s 67 Territorial Authorities (TA’s):. Reading from left to right compares a selection of relatively ‘young’ to relatively ‘old’ age structures (Matamata-Piako being around the middle, and Thames-Coromandel being one of the oldest). In each case the data are compared with that for total New Zealand (shown by unshaded bars). As argued above the hour-glass shape of these age structures is very important, in most cases reflecting the net migration loss of young adults but in some (for example Thames-Coromandel) also reflecting the in-migration of older retirees. There, one finds less than six people at labour market entry age (15–24 years) for every ten in the retirement zone (55–64 years), compared with 13.2 for every ten at national level. The underlying loss of people of reproductive age has particularly profound implications, as even a high birth rate cannot offset the lack of people to have those children. In all case the TAs now experiencing the decline or zero growth noted above have proportions at the key reproductive ages lower than Total New Zealand (Appendix C).

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6 Until 2010 there were 73 Territorial Authorities – the number being reduced with the recent amalgamation of Auckland and six TA’s surrounding the city into one.
Figure 4: Age-Sex Structure, Selected Territorial Authorities compared with Total New Zealand, 2010

Source: Jackson 2011a
By contrast, the major cities and urban areas are the recipients of most young immigrants, whether internal or international, and their age structures differ markedly, that for Auckland for example exhibiting a beehive shape, and that for Wellington resembling a Christmas tree. The differences by region can be summarised through the use of various ‘ageing indices’. Figure 5 shows the proportion of New Zealand’s Territorial Authorities with fewer people at labour market entry age (again 15-24 years) to those in the retirement zone (55-64 years). In 1996, only 5% of New Zealand’s TA’s had fewer people at labour market entry than exit age. By 2001 that had increased to 21% and by 2006 to 25%. By 2010, 42% of TA’s had fewer entrants than exits. If we shift attention to an older ‘entry/exit’ ratio, that between entrants aged 20-29 and exits aged 60-69 years and thereby capture the desired increase in labour market participation of older workers (which is definitely occurring), we find that the picture is the same but the proportions are greater: increasing from 4% in 1996 to almost 50% in 2010. In all cases the incremental or sequentially unfolding nature of the shift is observable. The end to excess labour supply in the non-urban regions is spreading inexorably and is unlikely to reverse. This is a major opportunity for Māori who may wish to further explore the situation with regard to particular industries.

Figure 5: Towards the end of excess labour supply: percentage of TA’s with fewer people at labour market entry than exit age, by differing age bands, 1996-2010

These trends have major implications for the different industries that comprise each region’s economic base – and of course to some extent will also reflect past changes in those industries. It is impossible here to illustrate the argument for more than a few, but Figure 6 does this with 2006 Census data for Hospitals and Nursing Homes, and Grain, Sheep and Beef Cattle Farming. In the former case data are shown for the Auckland and Southland Regions, and in the latter, for the Bay of Plenty and Southland Regions. It should be noted that these data are now five years old and that all five year age bands will now have moved up one age group, making the following ratios conservative.

Figure 6 indicates that in the Auckland Region in 2006 there were 11.4 people aged 15-29 years employed in the Hospital and Nursing Home industry, for every ten in the retirement zone (here 55+ years), while in Southland there were only six for every ten. These disparities point to opportunities for Māori in health and community services where Māori productivity is high (NZIER 2011: 7).

Similarly if we look at the Grain, Sheep and Beef industry we find in the Bay of Plenty Region fewer than four people at labour market entry age for every ten in the retirement zone (55+ years).
years), while in Southland the ratio is closer to five to ten. In neither case are these ratios anywhere near one for one, and they raise many questions, for example who will buy (or inherit) the farms as their older owners relinquish them? When disaggregated by employment status (self employed, employer, paid worker etc., not shown here), it is clear that a crisis of succession is facing New Zealand’s farming industries.

Figure 6: Age-Sex Structures for Selected Industries and Regions, 2006 Census

O861 Hospitals and Nursing Homes

A012 Grain, Sheep and Beef Cattle Farming

Bay of Plenty Region

Southland Region

Source: Jackson 2011a /Statistics NZ Customised Census Database, Industry (ANZSIC96 V4.1) and Status in Employment by Age Group and Sex

Note: Different scales on X-Axis
This section concludes the paper with a few brief comments on age-related opportunities by considering the proportions of Māori and all New Zealanders with each highest qualification by age and sex (Figures 7 and 8).

As is well documented, Māori are more likely to receive training in non-professional industries, such as building and construction, engineering or forestry (NZIER 2011), and this can be seen in the higher proportions of Māori than the total population with an ‘Other Tertiary’ qualification. Often these qualifications are perceived to have negative implications for attaining higher incomes. However, as the foregoing discussion has been arguing, there will be many opportunities for Māori as the older (predominantly European-origin) population retires and is replaced by ever-smaller cohorts. A key need for Māori will be to identify those opportunities and to ensure that Māori (of all ages) are trained appropriately. This will be particularly important in areas of significant social, cultural and economic importance to Māori, such as agriculture and other primary industry, and certain regions. It is also important to note that work in industries such as agriculture and many trades is increasingly skilled work. Alongside the high proportions of Māori with ‘Other Tertiary’ qualifications, the relatively high proportions with High School qualifications shown in Figure 7 provides a sound basis for the gaining of additional qualifications. It is also clear that the highest proportions with no qualifications are – as would be expected – those in the youngest and oldest age groups, a situation that is common to both populations. While it can be expected that relatively few older people will seek new qualifications, it should at all times be remembered that the Māori population is disproportionately at the ages where most qualifications are yet to be gained (Jackson 2002). This demographic difference disproportionately exposes Māori to significant potential to achieve its economic aspirations, but, as has been cautioned throughout this paper, just having a demographic dividend will not in and of itself convert to an economic dividend: that must be strategically planned for.
Figure 7: Highest Educational Qualification by Age and Sex, 2006 Census, Māori*

Notes* Multiple count ethnicity

Figure 8: Highest Educational Qualification by Age and Sex, 2006 Census, Total Population
SUMMARY

- The Māori population is disproportionately youthful, and, while it too is ‘ageing’, its relative youth will continue for many decades yet.
- A key concept for Māori to engage with is the demographic dividend arising from its relative youth and the many economic opportunities it affords. Three potential demographic dividends have been outlined here, the first arising as the proportion in the working ages rises vis-à-vis the proportion that is notionally dependent (0-14 and 65+ years), the second as that proportion falls but increasing proportions of older workers pass through the (potentially) higher income age groups, and the third (serendipitously) from being a relatively youthful population at the same time as the total population is ageing. It appears that the period of the first demographic dividend has already passed, although more refined analyses incorporating both demographic and economic data may show otherwise. If the first dividend has passed, the second is already compromised, as it is the investments in the first which flow through to generate the dividends of the second. Nevertheless, there remain many opportunities to ensure that the second window of opportunity is opened, with the development of appropriate policy. Most importantly, the third interpretation, that of a potential collateral demographic dividend, is readily available and awaiting engagement.
- These opportunities will accelerate as the older total population ages. Young New Zealanders, disproportionately Māori, will be in ever-shorter supply and ever-greater demand, as each successively larger cohort of baby boomers retires and is replaced by a successively smaller cohort of labour market entrants. A ‘bite’ in the age structure between the two broad age groups will see increasing competition for labour market participants (both here and globally) that will arguably result in higher wages – and also higher costs that need to be factored in. This situation is already pronounced in the non-urban areas where Māori have a high level of social, cultural and economic interest, and will provide Māori with many opportunities. Already 42% of New Zealand Territorial Authorities have fewer people at labour market entry than exit age.
- In addition to historical factors not covered here, the demographic trends both reflect past changes in, and have significant implications for, industry, as many industrial age structures are significantly older than that of the total labour force, especially in ‘older’ regions. The farming industry, for example, has a particularly old age structure, raising questions about who will buy the farms as the older owners relinquish them. This situation again presents Māori with many unique opportunities.
SECTION THREE: APPENDICES
APPENDIX A: FERTILITY AND FAMILY FORMATION

Sitting behind the demographic disparities discussed in this paper are significant differences in the timing and magnitude of fertility transition. In 2009 the Total Fertility Rate (TFR) for Māori was 2.8. Figure A1 indicates that this was a little higher than experienced across the past decade, particularly when compared with a trough in 2002 (TFR 2.5), but also a little lower than in 2008 when the TFR rose briefly to 2.95. All recent rates are substantially lower than in the 1960s when the Māori fertility transition began in 1964. Between 1973 and 1978 the TFR for Māori fell from 5.0 to 2.8, making it one of the world’s most rapid reproductive revolutions (Pool 1991: 170).

The increased birth rates per woman, coupled with an increase in the size of the reproductive age population, have resulted in a sizeable increase in Māori birth numbers, from 14,871 at the trough in 2002, to 18,027 in 2009, an increase of 21%.

Figure A1: Total Fertility Rate, Māori 1962–2007*

These trends must be placed in context alongside those for all New Zealand women, because fertility rates and birth numbers for all New Zealand women similarly experienced a trough in 2002 and then increased, peaking in 2008. Nevertheless, over the period 2002–2009, the proportion of births classified as Māori increased from 27.5% of all births, to nearly 29.0% (Table A2). These proportions are somewhat greater than those currently accounted for by young Māori (e.g., 21% at 0–14 years as indicated in Table A1 – see text), providing an indication of the future labour market entrant population that will be of Māori origin.

7 It should be noted that the gap in the data series between 1991 and 1995 reflects a change in the way Māori births are classified; accordingly the two trends are not strictly comparable.

8 In 2009 the TFR for the total New Zealand population was 2.14, a little higher than its recent peak which also occurred in 2008 (2.18 births per woman) but substantially higher than a trough which – as for Māori - occurred in 2002 (1.89 births per woman). Birth numbers for total New Zealand have similarly increased, but by a smaller percentage (16%).
Table A1: Live Births, Māori, Non-Māori and Total 2002-2009

<table>
<thead>
<tr>
<th>Year</th>
<th>Non-Māori</th>
<th>Māori</th>
<th>Total</th>
<th>% Māori</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>14,871</td>
<td>39,150</td>
<td>54,021</td>
<td>27.5</td>
</tr>
<tr>
<td>2003</td>
<td>15,657</td>
<td>40,477</td>
<td>56,134</td>
<td>27.9</td>
</tr>
<tr>
<td>2004</td>
<td>16,259</td>
<td>41,814</td>
<td>58,073</td>
<td>28.0</td>
</tr>
<tr>
<td>2005</td>
<td>16,437</td>
<td>41,308</td>
<td>57,745</td>
<td>28.5</td>
</tr>
<tr>
<td>2006</td>
<td>17,342</td>
<td>41,851</td>
<td>59,193</td>
<td>29.3</td>
</tr>
<tr>
<td>2007</td>
<td>18,717</td>
<td>45,327</td>
<td>64,044</td>
<td>29.2</td>
</tr>
<tr>
<td>2008</td>
<td>18,844</td>
<td>45,499</td>
<td>64,343</td>
<td>29.3</td>
</tr>
<tr>
<td>2009</td>
<td>18,027</td>
<td>44,516</td>
<td>62,543</td>
<td>28.8</td>
</tr>
</tbody>
</table>

Source: Statistics NZ’ Live Births, Total and Maori Quarterly

Of equal importance is the relatively youthful age at which Māori women have their children, and the fact that this pattern has seen relatively little change over the past 15 years. Figure A2 compares age-specific rates for Māori (1996 and 2009) and Total New Zealand (2009) converted to percentage of each age group giving birth. For Māori, the peak age at giving birth has shifted over the period from 23 to 24 years, while that for all women has shifted from 29 to 31 years (data for 1996 not shown). By 2009, the proportion of Māori women giving birth at age 24 was twice that of all women (16.9 and 8.8% respectively). The pattern of an older age at childbearing for total New Zealand is very similar to that for all OECD countries, albeit New Zealand tends to have one of the youngest ages overall. However the small drop at age 20-23 years for Māori alongside general increases at 30+ years could also be indicating a shift to a slightly older pattern of childbearing.

Figure A2: Age-Specific Fertility (Percentage at each age), Māori and Total

Source: Statistics New Zealand
If Māori childbearing is shifting to slightly older ages it would have many positive implications for young Māori women, as participation rates are always much lower for women with children than without. Additional time in the labour force, or alternatively in higher education before having children, is universally correlated with increased skills and income. A shift to older ages would also potentially see the fertility rate and birth numbers drop, contributing to the demographic dividend. However over the longer term, the still substantially higher fertility rates of today’s young Māori women would mean – for them – a longer relative period spent supporting children and a concomitant shortening of the potential second demographic dividend.

**LIFE EXPECTANCY**

*Trends in life expectancy are similarly correlated with the onset of the first and second demographic dividends. Figure A3 shows that life expectancy for Māori has increased substantially over the period 1950-2007, that for males increasing by 30.4% and for females by 34.3% (by comparison with 16.1% for all males and 15.3 % for all females). Despite these relative improvements, Māori life expectancy in 2005-07 remained lower than that for the total population by 7.6 years for males and 7.1 years for females (9.6 and 8.6% respectively).*

*Figure A3: Life Expectancy 1950-2007, Māori and Total, By Sex*

At the same time, the gains have been experienced at all ages, and more or less monotonically. Survivorship data for example shows that the proportion of Māori remaining alive at each age has in almost all cases increased for each successive age at each successive observation (Figure A4). In 1950, only 52.5% of Māori males born that year could expect to reach age 60, while by 2005-07 that had increased to 79.5% (Statistics New Zealand 2009: Table 4.14). For females the equivalent proportions were 53.0% in 1950 and 86.7% in 2005-07. These proportions are still lower than for the total population, but the increases are significantly greater – in large part because survivorship to age 60 for the total population already approaches the maximum, 90% for males and 93% for females (Statistics New Zealand 2009: Table 4.13).
Table A2 shows that the gains in Māori survivorship at each age (since 1950) are now becoming pronounced at the older ages. At age 10, for example, the proportion surviving has increased by 10.6 percentage points for males and 9.3 percentage points for females. These are relatively low gains compared with those at older ages because 98.9% of Māori male children and 99.1% of Māori female children already survive to these ages (up from 88.3 and 89.8% in 1950). By comparison the increases at age 60 are 27.0 and 33.7 percentage points for males and females respectively, and at age 65, even greater, 28.9 and 36.7%. Table A2 also shows that there is still much (relative) improvement to look forward to, because while the gains reach their maximum at age 65 for Māori (males and female alike), they do not peak for all males until age 80, and for all females until age 85.

Figure A4: proportion of each age group surviving 1950-2007, Māori Males and Females

In absolute terms then, the gains portend well for the future Māori economy, with the potential for more people living and working longer, and thereby for a potentially strong second demographic dividend when that period is reached.
Table A2: Percentage Point change in the proportion of each age group surviving to each age, 1950-2007

<table>
<thead>
<tr>
<th>Age</th>
<th>Maori Males</th>
<th>Maori Females</th>
<th>Total NZ Males</th>
<th>Total NZ Females</th>
</tr>
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<tr>
<td>0</td>
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<td>1</td>
<td>7.2</td>
<td>6.4</td>
<td>2.5</td>
<td>2.1</td>
</tr>
<tr>
<td>5</td>
<td>9.7</td>
<td>8.6</td>
<td>3.2</td>
<td>2.6</td>
</tr>
<tr>
<td>10</td>
<td>10.6</td>
<td>9.3</td>
<td>3.5</td>
<td>2.8</td>
</tr>
<tr>
<td>15</td>
<td>11.2</td>
<td>10.1</td>
<td>3.8</td>
<td>3.0</td>
</tr>
<tr>
<td>20</td>
<td>12.2</td>
<td>11.2</td>
<td>4.1</td>
<td>3.2</td>
</tr>
<tr>
<td>25</td>
<td>13.6</td>
<td>12.8</td>
<td>4.5</td>
<td>3.5</td>
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<td>30</td>
<td>15.1</td>
<td>14.5</td>
<td>4.8</td>
<td>3.9</td>
</tr>
<tr>
<td>35</td>
<td>16.7</td>
<td>16.0</td>
<td>5.3</td>
<td>4.3</td>
</tr>
<tr>
<td>40</td>
<td>18.4</td>
<td>18.2</td>
<td>5.9</td>
<td>4.8</td>
</tr>
<tr>
<td>45</td>
<td>20.0</td>
<td>21.1</td>
<td>6.6</td>
<td>5.6</td>
</tr>
<tr>
<td>50</td>
<td>21.8</td>
<td>25.3</td>
<td>7.9</td>
<td>6.9</td>
</tr>
<tr>
<td>55</td>
<td>24.6</td>
<td>29.5</td>
<td>10.1</td>
<td>8.7</td>
</tr>
<tr>
<td>60</td>
<td>27.0</td>
<td>33.7</td>
<td>13.6</td>
<td>11.2</td>
</tr>
<tr>
<td>65</td>
<td>28.9</td>
<td>36.7</td>
<td>18.1</td>
<td>14.7</td>
</tr>
<tr>
<td>70</td>
<td>28.7</td>
<td>36.7</td>
<td>23.3</td>
<td>19.1</td>
</tr>
<tr>
<td>75</td>
<td>25.8</td>
<td>33.5</td>
<td>27.5</td>
<td>24.7</td>
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<td>80</td>
<td>20.1</td>
<td>28.1</td>
<td>28.9</td>
<td>30.4</td>
</tr>
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<td>85</td>
<td>12.1</td>
<td>20.1</td>
<td>24.6</td>
<td>31.3</td>
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<tr>
<td>90</td>
<td>5.1</td>
<td>11.1</td>
<td>14.3</td>
<td>23.3</td>
</tr>
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</table>

Source: Calculated from Statistics New Zealand Demographic Trends 2009: Tables 4.13 and 4.14
APPENDIX B: PROJECTION ASSUMPTIONS

The ethnic concept used in the projections in this paper is the ethnic group or groups that people identify with or feel they belong to. Ethnicity is self-perceived and people can belong to more than one ethnic group. For example, people can identify with Māori ethnicity even though they may not be descended from a Māori ancestor. Conversely, people may choose to not identify with Māori ethnicity even though they are descended from a Māori ancestor (Statistics New Zealand 2011).

The projections are based on the Series 6 (medium variant) assumptions; for details see http://www.stats.govt.nz/browse_for_stats/population/estimates_and_projections/NationalEthnicPopulationProjections_HOTP2006-26/Technical%20Notes.aspx. The following basic information is drawn from that site.

Fertility: The Series 6 assumptions assume that fertility rates for Māori women will vary until the year 2026 when the total fertility rate will reach 2.50 births per woman, down from 2.78 births per Māori woman in 2005-07. The corresponding total paternity rate of Māori men (with non-Māori women) is assumed to reach 0.95 in 2026, down from 0.97 births per Māori man in 2007. The assumptions also assume that Māori fertility will shift to slightly older ages. Projected births are then reduced to allow for births to Māori parent(s) that are not registered as Māori children. The medium variant assumes that 3.9% of births to Māori parent(s) will be non-Māori children.

Mortality: The medium mortality variant assumes that mortality rates for Māori will continue to drop so that the life expectancy at birth for Māori males will increase from 70.9 years in 2007 to 75.4.

Migration: The medium migration variant assumes long-run annual net migration of Māori people of -3,000. This is based on trends of -4,500 in 2007, -5,500 in 2008, -4,000 in 2009, -2,000 in 2010, and -2,000 in 2011. The age-sex patterns of net migration assume net outflows at all ages, with the highest net outflows at ages 19–26 years.

Inter-ethnic mobility: The projections make an allowance for people changing their ethnic identification over time. Comparisons of demographic estimates and census populations during 1966–2006 suggest that inter-ethnic mobility generally resulted in a loss from the Māori population of between 0.3 and 0.9% per year. However, changes in census questionnaire design, ethnicity classification and coding make it difficult to measure inter-ethnic mobility, especially as there are no explicit estimates of ethnic migration. In some periods there has been greater awareness of Māori issues which may have increased the propensity of people to identify with Māori ethnicity. The 2006-base medium variant assumes inter-ethnic mobility loss from the Māori population...

The medium variant assumes a net change due to Māori people changing their ethnic identification based on an average annual rate (in 2007) of -0.3%. The age pattern of inter-ethnic mobility is applied to each sex and assumes the highest net mobility at ages 12–26 years.
### APPENDIX C – SUBNATIONAL ENDING OF GROWTH

#### Table 4: Subnational Areas Stopped Growing / In Decline 2006-2010

<table>
<thead>
<tr>
<th></th>
<th>Change</th>
<th>Size in 2010</th>
<th>% 20-39 years</th>
<th>% 65+ years</th>
<th>Elderly / Children</th>
<th>Natural Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(2006-2010)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chatham Islands territory</td>
<td>640</td>
<td>0.0</td>
<td>26.6</td>
<td>12.1</td>
<td>0.55</td>
<td>0.15 declining</td>
</tr>
<tr>
<td>Gore district</td>
<td>12300</td>
<td>-0.4</td>
<td>20.7</td>
<td>17.9</td>
<td>0.92</td>
<td>0.17 declining</td>
</tr>
<tr>
<td>Kawerau district</td>
<td>7000</td>
<td>-2.1</td>
<td>22.0</td>
<td>15.0</td>
<td>0.60</td>
<td>1.07</td>
</tr>
<tr>
<td>Opopiki district</td>
<td>8990</td>
<td>-2.2</td>
<td>18.7</td>
<td>15.4</td>
<td>0.63</td>
<td>0.40 declining</td>
</tr>
<tr>
<td>Otorohanga district</td>
<td>9290</td>
<td>-0.2</td>
<td>25.1</td>
<td>11.5</td>
<td>0.50</td>
<td>0.89</td>
</tr>
<tr>
<td>Rangitikei district</td>
<td>14850</td>
<td>-1.7</td>
<td>21.7</td>
<td>16.2</td>
<td>0.76</td>
<td>0.68</td>
</tr>
<tr>
<td>Ruapehu district</td>
<td>13500</td>
<td>-4.0</td>
<td>24.1</td>
<td>11.8</td>
<td>0.50</td>
<td>0.90 declining</td>
</tr>
<tr>
<td>South Taranaki district</td>
<td>26800</td>
<td>-1.5</td>
<td>24.0</td>
<td>14.3</td>
<td>0.63</td>
<td>0.84</td>
</tr>
<tr>
<td>South Waikato district</td>
<td>22800</td>
<td>-2.2</td>
<td>22.2</td>
<td>14.3</td>
<td>0.58</td>
<td>0.90</td>
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<tr>
<td>Tararua district</td>
<td>17700</td>
<td>-1.9</td>
<td>21.0</td>
<td>15.2</td>
<td>0.67</td>
<td>0.69 declining</td>
</tr>
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<td>Waioa district</td>
<td>8430</td>
<td>-3.4</td>
<td>20.8</td>
<td>13.9</td>
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<td>0.90</td>
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<td>Waitaki district</td>
<td>20700</td>
<td>0.0</td>
<td>17.4</td>
<td>21.9</td>
<td>1.23</td>
<td>-0.04 declining</td>
</tr>
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<td>Waitomo district</td>
<td>9640</td>
<td>-0.3</td>
<td>23.4</td>
<td>12.5</td>
<td>0.50</td>
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</tr>
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<td>Wanganui district</td>
<td>43500</td>
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<td>21.3</td>
<td>18.0</td>
<td>0.89</td>
<td>0.37</td>
</tr>
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<td>Whakatane district</td>
<td>34500</td>
<td>0.0</td>
<td>22.0</td>
<td>13.8</td>
<td>0.60</td>
<td>0.57 declining</td>
</tr>
<tr>
<td><strong>Total (these areas)</strong></td>
<td><strong>250640</strong></td>
<td><strong>-1.2</strong></td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>As % of Total New Zealand</td>
<td>5.7</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>New Zealand</td>
<td>26.9</td>
<td>13.0</td>
<td>0.64</td>
<td>0.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Statistics New Zealand (various years), Subnational population estimates

1996-2010 subnational totals
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Statistics New Zealand (various years) Births.
Statistics New Zealand (various years) Demographic Trends.
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