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Working Paper

Well-being of Women in New Zealand: The Changing Landscape

Economics Working Paper Series, No. 2012/07

Provided in Cooperation with:

Faculty of Business, Economics and Law, Auckland University of Technology (AUT)

Suggested Citation: Dye, Jessica; Rossouw, Stephanie; Pacheco, Gail (2012) : Well-being of Women in New Zealand: The Changing Landscape, Economics Working Paper Series, No. 2012/07, Auckland University of Technology (AUT), Faculty of Business, Economics and Law, Auckland

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Department of Economics

Working Paper Series

Well-being of Women in New Zealand: The Changing Landscape

Jessica Dye, Stephanié Rossouw, and Gail Pacheco

2012/07

Well-being of Women in New Zealand: The Changing Landscape

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Abstract:

As the first country to give women the right to vote in 1893, New Zealand (NZ) has often been viewed as a leader in the global movement towards gender equality. This paper aims to assess trends in overall well-being for NZ women, by pulling together a range of statistical indicators across five key facets of well-being: demographic and family changes, education, employment, health, and crime and violence.

From our analysis two contrasting pictures emerge. The first is that NZ women are clearly making up ground in respect of their education, participation in the labour force (less so in terms of wage equality), and overall health outcomes (barring mental health issues, such as depression). In the second, however, NZ women are trailing behind their other developed nation counterparts when one considers crime and violence, both committed against and by them.

Keywords: Gender equality; women's well-being

JEL Classification: I10, J10

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1. Introduction

This paper aims to pull together a range of statistical indicators across five key facets of women's well-being in New Zealand (NZ). These include providing a portrait of demographic and family changes, education, employment, health, and crime and violence. The main motivation for this analysis is to enhance our understanding of how women's well-being has evolved over time, and to highlight areas of possible concern.

Gender based research has always attracted significant attention and NZ has often been held up as an example of a leader in the global movement towards gender equality since becoming the first country in the world to give women the right to vote in 1893. This study is inspired by a report prepared by the U.S. Department of Commerce for the White House Council on Women and Girls. That report (U.S. Department of Commerce, 2011) provided descriptive information on five indicators of well-being: (i) People, Families, and Income; (ii) Education; (iii) Employment; (iv) Health; and (v) Crime and Violence. It was based on quantitative snapshots of variables representing each of these categories and, depending on data availability, this information was available over time (in some cases as far back as 1950, in many cases as far back as the 1970s, and in a few circumstances information was available for just one year – 2009). This paper follows in the footsteps of the aforementioned report with the view that these five indicators are also areas of concern for NZ women as a whole. For example, recent research by Dwyer (2006) finds that NZ women still get paid less for the same work relative to their male counterparts. Research by Pouwhare (1999) shows that at the end of the 20th century, family violence was a major impediment to Māori women's ability to seek and retain employment. More recently, Bramley, Hebert, Tuzzio and Cassin (2005) have found that there is a glaring gender and ethnic gap in terms of life expectancy, with Māori females having a life expectancy of 9.4 years lower than their non-Māori counterparts.

Therefore, this paper aims to provide a descriptive analysis of these five key areas over a long time frame, with data for some indicators data available from 1966 to 2010. Extant studies that track the progress of NZ women are either focussed on one issue, or present data for a much shorter time frame. For instance, the Ministry of Health (2009) produced a descriptive report of a range of health indicators, with accompanying gender breakdown analysis, but the analysis was limited to a relatively short time frame of 1996 to 2006. A recent report by the Ministry of Women's Affairs (2010a) aims to track the progress of NZ women, using information on their current social and economic status, but this information is only available for a single year snapshot in 2008 for most indicators, and for a ten year period (1998-2008) for a few indicators.

The categories and variables selected for analysis in this paper are driven by previous studies (for example, U.S. Department of Commerce (2011), Dwyer, (2006), Jacobs (1996), Pouwhare (1999) and Bramley *et al.* (2005), as well as by data availability. The selected indicators measure a range of outcomes, of which many relate specifically to the government's goals for women. In a recent statement of intent by the Ministry of Women's Affairs for 2009 to 2012, the overall goal pertaining to NZ women involves them having real choices, and allowing them to use their strengths to maximise social and economic success (2010a). Three key priorities outlined are: (i) Women have the opportunity to develop and use their skills and talents; (ii) Women are healthy, empowered, resilient and safe; and (iii) Society recognises caring as integral to economic and social success. Based on these priorities, the Ministry of Women's Affairs have six aspirational outcomes, with the primary focus being on: (i) Women contributing their skills in the full range of leadership positions; (ii) A reduction in the incidence and impact of violence against women; and (iii) Women fully participating in work, family and community across their life course. A clear caveat of this study is that our analysis is based on selected indicators and for this reason we may be missing unmeasured but relevant indicators. Furthermore, other potential indicators were not chosen due to their perceived unsuitability for this study together with the need to prioritise indicators within the constraint of one research paper. Therefore, selection bias is a possible outcome that the reader should be aware of. We take comfort from the fact that the relevant government organisations focus on similar indicators within each of their domains – for example, the Ministry of Health, Ministry of Women's Affairs, and Ministry of Education.

Another contribution of this study is the cohort analysis provided in Section 4 on labour market outcomes. While it is useful to compare descriptive information for women 40 years ago with those today, further insights can be gained by viewing successive generations across time. The cohort analysis provided in Section 4 enables investigation of the full-time labour participation rates of women by age cohort, which reveals distinct trends by age groups and across generations.

The remainder of this paper is organised as follows: Section 2 provides selected indicators on women's demographic characteristics. The chief source of data for this section is the NZ Census. Section 3 describes trends in women's educational attainment. The data were primarily sourced from Education Counts (Ministry of Education). Section 4 presents changes over the last four decades in women's employment, labour force participation rates, earnings and time use. Section 5 provides statistics on a number of health indicators by gender. Data for this section are from a number of sources, such as Statistics NZ and the Ministry of Health. Section 6 discusses crime and violence against and perpetrated by women. The main sources include the Ministry of Justice, NZ Police Statistics and various surveys

such as the NZ Crime and Safety Survey. Finally, Section 7 provides an overview of key trends and concluding remarks.

2. Demographic and family changes

The second half of the 20th century has seen the demography of the NZ population change significantly. Not least of these changes is that of the role of women in the household, together with the expectations surrounding that role. Patterns in the household structure¹, immigration trends, structural change in the economy, and evolving aspirations for educational achievement and career development, are just a handful of the factors underlying demographic trends across the NZ population².

Between the 1966 and 2006 Census, the NZ population increased by almost 67 percent, going from just under 2.7 million to 4 million residents. Further, females make up an increasing proportion of the population, comprising just over 51 percent of the usually resident population at the most recent Census in 2006³, up from 49.8 percent in 1966. This demographic change has given way to a sex ratio of men per 100 women of 0.97 at the 2006 Census, compared to a ratio of 1.01 in 1966.

The NZ population is also ageing. The population aged below 16 now accounts for a smaller share of the total population; particularly in the case of women who, making up just under 34 percent of females in 1966 (males continue to outnumber females in this younger age category), made up just 22 percent by the 2006 census⁴. The gender imbalance is also highly apparent in the 65 years old and over age group; a reflection of better life expectancy and, thus, well-being for women relative to that of men (see Section 5). Unsurprisingly, the aging population is reflected in the marked increase in the working age population, primarily driven by an increase in the 40-64 years group which has grown by 25 percent in the last decade alone, compared to an increase of just 6.9 percent for those aged 15-39 over the same period. Consequently, the median age of NZ workers, especially female workers, looks set to persist upwards (Statistics NZ, 2011).

In terms of ethnic composition, Figure 1 shows that over the last half of the 20th century NZ's population has progressively become more culturally diverse. For example, while those identifying themselves as Pacifica accounted for 1 percent and 0.96 percent of the male and female population

¹ Particularly the declining proportion of two-parent families as shown by Hyslop and Maré (2005).

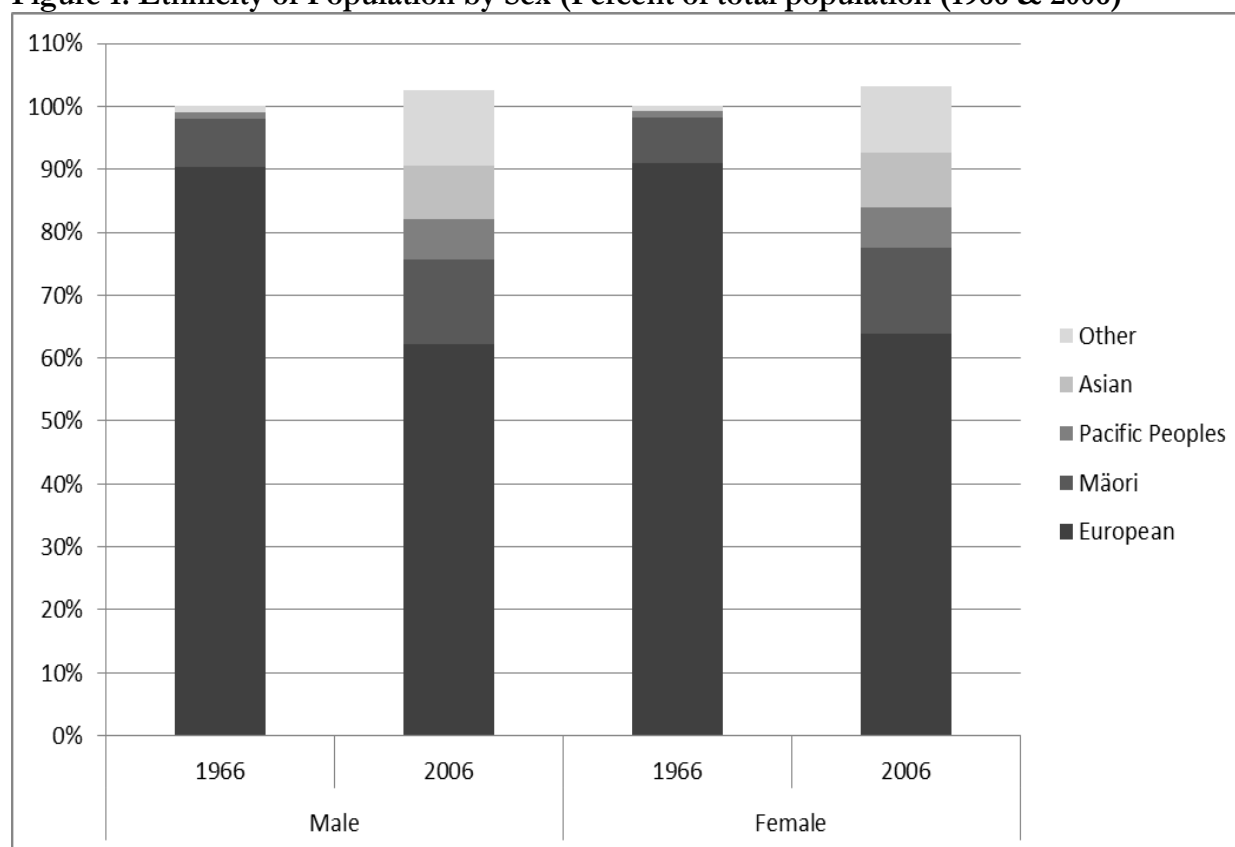
² Note that the following analysis will not attempt to disentangle the various causes and effects. Rather, it endeavours to provide a comprehensive portrait of the changing demographic landscape of NZ by gender since 1966.

³ The scheduled 2011 census was postponed due to the Christchurch earthquake in February 2011.

⁴ Since 2006, it is likely that the decreasing component of the population that is below 16 has either reversed or stabilised, due to the upsurge in births since mid-2000 (See Section 5 for further details).

respectively in 1966; by 2006 these figures had risen six-fold to 6.48 percent and 6.36 percent respectively. Moreover, those identifying themselves as Māori increased from 7.6 percent and 7.43 percent of the male and female population respectively in 1966, to 13.6 percent and 13.7 percent by 2006. It is also observed that the share of the population represented by Māori is relatively young, with just over one in three being under 15 years of age, and less than one in 20 being over 65. This fact is reflected in the median age of Māori women which was estimated as being just 24.3 years at year end 2009, 13 years younger than that of the total female population at 37.3 years (Statistics NZ, 2011a). Finally, the 'Other' category experienced the largest increase, primarily at the expense of the NZ European group. Those identifying themselves as NZ European have declined by nearly 30 percentage points; it is also the only category where there is a marginal difference between the genders making up 62 percent of the male population in 2006, and close to 64 percent of the female population compared to approximately 90 percent for both men and women in 1966.⁵

Figure 1: Ethnicity of Population by Sex (Percent of total population (1966 & 2006))



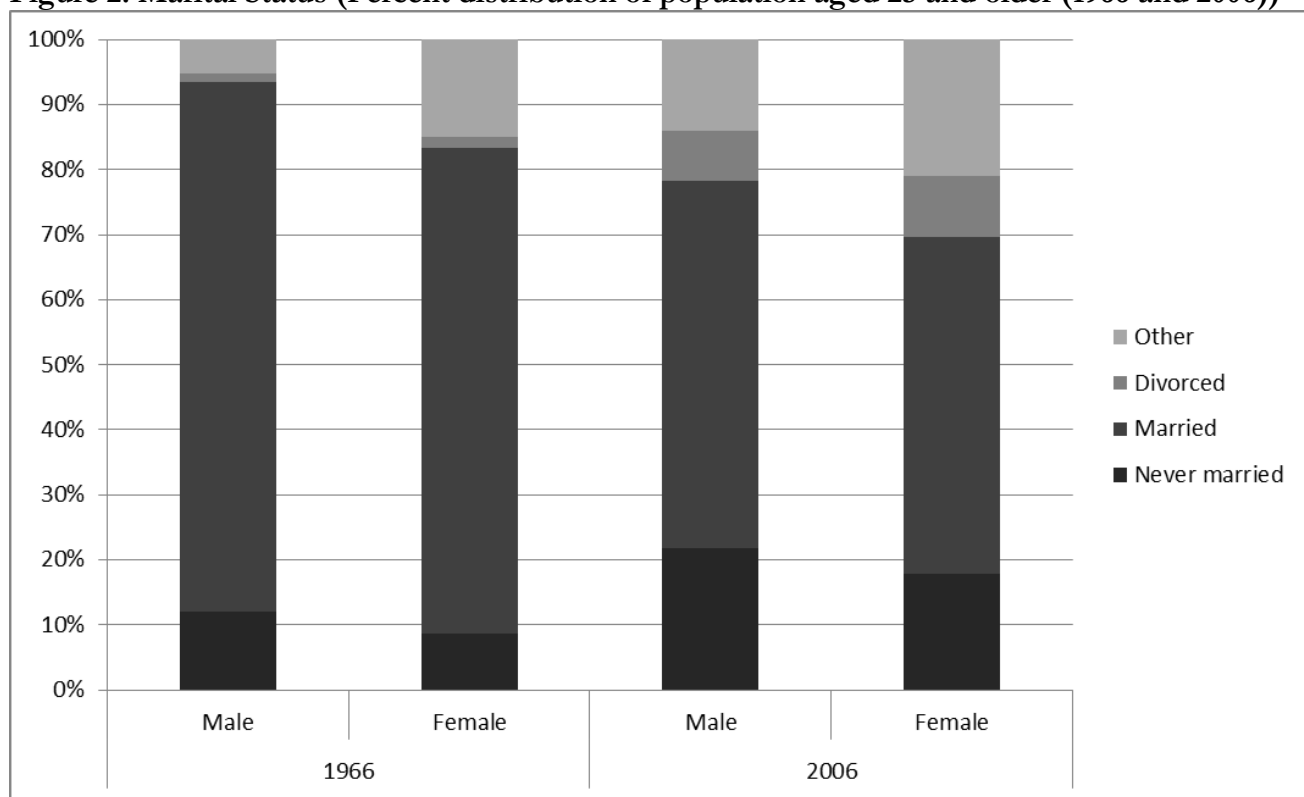
Data sourced from Census (Statistics NZ). Author's compilation.

Notes: All figures are for the census usually resident population. Due to small sample size, the Asian group was placed in the 'Other' category for 1966. For 2006, double counting exists, a person reporting more than one ethnic group being counted in each applicable group.

⁵ The changing ethnic mix of the NZ population is also reflected in the evolving data collection methods employed by Statistics NZ. Since the early 1990s, Statistics NZ has moved away from prioritising ethnicity data and instead enables respondents the opportunity to co-select a number of ethnicities to describe their background, and consequently, the sum of the ethnic groups is larger than 100 percent (Statistics NZ, 2005).

Since the post-World War II baby boom era of 1945-1973⁶ there has been a marked change in family formation patterns. There is an increasing trend towards delaying marriage, particularly for women. At the height of the baby boom in 1966, (Pool *et. al* (2007) notes there was a consistent peak across the 1960s), close to three quarters of women aged 25 and over were married. By 2006, barely half of the women in this age group were married. Several studies in the demography and sociology literature have discussed the forces behind the rise in delayed marriage, increased marital instability, and the downward trends in fertility rates (See Becker, 1981; Zimmerman, 1985; and Blossfeld & Huinink, 1991). One of the most commonly cited reasons is that women have experienced greater economic independence and well-being as a result of being better educated, providing them access to improved career opportunities.

Figure 2: Marital Status (Percent distribution of population aged 25 and older (1966 and 2006))



Data sourced from Census (Statistics NZ). Author's compilation.

Note: All figures are for the census usually resident population aged 25 years and over. The 'other' category includes separated, widowed, joined in a civil union & not stated.

Figure 2 illustrates that women have a higher incidence of divorce compared to their male counterparts, and that this gap has widened over the sample period. There was a rise in divorce rates post 1981 when 'no fault divorces' became possible, and marriage dissolution was allowed for the reason of 'irreconcilable differences'. Also noteworthy is the large increase in the proportion of the population, and in particular women, that fall into the 'Other' category which includes separated, widowed, joined in a civil union & not stated. Therefore, it is possible that the main driver behind this increase, and the observed difference

⁶ Pool *et. al* (2007) describes this phenomenon in greater detail.

between men and women, is the rise in the number of widowed women in the later time period. This complements statistics provided in Section 5 of this paper, where the life expectancy of women is found to exceed that of men throughout the observed time period.

The gap between the median age of first marriage for males and females, shown in Figure 3, has narrowed slightly, from 2.3 years in 1981 to 1.7 years in 2010. The median age for males and females where their previous marital status was that of divorced has followed similar trends to first marriages. Specifically, the median age of both men and women for their first marriage has increased by approximately 6 years over the last 3 decades, whereas the similar statistics for both men and women when they have previously been divorced has increased by approximately 10 years (37.5 to 47.4 years for males, and 34 to 44.1 years for females).

Figure 3: Median Age at First Marriage by Sex (Age in years (1981-2010))



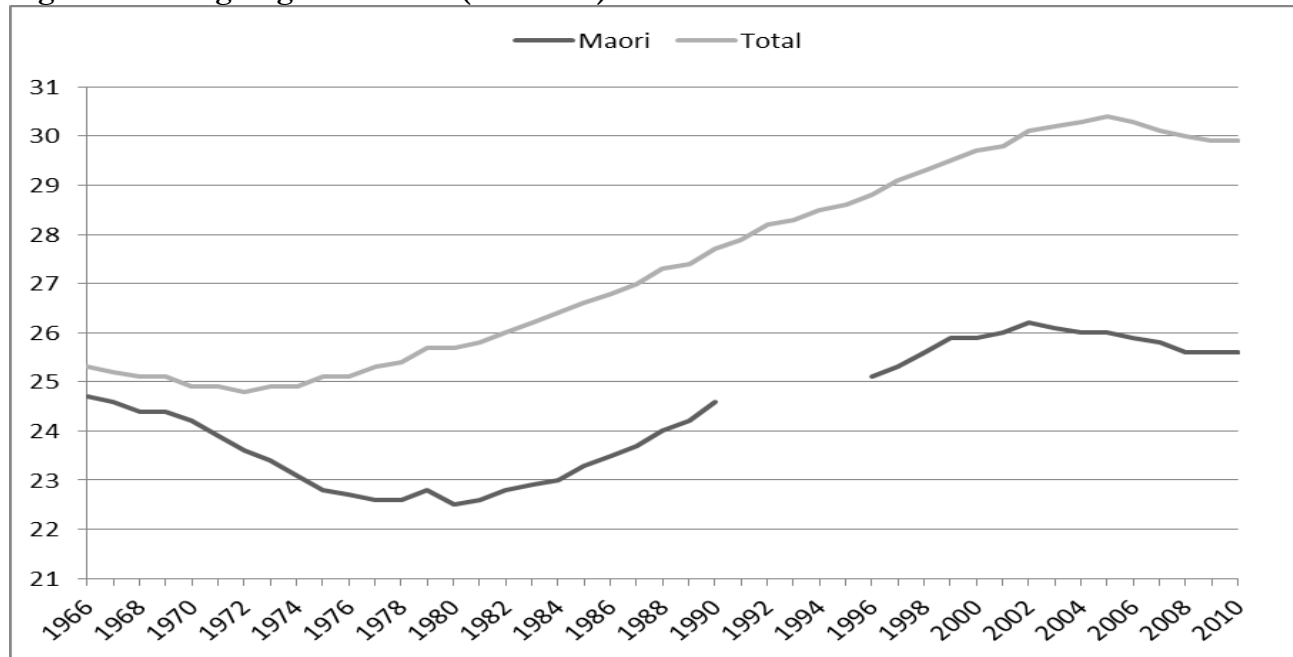
Data sourced from Statistics NZ. Author's compilation.

Women are also putting off having children. As illustrated in Figure 4, the average age of women giving birth has increased considerably since 1966, from 23.4 years to just over 30 years of age by 2009. Notably, the gap between Māori and all NZ women has increased substantially over the past few decades; the divergence first becoming apparent in the early 1970's when the average age of Māori women started to decrease, while the opposite held true for NZ women overall. A natural consequence of this delay in childbearing is smaller family size, which is also shown by the fact that the average number of children per women has decreased from 3.5 to 2.3 over the last 40 years⁷. This delay in

⁷ There is distinct variation in fertility rates across ethnicities. Māori and Pacifica women fertility rates are 2.8 and 3.0 respectively, while women not of these ethnicities have a total fertility rate of 1.8 (Statistics New Zealand, 2011b).

childbearing is frequently attributed in large part to the increased participation of women in both post school education and the labour market.

Figure 4: Average Age of Mother (1966-2010)



Data sourced from Statistics NZ. Author's compilation.

Notes: Data from 1991 includes NZ residents only.

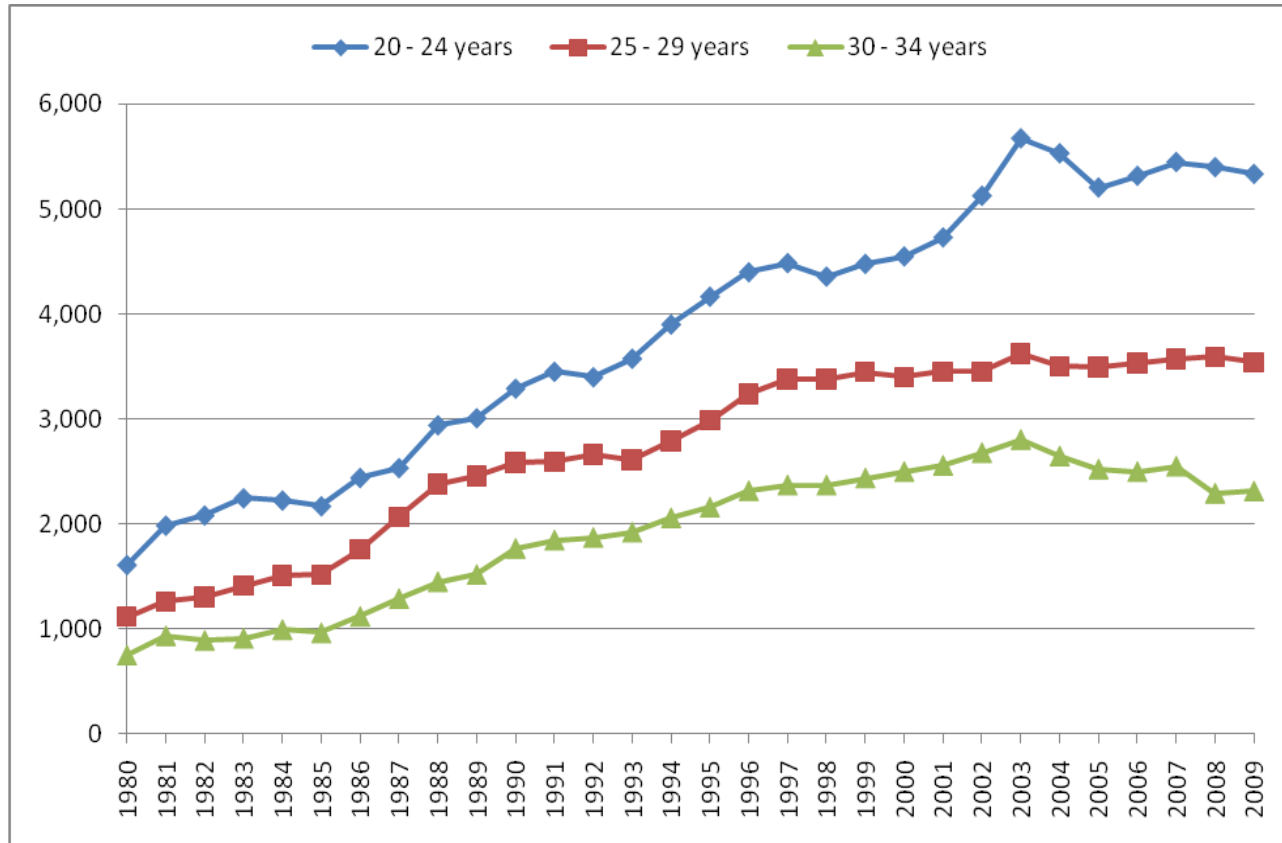
Median age of mother for the Māori population is based on the ethnicity of the child before 1991 and the ethnicity of the mother from 1991.

Figure 5 complements the findings in Figure 4 as it illustrates the increasing incidence of abortion in NZ. The last two decades have seen the number of terminated pregnancies double, with the figure at the turn of the millennium sitting at one in five pregnancies terminated (Statistics NZ, 2001). In particular, there has been a distinct rise in the number of induced abortions among 20-24 year olds who have consistently had the highest abortion rate per 1,000 women (of this age group). This increase appears, however, to have levelled off and even started to decrease in the late 2000's – the general abortion rate being 19.2 per 1,000 women in 2009, down from a peak of 20.8 in 2003. The median age of women having an abortion in 2009 was 24. Our findings are corroborated by Fergusson, Horwood and Ridder (2006), who found that 14.6 percent of women aged 25 or younger in their study had experienced an abortion.

While there are a myriad of social and economic reasons for abortion, in developed countries it is young / unmarried / educated women who are identified as being most likely to go down this road should they fall pregnant, with disruption of education and career development being a commonly cited consideration for these women (e.g. Bankole, Singh & Haas, 1998 & 1999; Statistics NZ, 2001). The relationship between abortion rates and well being is unclear. Some researchers claim that the women who undergo elective abortions experience psychological distress, and that it may occur months or

years after the event (See Speckhard, 1987; Speckhard & Rue, 1992). However, a review by Charles, Polis, Sridhara, and Blum (2008) of 21 studies investigating the potential association between abortion and long-term mental health outcomes, revealed that the highest quality studies reviewed found that there were mostly neutral impacts.

Figure 5: Abortions by Selected Age Group (Number of women (in units) (1980-2009))



Data sourced from Infoshare (Statistics NZ). Author's compilation.

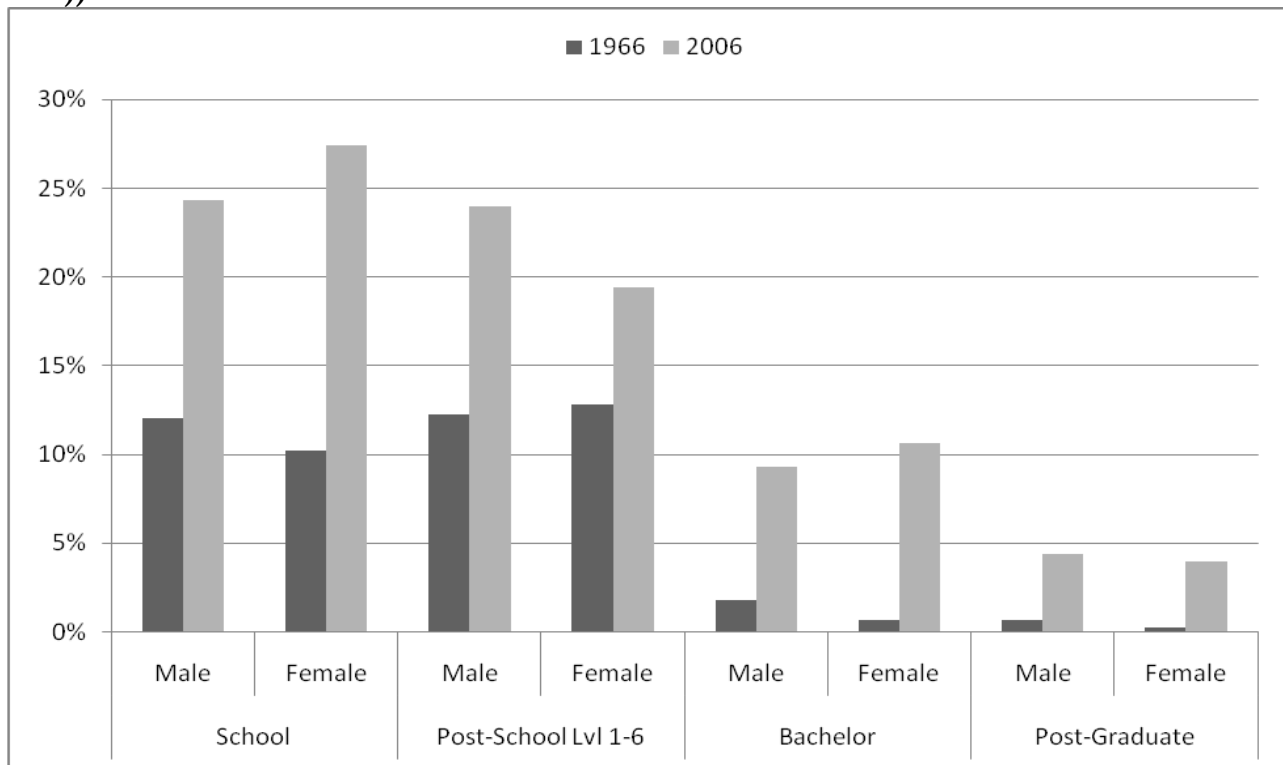
3. Education

Increased educational attainment has a strong association with both improved labour market (Pasih, 2008; Hanushek & Kimko, 2000; Kodrzycki, 2002) and social outcomes⁸ (Wolfe & Haveman, 2002; Bowen, 1977). Additionally, it is associated with lower poverty (Herz and Sperling, 2004), better health (Haveman & Wolfe, 1984), and improved satisfaction both in life (Strack, Argyle & Schwarz, 1991), and at work (Fargher, Kesting, Lange & Pacheco, 2008).

⁸ Hill & King's paper (1995) highlights the beneficial effects of educating women in particular. They discuss the flow-on effects evident within the family home, such as improved family health, as well as in society as a whole: for example, countries with higher levels of educated women were recognised as experiencing more rapid economic growth and improved quality of life.

NZ women have made substantial progress on the educational front over the last half of the 20th century, and particularly post 2000. Nevertheless, while overall participation in education is on the rise, there are noticeable differences between the genders.

Figure 6: Highest Qualification by Sex (Percent of population aged 15 years and over (1966 and 2006))



Data sourced from Census (Statistics NZ). Author's compilation.

Notes: All figures are for the census usually resident population aged 15 years and over. Not identifiable and not stated responses excluded. School qualification includes school certificate, sixth form qualification, university entrance, other NZ secondary school qualification and overseas school qualification.

Figure 6 provides the proportions of each gender according to highest qualification, and compares 1966 statistics with those of 2006. For categories other than post school and post graduate qualifications, females are outstripping males in terms of qualifications attained. Post school qualifications encompass any qualifications below a bachelors degree, but beyond school certificate, i.e. levels 1-6. This covers a wide range of diplomas and vocational training certificates, which continue to attract a higher proportion of males relative to females. It is worth noting that in 1966, females actually outdid men in this category (13 percent versus 12 percent respectively). Further disaggregated Census data reveals this was mainly due to many women taking on typing proficiency, and teaching certificates. In terms of higher qualifications, the percentage of females with a bachelors degree as their highest qualification has increased seventeen fold between 1966 and 2006, whereas the comparable figure for men increased by a factor of five. This is matched by figures from Education Counts that highlights how over the last decade (ending 2010) women have consistently outdone men with regard to age-standardised tertiary participation rates.

Noteworthy is that amongst ethnic groups, the highest rate of tertiary participation is that of Māori which sat at 16.7 percent in 2010⁹, with the participation rate of Māori women in particular being 21 percent for the same year. This high level of tertiary participation is likely, at least in part, to a natural consequence of this subgroup comprising a higher than average proportion of young people (see Section 2). There is also the potential of labour market discrimination, resulting in Maori women requiring increased educational credentials to enjoy higher wage returns and signal higher productivity to employers (Gibson, 2000)¹⁰. While higher participation rates by Māori in post school qualifications have historically been due to their high uptake of certificate level qualifications, this is now shifting towards higher qualifications at university level, with Māori women leading this shift.

Figure 7 focuses on the participation of women in tertiary education, and unlike past research expands the descriptive analysis to a longer time span of 1976 to 2010. Evident is that the percentage of university enrolments that are women has been on a steady upward trend since the mid-1970s, crossing the 50 percent mark in the early 1980s, and peaking in the last five years of the sample period (2005-2010) at approximately 60 percent¹¹. It is interesting to note that, while the rise in university enrolments of women has been accompanied by a rise in polytechnic enrolments of females for the majority of the sample period, since 2005 the trends for female representation in these two educational sectors have diverged. This may be an indication that women are increasingly favouring educational qualifications via the university route¹², which may be related to a shift in employer expectations.

These findings illustrate that education is clearly one sector where women have made substantial gains, to the point of overtaking their male counterparts. The significance of these changes is further highlighted when we compare the trends evident in Figures 6 and 7 with the gender research conducted by Horsfield (1988). This book was the end product of a report to the Ministry of Women's Affairs on the state of women in the NZ economy in the mid-1980s. With regard to education this book focussed on issues related to access, with the aim being to try and explain why women were underrepresented in education (whether in technical institutes, employment assistance programmes, secondary, or tertiary systems). Clearly, our figures point towards women making a giant leap forward in this domain since the mid-1980s.

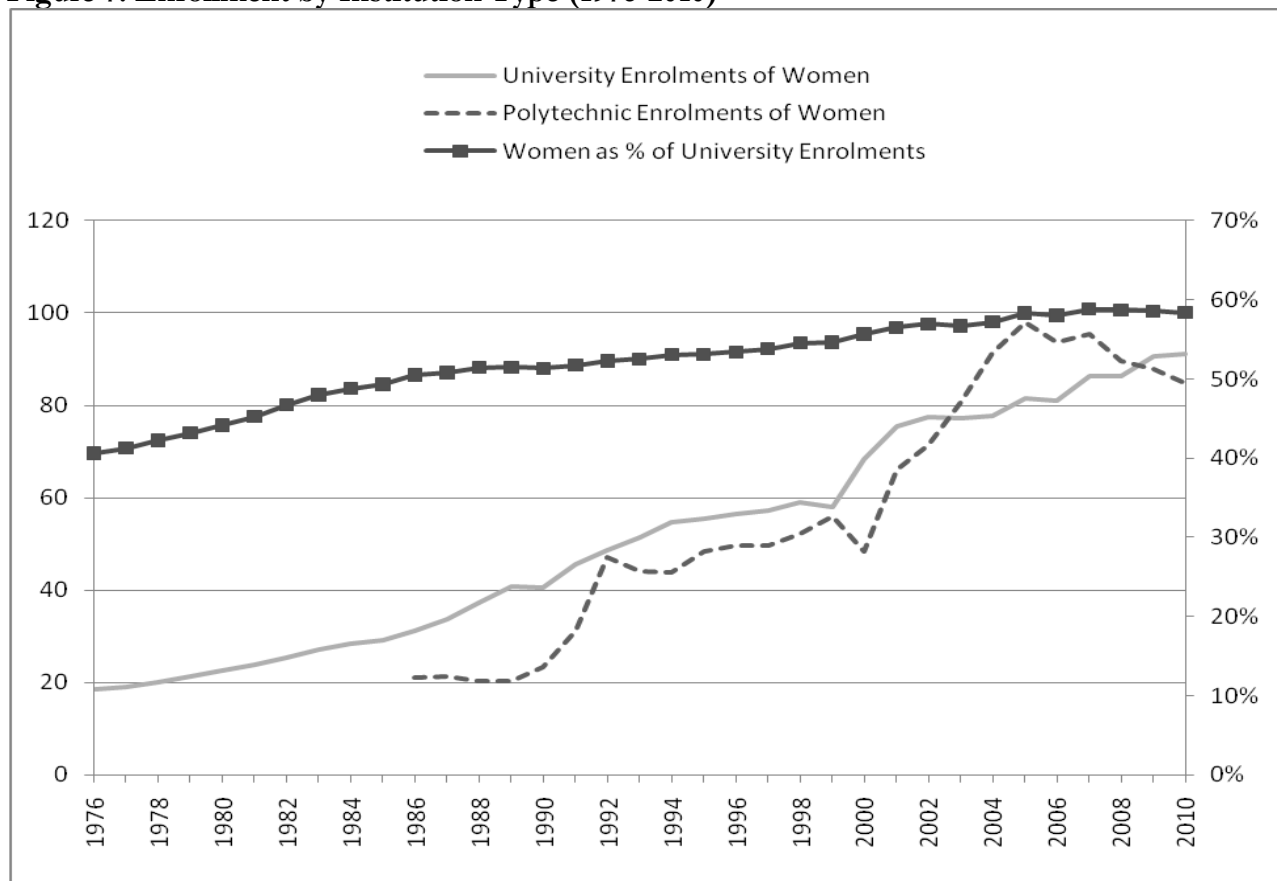
⁹ A downward trend in Māori tertiary participation is evident over the last decade, while other ethnicities are fairly static over the same time period. This can be explained, at least in part, by the decrease in participation of certificate level qualifications (Ministry of Education, 2008), the rate of which has been decreasing since mid-2000.

¹⁰ Maani (2002) also finds that the income returns to education are greater for Maori and non-Maori.

¹¹ Note that the Student Loan scheme was institutionalised in 1992, improving access for both genders to education in the tertiary sector.

¹² This is in line with the findings that women are more inclined to participate in and complete a tertiary qualification than men (Scott, 2005).

Figure 7: Enrollment by Institution Type (1976-2010)



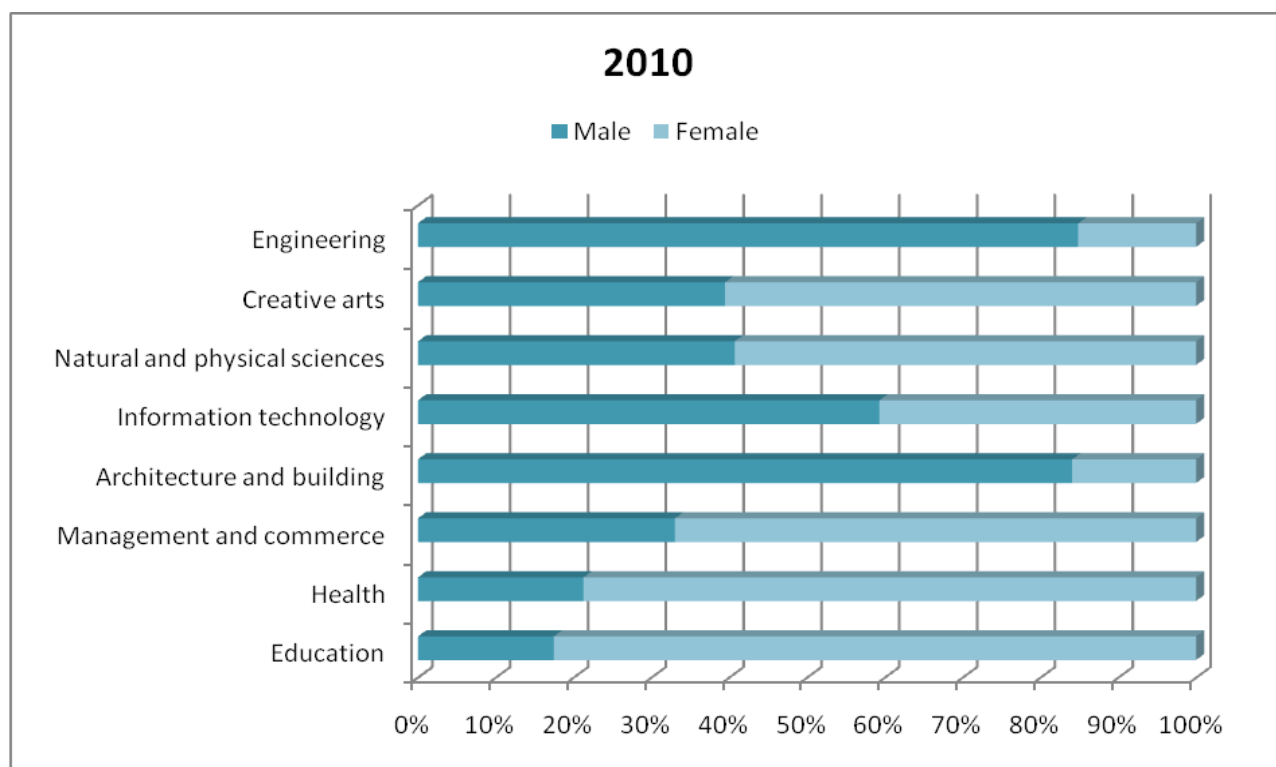
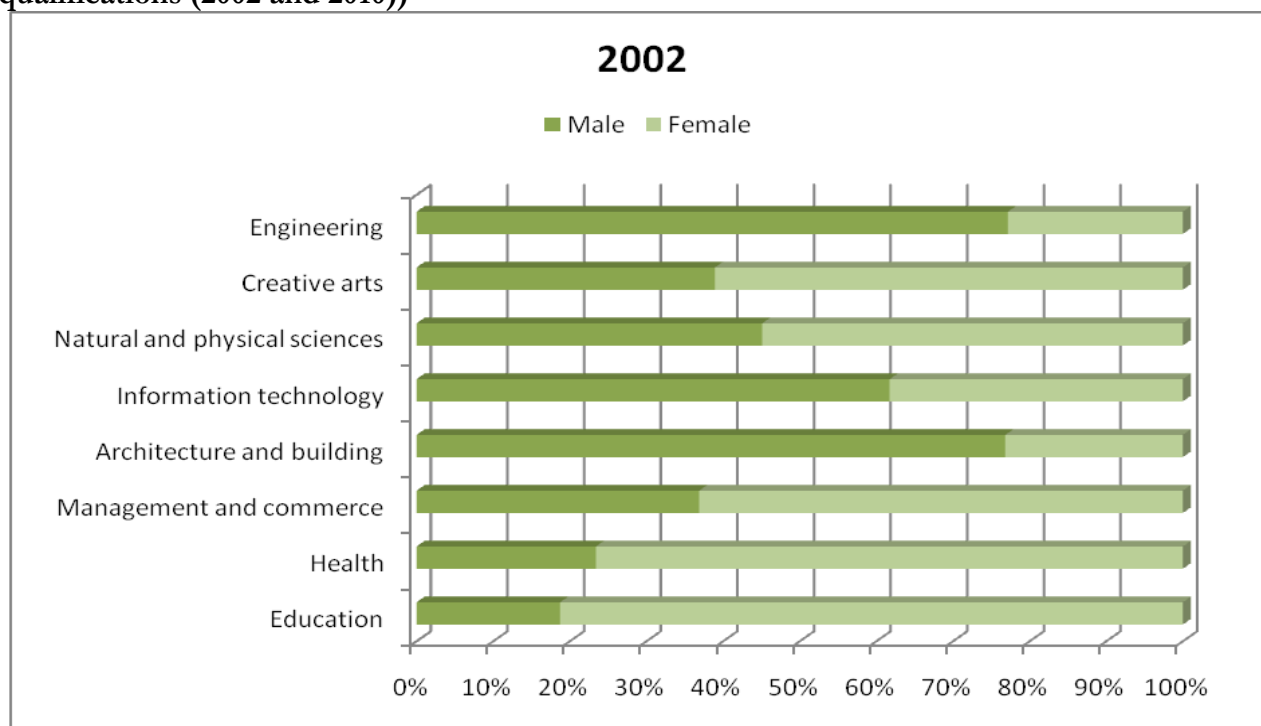
Data sourced from Education Counts (Ministry of Education). Author's compilation.

Notes: Data relates to students enrolled at any time during the year with a tertiary education provider in formal qualifications of greater than 0.03 EFTS (more than one week's duration).

Total numbers of students are based only on domestic students and are in thousands.

To break down the educational achievement of women by field of study, Figure 8 compares the gender differences in the percent of tertiary qualifications across a range of different university faculties/majors between 2002 and 2010. While females have gained in overall representation in the tertiary sector, it is disappointing to note that the two fields of study where women accounted for less than 30 percent of graduates (engineering; architecture and building) in 2002, were the two fields which experienced the largest decline in the proportion of graduates that were female by 2010. In both cases, female representation fell to below 20 percent by 2010. The sectors where a rising trend in female representation is most prominent over the sample period are Natural and Physical Sciences, and Management and Commerce.

Figures 8: Fields of Study by Sex (Percent of domestic students completing tertiary qualifications (2002 and 2010))



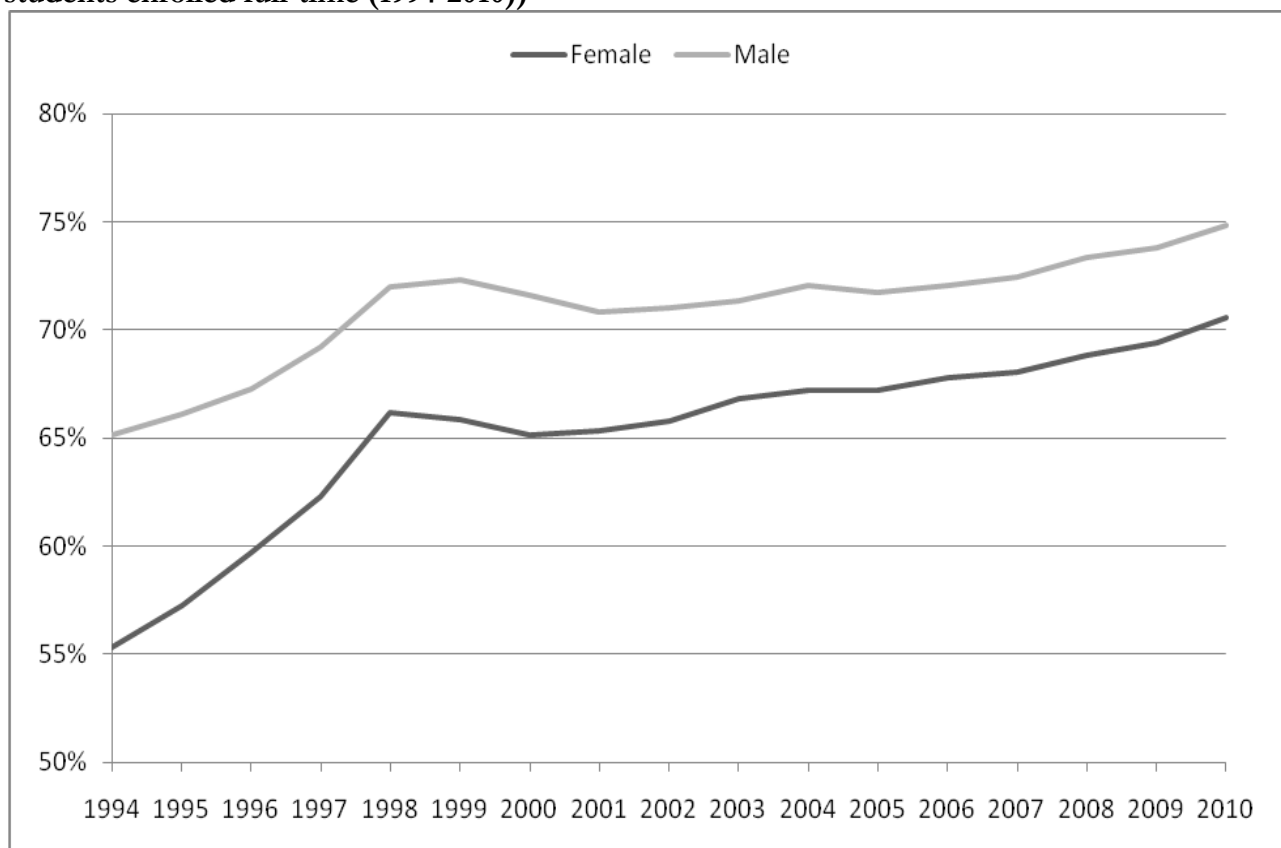
Data sourced from Education Counts (Ministry of Education). Author's compilation.

Notes: Data relates to students completing a formal qualification at a tertiary education provider and excludes private training establishments which did not receive government tuition subsidies.

Students who studied in more than one field of study have been counted in each field. Consequently, the sum of the fields may not add to the total number of students.

A final set of disaggregate analysis of education participation figures by gender is shown in Figure 9. This plot indicates that both genders are increasingly partaking in full-time versus part-time study. Females continue to lag behind their male counterparts in this respect, although the gap is closing – a 10 percent difference in 1994 having narrowed to a 5 percent gap by 2010. There are several possibilities as to the factors that have resulted in students increasingly opting towards fulltime study over this time period. These include the introduction of student allowances in 1989, for which a student must be studying fulltime, as well as minimum wage increases leading to a reduction in the availability of employment opportunities for youth¹³.

Figure 9: Full vs. Part-time University Study by Sex (Percent of total domestic university students enrolled full-time (1994-2010))



Data sourced from Education Counts (Ministry of Education). Author's compilation.

Notes: Data relates to students enrolled at any time during the year with a tertiary education provider in formal qualifications of greater than 0.03 EFTS (more than one week's duration), excluding all non-formal learning, on-job industry training, and private training institutions which did not receive government subsidies.

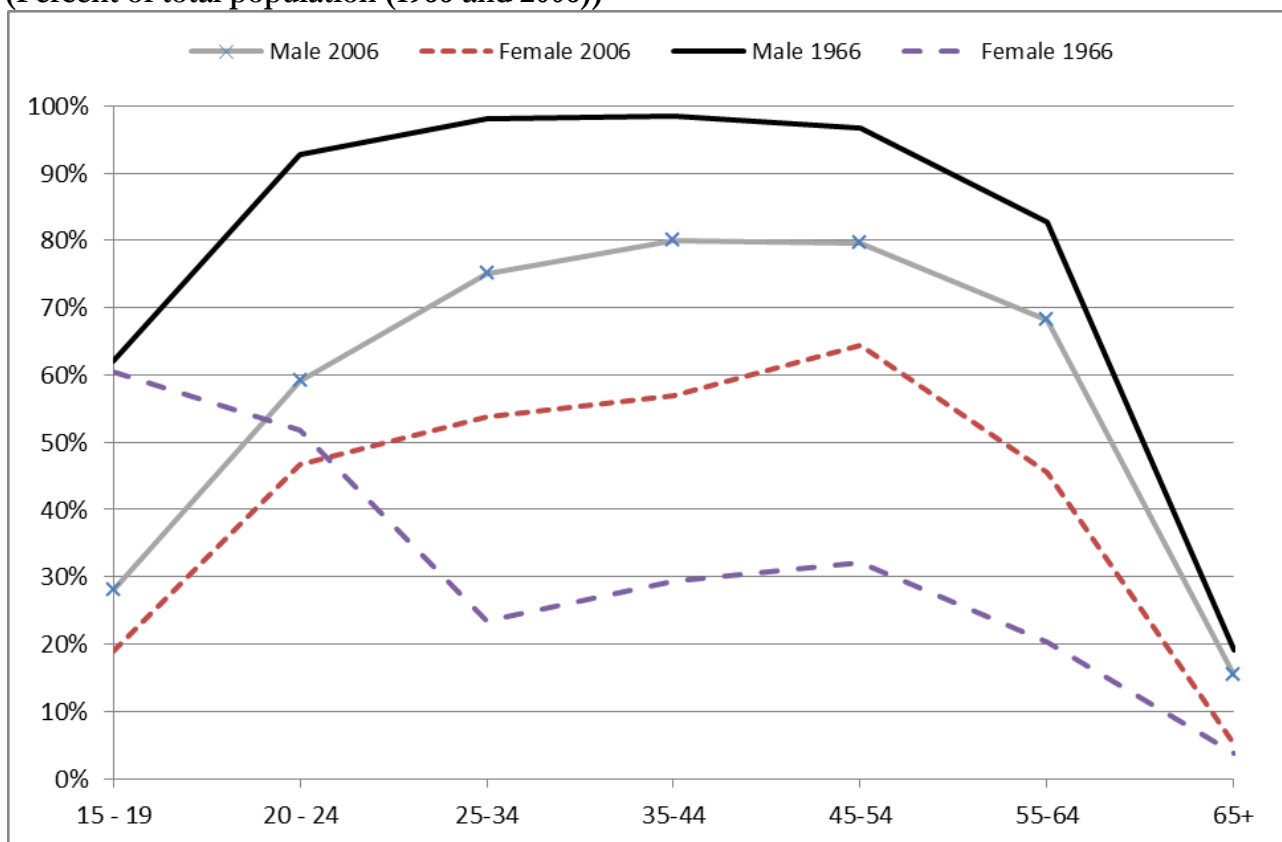
4. Labour market

Over the last few decades, women have increasingly moved into the labour force and are participating more fully in educational services (as noted in Section 3). Consequently, the role women play in determining their family income is now more prominent. Figure 10 plots the full-time (20+ hours per

¹³ See Pacheco and Cruickshank (2007) and Pacheco (2011) for further information on rises in the NZ minimum wage resulting in increased educational enrolments and reduced employment propensities for youth in particular.

week¹⁴) labour force participation of males and females by age group for 1966 and 2006. Several important trends are apparent. First, the full-time participation rates in the 15-19 year age bracket decreased notably for both genders between 1966 and 2006. While not evident from Figure 11, the majority of the decrease in participation for this age group occurred between the 1986 and 1991 census. A possible explanation for this drop is the recession and high unemployment experienced in NZ in the early 1990s. Additionally, due to the increased uptake of education, many youth are starting in the workforce later in life. Tertiary participation in particular has increased markedly (see Section 3) since the advent of student loans in 1991, and furthermore with these loans becoming interest free in 2006.

Figure 10: Labour Force Participation in Employment (20hours+) by Sex and Age Groups (Percent of total population (1966 and 2006))



Data sourced from Census (Statistics NZ). Author's compilation.

Note: All figures are for the census usually resident population.

Second, Figure 10 reveals a distinct change in full-time labour participation patterns by gender when comparing 1966 to 2006. In the earlier time period, female participation in full-time work peaks in the 15-19 age category before dropping away sharply. In contrast, female participation in 2006 more closely reflects that of males, following an inverted U-shape and peaking in the 35-44 age category. Furthermore, the gap between male and female participation rates has closed considerably over the last

¹⁴ Full-time participation in the labour market was defined as 30+ hours per week from the 1986 Census, and prior to that was 20+ hours per week. To ensure comparison of like with like, we adopt the 20+ hours definition for the later period of 2006.

forty years. That participation by women in the middle age groups has increased markedly since 1966 is in-line with Horsefield's (1988) observation that women's involvement in the full-time labour force in NZ has been increasing since 1966. Horsefield speculates that both supply and demand factors are driving this trend, with women seeking paid work for financial, social, and personal reasons, and employers seeking women out as they realise they have useful work skills. As discussed in Section 2, a related phenomenon is that women appear to be postponing marriage and child bearing. The direction of causality is unknown; on the one hand, the participation decision will likely be affected by the presence (or lack thereof) of children, while on the other increased labour-force participation may be influencing fertility patterns (Horsefield, 1988).

Finally, with rising life expectancy and the abolition of compulsory retirement in 1999, the number of workers aged 65 and over that are working has also been riding an upward wave. The impact for females in this age group is greater than that for males (even though the numbers are still small for over 65 year olds females that are employed full-time). For instance, between 1966 and 2006, male full-time labour force participation in the 65+ age bracket increased by just over 20 percent, rising from 15.41 percent to 19.07 percent, whereas the comparable figure for females was a rise of almost 40 percent, going from 3.7 percent to 5.1 percent.

Further insights can be gained through cohort analysis. Table 1 illustrates the full-time labour participation rates of women by cohort, indicating the percentage distribution by age group at successive census dates. For ease of comparison with data prior to the change in definition of full-time work in 1986, this paper defines full-time labour participation as 20+ hours per week. Therefore a potential limitation of this analysis is that it includes female workers who work 20-29 hours per week, and this group is technically classified as part-time based on Census definitions post-1986. The unshaded values are derived from Horsefield (1988), whereas the shaded values are the authors' compilation of the proportion of total Census female population aged 15 and above working 20 hours or more per week.

Comparing the columns in Table 1, it is clear that with each successive generation women are increasingly involved in full-time work, and that this is the case at all stages in their life course. The exception to this is 15-19 year olds, whose participation in full-time work started to track downwards with the cohort born in 1957-61. This is likely another reflection of the increase in educational attainment by this age group, and is evident for young adults (20-24 year olds) from the cohort born in 1967-71 onwards.

Table 1: Female Full-time Census Labour Participation Rates of Women by Cohort

Age:	Women born in:													
	1917-21	*1926-31	1932-36	1937-41	1942-46	1947-51	1952-56	1957-61	1962-66	1967-71	1972-76	1977-81	1982-86	1987-91
<u>15-19</u>	-	-	64.6	63.8	64.0	61.9	56.9	46.9	41.3	40.3	22.4	19.8	15.1	18.8
<u>20-24</u>	-	52.8	50.6	49.8	52.9	54.9	56.6	59.4	62.6	52.3	52.1	43.7	46.7	
<u>25-29</u>	32.5	24.1	22.0	25.1	29.6	35.1	40.3	46.6	46.6	52.8	52.4	54.7		
<u>30-34</u>	19.6	20.0	22.3	29.4	35.0	38.7	44.2	38.4	45.7	48.1	52.8			
<u>35-39</u>	21.5	27.0	35.8	44.0	48.1	53.8	43.6	49.4	49.1	53.5				
<u>40-44</u>	27.1	39.1	48.0	53.8	60.1	60.5	58.7	54.6	60.3					
<u>45-49</u>	33.1	46.2	49.8	58.8	60.4	61.9	59.5	65.1						
<u>50-54</u>	35.2	43.4	49.1	51.5	55.6	54.8	63.7							
<u>55-59</u>	28.8	33.2	33.8	40.5	42.3	54.0								
<u>60-64</u>	12.0	-	17.6	22.5	34.9									
<u>65+</u>	1.7	2.1	3.2	5.1										

Source: Unshaded figures sourced from Horsefield (1988). Shaded figures are author's compilation (based on Census data from Statistics NZ)

*Figures for the unshaded part of this cohort age are not exact (as reported by Horsefield, 1988)

Note: Figures drawn from the 1936 and 1945 census are for non-Māori women only.

In an analogous analysis for men the opposite pattern is identified, with almost all age groups found to have more or less steadily decreased participation between 1976 and 2006. As evident in Table 2, this trend is particularly true for those aged 20-39. For example, the labour force participation rate when aged 25-29 for the cohort born in the period 1947-51 was 96 percent, compared to 71.9 percent for the cohort born in 1977-81.

Table 2: Male Full-time Census Labour Participation Rates of Males by Cohort

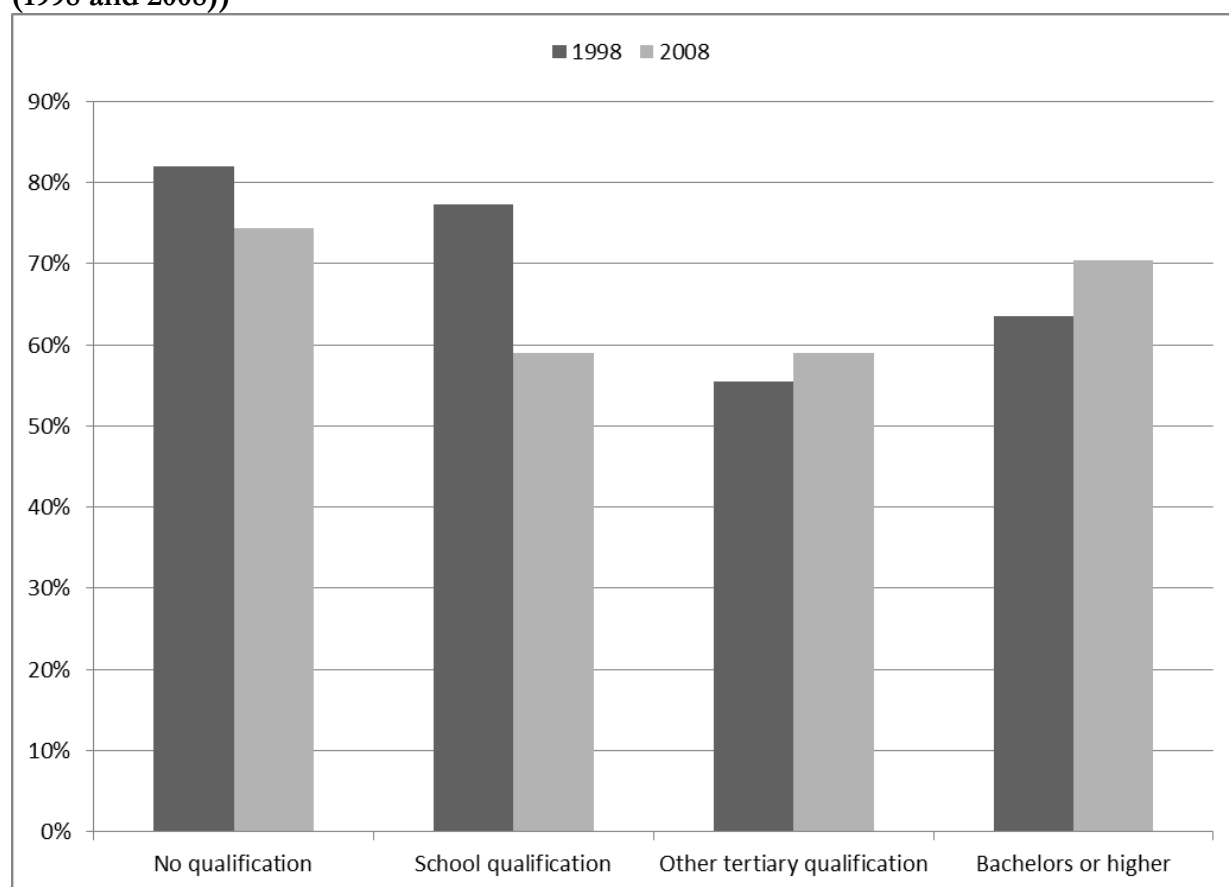
Age:	Men born in:													
	1917-21	1926-31	1932-36	1937-41	1942-46	1947-51	1952-56	1957-61	1962-66	1967-71	1972-76	1977-81	1982-86	1987-91
<u>15-19</u>	-	-	-	-	-	-	-	53.6	50.1	46.8	27.1	26.5	23.8	28.1
<u>20-24</u>	-	-	-	-	-	-	88.6	85.2	78.9	61.8	66.2	52.3	59.1	
<u>25-29</u>	-	-	-	-	-	96.0	92.7	82.3	73.6	73.6	70.9	71.9		
<u>30-34</u>	-	-	-	-	97.3	95.1	79.2	79.2	80.4	81.3	77.9			
<u>35-39</u>	-	-	-	97.7	95.7	83.3	75.7	82.7	92.0	79.7				
<u>40-44</u>	-	-	97.5	95.7	92.6	84.3	79.8	78.4	80.3					
<u>45-49</u>	-	96.8	94.9	92.0	84.1	80.1	80.1	80.4						
<u>50-54</u>	-	93.2	89.2	80.2	77.3	75.7	78.7							
<u>55-59</u>	89.6	82.2	68.5	68.7	68.4	74.2								
<u>60-64</u>	46.4	-	40.0	50.5	60.5									
<u>65+</u>	8.5	8.6	9.9	15.4										

Source: Author's compilation (based on Census data from Statistics NZ)

Note: Figures drawn from the 1936 and 1945 census are for non-Māori men only.

The working lives of both men and women are extending beyond 65, with older men still being more likely to be employed than older women. Recent information from Statistics NZ (2009) shows that the number of persons aged 65+ in the labour force as a percentage of all persons aged 65+ (i.e. not restricted to full-time work, as in Tables 1 and 2) increased for both men and women between 1986 and 2006; with the probability of older men working being more than double that for older women (23.9 percent versus 11.6 percent based on 2006 Census data). It is important to note that this compares to older men being more than five times more likely to work than older women in 1986 (11 percent versus 2.9 percent). An older workforce also creates additional pressure on the Accident Compensation Corporation, as mature workers are more likely to sustain work-related injuries (Statistics NZ, 2007). To ascertain the impact of longer working lives on well-being further research is required to disentangle the possible positive aspects of working past age 65, for example in terms of potentially improved mental health as the mind is kept ‘active’ longer, as well as the possible negative outcomes, such as the increased possibilities of physical injury at work, reduced leisure time, etc.

Figure 11: Median Weekly Income by Highest Qualification and Sex (Ratio of women to men (1998 and 2008))



Data sourced from the NZ Income Survey (Statistics NZ). Author's compilation.

Notes: Figures are for the NZ Population aged 15 years and above and are for the June quarter of each year.

Median weekly income includes income from all sources, with the exception of investment income.

Other tertiary qualifications include all post-secondary qualifications below Bachelors level.

Descriptive information thus far indicates that there is an increasing tendency for women to remain more continuously engaged in the labour force over their life course. If we combine this finding with that of women increasingly attaining higher educational qualifications than that of their male counterparts (as shown in Section 3), there is an expectation that women should be on an even playing field in terms of wages. While Papps (2010) finds some evidence that male and female wage distributions are converging, there remains considerable disparity in wages as recently as 2008 as illustrated in Figure 11. For example, while the gap between women and men in median weekly income decreased between 1998 and 2008 for those with a tertiary qualification, the ratio of women to men in terms of median weekly income was still just 70 percent in 2008. Furthermore, the gap between women and men with no or school qualification actually increased over the same period. NZ Income Survey figures confirm the disparity in wages, with the average hourly earnings for a woman in paid employment being just 86.6 percent that of a man's in 2010 (\$22.15 and \$25.57 respectively).

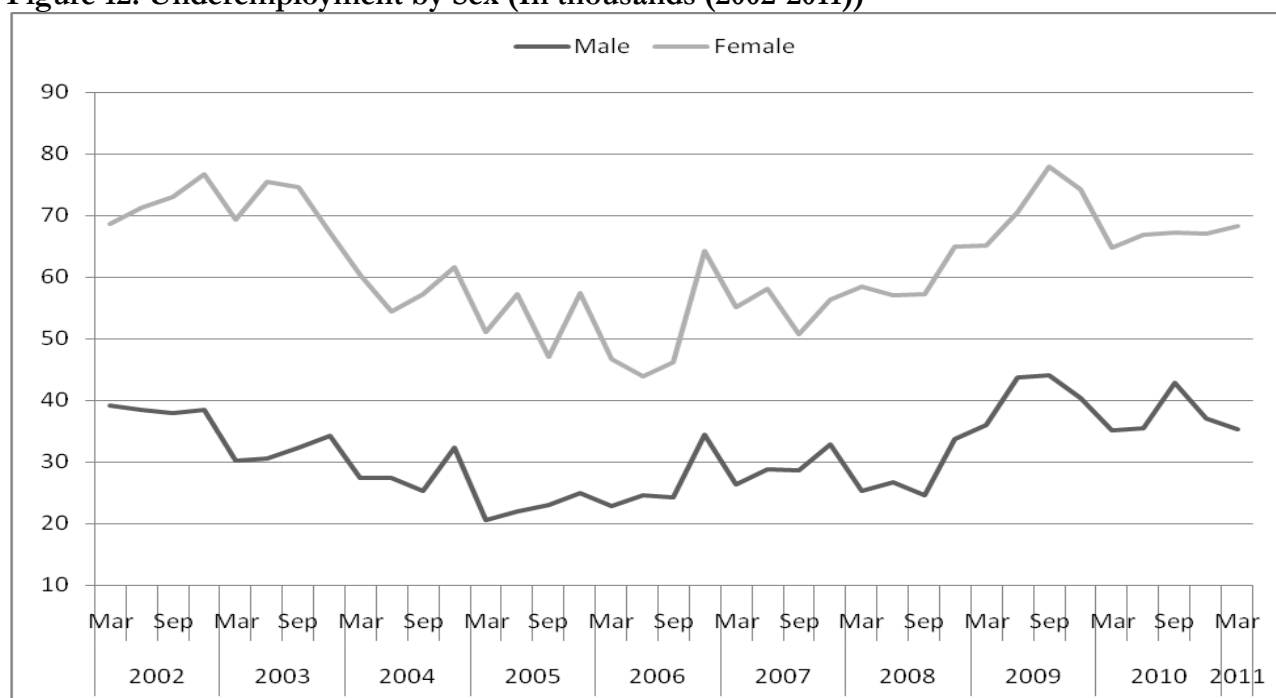
A frequently cited explanation for the wage differential is that women and men populate different occupations (e.g. Dixon, 2000), with the occupations in which women are concentrated being routinely considered as worth less than those that men typically do (e.g. caregiver, secretary, or cleaner versus builder, general manager, or farmer)¹⁵. Gibb *et al.* (2009) focuses on this issue for a NZ birth cohort born in 1977. Following the same individuals for 30 years, they find that even when accounting for gender differences in human capital endowments, job characteristics and family responsibilities, males continue to earn significantly higher wages than females in NZ.

Gender inequality in terms of representation in high level roles has been a topic of policy discussion in recent years, and over the last two decades a number of initiatives to advance women in corporate governance have been instigated; a recent example being the commitment to 50 percent gender parity in government-appointed boards (Human Rights Commission, 2010). However, progress has been slow and in a number of areas women's participation has actually stalled and/or started sliding backward. For example, NZ remains behind many other developed countries in terms of the percentage of female board directors found in large, publically listed companies - only 9.32 percent of directorships for the top 100 firms on the NZ Stock Exchange were held by females as at 2010. According to a recent report by the Human Rights Commission (2010), this is also notably the case in the state sector where not only has the gap in representation in high level roles failed to be met, but pay gaps of between 3-35 percent are reported (the Serious Fraud Office being a notable exception). This report highlights that recent internal equity reviews found that unequal starting salaries for the same

¹⁵ See Dixon (2000) for a discussion on the ways in which gender differences in job attributes can explain wage differentials, as well as possible demand/supply factors that may drive differences in job type.

job, gender differences in opportunities to participate in all roles (at all levels), and gender disparities in pay progression were all commonplace.

Figure 12: Underemployment by Sex (In thousands (2002-2011))



Data sourced from Household Labour Force Survey (Statistics NZ). Author's compilation.

Note: Full-time employment classified as 30+hours.

That women are more often found in part-time employment than men is also frequently cited as a key contributor to the wage differential in NZ (e.g. Dixon, 2000); part-time jobs typically being of a lower level and, therefore, less well paid variety. Indeed, of women participating in the labour force between 1986 and 2010, the percentage employed in part-time work (employing the post 1986 Census definition of less than 30 hours per week) averaged 33 percent with very little fluctuation around the mean, compared to an average of around 9.5 percent for men (Household Labour Force Survey). As Figure 12 illustrates, however, more women than men have consistently been classified as underemployed (those employed part-time who would like to work more hours) over the last decade, suggesting that the high part-time employment rate for women is, at least in part, an outcome of environment rather than choice. One likely contributing factor is that of childcare and its accompanying constraints on time, costs of childcare services, and limitations with regard to opportunities for resuming career tracks, which generates a trade-off for women between career success and fertility (e.g. Callister, 2002; OECD, 2004).

Finally, the labour market analysis thus far has not considered unpaid productive activities. It is frequently suggested that women work a 'double shift' of paid work and unpaid domestic duties (e.g. Else, 1997). However, recent Time Use Survey data shows that males and females spend similar

amounts of time on productive activities (approximately 6.75 hours per day in the latest survey, 2009/2010). Nevertheless, the ratio of paid to unpaid work in 2009/2010 was 62.7 percent and 35.4 percent for men and women respectively: women typically spending an hour more each day on household work, and twice as much time on primary childcare than men. This is relatively similar to comparable ratios in 1998/1999 of 61.34 percent and 33.1 percent and is a trend that holds across different labour force status groups, i.e. whether full-time, part-time, or unemployed, although the level of disparity varies somewhat by ethnicity and family role.

The effect of women spending more time on domestic unpaid activities than in paid employment on their well-being is difficult to establish. While some women may desire the opportunity to participate more fully in the labour market (as indicated by the high underemployment figures discussed above), others may seek more fulfilment in undertaking unpaid activities such as childcare (OECD, 2004; Ministry of Women's Affairs, 2010a). Drawing on data collected in the 2008 New Zealand General Social Survey, the Ministry of Social Development (2010) finds that employed males and females have similar satisfaction rates with their work-life balance, with 77 percent of employed men reporting they were satisfied or very satisfied, and the comparable figure for women being 79 percent.

5. Health

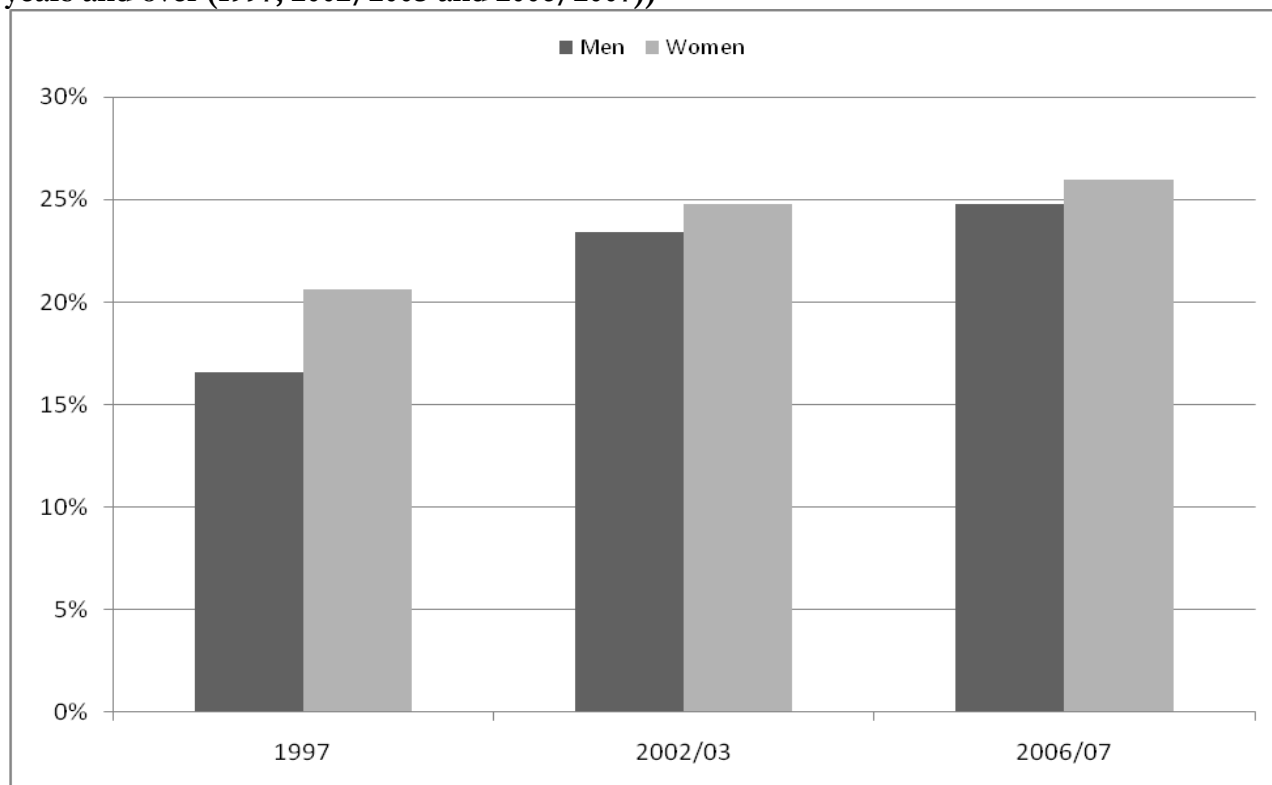
Having obvious economic and social implications, the health of a population is inextricably linked to well-being. The following analysis focuses on several key physical and mental health indicators: obesity, smoking, and excessive alcohol consumption falling under the physical health domain, whilst suicide deaths and depression act as proxies for mental health state. It is worth noting that health status is a complex issue where there is a considerable overlap between both physical and mental health concerns.

The first health matter that deserves attention in terms of a gender comparison is the growing rate of obesity in NZ. Obesity is correlated with a multitude of other health conditions, such as heart disease, high blood pressure, and is strongly associated with the increasing prevalence of type 2 diabetes in the general population. Based on data from the Ministry of Health, the obesity rate for males increased from 16.6 percent to 24.8 percent over the period 1997 to 2007, whereas the comparable rate for women rose from 20.6 percent to 26 percent (see Figure 13). Therefore, while there was a distinct and significant difference in obesity rates by gender a decade ago, this difference is now minimal.

It is well documented that the key drivers of the rise in obesity rates for both males and females are changing dietary and physical activity patterns (Koplan & Dietz, 1999; Mokdad, Marks, Stroup & Gerberding, 2004). In terms of comparing the prevalence of obesity by age group and sex, figures from the Ministry of Health in 2006/2007 reveal that in the majority of age categories, women face higher

obesity rates – in particular, they are approximately 20 and 24 percent more likely to be obese in the age ranges of 15-24 and 25-34 respectively. This gender difference is in line with the findings of Baskin, Ard, Franklin, and Allison (2005) which showed that American women had higher obesity rates than men across all groups.

Figure 13: Obesity by Sex (Age-standardised prevalence of obesity for total population aged 15 years and over (1997, 2002/2003 and 2006/2007))



Data sourced from Ministry of Health (Ministry of Social Development, 2010 Social Report).

Note: Obesity defined as a BMI (weight in kilograms divided by height in metres squared) greater or equal to 30.

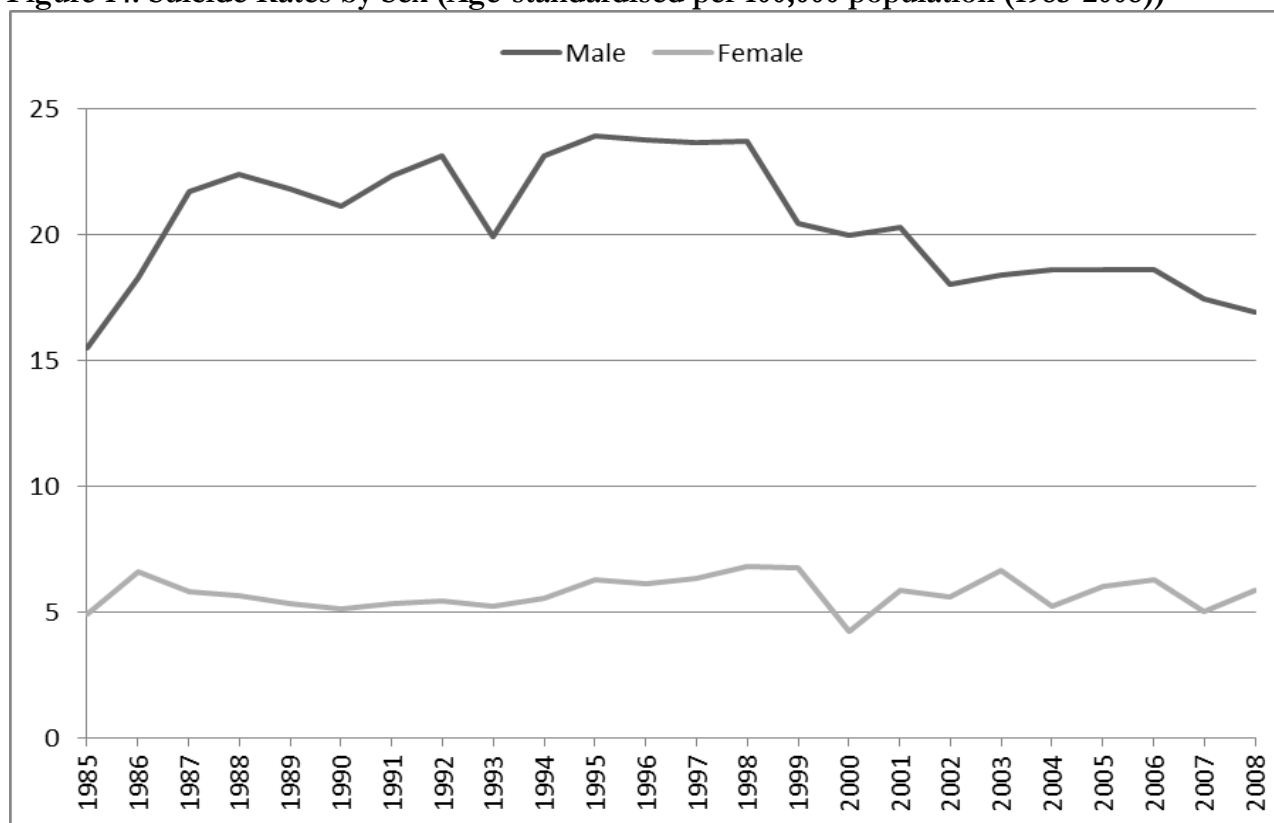
The prevalence of smoking and excessive alcohol consumption are major personal and public health issues in NZ. A chief health risk for serious ailments, such as heart disease and cancer, smoking is the leading cause of preventable death in NZ (Statistics NZ, 2011c). According to the 2009 NZ Tobacco Use Survey, 22 percent of NZers aged 15-64 years were smokers, down from 24 percent in 2008 (Ministry of Health, 2010). While there is a distinct variation in the prevalence of smoking between age groups, (25-34 year olds being the age group with the highest rate of smoking in 2008 of 28 percent, and 55-64 year olds with the lowest at 17 percent), there appears to be no substantial gender differences over the last two decades. However, after adjusting for age the male smoking rate was higher than that for females in 2008 (26 percent versus 22 percent respectively). It is promising to note that smoking among 14-15 year olds has decreased considerably over the period 1999-2009, falling by 65 percent for boys and 63 percent for girls¹⁶. However, current rates of smoking for this young age group indicate

¹⁶Data sourced from the New Zealand Tobacco Survey, Ministry of Health (2010).

that it is the only age category where females have a higher prevalence rate, albeit by a small margin (6 percent versus 5 percent for females and males respectively). Additionally, ethnicity is clearly important as 14-15 year old Māori girls have an 18 percent smoking rate (triple that of girls overall in this age range).

The most commonly used recreational drug in NZ is alcohol. Research by the Ministry of Social Development (2010) found that, in 2006/07, almost 23 percent of adult drinkers had a potentially hazardous drinking pattern, i.e. a pattern of alcohol consumption carrying a high risk of future damage to their physical or mental health. At 29.2 percent, men were found to be much more likely to be in the “at risk” category than women (13 percent), and the rate of hazardous drinking was found to decrease with age (15-24 year olds making up the largest proportion of hazardous drinkers).

Figure 14: Suicide Rates by Sex (Age-standardised per 100,000 population (1985-2008))



Data sourced from NZ Mortality Collection. Author's compilation.

Note: Standardised to the World Health Organization (WHO) standard world population.

Turning now toward the mental health aspects of the NZ population, in 2009, NZ unfortunately had the highest youth (aged 15 – 19) suicide rates per 100,000 population in the OECD. In fact, the youth suicide rate was more than twice that of the OECD average (15.9 suicide deaths per 100,000 youths aged 15-19, versus 6.9). Figure 14 shows the suicide rates by gender over time, per 100,000 population. It is clear that over the period 1985 to 2008, females had a lower probability of death via suicide

compared to the male population in NZ. Note that this trend is not restricted to NZ; statistics presented in the OECD Factbook (2010) illustrating that suicide continues to be a predominantly male phenomenon worldwide. The suicide rate for females also appears to be relatively stable over the last 20 years, unlike that for males.

Although not shown in Figure 14, the rise in the suicide rate for males in the late 1980s was driven by a sharp rise in the youth (15-24 year olds) suicide death. This age group also tends to have the highest suicide death rate across the years, compared to older members of the population. In fact, it is a worrying fact that in 2007 male youth had the second highest suicide rate amongst the thirteen most comparable OECD countries¹⁷. It is necessary to note that while the suicide death rate is consistently higher for males, females do have a higher probability of being hospitalised for intentional self harm. The Social Report produced by the Ministry of Social Development (2010), found that in 2007 the female to male ratio for intentional self harm in NZ was 1.8 per 100,000 population.

In terms of other indicators of mental health in NZ, there is extremely limited data on this front. The National Health Services are unable to provide reliable data on depression or anxiety broken down by gender over time. Data collection is affected by a number of issues, including: (i) it isn't compulsory to report diagnoses of depression; and (ii) national treatment data would not contain the vast majority of cases as it does not include anyone who is being treated in the primary health sector (i.e. by General Practitioners).

There are, however, two cross sectional surveys that we can draw on: The Mental Health Survey conducted in 2006, and the 2008 NZ General Social Survey. Although not surprising (see Rosenfield, 1980), both surveys provide similar results in that women face a higher prevalence of depression¹⁸. For instance, according to the Mental Health Survey, 20.3 percent of females experienced a major depressive disorder, while the corresponding statistic for men was 11.4 per cent (Oakley *et. al*, 2006). In the NZ General Social Survey, respondents were asked "how much of the time during the past four weeks they had felt downhearted and depressed?", on average 18.7 percent of females responded in the range of "some of the time"...."all of the time". The corresponding figure for males in this survey was 15.4 percent, and the associated standard deviations were 0.39 and 0.36 respectively¹⁹.

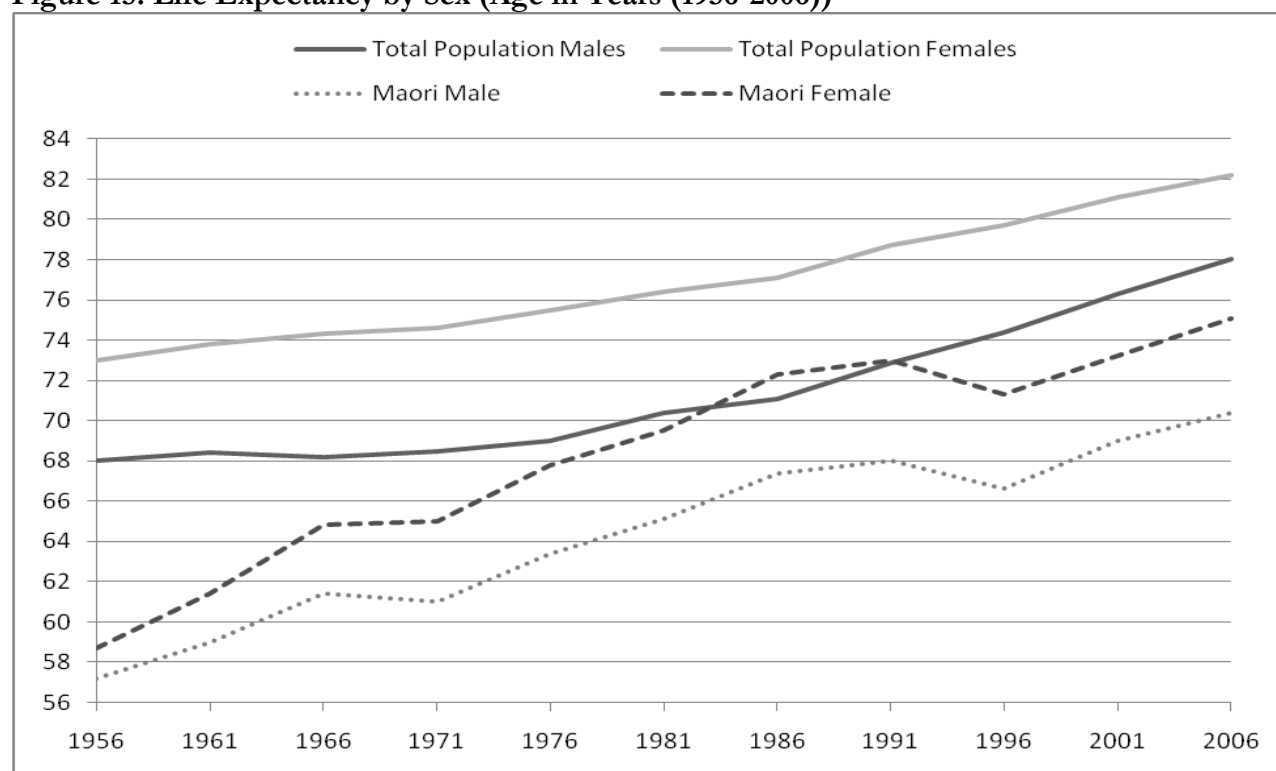
¹⁷ The choice of the thirteen OECD countries was made by the Ministry of Health (2009) based on reliability of data collection processes, and historical comparators for NZ.

¹⁸ Note that Fergusson, Horwood and Ridder (2006) argue that young women (25 years of age and younger) whom have had an abortion may be associated with an increased risk of mental health problems.

¹⁹ Author's Compilation.

We conclude this section by looking at a more holistic overview of health in NZ. While the statistics used thus far paint a rather dismal picture, the general health status of the NZ population has improved over the last 50 years courtesy of improved access to health services and advanced medical treatments becoming available (Ministry of Social Development, 2010). As a consequence, life expectancy has improved for both genders. While females have always enjoyed a higher life expectancy, on average, than men, the gap does appear to be closing slowly. In 1956, the difference was just over 5 years, and at last count (2006) the gap equated to approximately 4 years.

Figure 15: Life Expectancy by Sex (Age in Years (1956-2006))



Data sourced from Infoshare (Statistics NZ). Author's compilation.

Note: Life expectancy data presented for each year is based on registered deaths in the three years centred on that year. For example, life expectancy data presented for 1996 is based on deaths registered in 1995-1997.

Figure 15 also compares life expectancy for Māori men and women. It is interesting to note that the gap between Māori women and women in general has halved over the last 50 years; a difference of approximately 14 years in 1956, falling to 7 years by the mid 2000s. The news, however, is not good for Māori males. With a life expectancy at just over 57 years in 1956, just one year below that of their female counterparts, Māori men have fallen further behind Māori women by 2006, the difference having widened from approximately 2 years to nearly 5 years (70.4 versus 75.1 years in 2006 for Māori men and women respectively)²⁰.

²⁰ Note there appears to be a marked drop in the life expectancy estimates for both Māori males and females in 1996. This is most likely due to a change in classification by Statistics NZ, whereby they moved from the concept of Māori population (related to bloodlines) to focusing on Māori Ethnic Group (in which individuals self select their ethnicity). For more information on the changing definition of the Māori Ethnic Group, see Statistics NZ (2010).

Quality, rather than just length, of life is an equally important consideration when evaluating the health of a population. Health, or independent life, expectancy refers to the number of years a person can expect to live free from limitation, without assistance from another person or device. The Ministry of Social Development (2010) makes use of disability surveys to calculate health expectancy over the period 1996 to 2006, and finds that it is also on the rise for both genders. In 2006, women had an independent life expectancy of 69.2 years with men trailing not far behind at 67.4 years; these figures having increased 1.7 years and 2.7 years respectively since 1996²¹. A similar sized gap was found to exist between Māori women and men; their independent life expectancy's registering at 64.2 years and 62 years respectively in 2006. Furthermore, women are more likely to view their health as very good or excellent according to the most recent NZ Health Survey (2007) published by the Ministry of Health.

6. Crime

In this penultimate section of our study we turn to several available indicators which are believed to reflect on the overall standing of crime against, and perpetrated by, women²². Crime in any form can negatively impact on well-being; not only that of the victim directly, but also indirectly on society as the victim's family and friends can also suffer psychological effects, and crime may reduce the social cohesion of communities (Ministry of Social Development, 2010). Importantly, even the fear of crime can have a negative impact in well-being, although its effect varies somewhat between the genders: the NZ Crime and Safety Survey: 2006 finding that women were more likely to indicate that the fear of crime has a moderate to high impact on their well-being (45 percent of females versus 34 percent of males) (Reilly & Mayhew, 2007).

Violent crime is frequently highlighted as an area of concern for NZ. Between 2005 and 2010 alone, total recorded family violence offences increased from 17,094 to 32,377, reflecting an increase of 89.4 percent in a meagre five year time span (NZ Family Violence Clearinghouse (NZFVC), 2012). Family violence, and more specifically domestic violence, is of particular concern with regard to NZ women who bear the brunt of these offenses (see Poels, 2005). To illustrate, in family violence situations where serious partner offences were committed in 2009, 85 percent were perpetrated against female victims (Ministry of Justice, 2011).

²¹The 2006 Disability Survey from which the Social Report draws from reported a significant decline in the levels of disabilities compared to previous surveys which they attribute in part to methodological factors.

²² As discussed in Section 5, the linkages between the different factors, the misspecification of household, personal and area-level factors, limitations of prevalence-based counts and issues surrounding causation should all be kept in mind when interpreting these datasets. In addition, further caution is needed when making inferences from the confrontational crime data as the groups from which the data were drawn were small and, as a consequence, may be more subject to sampling errors.

The recorded numbers by the Australian and NZ Society of Criminology (ANZSOC) show an increase of 66.4 percent in the amount of convictions pertaining to sexual and other related offences²³ between 1980 and 2011. There also appears to be ethnic differences in these statistics, with Māori women facing a three times higher risk of being assaulted or threatened by their partners. The gender aspect of domestic violence is also reflected in couple-related homicides. Between 2002 and 2006, 70 of the 79 perpetrators of couple-related homicides were men; sixty of the 77 victims being the perpetrators' female partner or ex-partner (Ministry of Women's Affairs, 2010b). According to Reilly and Mayhew (2007), the people most at risk of partner offences are (i) divorced/separated; (ii) single and not previously married; (iii) in a de facto relationship; (iv) in the age category of 20-24; (v) not managing well on their income; (vi) reporting more concern about disorder in their neighbourhood; and (vii) living with more children in the household²⁴. Additionally, another worrying statistic is that the percentage of women hospitalised in NZ because of non-family violence assaults has increased 58.5 percent over just a four year period (2005-2009) (NZFVC, 2012).

While the intimate partner homicide and violence is not an epidemic unique to NZ²⁵, according to the United Nations' report on Progress of the World's Women (UN Women, 2011), NZ has a higher rate of intimate partner violence relative to other developed countries such as Australia, Denmark and Japan. The Social Report 2010 echoes this sentiment by stating that the assault mortality rate is an aspect which is cause for immense concern (Ministry of Social Development, 2010). Overall, NZ's female assault death rate is considerably higher than the OECD median at 1.1 deaths per 100,000, compared to 0.6 deaths per 100,000 respectively. To place this in context, this figure translates into a higher assault death rate than Canada, Australia, the United Kingdom or Ireland.

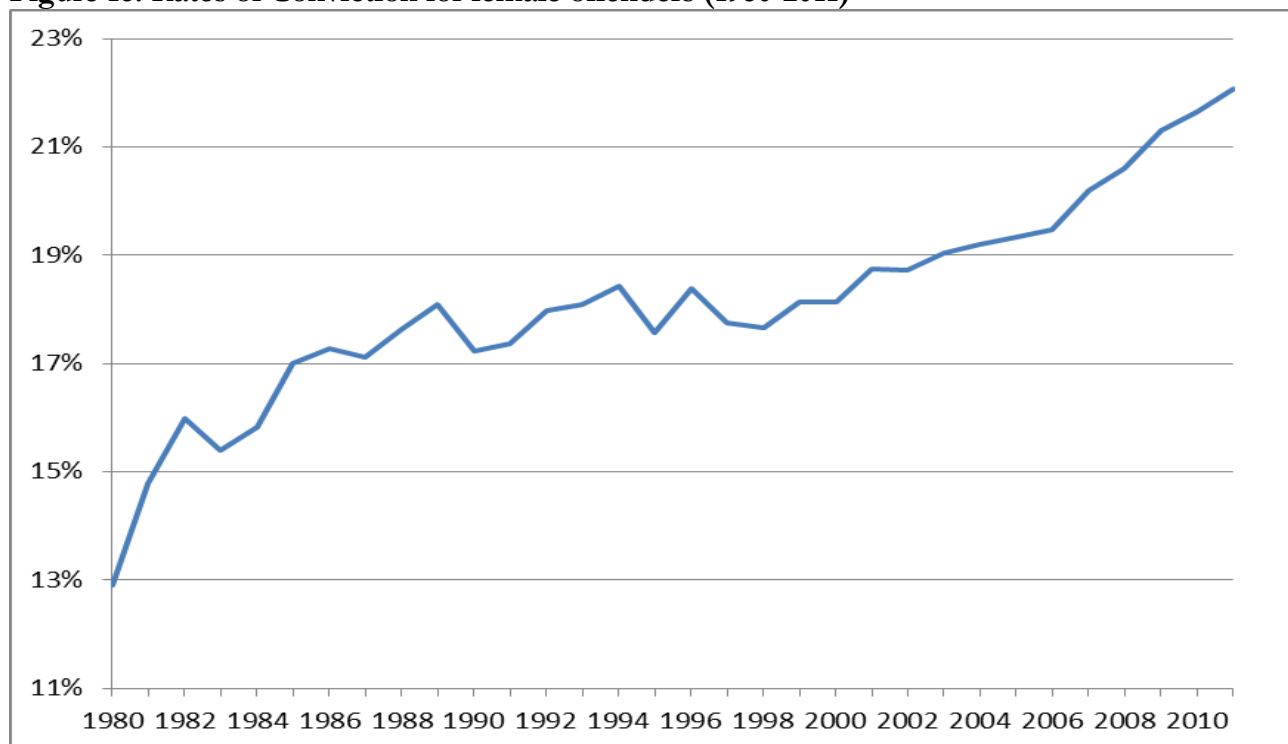
Considering next the flip side of the coin and analysing trends in crime as perpetrated by women, there has been a distinct rise in the proportion of convictions that are women. Figure 16 shows that this proportion increased from 13 percent in 1980, to 22 percent in 2011. This equates to an overall escalation in the number of women committing offences of 71 percent, compared to the 8.7 percent increase experienced by men.

²³Numbers pertaining to sexual offences should be interpreted keeping in mind that this is the type of crime most likely to be underreported.

²⁴ The New Zealand Crime and Safety Survey: 2009 also identified Maori as being more at risk of being a victim to confrontational crime by a partner or someone well known to them (Ministry of Justice, 2010).

²⁵ See, for example, a study done by Garcia, Soria and Hurwitz (2007) which finds that 1.5 million women in the United States are being raped and/or physically assaulted annually.

Figure 16: Rates of Conviction for female offenders (1980-2011)



Data sourced from Ministry of Justice (Statistics NZ). Author's compilation.

Note: Population figures used are for the census usually resident population aged 15-64 years.

Table 3 provides information on the proportion that women make up of total offences, depending on the category of offence. It is important to recognise that the types of crimes are listed in hierarchical order, based on the Australian and New Zealand Standard Offence Classification system (ANZSOC). Therefore, homicides are classified with the code 01 on this system, and offences gradually become less aggressive in nature as we move up the codes, all the way through to the final classification of 16 – miscellaneous offences.

Evident from Table 3 is that women as a proportion of total offences has almost doubled in the last 30 years. It is interesting that the category that featured the highest proportion of women (09 – Fraud, Deception and Related Offences) has remained the same from 1980 and 2010 (33.77 percent and 50.54 percent respectively). If we set aside lower order offences (ANZSOC 11 to 16), the two categories that had the largest rises in women as a proportion of total offences were ‘Acts intended to cause injury’ and ‘Sexual assault and related offences’. The proportion of women in these categories rose by 115 percent and 76 percent between 1980 and 2010 respectively. That women are featuring at an increasing pace in higher order crimes, with excessive levels of violence, is cause for concern. Even more concerning is that when drilling the analysis down by ethnicity, we find that women who are of Maori and Pacifica descent have experienced an even higher increase in their proportion of ‘Acts intended to cause injury’, with a rise of 160 percent over this time period. Although this is concerning one might say that it is not surprising. According to Covington and Bloom (2004:10), women have different pathways into

criminality and that “most common pathways to crimes are based on survival (of abuse and poverty) and substance abuse”. Coupled with the finding from the New Zealand Human Rights Commission (2012) that Maori women are three times more likely to experience partner violence (and their children may witness these crimes), is it then that surprising that they in-turn go on to commit higher order crimes themselves?

Table 3: Women as percent of offences by sub-category: 1980 to 2010

	1980	2010
Total Offences	12.91%	21.65%
01 Homicide and Related Offences	10.38%	17.5%
02 Acts Intended to Cause Injury	7.83%	16.84%
03 Sexual Assault and Related Offences	0.55%	0.97%
04 Dangerous or Negligent Acts Endangering Persons	13.82%	19.34%
05 Abduction, Harassment and Other Offences Against the Person	10.50%	9.68%
06 Robbery, Extortion and Related Offences	11.93%	7.99%
07 Unlawful Entry With Intent/Burglary, Break and Enter	7.34%	8.53%
08 Theft and Related Offences	26.19%	34.88%
09 Fraud, Deception and Related Offences	33.77%	50.54%
10 Illicit Drug Offences	14.59%	20.20%
11 Prohibited and Regulated Weapons and Explosives Offences	3.24%	8.80%
12 Property Damage and Environmental Pollution	7.52%	15.87%
13 Public Order Offences	18.21%	14.24%
14 Traffic and Vehicle Regulatory Offences	9.46%	24.69%
15 Offences Against Justice Procedures, Government Security and Government Operations	16.2%	21.26%
16 Miscellaneous Offences	19.14%	16.66%

Data sourced from Statistics NZ (Criminal conviction and sentencing). Author's compilation.

7. Conclusion

This paper pulled together a range of statistical indicators across five key areas of women's general well-being in New Zealand. This was done across time in most circumstances, and in many, comparisons were made directly with the same statistics for men.

In terms of demographic and family changes, four key themes emerged: (i) the NZ population is clearly aging, and women continue to outnumber males in the older age ranges; (ii) both women and men have a more culturally diverse representation; (iii) both genders are delaying marriage, while females are more likely to be divorced; and (iv) more women are putting off having children.

The education sector is one arena in society where women have made enormous gains in NZ, since the mid 1960s. Women have experienced a speedier rise in their educational participation rates, relative to their male counterparts. By 2006, census figures indicated that a higher percentage of women graduated

with a bachelor's degree, compared to men. It was also noted that while for most of the sample period under study polytechnic enrolments of females rose in a similar fashion to university enrolments, there was a divergence in these enrolment rates post 2005, with women favouring universities for their higher education needs. The final set of gender analysis on the educational front found that the two fields of study (engineering architecture and building) where women had the lowest representation in 2002 (less than 30 percent), were the two fields that actually experienced the largest declines in the proportion of graduates that were female by 2010.

The gains in education have been matched by increasing involvement in the labour force, and this has occurred with each successive generation, and at almost all stages in their life course. These gains however have yet to be translated into wage and income equity. At all levels of education, women earn between just under 60 percent and just over 70 percent of what their male counterparts earned in 2008. Statistics over the last ten years also show that there is a consistently higher amount of women underemployed

With respect to the health status of women in NZ, several commonly used physical and mental health indicators were compared over time for both the male and female population. Under the physical domain of health, women have a longer life expectancy, although the gender gap is closing ever so slowly (a narrowing of the gender gap by 1 year over the last 40 years). While males had a higher probability of excessive alcohol consumption and smoking, young girls aged 14-15 were marginally more likely to smoke relative to young boys of the same age group. Additionally, just over a quarter of women were obese in 2007. Unfortunately, there were limited longitudinal data sources providing information on mental health indicators for the NZ population. The NZ Mortality Collection did however provide statistics on suicide rates, which showed that women consistently have lower suicide death rates than men, albeit higher rates of hospitalisation for self harm. Further, other time surveys, such as the NZ General Social Survey, indicated that women on average face a higher prevalence of depression.

Crime and violence against and perpetrated by women exposed the dark side of women's well-being. It was found that not only is family violence on the rise, but that most serious partner offences were against females. As far as female assault death rates are concerned, NZ is performing poorly relative to the OECD average by a considerable margin. Women are also featuring more prominently in serious offences, such as acts intended to cause injury and serious assault. Further research could investigate this worrying trend.

On a final concluding note, an unexpected future direction for this study would be to focus on the opposite gender in terms of their declining trends in areas of educational achievement and labour force participation.

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