

Employment and Earnings Gaps: The Disparity in Labour Market Outcomes in New Zealand and the U.S.

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Attestation of Authorship

“I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.”

Signed: _____

Date: ____/____/____

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Abstract

Problem statement: Maori and Pacific people have experienced high unemployment rates and low incomes when compared with Pakeha (European New Zealanders). Similarly, Afro-Americans and Hispanic-Americans in the United States of America have also experienced high unemployment rates and low incomes when compared with White-Americans. These common ethnic patterns of labour market inequality provide a motivation for exploring the explanatory factors underlying them.

Data: The study involved the collection of secondary data, guided by relevant theoretical perspectives and existing literature. The most recent demographic data related to the labour market outcomes among Maori were compared with those for Pacific people, Asian people, Afro-Americans, and Hispanic-Americans in order to discern patterns and similarities.

Findings and conclusions: Human capital theory, labour market discrimination theory, labour queue theory, and labour market segmentation theory all contribute potential explanations for poor labour market outcomes among Maori and Pacific people in New Zealand as well as among Afro-Americans and Hispanic-Americans in the U.S. Components of labour market segmentation theory also partially explain the lower personal income among Asian people compared with that of Pakeha. While age composition has weak explanatory power for the poor labour market outcomes among Maori, Pacific people, Afro-Americans, and Hispanic-Americans; poor labour market outcomes among Maori, Pacific people, and Afro-Americans may also be explained, at least partially, by illegal activities. There were similarities in the labour market outcomes between Maori and Pacific people in New Zealand, and Afro-Americans and Hispanic-Americans in the U.S. There were also some similarities between Maori and Asian people. Although Maori and Asian people concentrated in different occupations and industries, they were more likely to work in lower paid occupations and industries compared with Pakeha. They were also more likely to work in the industries that had experienced declines in the numbers of filled jobs. There is no evidence that a presence of new immigrants raised unemployment rates and drove down wages of current workers and Maori in New Zealand. There appears to be a vicious cycle in both the New Zealand and the U.S. labour markets, which may repeat endlessly unless

employment and earnings gaps, as well as educational and health gaps are narrowed, and negative effects of labour market discrimination is minimised.

Implications: This study attempts to understand the factors that account for poor labour market outcomes among Maori and other ethnic minorities: Pacific people and Asian people in New Zealand so that effective policies can be implemented to improve these outcomes. The study's findings might also assist Maori to improve their employment and earnings, and enable a statistical model to be formulated for future research.

Chapter 1: Introduction

Maori are the indigenous people of New Zealand. Their higher unemployment rates and lower income compared with Pakeha have been frequently reported (Taylor, & Dalziel, 2002; Mare, 1995; Winkelmann, & Winkelmann, 1997). However, less attention has been paid to the employment and earning gaps between the two groups over time (Chapple, & Rea, 1998). Pacific people and Asian people are also significant ethnic minority groups in New Zealand. They have labour market outcomes similar to those of Maori.

In 2007, the Maori and Pacific people's unemployment rates were 8 and 5.5 percent respectively compared with only 2.4 percent of Pakeha. In 2006, only 14.7 percent of Maori, 10.1 percent of Pacific people, and 16.1 percent of Asian people had personal incomes of NZ\$50,001 or more, compared with 28.1 percent of Pakeha.

Similarly, Afro-Americans and Hispanic-Americans in the U.S. also had higher unemployment rates (Spriggs, 2006; Winters, 2006; Richards, 1998; DeFreitas, 1990) and lower incomes (Isaacs, 2007; Richards, 1998) than did White-Americans. This indicates that they may have been facing similar labour market outcomes as Maori in New Zealand.

In 2007, the unemployment rates of Afro-Americans and Hispanic-Americans were 8.3 and 5.6 percent respectively compared with only 4.1 percent for White-Americans. In 2005, Afro-Americans and Hispanic-Americans had median household incomes of only US\$30,858 and US\$35,967 compared with US\$48,554 for White-Americans. They also had lower median family incomes than White-Americans. In 2005, the median family income of Afro-Americans was US\$35,464 and that of Hispanic-Americans was US\$37,867. However, the median family income of White-Americans was US\$ 59,317.

Larger proportions of Afro-Americans and Hispanic-Americans lived below the poverty level compared with White-Americans. In 2005, 24.9 percent of Afro-Americans and 21.8 percent of Hispanic-Americans lived below the poverty level compared with only 10.6 percent of White-Americans. In the same year, 22.1 percent of Afro-American

families and 19.7 percent of Hispanic-American families lived below the poverty level, compared with only 8 percent of White-American families.

It would be more properly justified to have Australian indigenous people as a comparator with New Zealand Maori, as these two countries share many similar features including: geographical proximity, history, institutions, customs, culture, attitudes, and economic background (Ministry of Economic Development, 2004). However, Afro-Americans and Hispanic-Americans in the U.S are chosen to compare with Maori in this study.

Firstly, although the U.S. has less similar features to New Zealand compared with Australia, a comparison of Afro-Americans and Hispanic-Americans with Maori enables us to strengthen our argument that ethnic minorities from two different countries may have very similar labour market outcomes and suffer from similar labour market discrimination even if their countries share less similar features.

Secondly, there is a wide range of readily available data related to this study on the U.S. side. Podder and Chatterjee (2002) studied trends of household income inequality in New Zealand. They referred to the U.S. as a country that possessed large and comprehensive data sets and, therefore, it would be easier to test patterns of income distribution of a country.

Four theories may be employed to explain the poor labour market outcomes among ethnic minorities: human capital theory, labour market discrimination theory, labour queue theory, and labour market segmentation theory. In addition to these theoretical perspectives, there are other factors that may also contribute to explanations for poor labour market outcomes. These are: age composition, incarceration, housing location, homelessness, immigration, the minimum wage, child support systems, and technological advances. Owing to lack of data and time constraints, this study examines age composition, incarceration, and immigration only.

The research questions that motivated this study are:

- Do human capital theory, labour market discrimination theory, labour queue theory, and labour market segmentation theory provide plausible explanations

for poor labour market outcomes among Maori and the other ethnic minorities in New Zealand and the U.S.?

- Are there any similarities in the labour market outcomes between Maori and the other ethnic minorities in New Zealand and the U.S.?

1.1 Aims of the research

One aim of this study is to analyse and interpret the theoretical perspectives and the existing literature critically in order to ascertain their contribution to our understanding of the disparity in labour market outcomes between Maori and Pakeha in New Zealand. A second aim of this study is to identify similarities in the labour market outcomes between Maori, Pacific people and Asian people in New Zealand, and Afro-Americans and Hispanic-Americans in the U.S.

1.2 Significance of the research

This study contributes to an understanding of factors that have accounted for employment and earnings gaps between Maori and Pakeha. It endeavours to inform New Zealand policy makers about factors that contribute to these gaps so that effective policies for narrowing them can be implemented.

The study also contributes to an understanding of similarities in labour market outcomes for ethnic minorities between New Zealand and the U.S. Therefore, it also enables us to learn from richer relevant U.S. research.

The findings of this study can be used to formulate a statistical model for further study on this topic. Moreover, they serve as warning signs to Maori of factors that might contribute to their poor labour market outcomes so that they can take appropriate action.

The theoretical perspectives, the New Zealand and international literature, as well as the data collected and sourced, should provide a foundation for future research related to

this topic. The limitations noted for this study should also suggest future potential research directions.

1.3 Overview of the chapters

The remaining chapters of this study are: relevant theoretical perspectives and practice, the New Zealand literature, the international literature, data, findings and discussion, and conclusions and implications.

Chapter two – the relevant theoretical perspectives and practice: reviews four theoretical perspectives, which may provide an explanation for the poor labour market outcomes among Maori, Pacific people and Asian people in New Zealand, and among Afro-Americans and Hispanic-Americans in the U.S.

Chapter three – the New Zealand literature: reviews labour market outcomes for Maori in New Zealand and also, briefly, touch on those for Pacific people and Asian people. It derives reasons and explanations for their poorer labour market outcomes compared with those of Pakeha.

Chapter four – the international literature: reviews the labour market outcomes among Afro-Americans and Hispanic-Americans in the U.S. It derives reasons and explanations for their poorer labour market outcomes compared with those of White-Americans.

Chapter five – data: explains when and how the data used in this study were collected, the theoretical motivation behind the collection of the data, and how the data were analysed. The data collection was carried out in two phases. The first phase involved the collection of New Zealand data. The second phase involved the collection of U.S. data. The secondary data were used to update statistical profiles of the ethnic minorities in both countries.

Chapter six – findings and discussion: discusses the key findings, based on data collected for this study, on employment and incomes, educational attainment, employment-related training, health outcomes, indications of labour market

discrimination, labour queue, labour market segmentation, age composition, and involvement in illegal activities, in both New Zealand and the U.S. It also discusses the key findings on external migration to New Zealand.

Chapter seven – conclusions and implications: summarises the contributions made by the theoretical perspectives and other factors, to an explanation for poor labour market outcomes among ethnic minorities in both New Zealand and the U.S. This chapter also discusses the significances of the study's findings, and identifies its limitations together with directions for future related research.

Chapter 2: The relevant theoretical perspectives and practice

2.1 Introduction

This chapter reviews four different theoretical perspectives: human capital theory; labour market discrimination theory; labour queue theory; and labour market segmentation theory. The purpose of this chapter is to study these theoretical perspectives and, finally, to consider them as potential explanations for the poor labour market outcomes among Maori, Pacific people, and Asian people in New Zealand, as well as for those of Afro-Americans and Hispanic-Americans in the U.S. As the literature on these theoretical perspectives and their empirical validations have become complex over time, only a snapshot is attempted in this chapter.

2.2 Human capital theory

Keeley (2007) has argued that human capital can yield benefits for the economy as well as for individuals. It can help to fuel economic growth by using highly productive workers. Becker (1993) has similarly argued that the outstanding economic performance experienced by some Asian countries in recent decades is due largely to their investment in human capital (Becker, 1993). Human capital investment can also help improve individual worker productivity and raise earnings. Workers on average earned relatively higher wage if they acquired higher levels of human capital (Becker, 1993; Jacobsen, & Skillman, 2004; Keeley, 2007). Thus, investments in human capital benefited both the economy and the individuals within it.

According to Becker (1993), human capital includes the attributes: knowledge, skills, health and values, and an individual can acquire these by investing in them. However, such investments are costly, as they involve expenditure on education, training, healthcare, and on acquiring virtues. The most important investments are in education and training, as these provide useful knowledge and skills that, in turn, improves productivity and raises earnings. Evidence from more than one hundred countries with

different economic systems and cultures has shown that better educated people earn well-above-average compared with the less well-educated (Becker, 1993). Although investments in education and training has the capacity to improve productivity and raise earnings, investments in healthcare, and in human capital related to values or virtues, may be also important.

Becker (1993) emphasised the importance of on-the-job training, as it affected workers' productivity and earnings positively. Participating in on-the-job training enabled workers to excel in their old skills and gradually learn new ones. Although this training was costly to a firm, it still profited from on-the-job training if expected future returns had the potential to increase, at least sufficiently to cover the training. However, a firm that hired workers for only one period, e.g. temporarily or for seasonal work, might care less about these future benefits and hence provide little or no on-the-job training (Becker, 1993). On-the-job training was increasingly beneficial to a firm because it generated highly skilled and more productive workers. As there are costs involved, not all firms provide on-the-job training.



Figure 1: Relation of earnings to age between the trained and untrained workers
(Becker, 1993, p. 37)

There are two types of on-the-job training: general training and specific training (Becker, 1993). Becker (1993) argued that general training raised workers' productivity and earnings in the firm providing it, as well as in other firms. As a result, the firm that

provided the training might not capture any of the benefits from such training if its trained workers resigned after the training was completed. Thus, a firm should be obliged to provide general training only if its workers agree to bear the costs. Instead of paying for general training, such a firm might pay the trained workers a market wage. Workers who receive a general training earn relatively less early in their working life than those who do not receive one but earn relatively more at older ages (Becker, 1993). Life time earnings of untrained workers are unlikely to remain flat, however, regardless of their increasing work-related experience. The posited relationship between earnings and age for untrained and trained workers can be seen in Figure 1.

In contrast, Becker (1993) argued that specific training raises the productivity of workers only in the firm that provides it. The training they received would not raise their earnings elsewhere if they left their current firm. Although, none of the on-the-job training was completely general or completely specific, it was, nevertheless, more appropriate that both the firm and the workers shared the costs of specific training. On the one hand, if the firm pays for specific training entirely, it will collect the larger profits that result from the higher labour productivity it has generated. However, the firm may risk losing its investment if the trained workers resign. On the other hand, if the workers pay for specific training, they will face a similar risk if they are laid-off or fired. Skills acquired from specific training are not easily transferable (Becker, 1993). Compared with general training, the benefits of specific training are that the workers may not have to pay its costs entirely, yet still enjoy high earnings and the ability to improve their productivity.

Bougheas and Georgellis (2004) studied apprenticeship training programme (youth training programme) in Germany. They assumed that the German apprenticeship training is mostly general training. Firms (mostly large firms) that provided general training paid higher wages and also provided additional specific training. This considerably raised the opportunity costs of workers to change their jobs and gave incentives for firms to incur training costs (Bougheas, & Georgellis, 2004; Winkelmann, 1996). However, Harhoff and Kane (1997) argued that net costs of the apprenticeship training were higher among large firms compared with small ones. In 1980, the estimated net costs of the apprenticeship training were about US\$9,381 per year for large firms and US\$5,991 for small ones. One explanation for this is that, large firms usually employed full-time trainers. They often provided the training in classroom

settings rather than a production line. In contrast, the training in small firms was considerable flexible and usually occurred during slack hours and when the opportunity costs were low (Harhoff, & Kane, 1997). The differences in the net training costs and how the apprenticeship training was conducted, determined the difference in a training quality between large firms and small ones.

Bougheas and Georgellis (2004) found that the apprenticeship training programme raised young workers' future earnings. However, the quality of training varied substantially across firms. As size of an apprenticeship firm could affect workers' future earnings, those who were trained in large firms tended to earn more than those in smaller ones. Bougheas and Georgellis (2004) argued that a positive correlation between the training firm size and workers' earnings generally remained persistent for 6 year period after the training. Moreover, trained workers in large firms were also more able trainees and had better employment prospects as large firms had higher training intensity (Bougheas, & Georgellis, 2004; Winkelmann, 1996). For instance, 75.3 percent of workers trained in large firms were in full-time employment compared with 65.4 percent of those trained in small ones. Trained workers in large firms also had lower unemployment rates (Bougheas, & Georgellis, 2004). Overall, trainees in large firms were better off compared with those in small ones. All in all

Besides on-the-job training, people can also acquire knowledge from school or university (Becker, 1993). Jacobsen and Skillman (2004) emphasised the importance of education as credentialism: a means of conveying information to employers about unobservable abilities and other valuable traits of workers. Incomplete information can leave employers insufficient knowledge of workers' true abilities, so that they may be unable to decide which worker to hire. Levels of educational attainment can indicate workers' true abilities and match them with appropriate wage levels (Jacobsen, & Skillman, 2004). However, going to school is costly. It involves both direct and indirect costs. Direct costs includes expenditure on tuition fees, books, supplies, and transportation; whereas indirect costs include, in particular, the opportunity cost involved in forgoing earnings while receiving tuition (Becker, 1993; Blau, Ferber, & Winkler, 2006). As there are costs involved, children from poor families have fewer opportunities to acquire high levels of education compared with those from richer families.

A number of economists have criticised the credentialism of education. According to Berg (1970) the enormous growth in the education sector can mislead people into believing that education unquestionably guarantees a better job and a higher income (Berg, 1970). Becker (1993) was also sceptical about credentialism. He argued that employers prefer workers with more work-related abilities and experience, rather than those who do well academically. Therefore, it is more efficient and cheaper for young workers to convey information about their abilities to employers by entering directly into the labour force (Becker, 1993). However, it is realistic to assume that employers would prefer workers who have both high levels of education and work-related experience. Therefore, leaving school early to pursue employment might hinder young workers from highly paid jobs and promotion opportunities in the long run.

Becker (1993) emphasised other kinds of investment in human capital: investment in information regarding employment opportunities, and investment in healthcare. Investment in information involves both the money and time that individuals spend on seeking advice from employment agencies, examining job advertisements, talking to people, visiting firms and shifting, if a new job requires them to do so. With useful information, workers are more likely to get a better and higher paid job. Moreover, investment in healthcare improves the emotional and physical health of workers and, in turn, improves their earnings. Healthier workers are generally more productive and earn relatively more than less healthy workers (Becker, 1993). Investments in information and healthcare are as important as investments in education and training.

The benefits of investing in education and training depend on length of working life (Blau et al., 2006; Jacobsen, & Skillman, 2004). Investment in healthcare extends length of working life and life-time earnings of investors (Becker, 1993). Moreover, Becker (1993) argued that mortality and morbidity rates clearly affect length of working life and earnings. Low rates resulting from investments in healthcare imply longer working lives, and the ability to earn relatively more. Therefore, low mortality and morbidity rates should act as incentives for people to invest in human capital (Becker, 1993). An unhealthy population has fewer incentives to invest in education and training.

Furthermore, Becker (1993) argued that younger people are more likely to receive education and on-the-job training. This is mainly because younger people, with a relatively longer working life ahead, have greater incentives to invest in human capital

than older ones. Moreover, younger people are better able to absorb new ideas, more interested in learning, more likely to be supported by parents, and have fewer family responsibilities. Therefore, people benefit more from investment in human capital at a younger age (Becker, 1993). Younger people are able to collect the returns from human capital investments over a longer period of time. Therefore, the later investments in human capital are made, the lower the returns that can be collected from such investments.

Jacobsen and Skillman (2004) argued that an investment decision in human capital is subject to financial constraints, especially if capital markets are imperfect. Capital market imperfections make it harder for people to obtain loans to invest in human capital, as it constitutes rather poor collateral (Jacobsen, & Skillman, 2004; Becker, 1993). Furthermore, people may have to pay higher rates of interest to obtain loans, or may not be able to get loans at all, due to their poor credit status (Jacobsen, & Skillman, 2004; Becker, 1993). This may result in underinvestment in education and training and, less explicitly, in healthcare (Becker, 1993). Alternatively, investment in human capital might involve internal financing, so wealthier families tend to invest relatively more in the human capital of their children than do poorer ones (Becker, 1993). This results in a continuing educational gap between children from poor as opposed to those from wealthy families.

However, the human capital theory argument that focuses on funding difficulties for human capital investment may be less relevant in New Zealand, as government expenditure on education is a large proportion of both total government expenditure and total GDP. For instance, total government expenditure on tertiary education was NZ\$4,046 million in 2005-2006 compared with NZ\$3,795 million in 2004-2005 (Education Counts, 2008a). Between mid of 2005 and mid of 2006, the government spent NZ\$2,019 million (which constitutes 50 percent of the total budget) on tuition subsidies; NZ\$1,046 million (26 percent of the total budget) on student loans; NZ\$354 million (8.8 percent of the total budget) on student allowances; and NZ\$245 million (6.1 percent of the total budget) on other training programmes including Gateway and Skill Enhancement, Modern Apprenticeships, and Youth Training (Education Counts, 2008a). The government expenditure on education (primary, secondary, and post secondary, non-tertiary education institutions) as percentages of GDP and total government expenditure can be seen in Figure 2.

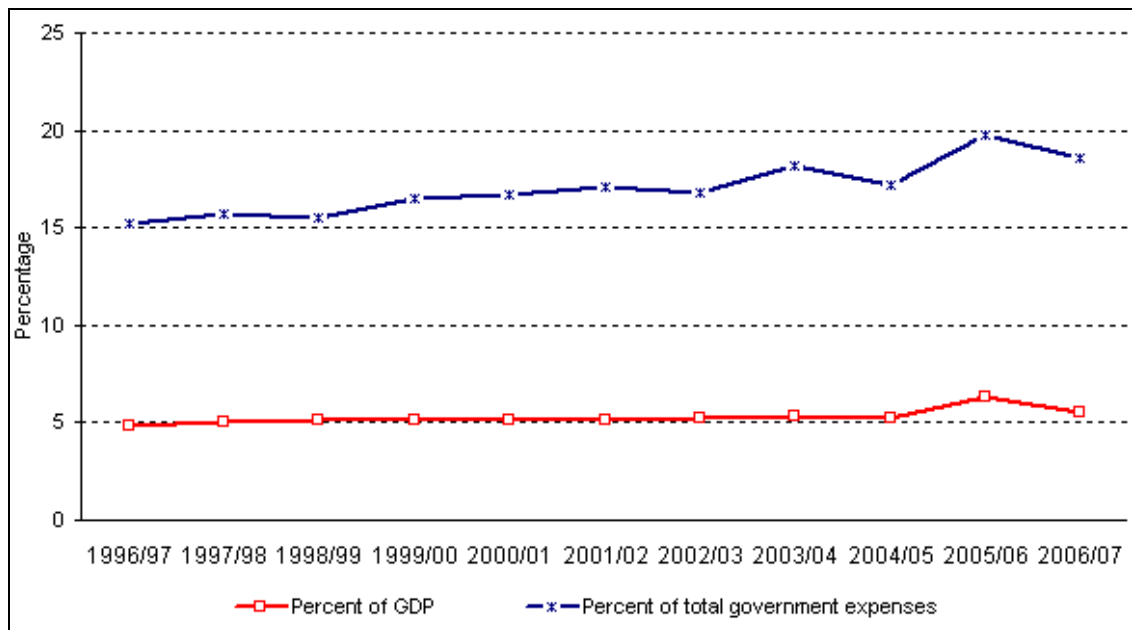


Figure 2: Government expenditure on education – primary, secondary, and post secondary, non-tertiary education institutions – in New Zealand (1996/1997 to 2005/2006)
(Education Counts, 2008b)

Becker (1993) argued that families have great influence on their children's knowledge, skills, values, habits, marital stability, and many other aspects of their lives. Children who have constantly experienced domestic violence that causes lasting damage may lack a positive parental role model. A lack of parental role models implies that the children receive little encouragement or motivation to excel in their education and are not well-prepared for the future. Well-prepared children are able to learn more easily. Becker (1993) used the term 'underclass' to describe families with poor formal qualifications, early pregnancy, marital instability, and benefit-dependency. These negative characteristics can be passed on from parents to their children.

Moreover, Becker (1993) argued that parents' earnings were positively related to those of children, especially when they were poor. This relationship was, however, not strong. Compared with wealthier families, the poorer ones were less able to provide for their children's education, particularly where they had more children. Among ethnic groups in the U.S., those with a large family spent relatively less on education for each child compared with those having smaller families (Becker, 1993; Becker, 2007). Family characteristics influenced children in both negative and positive ways. A positive family influence resulted in better investment in human capital and higher future earnings, whereas a negative one had the opposite consequences.

Although, human capital theory can explain earnings differences between two workers who have acquired different levels of human capital, it does not seem to explain a number of factors. Firstly, due to uncertainty, people may not be truly forward-looking, and may miscalculate how much they need to invest in human capital. For instance, young women may invest less in human capital if they or their parents anticipate that they will not work for a long period of time. Furthermore, risk-averse individuals may be sceptical about future returns on human capital and, therefore, tend to invest less in it. Human capital theory does not discuss this argument (Jacobsen, 2003; Jacobsen, 2004; Sandell, & Shapiro, 1980). Secondly, wage increases may be the result of seniority rather than productivity levels (Jacobsen, 2003; Jacobsen, 2004). Workers can accumulate more work-related experience the longer they are in employment. This, in turn, results in higher wages.

Finally, human capital theory seems to ignore the effect of other unexplained variables: mainly discrimination. Human capital theory has been able to explain only around 50 percent of earnings differences between different groups statistically. Evidence has shown that after human capital was controlled, discrimination was found to be a factor contributing to earnings gaps (Jacobsen, 2003; Jacobsen, 2004; Figart, 2004). Similarly, Bowles and Gintis (1975) argued that human capital theory provides little discussion on labour demand conditions. It does not provide an explanation for the wider effects of discrimination on earnings differences between workers. England (1982) suggested the importance of further investigation into the relationship between labour market discrimination and earnings (England, 1982). Therefore, discrimination must be taken into account in order to explain the employment and earnings gaps between workers. The next section discusses labour market discrimination theory.

2.3 *Labour market discrimination theory*

According to Blau et al. (2006), a number of economists have studied pay and occupational disparities between two different demographic groups. They hold discrimination responsible for these disparities. Gary Becker is one of those economists. He defined discrimination as a personal prejudice or taste against associating with the disadvantaged groups. According to Becker's model, employers, employees, and customers may have tastes for discrimination. For instance, employers may discriminate

against a job applicant when making hiring decisions. Employees may refuse to work with co-workers from disadvantaged groups, and customers may care more about who is serving them than the quality of goods and services (Blau et al., 2006; Becker, 1998; Becker, 1957). Tastes for discrimination may result in earnings differences between two different but equally productive groups.

Based on Becker's model, Blau et al. (2006) emphasised that the costs of employing disadvantaged groups are their wage plus a 'discrimination coefficient' that measures the strength of the discrimination in money terms, whereas the cost of employing privileged groups, e.g. men or ethnic majorities, is just their wage. Consequently, employers with tastes for discrimination would be expected to employ disadvantaged groups only if the full costs of their employment (wage plus discrimination coefficient) are no greater than the wage of the privileged groups. Therefore, disadvantaged groups who persistently demanded the same wage as the privileged, made their labour costs more expensive. However, not all employers necessarily have these tastes and even if they did, the strength of tastes for discrimination might be expected to vary from one employer to another (Blau et al., 2006; Becker, 1957; Wolff, 1997; Jacobsen, & Skillman, 2004). The earnings of two different but equally productive groups might greatly depend on their employers' tastes for discrimination.

Moreover, Blau et al. (2006) has argued that employees with tastes for discrimination might demand a higher wage to work with their discriminated co-workers. This higher wage equals their initial wage plus a discrimination coefficient. Therefore, profit maximising firms may segregate them to avoid paying a higher wage to the discriminatory workers. However, a complete segregation involves recruitment and screening costs. As a result, it may be more profitable for the firms to pay discriminatory workers a higher wage as compensation for working with their discriminated co-workers (Blau et al., 2006; Becker, 1957; Wolff, 1997; Jacobsen, & Skillman, 2004). As with employer tastes for discrimination, employee tastes for discrimination also lead to earning differences and occupational segregation between two different but equally productive workers.

Moreover, discrimination might directly reduce the productivity of discriminated employees when employees with tastes for discrimination are unwilling to teach them important skills or give them advice or assistance (Blau et al., 2006). However,

Bergmann and Darity Jr (1981) argued that the employees' tastes for discrimination might also affect morale, and reduce the productivity of discriminatory employees, if they are forced to work with their discriminated co-workers. Consequently, employers may be unwilling to employ a worker who is subject to the employee taste for discrimination if the discriminatory employees are costly to replace (Bergmann, & Darity Jr, 1981). For profit maximising firms, having discriminated employees may not be beneficial, as both their productivity and that of the employees with tastes for discrimination can be reduced.

Based on Becker's model, Blau et al. (2006) emphasised that earnings differences between two equally productive workers also depend on the number of discriminated employees seeking jobs. If there are a large number of discriminated employees seeking jobs, some will have to find jobs at discriminatory firms, where they will earn relatively less. Furthermore, the discriminatory firms tend to employ relatively fewer of the discriminated employees. In the long run, segregation between the discriminated employees and those with tastes for discrimination may result (Blau et al., 2006; Becker, 1957; Wolff, 1997). The discriminated employees may have to compete not only with the discriminatory ones, but also among themselves, in order to get a well-paid job.

Similarly, customer taste for discrimination may also affect the employment and earnings of discriminated employees. Based on Becker's model, Blau et al. (2006) emphasised that the full price of goods and services provided by the discriminated employees is the actual price plus the discrimination coefficient. As a result, the discriminated employees may sell fewer goods and services than other employees who are not subject to the customer taste for discrimination. Alternatively, the discriminated employees must sell at a lower price if they want to sell as much as other employees. Customer tastes for discrimination may reduce the earnings and productivity of the discriminated employees. Nevertheless, customer taste for discrimination is not prevalent in all occupations (Blau et al., 2006; Becker, 1957; Wolff, 1997; Jacobsen, & Skillman, 2004), and may not affect discriminated employees whose jobs do not require a customer interaction.

In contrast to the Becker model, Edmund Phelps argued that the employer taste for discrimination may be rational if information about the productivity of a job applicant is

imperfect. Imperfect information may result in costly mistakes that involve hiring and training (Figart, 2004; Blau et al., 2006). According to Phelps (1972), employers discriminate against employees from the disadvantaged groups if they believe them to be on the average less productive than those from the privileged groups. This belief is termed ‘statistical discrimination’, and result from past statistical experience. Statistical discrimination may, therefore, result in earnings differences between two different but equally productive workers. It may also result in less firm-specific training for the discriminated employees (Phelps, 1972; Blau et al., 2006; Wolff, 1997). The practice of statistical discrimination is more common among risk-averse employers.

Furthermore, Blau et al. (2006) and Arrow (1973) argued that the consequences of statistical discrimination can be worse if it is accompanied by feedback effects. Feedback effects imply that discriminated employees may behave exactly as discriminatory employers believe them to be. Statistical discrimination together with feedback effects may discourage the discriminated employees from investing in human capital and attaching to the labour force (Blau et al., 2006; Arrow, 1973). Greater investment in education among discriminated employees serves as credential that conveys messages about their true ability.

According to Figart (2004), the arguments of discrimination theory, including tastes for discrimination, and statistical discrimination, emphasised only current labour market discrimination, rather than the effects of pre-labour market discrimination (Figart, 2004). Schiller (2001) argued that disadvantaged groups continually experience non-market discrimination, past labour market discrimination, and current labour market discrimination.

Non-market discrimination in school (educational discrimination) discourages ethnic minority youth to invest in higher levels of education. Rich and ethnic majority students may discriminate against poorer and ethnic minority ones, as they are unable to attain material success (Schiller, 2001). As with statistical discrimination, teachers may believe that poor and ethnic minority students are relatively less able than richer and ethnic majority ones. The teachers’ beliefs may discourage them from continuing their studies. Consequently, they may drop out from school early (Schiller, 2001). Thus, non-market discrimination may hamper the future employment prospects of discriminated students.

Even when non-market discrimination is accounted for, Schiller (2001) argued that current labour market discrimination alone does not result in earnings differences between two different but equally productive groups. Past labour market discrimination may also account for this. For instance, discouraged workers (Taylor, & Dalziel, 2002) who experienced difficulties in obtaining a job in the past due to labour market discrimination may have less incentive to look for another one. They may also have less incentive to invest in education. Consequently, a lack of education reduces their productivity and lowers their earnings. Schiller (2001) concluded that non-market discrimination, past labour market discrimination, and current labour market discrimination lead to employment disparities, occupational disparities, and wage disparities. These in turn can result in earnings differences between two different workers. This can be seen in Figure 3.

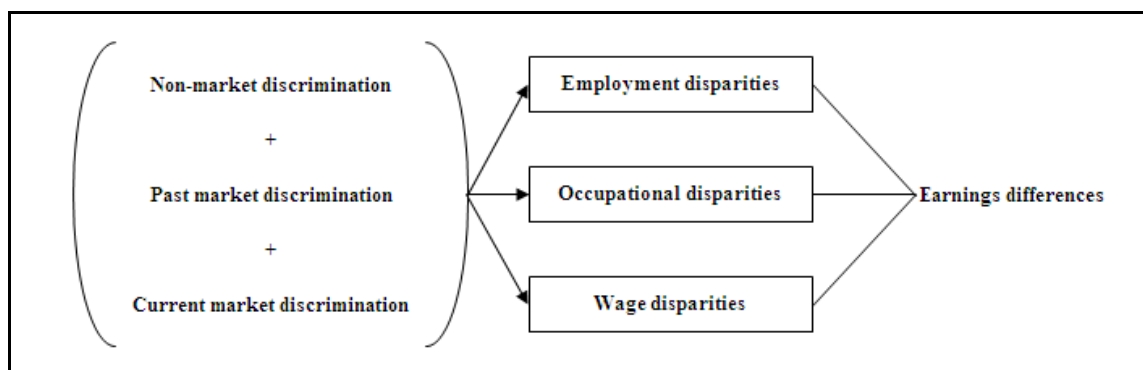


Figure 3: The sources of earnings differences

(Schiller, 2001, p. 179)

Although, discrimination may account for earnings differences between two different but equally productive groups, it is not always easy to prove its existence (Schiller, 2001; Humblet, 2003). Humblet (2003) argued that discriminatory employers subtly hide their discriminatory behaviour. Furthermore, discriminated employees may sometimes not realise whether they have been victimised by wage discrimination. As information about wages or salary of each employee is confidential, it may be difficult to prove that the discriminatory employers have been paying the discriminated employees relatively less than their colleagues. Although, there is evidence to prove the existence of discrimination, the discriminated employees may hesitate to initiate legal action as it may involve some costs e.g. a lawyer and the court expenses (Humblet,

2003). Intended discrimination can severely impact on earning gaps between two different workers.

Nevertheless, Schiller (2001) argued that labour market discrimination is mostly unintended. For instance, many companies recruit new employees through word of mouth of their current employees. Unfortunately, this practice may exclude the disadvantaged groups from better employment opportunities if they lack job networks (Schiller, 2001). Therefore, people who are subject to labour market discrimination can improve their employment prospects by investing more in information regarding job opportunities as well as in education and training. Highly educated workers probably have a better chance to be employed sooner than less well-educated ones when employers prefer to hire those who acquired relatively higher levels of education. The next section discusses employer's preferences as part of labour queue theory.

2.4 *Labour queue theory*

According to the labour queue theory, employers prefer to hire workers who require low training costs (Thurow, 1975, 1976; Doeringer, & Piore, 1985). The most preferred workers are those who acquire the highest levels of education. Employers believe that they require relatively lower training costs than those who acquire lower levels of education. Therefore, employers place the most educated workers in front of the labour queue and the least educated ones at the end. Employers hire the most educated workers first and the least educated ones last. As a result, the most educated workers take up the highest paid jobs leaving the lowest paid ones for those at the end of the labour queue. The least educated workers who consistently demand a similar wage as the higher educated tend to remain unemployed for a long time (Thurow, 1975, 1976; Heijke, Matheeuwsen, & Willems, 2003; Kaufman, 2002; Aberg, 2001; Leontaridi, 1998; Heijke, 1996; Van Ours, & Ridder, 1995; Doeringer, & Piore, 1985; Hodge, 1973).

The argument of labour queue theory above seems to contradict that of Becker (1993) in human capital theory regarding on-the-job training. Human capital theory argues that employers transfer all the costs of general training to their workers but share the costs of specific training. Therefore, employers do not lose out much even if they hire less well-educated workers from the back of the labour queue, as they do not have to pay for

general training and pay for specific training only partly. Nevertheless, Lerman (1990) argued that labour queue theory contributes to an explanation for the low earnings and high unemployment rates among disadvantaged groups especially when fewer jobs are available in the economy.

Kaufman (2002) claimed that jobs have their race label. Employers generally reserve highly-skilled jobs that are rewarded with high wages for ethnic majority workers. They believe that these jobs are more appropriate for ethnic majority workers than for ethnic minority ones. This is statistical discrimination against disadvantaged groups (Kaufman, 2002; Aberg, 2001). Due to race labelling for each job, ethnic minority workers may be unfairly placed at the end of the labour queue. This results in low earnings among the ethnic minority workers as they have to unwillingly accept jobs that are rewarded with low pay.

Additionally, Reskin and Roos (1990) argued that workers and employers are both involved in the ranking process of the labour queue. On the supply side, workers prefer higher paid and more secure jobs (Reskin, & Roos, 1990; Ferber, 1992). On the demand side, employers rank potential workers according to their levels of education. During an economic downturn, employers attempt to lower wages but they are sometimes not able to do so due to employment regulation. Therefore, they may instead raise hiring standards and require workers to have higher levels of education to qualify for a job (Van Ours, & Ridder, 1995; Thurow, 1975, 1976). This practice lengthens the labour queue and, therefore, adversely affects the least educated workers at its end.

Although, labour queue theory may help to explain the employment and earnings gaps between two different groups, it has been criticised for oversimplifying reality, because it treats the labour market as a single queuing process (Hodge, 1973). The labour market actually consists of multi-queues, which separate different groups of occupations (Hodge, 1973). Moreover, the labour market is also a multi-filtered mechanism as the ranking processes differ from one job to another (Hodge, 1973). Therefore, two different workers may not necessarily compete with one another for the same job. Moreover, the labour market may be divided into different sub-markets: workers in different markets do not compete with each other for a job. The next section discusses labour market segmentation theory.

2.5 *Labour market segmentation theory*

According to labour market segmentation theory, the labour market is divided into a primary market and a secondary market. The primary market consists of jobs that are rewarded with high wages, good working conditions, promotion opportunities, and job security. In contrast, jobs in the secondary market have the opposite characteristics (Doeringer, & Piore, 1985; King, 2004; Blau et al., 2006). Furthermore, workers in the secondary market tend to be disadvantaged groups, owing to their lack of skills and work experience, and to discrimination (Doeringer, & Piore, 1985). Less well-educated and discriminated workers are more likely to work in the secondary market. Consequently, they earn relatively lower wages than better-educated workers.

Labour market segmentation theory states that workers in the secondary market cannot freely move to the primary one (Doeringer, & Piore, 1971). Therefore, they are more likely to remain in the secondary market over their career life (Gordon, 1972; Piore, 1970). In contrast, Rosenberg (1980) argued that there is some mobility between primary and secondary markets (Rosenberg, 1980). While jobs in the primary market are more likely to be in urban areas, Smith and Zenou (1997) argued that jobs in the secondary markets are more likely to be located in rural areas. Therefore, location may prevent workers in the secondary market from moving to the primary market (Smith, & Zenou, 1997). Limited mobility between the secondary market and the primary market may result in a continuing earnings gap between disadvantaged groups and privileged ones.

King (2004) argued that labour market segmentation theory provides a better explanation than human capital theory for the occupational segregation and low earnings among women (King, 2004). Due to a glass ceiling in the labour market, women disproportionately concentrate in the secondary market regardless of their educational attainments, skills, work experience, and continuing attachment to the labour force (King, 2004). Other disadvantaged groups may also suffer from the glass ceiling as do women. The glass ceiling inhibits the disadvantaged groups from climbing up a higher level of a job hierarchy (Blau et al., 2006). The glass ceiling contributes to labour segregation between two different workers regardless of their productivity.

According to Hudson (2007), profit maximising employers in the U.S. have increasingly demanded low-waged non-citizen immigrants. In 2004, there were

approximately 7 million undocumented workers, which constituted about 5 percent of U.S. workers. Undocumented workers have low bargaining power due to their citizenship status, low levels of educational attainment, labour market discrimination, and language difficulties. Therefore, they are most likely to work in the secondary market. Moreover, they also tend to be part-time, seasonal or temporary workers (Hudson, 2007). A lack of bargaining power channels workers from the disadvantaged groups into the secondary market.

Although jobs in the secondary markets are rewarded with relatively lower wages than those the primary market, Smith and Zenou (1997) argued that the disadvantaged workers may rationally undertake employment in the secondary market, as long as a minimum wage is relatively higher than the welfare payments they may receive if unemployed (Smith, & Zenou, 1997). Therefore, the minimum wage regulations may be an effective policy that helps to raise earnings of disadvantaged groups in the secondary market (Ghilarducci, & Lee, 2005). However, it is important to occasionally revise a minimum wage and keep it above the amount that people may alternatively receive from welfare payments.

Nevertheless, labour market segmentation theory does not discuss two factors. Firstly, Leontaridi (1998) argued that labour market segmentation economists are not able to identify the exact number of segments in the labour market (Leontaridi, 1998). According to Leontaridi (1998), the labour market is made up of between two to six segments. However, the exact number still remains unknown (Leontaridi, 1998). Secondly, labour market segmentation theory does not really account for differences in jobs of the disadvantaged groups and those of the privileged groups in the same labour market. For instance, even when disadvantaged groups have made their way into the primary market, they may still not receive the same benefits as privileged groups (King, 2004). The next section summarises this chapter.

2.6 Chapter summary

This chapter studies in depth the theoretical perspectives: human capital theory; labour market discrimination theory; labour queue theory; and labour market segmentation theory. These theoretical perspectives may be relevant to poor labour market outcomes

among Maori and other ethnic minorities in New Zealand. They may be also relevant to the poor labour market outcomes among Afro-Americans and Hispanic-Americans in the U.S.

The first section of this chapter discusses the importance of investment in education, training, healthcare, and information regarding employment opportunities on employment and earnings of workers. Human capital theory suggests that investments in human capital should be carried out at early ages as young people have a relatively longer working life than older ones to collect returns from their investments. As there are costs involved, young people from poor families are less likely to receive high levels of education compared to those from richer families.

The second section discusses the negative effects of labour market discrimination on employment and earnings of disadvantaged groups. Tastes for discrimination among employers, co-workers, and customers can adversely affect employment and earnings of discriminated employees. Statistical discrimination and feedback effects may discourage them from investing in education and training, and participating in the labour force. Moreover, non-market discrimination and past labour market discrimination can also affect the employment and earnings as well as educational attainment of discriminated employees.

The third section discusses labour queue theory. To minimise training costs, employers prefer to hire workers who acquire the highest levels of education. Therefore, they place the most educated workers in front of the labour queue and the least educated workers at the end. Discriminatory employers may place disadvantaged groups at the end of the queue regardless of their educational attainment. While those in front of the queues are hired first, those at the end are hired last. Nevertheless, there is probably more than one queue in the labour market. The labour queue theory consists of elements of both human capital theory and labour market discrimination theory.

The fourth section discusses labour market segmentation theory, which argues that the labour market is divided into the primary market and secondary market. While the primary market consists of jobs that are rewarded with higher wages, have better working condition, better promotion opportunities and higher job security, the secondary market consists of jobs with the opposite characteristics. Due to relatively

lower levels of education, skills, work experiences, and labour market discrimination, workers in the secondary market tend to be from the disadvantaged groups. However, there may be more than two segmentations in the labour market.

The conclusions from this chapter is that that the poor labour market outcomes among Maori and other ethnic minorities in New Zealand and the U.S. may result from a lack of human capital, labour market discrimination, their positions in the labour queue, and labour market segregation.

This chapter studies only four theoretical perspectives. There may be other factors that also account for the poor labour market outcomes among Maori and other ethnic minorities in New Zealand and the U.S. Therefore, similarities in their labour market outcomes are not limited to these theoretical perspectives. The next chapter discusses the labour market outcomes among Maori in New Zealand.

Chapter 3: The New Zealand literature

3.1 Introduction

This chapter reviews labour market outcomes among Maori in New Zealand. It also touches briefly on the labour market outcomes among Pacific people and Asian people in New Zealand. The purpose of this chapter is to derive reasons and explanations for the high unemployment rates and low earnings among Maori in New Zealand, based on the theoretical perspectives in Chapter 2 and other relevant factors if applicable. This chapter also seeks to validate the relevance of the theoretical perspectives in Chapter 2 to labour market outcomes among Maori in New Zealand.

The second section of this chapter gives an overview of the employment and earnings disparities between Maori and Pakeha in New Zealand. The third section discusses Maori human capital, which includes discussion on education, training, and health of Maori as compared to those of Pakeha. The fourth section discusses the negative effects of labour market discrimination on the employment and earnings of Maori. The fifth section discusses segregation of Maori labour force. The sixth section discusses the age composition of Maori compared with that of Pakeha.

The last section summarises the relevance of the theoretical perspectives in Chapter 2, and whether they provide explanations for poor labour market outcomes among Maori in New Zealand. It also summarises other relevant factors, which might provide explanations for their poor labour market outcomes.

3.2 Overview

Maori in New Zealand have had relatively poorer labour market outcomes compared with those of Pakeha. The unemployment rates of Maori have been much higher than those of Pakeha whereas their income has been relatively lower, especially during the 1990s recession (Taylor, & Dalziel, 2002; Mare, 1995; Winkelmann, & Winkelmann, 1997). However, less attention has been paid to the trends in disparities between these

two groups over time (Chapple, & Rea, 1998). Nearly 30,000 Maori were unemployed in 1997 and more than one third were in long term unemployment. About 40 percent of Maori who registered as unemployed, remained unemployed for two years or longer. Moreover, Maori were three times more likely to be unemployed compared with Pakeha (Munro, Prasad, Hamon, & Boulton, 1998; Fletcher, 1999).

More recently, Maori unemployment rates had declined significantly. In June 2007, the Maori unemployment rate was 7.6 percent compared with 10.2 percent in 2003 and 25.4 percent in 1992 (Department of Labour, 2005, 2007). A number of employed Maori had increased by 8.7 percent, which contributed to half of growth in total employment over the past year (Department of Labour, 2007). Consequently, unemployment gap between Maori and non-Maori was narrower. In June 2007, their unemployment gap was 4.3 percentage points compared with 5.3 percentage points in June 2006. However, the Maori unemployment rates were still well above those of non-Maori (Department of Labour, 2007).

Moreover, average hourly wage rates for Maori had also increased. In 2007, average hourly wage for Maori was NZ\$17.58 compared with NZ\$14.33 in 2002. However, they still lagged behind the economy-wide average hourly wages, which was NZ\$21.41 in 2007 and NZ\$16.71 in 2002 (Department of Labour, 2007). There must exist, therefore, differences between Maori and non-Maori in New Zealand that account for these continuing employment and earnings gaps.

3.3 *Maori human capital*

3.3.1 Education

The educational attainment of young Maori is lower relative to that of young non-Maori (Chapple, 2000; Mare, 1995). Mare (1995) showed that in 1992, only 60.8 percent and 21.9 percent of young Maori were retained in the sixth and seventh forms respectively compared with 87.8 percent and 48.7 percent of non-Maori. Moreover, in 1993, 19 years old Maori were three times less likely to get tertiary education compared to 19 years old non-Maori. Consequently, the Maori labour force was less well-educated than

the non-Maori. Among employed Maori workers in 1991, only 22 percent acquired school and post-school qualifications and 42 percent left school without any formal qualifications compared with 41 percent and 22 percent of non-Maori respectively. In 1994, 59 percent of unemployed Maori workers did not have formal qualifications compared with only 39 percent of unemployed non-Maori workers (Mare, 1995). Although these figures are derived from studies undertaken in the 1990s, they indicate that Maori are less well-educated compared with Pakeha.

Crooks et al. (2001) and Else (1997) argued that the differences in educational achievement between Maori and non-Maori students result from their comparative family financial resources. Else (1997) found this to explain about two thirds of the educational gap. Firstly, incomes of Maori parents were on average lower than those of non-Maori parents. Secondly, Maori parents were more likely to stay outside the labour market and to be unemployed. Thirdly, Maori parents were less well-educated and less likely to own houses. Fourthly, Maori family size was generally larger than for non-Maori. With a large family size, Maori parents had a lower budget to spend on education for each child.

Finally, a larger number of Maori children were from sole parent families. In 1991, 37 percent of Maori families were sole parent families compared with only 26 percent of non-Maori families. Sole parent families may have lower incomes and fewer resources to spend on their children's education (Else, 1997). The findings of Else (1997) support Becker's human capital theory argument that poor families are less able to afford their children's education, especially if they have relatively more children.

Moreover, Maori women often headed a sole parent family, and were more likely to be unemployed and to depend on the Domestic Purposes Benefit. Those who were employed had a median income of only NZ\$14,525 per year in 1990, were also, on average, younger than non-Maori sole parents, and had more than one dependent child (Te Puni Kokiri, 1994; Fletcher, 1999). Therefore, Else (1997) argued that the educational gap between Maori and non-Maori might start at birth (Else, 1997). Human capital theory posits that investment in education is subject to financial constraints and, therefore, that internal financing might help to support such investment. As Maori children are more likely to come from sole parent families, they are less able to invest adequately in education.

Crooks et al. (2001) argued that the differences in educational achievement between Maori and non-Maori students also result from community and some other activities. Maori children may have relatively fewer opportunities to be involved in academic-related activities such as reading and writing in English, scientific ideas and information. In contrast, they are more likely to be involved in community activities including sports or other physical skills, community and church commitments (Crooks et al., 2001). However, helping communities and church commitments are value or virtues of Maori students, which partially constitute their human capital. It seems that there is a trade-off between different attributes of human capital in this case between education and value or virtue.

Crawford (2001) argued that early childhood education is an important preparation for the future education of Maori adults (Crawford, 2001). However, Maori lag behind non-Maori in early childhood education. In 1981, only one in five Maori children received early childhood education compared with two in five non-Maori. This gap was narrower by 1994, as the participation rates of Maori children in early childhood education rose to 81 percent of the non-Maori rate (Else, 1997). Maori students who did not receive early childhood education were not well prepared and might not perform in higher levels of education as well as Pakeha students. A poor academic performance might discourage young Maori from staying longer in school.

Moreover, Crawford (2001) argued that the educational gap between Maori children and that of non-Maori is widest in primary education particularly in the numeracy and literacy areas. Evidence from international and national studies indicates that closing the educational gap in primary school is important for reducing educational and employment gaps between Maori and non-Maori in the future (Crawford, 2001). The poor performance in primary education may be partly due to the lack of early childhood education among Maori students. As a result, those who do not perform well in primary education may be discouraged from continuing their studies and may, consequently, leave school at an early age.

Maori also lag behind non-Maori in secondary and tertiary education (Else, 1997; McLaughlin, 2003). According to Else (1997) only 53 Maori students went into the seventh form in 1995 for every 100 non-Maori students (Else, 1997). In 1999, only 28.2 percent of Maori school leavers pursued tertiary education compared with 45.2 percent

for all school leavers. Among those, only 10.2 percent enrolled in university compared with 25.1 percent for all school leavers (McLaughlin, 2003). This can be seen in Table 1.

Surprisingly, more Maori university students tend to graduate in the education and social sciences fields rather than in commerce, business, computer science, mathematics, architecture, engineering, and medicine (Te Puni Kokiri, 1994). A large number of Maori enrol in the courses that may lead to low paid jobs. Human capital theory seems to ignore the influence on their future earnings of students' academic course choices before participating in the labour force.

Type of Institution	Maori school leavers (%)	All school leavers (%)
University	10.2	25.1
Polytechnic	12.1	14.4
College of education	0.7	1
Wananga (Maori centres of tertiary education)	1.2	0.2
Private Training Establishment (PTE)	4	4.5

Table 1: Maori school leavers in tertiary education by type of institution in 1999

(McLaughlin, 2003)

Else (1997) emphasised that educational achievement among Maori students fell behind that of non-Maori students. For instance, exam passes among Maori students were relatively lower than those among non-Maori. In 2001, Maori students were more likely to leave school without entrance to university or a higher qualification. The number of Maori school leavers without qualifications was twice as high as that for all school leavers in New Zealand (McLaughlin, 2003). This can be seen in Table 2. The poor educational achievement among Maori students contributed to the educational gap between Maori and Pakeha.

Qualification level	All school leavers (%)	Maori school leavers (%)
Entrance to university or higher	26.03	7.4
No qualification	16.95	33.44

Table 2: Highest qualification level of Maori school leavers in 2001

(McLaughlin, 2003)

Steedman (2004) studied aspirations regarding education and training of rural young Maori aged 15 and older in the northern Waikato region of Thames and Coromandel. Steedman (2004) found that these rural Maori had few opportunities for receiving further education or training as there were no educational providers in their areas. Unfortunately, rural young Maori are less able to move, owing to financial constraints that include rent, food, clothing, and entertainment. For instance, it took students aged 18 approximately NZ\$235 per week to live in Auckland and attend the Manukau Institute of Technology. However, they were able to receive a student allowance of only NZ\$150 per week (Steedman, 2004). Location might contribute to the educational gap between Maori and Pakeha. Human capital theory stresses the importance of job migration but not educational migration. As with job migration, educational migration might enable Maori to take advantage of opportunities located in a larger city.

Maani (2000, 2002, and 2004) studied the relationship between educational attainment and income in New Zealand from 1986 to 1996 in which there were some major changes in the economy. There was increasing demand for skilled workers in New Zealand. Unfortunately, Maori acquired relatively lower levels of educational attainment than Pakeha (Maani, 2000, 2002, and 2004; McLaughlin, 2003). Consequently, the income gap between Maori and Pakeha increased during those periods. The income gap disappeared however, especially in 1996, when educational attainment was controlled for (Maani, 2000, 2002, 2004). Maani (2000, 2002, and 2004) concluded that greater investment in education significantly reduced the income gap between Maori and Pakeha (Maani, 2000, 2002, 2004). These findings support the arguments of human capital theory that higher levels of education contribute to higher earnings.

More recently, Dixon and Mare (2007) studied changes in the weekly income of Maori from 1997 to 2003. They found that increases in Maori employment and educational attainment reduced the average income gap between Maori and Pakeha. For instance, the employment rate of working-age Maori increased 9.4 percentage points. The number of working age Maori with no income dropped from 10 percent to 8 percent. Their income from benefits also dropped from 35 percent to 28 percent. Furthermore, more Maori increasingly worked in higher-skilled occupations and acquired post-school qualifications. For instance, 44.5 percent of working age Maori acquired post-school qualifications in 2002-2003 compared with 36.6 percent in 1997-1998 (Dixon, & Mare, 2007). This again confirms the argument of human capital theory that education not only raises the knowledge and productivity of Maori, it also raises their income.

New Zealand has experienced a technological change, which increased the labour demand for high-skilled workers, including computer programmers, software designers, and technicians (Te Puni Kokiri, 1994). The large number of less well-educated and low skilled Maori was poorly placed to take advantage of new job opportunities brought about by technological advances (Te Puni Kokiri, 1994; Chapple, 1999). According to Parker (2003), Information and Communication Technology (ICT) has been a driving force behind economic, business, and employment growth in Internet services, telecommunication, and software and hardware development.

Likewise, New Zealand has also experienced growth in these areas. However, Maori in New Zealand are generally underrepresented in the ICT-related occupations. In 2001, Maori constituted only 5.2 percent of the total employment in the ICT related industries (Parker, 2003). Moreover, fewer Maori university students graduated in computer-related fields such as computer science (Te Puni Kokiri, 1994). Many Maori workers were not well-prepared for technical change or for undertaking ICT related jobs. As a result, they may have been displaced into low-skilled and low paid occupations.

Although, Maori students have increasingly been learning ICT-related skills, Parker (2003) argued that they constituted only 12 percent of all students in New Zealand who enrolled in tertiary ICT courses in 2000. Maori tertiary students disproportionately concentrated in basic computer programmes instead of the more advanced ones. Therefore, they were more likely to earn relative lower incomes in the ICT industry (Parker, 2003). Furthermore, Williamson (2001) argued that the Internet is a potential

tool for helping to change educational and socioeconomic disparities among Maori by raising their opportunities for learning and employment (Williamson, 2001).

However, Parker (2003) argued that fewer Maori households had computers and Internet access at home compared with Pakeha households. For instance, only 34 percent of Maori households owned home computers compared with 51 percent for Pakeha in 2000 (refer to Figure 4). And only 23 percent of Maori households had Internet access compared with 53 percent of Pakeha at the end of 2001. Moreover, up to 65 percent of Maori had never used the Internet compared with only 49 percent for Pakeha (Parker, 2003). These can be seen in Figures 5 and 6. The lack of computers and Internet access at home may hinder young Maori from improving their knowledge and labour market outcomes.

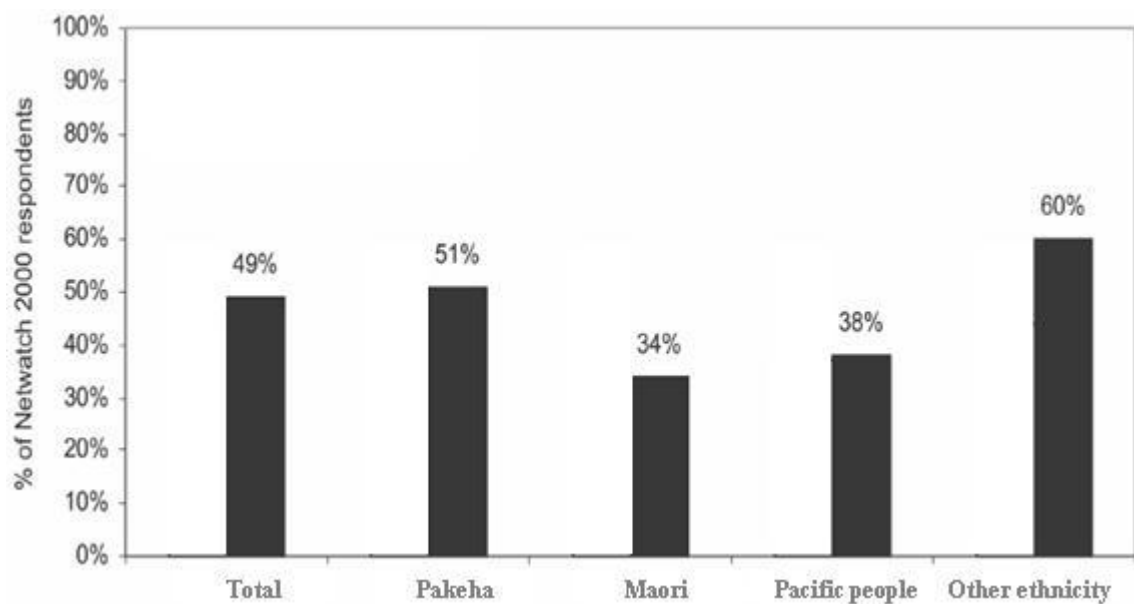


Figure 4: Computer ownership by ethnicity
(Parker, 2003)

According to Parker (2003), the main reason Maori had relatively less access to the Internet at home was that they were less likely to have a land line telephone. In 2001, up to 12 percent of Maori had no home telephone compared with only 4 percent of all New Zealand households. The other reason was that Maori households had relatively lower incomes than Pakeha. This implies that Maori were less able to afford Internet access.

For instance, adult Maori have a median annual income of just NZ\$14,800 compared with NZ\$18,500 for all adults in New Zealand (Parker, 2003).

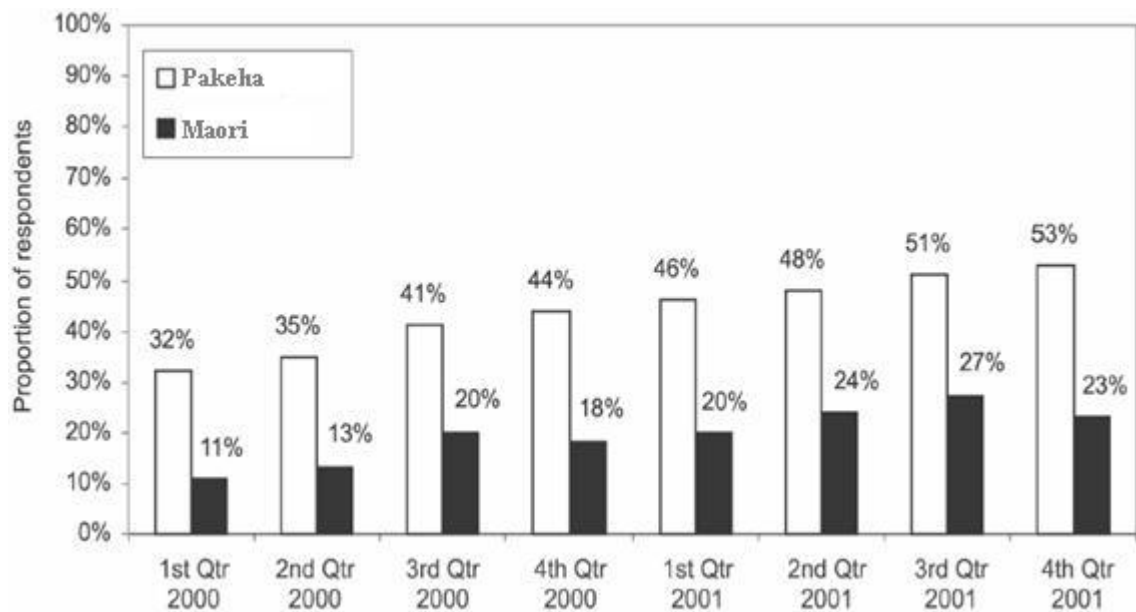


Figure 5: Access to the Internet at home

(Parker, 2003)

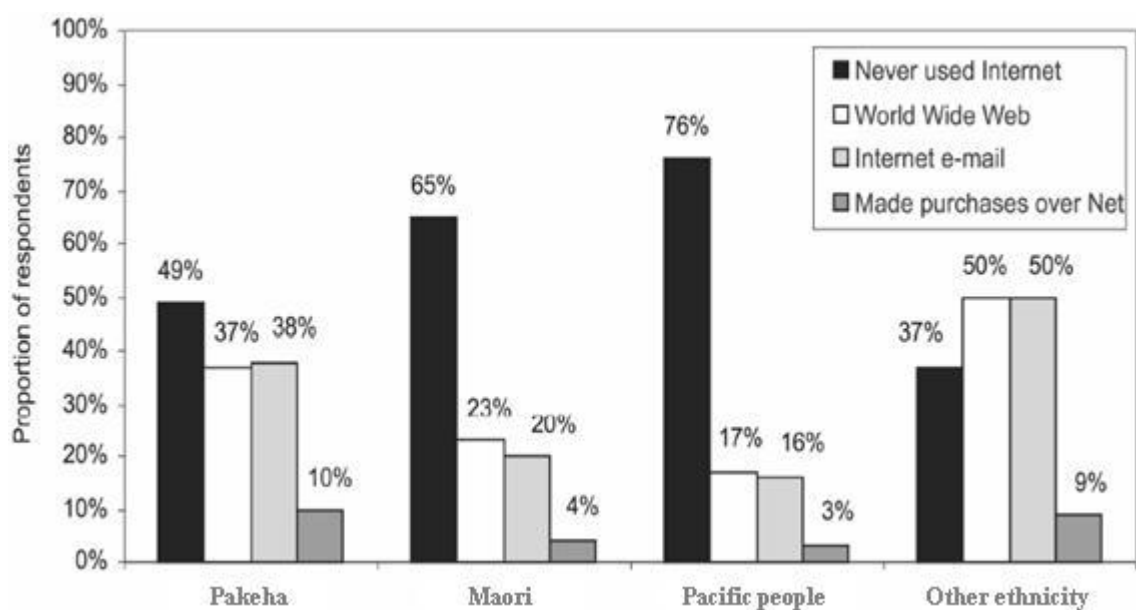


Figure 6: Internet services used by ethnicity

(Parker, 2003)

Parker (2003) also emphasised the positive relationship between Internet access and educational achievement. Only 21 percent of people without formal qualifications had Internet access compared with 64 percent for those with university degrees (Parker, 2003). Human capital theory does not mention this relationship. As the Internet enables people to learn electronically and quickly, young Maori who have a limited access to the Internet may perform relatively less well in school than young Pakeha.

3.3.2 Training

Apart from education mentioned in the previous section, training that Maori receive also constitutes their human capital. According to Gobbi (1998), New Zealand workers receive considerable training from their employers. The training comprises in-house training, external training and study towards a qualification. In-house training constituted nearly 50 percent of all training employers provided. While Pakeha workers were more likely to participate in in-house training, Pacific and Maori workers were more likely to participate in external training and to receive employers' support for study towards a qualification (Gobbi, 1998).

Potential employees with the highest chance of receiving this training were full time, older, highly educated, high-skilled, loyal male employees (Gobbi, 1998). According to human capital theory, a firm does not benefit from the training it provides if the trained workers resign. Therefore, the firm prefers to train those who are more likely to work for it for a longer time (Becker, 1993). Consequently, part-time or temporary workers, and workers with low levels of educational attainment and skills, such as Maori and Pacific people, were likely to receive less training (Gobbi, 1998).

Gibson and Watane (2001) argued that Maori and Pacific people have relatively lower job security and face a higher risk of involuntary job loss than Pakeha. The average rates of transition from employment to unemployment among Maori and Pacific people were 3.3 percent and 2.7 percent respectively compared with only 1.2 percent of Pakeha. Fair (1985) argued that the risk of involuntary job loss is higher during an economic recession for workers who received no training (Fair, 1985). Less well-educated and young workers who are cheap to release from a firm, and ethnic minority workers, also faced a relatively high risk of involuntary job loss (Kletzer, 1998; Gibson,

& Watane, 2001). However, Gibson and Watane (2001) argued that job training might not wholly explain low job security among Maori and Pacific people.

Watane and Gibson (2001) investigated barriers to employment-related training between different ethnic groups in New Zealand. Their study involved 22,500 informants aged between 15 and 64. They argued that Maori and Pacific people were less likely to receive employment-related training compared with Pakeha. Consequently, they may receive lower wages and occupational status and face a higher risk of losing their job. One of the common barriers to Maori and Pacific people is cost of training. However, it is also a barrier to Pakeha. The language barrier may also prevent Pacific people and other ethnic groups such as Asian people from participating in employment-related training (Watane, & Gibson, 2001).

Watane and Gibson (2001) argued that the most frequent barriers that prevent Maori and Pacific people from receiving training were a lack of access to childcare, and family responsibilities (Watane, & Gibson, 2001). A larger number of Maori families are sole parent families and are mostly led by women who are less well-educated and relatively younger than Pakeha sole parents (Else, 1997). As mentioned earlier, those who tend to receive employment-related training are full time, older, highly educated, male employees (Gobbi, 1998). Therefore, employers may not willingly provide training to Maori female workers who head sole parent families, as they may not benefit from the training if they resign due to childcare and other family responsibilities.

Besides on-the-job training, workers can also participate in government-sponsored training. According to Blick (2001), Skill New Zealand provides subsidised training programmes specifically for young people who leave school with no formal qualifications or low levels of educational attainment. There are more than 500 training providers in New Zealand, offering more than 2,500 training courses. Subsidised training programmes include Training Opportunity, Youth Training, and Skill Enhancement (Blick, 2001), and provide greater opportunities for Maori and Pacific people to learn employment-related skills.

According to Blick (2001), Maori have been the largest ethnic group enrolled in training programmes annually since 1993. They constituted 43 percent of all participants in 1993. By 2000, their participation rate had increased to 48 percent of all participants. In

comparison, the participation rate of Pacific people was less than a third that of Maori. This can be seen in Figure 7. Two possible explanations for the high participation rates among young Maori are that firstly, Skill New Zealand training programmes are fully subsidised and secondly, Maori school leavers younger than 18 years old are not eligible for unemployment benefits. They were, therefore, attracted to these training programmes (Blick, 2001). Maori may be more likely to participate in the training programmes when training-related costs are greatly reduced.

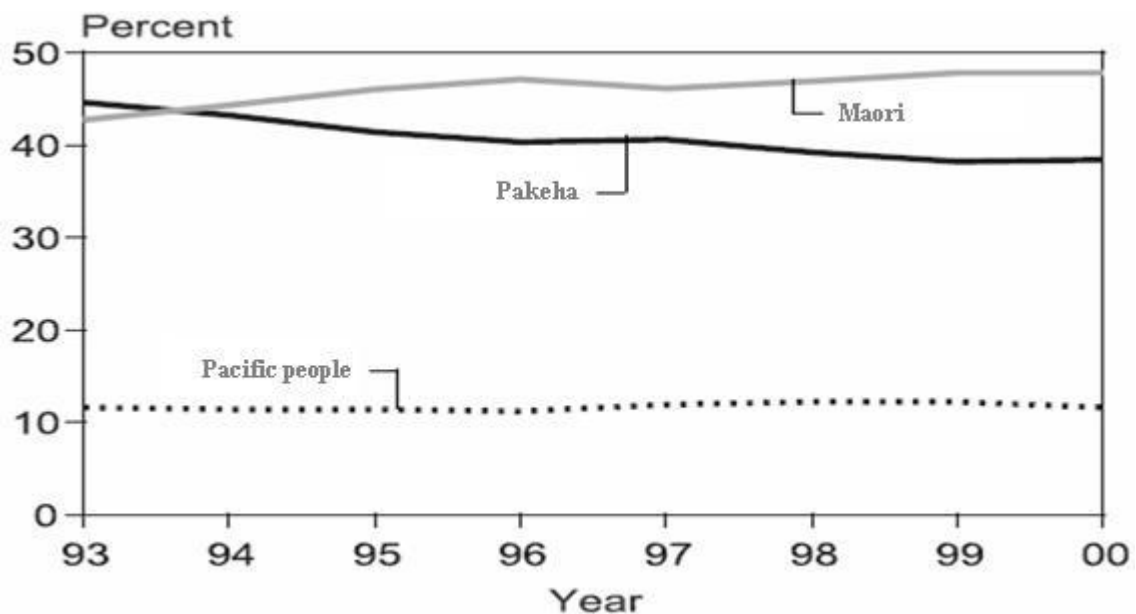


Figure 7: Participation in training programmes by ethnicity aged 16-24 years
(Blick, 2001)

3.3.3 Healthcare

Apart from education and training as mentioned in the previous sections, the health of Maori also contributes to their human capital. According to Ellison-Loschmann and Pearce (2006), and Pelly (1991), Maori have poor health outcomes. Their poor health outcomes reflect their low levels of human capital. There are high rates of obesity and smoking among Maori (Ellison-Loschmann, & Pearce, 2006; Pelly, 1991). For instance, 47 percent of Maori men and 39 percent of Maori women were obese compared with only 17 and 21 percent of non-Maori men and women respectively (Ellison-Loschmann, & Pearce, 2006).

Furthermore, smoking rates among Maori were 53 percent compared with only 20 percent for non-Maori (Ellison-Loschmann, & Pearce, 2006). Maori smoking rates were on average greater than those of Pakeha by 21.2 percent in 1996 (Barnett, Pearce, & Moon, 2005). The high rates of smoking contributed to approximately one third of all Maori deaths in New Zealand (Crampton, Salmond, Woodward, & Reid, 2000). Maori smokers tended to have a shorter life span. Therefore, their life-time earnings were relatively low.

Barnett et al. (2005) found that differences in smoking rates were related to socioeconomic disparities between Maori and Pakeha, including differences in unemployment, median incomes, and housing (Barnett et al., 2005). The socioeconomic disparities lead to depression and isolation as well as insecurity among Maori. Consequently, Maori may pick up smoking to compensate for these burdens (Barnett et al., 2005; Wilkinson, 1996). Moreover, income inequality between Maori and Pakeha may also cause Maori to pick up smoking (Diez-Roux, Link, & Northridge, 2000). High smoking rates among Maori affect their health outcomes, which in turn may affect their earnings.

Barnett (2000) examined the relationship between smoking rates and residential segregation in Christchurch, and emphasised the relationship between the contextual effects (community background) in which a group of people live and their smoking behaviours. Barnett (2000) found that neighbourhood deprivation had a continuing effect on individual smoking status. For instance, people who live in poor neighbourhoods, economically depressed areas and stressful environments may be misled into smoking (Barnett, 2000).

Similarly Crampton et al. (2000) argued that the high concentration of Maori in poor areas may partly explain their high rates of smoking even when holding their income, levels of education, and occupation constant (Crampton et al., 2000). Barnett (2000) concluded that there is relationship between health inequalities and ethnic residential segregation (Barnett, 2000). Therefore, efforts to reduce the health inequality between Maori and Pakeha should target the most disadvantaged areas (Crampton et al., 2000). Peer pressure can wrongly mislead young Maori who live in poor areas to smoke, and also make it harder for them to quit smoking.

Furthermore, there was also a strong correlation between people who had no formal qualifications and the likelihood of smoking, especially for Maori living in urban areas (Barnett et al., 2005; Robson, 2004). With low levels of educational attainment, Maori were more likely to be channelled into low paid occupations where the smoking rates tend to be high (Robson, 2004). As a result, Maori may begin to pick up smoking. Robson (2004) concluded that the educational gap between Maori and Pakeha partly contributed to the difference in the smoking rate between them and, in turn, to the higher mortality rates among Maori.

Robson (2004) argued that the smoking gap between Maori and Pakeha contributed to about one quarter of the 10-year difference in their life expectancy. Therefore, the elimination of smoking among Maori may raise their life expectancy at birth by 3.5 years and 2.4 years for Maori men and women respectively (Robson, 2004). According to human capital theory, the high mortality rates among Maori that affect the length of their working life and their life-time earnings might discourage Maori from investing in education and training.

Life expectancy for ethnic minorities is usually shorter than that for the rest of the population. On average, Maori died 10 years earlier than Pakeha (McPherson, Harwood, & McNaughton, 2003; Robson, 2004). McPherson et al. (2003) claimed that shorter life expectancy among Maori could be partly explained by their relative poverty and poor socioeconomic opportunities. However, difficulties in accessing healthcare services may also contribute to their low life expectation. These difficulties delay treatment for some diseases which, in turn, may worsen health conditions of Maori (McPherson et al, 2003).

Ellison-Loschmann and Pearce (2006) argued that Maori are less likely to receive specialist services, and surgical and high quality hospital care. For instance, 38 percent of Maori adults complained about difficulties in accessing healthcare in their local area compared with only 16 percent for non-Maori adults. Due to healthcare costs, 34 percent of Maori lived without healthcare compared with only 18 percent of non-Maori (Ellison-Loschmann, & Pearce, 2006). According to human capital theory, investments in human capital are costly. Therefore, costs of healthcare in New Zealand may hinder Maori from health investments.

Robson (2004) argued that the health disparities between Maori and non-Maori had increased significantly since the mid-1980s (Robson, 2004). The mortality rates among Maori caused by deaths from diabetes, cancer, unintentional injuries, cardiovascular diseases and other types of diseases were relatively higher among Maori compared with Pakeha (Ellison-Loschmann, & Pearce, 2006). Although, cancer mortality among non-Maori and non-Pacific people had gradually decreased since the mid-1980s, Robson (2004) argued that it had actually increased among Maori. This can be seen in Figure 8.

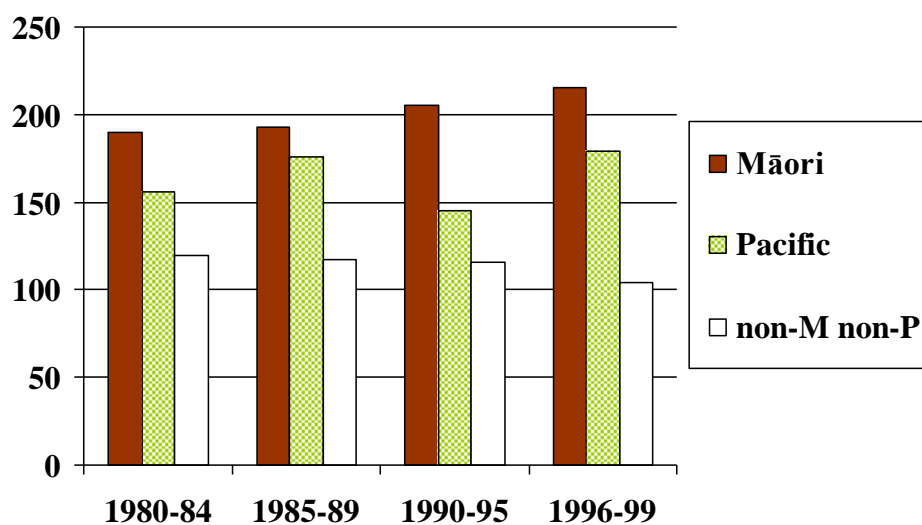


Figure 8: Cancer mortality, age-sex standardised rates per 100,000, aged 1-74 years
(Robson, 2004)

While cardiovascular mortality among Maori and non-Maori had decreased since the mid-1980s, Maori death rates from cardiovascular disease were still much higher than those for non-Maori (Robson, 2004). For instance, Maori deaths resulting from cardiovascular disease between 1996 and 1999 totalled 264.9 per 100,000 compared with only 78.5 per 100,000 for non-Maori (Robson, 2004; Ellison-Loschmann, & Pearce, 2006). This can be seen in Figure 9. The above evidence shows that a large number of Maori die from diseases that may take years to develop before they cause death, and implies that Maori lack access to healthcare at a younger age compared with Pakeha.

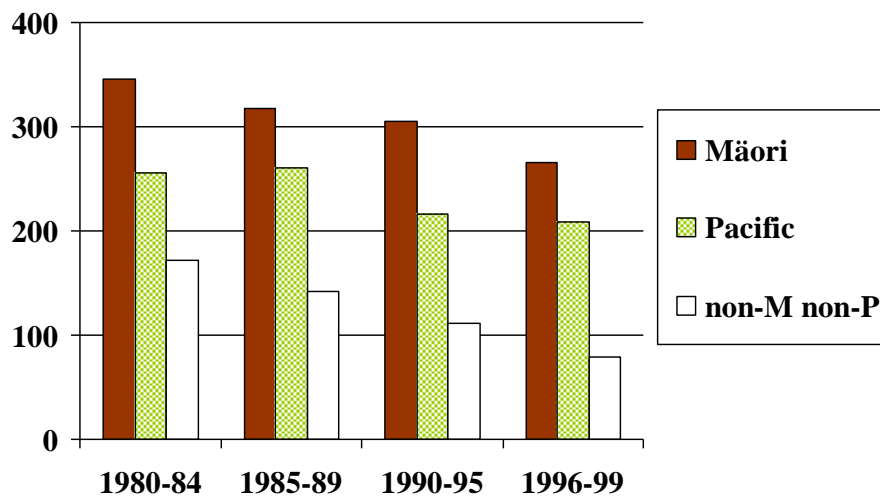


Figure 9: Cardiovascular mortality, age-sex standardised rates per 100,000, aged 1-74 (Robson, 2004)

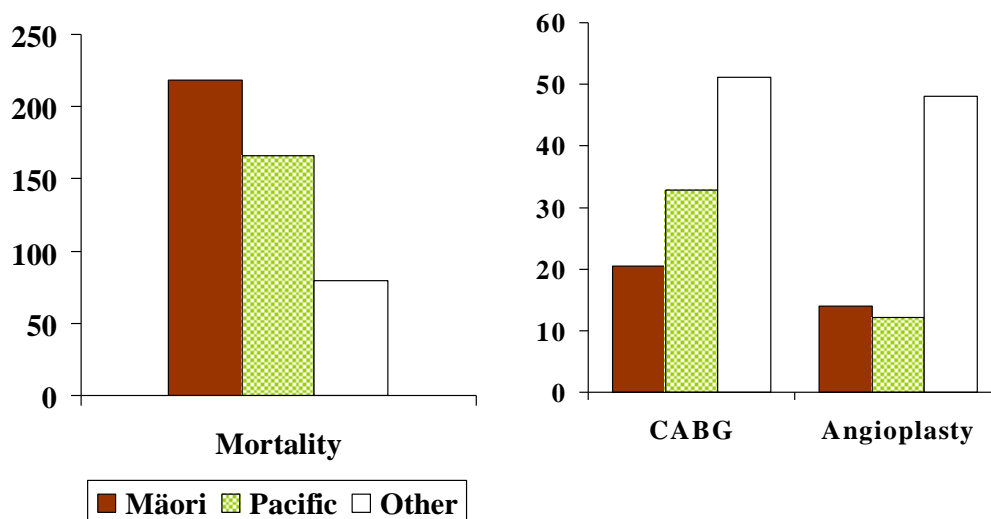


Figure 10: Ischemic heart disease mortality 1996-1999 / Rates of publicly funded CABG and Angioplasty 1990-1999, age-standardised rates per 100,000 for Maori, Pacific people and other males (Robson, 2004)

Over the past 20 years, ischemic heart disease mortality has declined substantially among non-Maori. However, the decline had been relatively less steep among Maori, especially Maori men (Robson, 2004). Although heart disease contributed to many deaths among Maori and Pacific people, they received cardiac interventions, e.g. coronary artery bypass and graft (CABG) and Angioplasty less frequently (Tukuitonga,

& Bindman, 2002). This can be seen in Figure 10. Maori also had higher rates of death resulting from unintentional injury, such as road traffic accidents, compared with Pacific people and non-Maori between 1980 and 1999 (Robson, 2004). This can be seen in Figure 11.

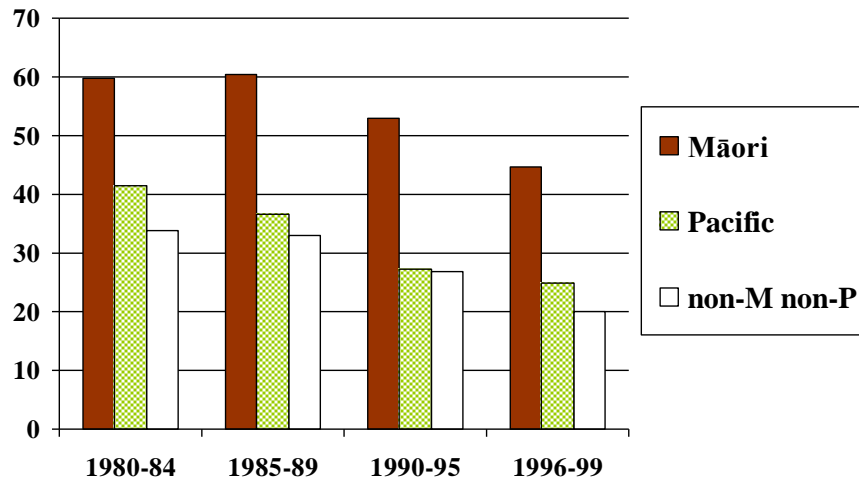


Figure 11: Unintentional injury mortality, aged-sex standardised rates per 100,000 (Robson, 2004)

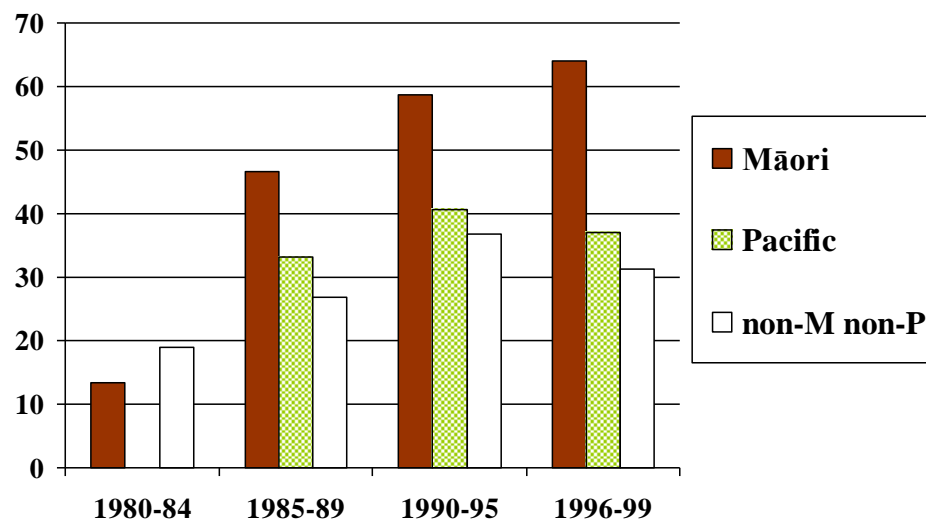


Figure 12: Suicide rates per 100,000 among males aged 15-24 years (Robson, 2004)

Furthermore, the suicide rates among young Maori, especially young Maori men aged 15-24 years, had accelerated significantly since 1980 (Robson, 2004). This can be seen in Figure 12. The suicide rates among Maori aged 25-44 years were high, but still lower than those of young Maori aged 15-24 years (Robson, 2004). These data suggest that even if Maori had equal access to healthcare services and there was no health disparity between Maori and Pakeha, they might still suffer from higher rates of mortality due to their higher rate of deaths from suicide.

Harris, Tobias, Jeffreys, Waldegrave, Karlsen, and Nazroo (2006) studied the relationship between healthcare and racial discrimination in New Zealand based on self-reported experiences. They found that Maori people experienced a high incidence of racial discrimination (e.g. from health specialists) when compared with Asian people (next highest), and Pacific people. Similarly, Ellison-Loschmann and Pearce (2006) stressed the effect of discrimination on health disparities between Maori and Pakeha in New Zealand. Nevertheless, Karlsen and Nazroo (2002), and Chahal and Julienne (1999) argued that it is rather difficult to measure the exact intensity of racial discrimination based on self-reported experiences.

Healthcare discrimination discourages Maori, Pacific people, and Asian people to invest in their human capital – healthcare. Therefore, they are more likely to have poorer health outcomes than Pakeha. This in turn shortens their working life and reduces their lifetime earnings. Similarly, discrimination can also occur in the labour market, which affects the employment prospects and earnings of discriminated Maori more directly. The next section discusses labour market discrimination against Maori.

3.4 Labour market discrimination against Maori

Taylor and Dalziel (2002) argued that labour market discrimination contributes partly to the employment and earnings disparities between Maori and Pakeha (Taylor, & Dalziel, 2002). Alexander, Genc and Jaforullah (2001) found evidence of labour market discrimination against Maori. With the same level of productivity Maori were rewarded with a 13 percent lower hourly wage than Pakeha in 1997 (Alexander, Genc, & Jaforullah, 2001). Moreover, Sutherland and Alexander (2002) argued that productivity characteristics including age, education, and experiences did not account wholly for

wage differential between Maori and Pakeha. They found evidence of discrimination in every year from 1997 to 2000. They also found that 29.3 to 47.7 percent of the wage differential between Maori and Pakeha resulted from discrimination (Sutherland, & Alexander, 2002). Discrimination widened the employment and earnings gaps between Maori and Pakeha regardless of their productivity.

Moreover, past experience of discrimination can discourage Maori from seeking jobs (Te Puni Kokiri, 1994). Fletcher (1999) noted that unemployed Maori were less likely to search for work actively compared with non-Maori. For instance, 8.5 percent of unemployed Maori who were available for work did not actively search for it in 1996, compared with only 3.5 percent of unemployed non-Maori (Fletcher, 1999). It has been speculated that past experience of labour market discrimination might turn Maori into discouraged workers (Te Puni Kokiri, 1994). Past discrimination might not only discourage Maori from participating in the labour force, but from investing in human capital (Figart, 2004). The links found between labour market discrimination and the earning gaps between Maori and Pakeha, together with the consequences outlined by Te Puni Kokiri, align with the labour market discrimination theory.

According to Else (1997) and Crooks, Hamilton and Caygill (2001), Maori students faced some other barriers that would prevented them from staying longer in schools. Those barriers included racist comments from other students, low teacher expectations of Maori students' abilities and attributes, and the difficulties some non-Maori teachers experience in understanding Maori students (Else, 1997; Crooks, Hamilton, & Caygill, 2001). Their observations also align with the labour market discrimination theory argument that non-market discrimination (educational discrimination) discourages young students from studying. The next section discusses segregation of Maori labour force.

3.5 Segregation of Maori labour force

Educational attainment and discrimination mentioned in the previous sections are not the only factors explaining the employment and earnings disparities between Maori and Pakeha (Chapple, 1999). According to a study by Te Puni Kokiri (1994), Maori workers have been over-represented in the secondary sector, especially the manufacturing one,

which employed about one quarter of the Maori labour force. Unfortunately, jobs in this sector have declined significantly for the last 20 years. Evidence shows that more than 100,000 secondary jobs disappeared between 1986 and 1991 (Te Puni Kokiri, 1994). Moreover, 25 percent of Maori and Pacific people lost their jobs due to aggressive economic liberalisation in 1993 (Humphries, & Grice, 1995). These findings support the arguments underlying the labour market segmentation theory that job security in the secondary market is relatively lower than in the primary market.

Using Income Survey data from Statistics New Zealand for the period 1997 to 2000, Sutherland and Alexander (2002) found evidence of job segregation between Maori and Pakeha, in each year. Maori were highly concentrated in low occupational classes and relatively few of them were in higher ones (Sutherland, & Alexander, 2002). For instance, Maori were more likely to be employed as labourers, drivers, and machine assemblers and operators. However, they were less likely to be employed in legislative, managerial, and professional jobs. Compared with the former occupations, the latter ones require higher skills and are rewarded with higher wages (Te Puni Kokiri, 1994).

Description	Merged group
Legislators Administrators Managers Professtionals	1
Technicians Associate Professionals Clerks	2
Service Workers Sales workers Trades Workers	3
Agricultural workers Fisheries workers	4
Plant & Machine Operators Assemblers Elementary Occupations	5

Table 3: Occupational group numbers
(Sutherland, & Alexander, 2002)

Sutherland and Alexander (2002) separated occupations into five different groups on the basis of wage levels as can be seen in Table 3. In 1997, only one third of Maori were employed in the first two occupational groups compared with more than half of Pakeha. However, only 16 percent of Pakeha were employed in the fifth occupational group compared with Maori, who outnumbered Pakeha 2:1 in that group. Sutherland and Alexander (2002) concluded that occupational segmentation hinders Maori from working in the first four occupational groups. Furthermore, the data in 1998, 1999, and 2000 also show evidence of job segregation between Maori and Pakeha.

Surprisingly, Sutherland and Alexander (2002) also found evidence of labour market discrimination for each year, which may explain their observed job segregation (Sutherland, & Alexander, 2002). Discrimination or a glass ceiling in the labour market inhibited Maori from moving up to a higher level of the job hierarchy, according to Blau et al., (2006). The finding of Sutherland and Alexander (2002) supports the argument underlying labour market segmentation theory, that workers in the secondary labour market tend to be disadvantaged by discrimination. The next section discusses the impact of age composition on employment and earnings of Maori.

3.6 Age composition

According to Fletcher (1999), young Maori constitute a large proportion of the overall Maori population in New Zealand. In 1996, Maori under 25 years constituted about 56.5 percent of the overall Maori population in New Zealand compared to 34.6 percent for young non-Maori (Fletcher, 1999). However, a large number of young Maori were unemployed. For instance, about 40 percent of Maori teenagers between 15 and 19 years old were either unemployed or seeking job. This figure is about twice as high as that in the overall population (Munro et al., 1998; Te Puni Kokiri, 1994; Fletcher, 1999). Although, these studies were carried out in the 1990s, their findings may be still relevant to the present day.

The age composition explains the employment and earnings disparities between Maori and Pakeha (Taylor, & Dalziel, 2002; Mare, 1995; Winkelmann, & Winkelmann, 1997). The Maori labour force is relatively younger than that of Pakeha. They are more likely to have less work-related experience and, therefore, face a higher risk of being

unemployed (Mare, 1995; Winkelmann, & Winkelmann, 1997). Moreover, Mare (1995) argued that young Maori also tended to have a high rate of labour turnover, and were more likely to undertake part time or low paid employment (Mare, 1995). There is a relationship between the age composition and unemployment rates of Maori. However, none of the theoretical perspectives in Chapter 2 refers to this relationship.

Fergusson, Lynskey, and Horwood (1997) examined the relationship between duration of unemployment and juvenile offending in young New Zealanders aged 18. They found that young people who were unemployed for six months or longer after leaving school have a higher probability of property offending, violent offending, arrest, and conviction. Their probability was 3 to 10 times higher than that of young employed people (Fergusson, Lynskey, & Horwood, 1997). A similar study of Fergusson, Horwood, and Woodward (2001), involved 1,265 New Zealand children born in Christchurch from their birth to age 21. They similarly suggested that young adults who were exposed to unemployment for six months or longer might face increasing risks of psychosocial adjustment problems, such as mental illness, drug use, crime, suicidal behaviours, and pregnancy at a young age. Their risks were 1.4 to 8.4 times higher than those of employed young adults (Fergusson, Horwood, & Woodward, 2001). As young Maori are more likely to be unemployed, they tend to face higher risks of being involved in activities mentioned earlier.

Fergusson et al. (1997; 2001) argued that a lack of clear life and career direction, a greater availability of free time, and a financial burden may lead young adults into developing suicidal behaviour, committing offences, and using drugs (Fergusson et al., 2001). Moreover, Fergusson et al. (1997) found that unemployed young people often have young mothers, low levels of qualification and come from less well-educated families who work in unskilled or semi skilled sectors, and they are more likely to be Maori or Pacific people (Fergusson, Lynskey, & Horwood, 1997). This finding supports the argument of human capital theory by Becker (1993) that families have a great influence on young children. Therefore, they may be more likely to inherit negative characteristics passed from their parents. The next section briefly discusses New Zealand welfare regimes.

3.7 *A snapshot of New Zealand welfare regimes*

New Zealand has been known as a liberal welfare regime (Baker, 2002). Children are entitled to free early childhood, primary, and secondary education (Ministry of Education, 2008). In 1992, the government introduced student loan and student allowance programmes to assist low-income tertiary students. Minister of Education, Wyatt Creech argued that these programmes would improve access into universities as student could afford to pay for their tuition fees and, therefore, make a transition from school to employment smoother (Higgins, & Nairn, 2006). In 2007, about 134,000 people received student loans and 52,000 people received a student allowance (Ministry of Social Development, 2008a). Student loan and student allowance programmes have put many students into universities.

Moore, Gale, Dew, and Davie (2006) studied the effects of student loan debt on junior doctors in New Zealand. Their study involved 296 junior doctors with the response rate of 53 percent. While 75 percent of respondents owed at least NZ\$50,000, 13 percent owed more than NZ\$100,000. Moore et al. found that student debt posed a major negative effect on the junior doctors. Owing to student debt, 83 percent of the respondents faced a difficulty in saving for their future such as a home mortgage, whereas 42 percent had to make choice about their childbirth plan (Moore et al., 2006). Similarly, young people might relocate overseas and defer starting a family until they could repay their student loan debt (Dupuis, Inkson, & McLaren, 2005). Although student loans enable students to pursue higher levels of education, they may also be their long term burden.

As a result, Manthei and Gilmore (2005) found that, owing to the increasing student loan debt, students undertook employment during term time. Out of 83 undergraduate respondents at the University of Canterbury, 81 percent had more than one job during term time. They on average worked 14 hours per week. Manthei and Gilmore (2005) found that working (less than 15 hours per week) did not negatively affect students' academic performance (Manthei, & Gilmore, 2005). Although there was no evidence that working during term time did not put downward pressure on students' academic performance, it might, however, affect them differently. For instance, less able students who have performed poorly in class may be worse off if they allocate their time to work.

There were 258,317 working-aged people aged 18–64 years received benefits at the end of June 2008. About 32 percent and 7.6 percent of those were Maori and Pacific people. These benefits were: Unemployment Benefit, Independent Youth Benefit, Domestic Purposes Benefit, Sickness Benefit, Emergency Maintenance Allowances, Invalid's Benefit, Transitional Retirement Benefit, Widow's Benefit, and Emergency Benefit. While 32 percent had continuously received their current benefit for less than one year, 31.4 percent and 14.2 percent had continuously received it for one to four years and for 10 years or more respectively (Ministry of Social Development, 2008b). While the main purpose of these benefit programmes are to provide financial support to low-income workers, McClelland and John (2006) argued that they may instead encourage state dependency (McClelland, & John, 2006).

General Family Support*	Dual-Earner Support**
1. Belgium	1. Sweden
2. Germany	2. Denmark
3. France	3. Finland
4. Norway	4. Norway
5. Italy	5. France
6. Austria	6. Belgium
7. Denmark	7. Germany
8. Ireland	8. Italy
9. Sweden	9. Netherlands
10. Finland	10. Austria
11. Netherlands	11. Ireland
12. Canada	12. United Kingdom
13. United Kingdom	13. Canada
14. Switzerland	14. Japan
15. Japan	15. Australia
16. Australia	16. Switzerland
17. New Zealand	17. United States
18. United States	18. New Zealand

* General Family Support includes cash child allowances as % of net average wage of single worker, family tax benefits, % of public childcare spaces for children 3 to school age as % of # of children in that age group.

** Dual-Earner Support includes public childcare spaces for children 0-2 as % of age group, a measure of the value of paid maternity leave and paternity leave, and public home help for the elderly (% receiving services at home).

Table 4: Countries ranked according to levels of general family support and dual-earner support, 1985-90
(Baker, 2002)

Baker (2002) argued that by 2002, family support programmes of New Zealand were similar to those of the U.S. They were the least generous compared with other liberal-

welfare countries. This can be seen in Table 4. There were few serious attempts to tackle poverty or gender, social class, and ethnic inequalities. New Zealand government subsidised low-income families with medical expenses by providing them a concession card that would reduce medical-related expenses. However, this was less generous compared with other liberal-welfare countries including the United Kingdom and Canada. This might negatively affect low-income families as they generally had poor health outcomes (Baker, 2002). Less generous family support programmes would have negative impacts on Maori more than Pakeha.

New Zealand paid parental leave came into effect on 1 July 2002. Workers were entitled to 12 weeks of paid parental leave providing that they had been working for the same employer for 10 hours or more per week, for at least one year. Nevertheless, this programme was ungenerous by OECD standards. For instance, while Norway offered 42 weeks of paid parental leave, Canada and Finland offered 50 and 63 weeks respectively (Baker, 2002). Baker (2002) argued that lack of paid parental benefits would reduce labour participation rates of New Zealand mothers or encouraged them to work part-time. For instance, 37 percent of New Zealand female workers worked part-time compared with the OECD average of 26 percent (Baker, 2002). The lack of paid parental benefits may reduce family incomes in New Zealand. The next section summarises this chapter.

3.8 Chapter summary

The evidence from this chapter suggests that the arguments of human capital theory, labour discrimination theory, labour queue theory, and labour segmentation theory are relevant to the poor labour market outcomes among Maori in New Zealand. Maori have relatively lower levels of human capital – education, training, health outcomes – than Pakeha. Furthermore, Maori are subject to labour market discrimination and non-labour market discrimination, such as educational discrimination and discrimination in healthcare.

This chapter does not discuss labour queue theory directly, but it is also relevant to the poor labour market outcomes among Maori in New Zealand. Owing to their lack of education, and to labour market discrimination, employers may place Maori at the end

of the labour queue. Therefore, Maori who persistently seek a highly paid job tend to remain unemployed for a long time. This might partially explain their high unemployment rates. In addition, to avoid unemployment, Maori at the end of the labour queue might be forced to accept lower paid jobs and, thus, become relatively low earners even when they are employed. Moreover, a larger number of Maori concentrate in the secondary market where jobs are rewarded with low wages and less security. A larger number of Maori work in the industries, which are vulnerable to involuntary job losses.

New Zealand is a liberal welfare regime, providing free early childhood, primary, and secondary education. Student loan and student allowance programmes provide financial assistance to tertiary students. However, increasing student loan debt can be a long term financial burden to students. Although benefits are available to financially assist low-income workers or families, they may, however, encourage state dependency. Family support programmes of New Zealand are similar to those of the U.S. and are least generous compared with those of other liberal welfare countries. New Zealand's paid parental leave programme is also ungenerous by OECD standards.

A conclusion from this chapter is that the theoretical perspectives in Chapter 2 are relevant, and contribute to explanations for the employment and earnings gaps between Maori and Pakeha in New Zealand. In addition to these theoretical perspectives, however, there appear to be other important factors that also have explanatory power in the assessment of poor labour market outcomes for Maori. These includes: incarceration, family size, sole parenthood, house ownership, housing location, technological advances, and age composition.

Similarly, the theoretical perspectives discussed in Chapter 2 and the other factors that explain the poor labour market outcomes among Maori in New Zealand may also contribute to explanations for the poor labour market outcomes among Afro-Americans and Hispanic-Americans in the U.S. The next chapter discusses their labour market outcomes.

Chapter 4: The international literature

4.1 Introduction

This chapter reviews employment and earnings gaps between Afro-Americans and White-Americans and between Hispanic-Americans and White-Americans in the U.S. The purpose of this chapter is to derive reasons and explanations for these employment and earnings gaps based on the theoretical perspectives in Chapter 2 and other relevant factors if applicable. This chapter also helps to validate the relevance of the theoretical perspectives to poor labour market outcomes among Afro-Americans and Hispanic-Americans in the U.S.

4.2 Afro-Americans

According to Spriggs (2006), the poverty rate in the U.S. had increased in the four years prior to his study. The poverty rate rose from 12.5 percent to 12.7 percent between 2003 and 2004. However, the Afro-American poverty rate was 24.7 percent, almost twice that of the general population in the U.S. In 2004, almost 1 in 4 of Afro-Americans (9.4 millions) lived below the poverty line. Moreover, Afro-American families are disproportionately sole parent families led by women. Afro-American sole parent families led by women and young Afro-Americans under 18 constituted 58 percent and 43 percent of all poor Afro-Americans respectively. In contrast, White-American sole parent families led by women and young White-Americans under 18 constituted only 24 percent and 27 percent respectively of all poor white-Americans (Spriggs, 2006). The poverty rates of sole parent families led by women and those of young Afro-Americans largely contribute to the overall poverty rates of Afro-Americans.

Moreover, lack of income, a higher probability of working in low paid occupations, and high unemployment rates among Afro-Americans also contribute to their higher rates of poverty compared with those of White-Americans (Spriggs, 2006; Blau et al., 2006). From 1980 to 1994, the unemployment rates of Afro-Americans were higher than 10 percent. High unemployment rates among Afro-Americans during that period would

help to explain the fact that about 50 percent were unable to support a family of four. However, their earnings have improved and, since 2000, were enough to enable that level of support (Spriggs, 2006). The propensity for Afro-Americans to work in low paid occupations might imply that Afro-Americans are more likely to work in the secondary market where wages are relatively lower than those in the primary market.

Isaacs (2007) has studied the economic progress of Afro-American and White-American family incomes in the U.S. He found that the median family income of Afro-Americans and White-Americans had both increased over the past three decades due to large increases in the incomes of women, rather than in those of men. However, the median family income of White-Americans has increased more than that of Afro-Americans. For instance, the median family income of Afro-Americans aged 30-39 years is only US\$35,000 compared with US\$60,000 for White-Americans of the same ages (Isaacs, 2007). Figures 13 and 14 show the median personal income and median family income of White-Americans and Afro-Americans.

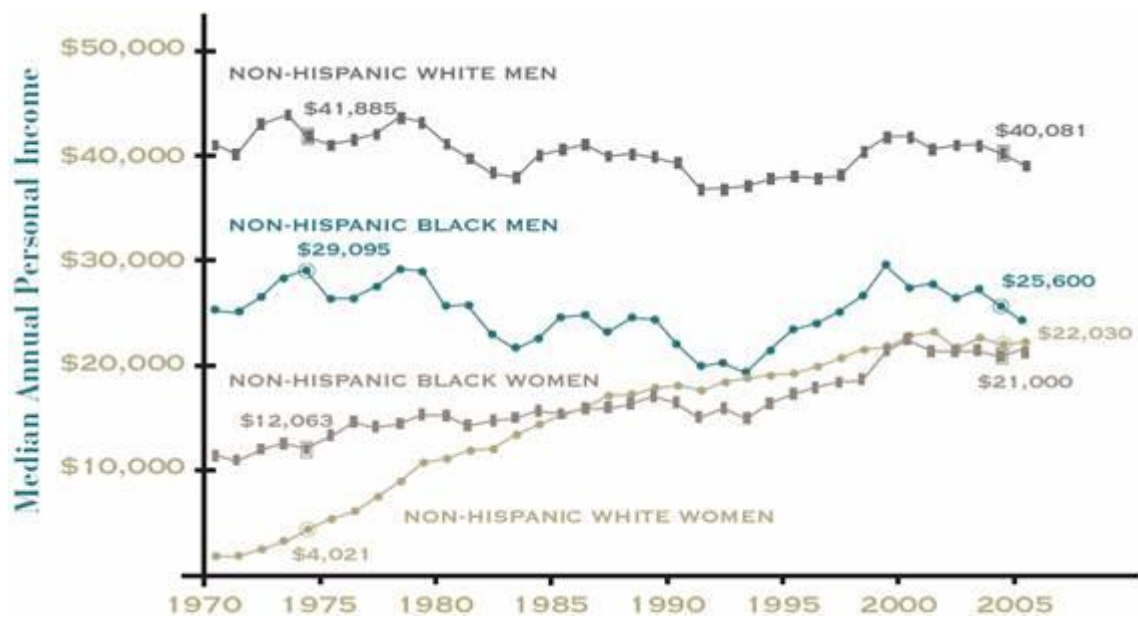


Figure 13: Median personal income of White and Afro-American men and women aged 30-39 (Isaacs, 2007)

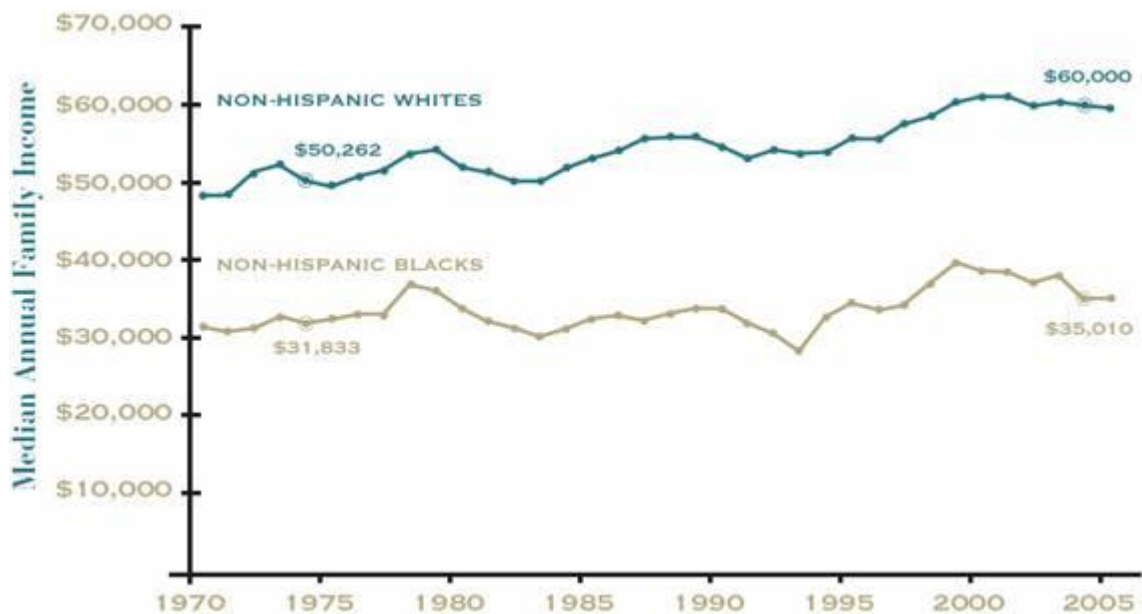


Figure 14: Median family income of White and Afro-American adults aged 30-39
(Isaacs, 2007)

Moreover, Isaacs (2007) showed that Afro-American children were more likely to grow up in much lower income families when compared with White-American children. Most children of middle-income Afro-Americans earn relatively less than their parents. For instance, only 31 percent of Afro-American children from middle-income families were able to earn more than their parents compared with 68 percent of White-American children (Isaacs, 2007). For children of both Afro-American and White-American poor families, the former have poorer employment prospects than the latter. About 54 percent of Afro-American children from poor families tend to remain poor, compared with only 31 percent of White-American children from the same family status (Isaacs, 2007). These findings support the argument of human capital theory by Becker (1993) that families have a great influence on young children, and their parents can pass them negative characteristics. Moreover, there is a relationship between parents' earnings and children's earnings especially when they are poor.

Holzer, Offner, and Sorensen (2005a) examined factors that explain a continuing decline in employment among young Afro-Americans in the U.S. They found that less educated young Afro-Americans suffered a decline in employment rates during 1980s and 1990s. Similarly, Malveaux (2004) argued that an educational gap between Afro-Americans and White-Americans partly contributed to the employment gap between them (Malveaux, 2004). Although, these studies did not use recent updated data, their

findings support the argument of human capital theory regarding the importance of education. Moreover, their findings also support the arguments of the labour queue theory that employers place less educated young Afro-Americans at the end of the labour queue and, therefore, they hire them last. Consequently, less educated young Afro-Americans remain unemployed for a longer time compared with more educated young White-Americans.

In comparison to White-Americans, Afro-Americans have poorer job networks (Holzer, Offner, & Sorensen, 2005a), lack skills, and live in poorer neighbourhoods with fewer job opportunities. These may statistically explain the fact that Afro-Americans have a higher poverty rate compared with White-Americans (Spriggs, 2006). The lack of skills, job networks, and job opportunities among Afro-Americans result from low investment in human capital, including education, training, and information regarding employment opportunities, such as seeking advice from employment agencies, examining job advertisements, talking to people, visiting firms, and shifting location if a new job requires them to do so (Becker, 1993).

Research prior to 1990 indicated that racial discrimination contributed to the decline in employment rates among Afro-Americans (Holzer, Offner, & Sorensen, 2005a). Discrimination is a barrier to employment opportunities for Afro-Americans and contributes to a persistent economic gap between Afro-Americans and White-Americans (Russell, 2004; Malveaux, 1998). Their finding supports the argument of labour market discrimination theory that discrimination accounts for pay and occupational differences between two different groups regardless of labour productivity (Blau et al., 2006).

Another factor that contributed to the decline in employment rates among Afro-Americans was a decline in real wages, which would reduce incentives for Afro-Americans to work (Holzer, Offner, & Sorensen, 2005a). According to minimum wage theory, a higher wage motivates people to work harder, improve their work morale, and their loyalty to a firm (Levin-Waldman, 2001). Therefore, a periodical increase in the minimum wage with increasing inflation would maintain the real value of the minimum wage and provide an incentive for Afro-Americans to continue working.

Moreover, a decline in manufacturing and blue-collar jobs, where young, less well-educated Afro-Americans were concentrated in the U.S., and an increasing demand for highly skilled workers, also contributed to the decline in employment rates among Afro-Americans (Holzer, Offner, & Sorensen, 2005a). While the demand for highly skilled workers is high, low-skilled and less well-educated Afro-Americans are less competitive in a job market compared with better-educated White-Americans (Holzer, Offner, & Sorensen, 2005a). These findings support the argument of labour market segmentation theory that the disadvantaged groups, including Afro-Americans are more likely to work in the secondary market in which job security is low. They also support the argument of human capital theory, that a lack of investment in education and training can affect the employment prospects of workers negatively.

Additionally, Holzer et al. (2005a) argued that the rise in child support systems for low-income custodial parents in the 1990s might have affected the employment prospects of young and low-income Afro-American fathers, who constituted very few custodial parents, but more non-custodial ones. About one fourth of non-custodial Afro-American fathers were aged between 16 and 24 years and about one half, between 25 and 34 years. Holzer et al. (2005a) argued that a child support system was a tax on the earnings of non-custodial Afro-American fathers. Therefore, it discourages them from participating in the labour force. For instance, an increase in child support contributions reduced the labour participation rates of Afro-American men aged 25-34 years and 16-24 years by approximately 4 percentage points (Holzer et al., 2005a). Figure 15 shows expenditures on child support in the U.S. The child support system greatly affects less well-educated and low income non-custodial Afro-American fathers, who are obliged to support their children financially after divorce.

According to Western (2007), less well-educated young Afro-Americans are more likely to go to prison compared with the better educated. In 2000, about one third of young Afro-Americans who left school without formal qualifications were incarcerated. However, only 1 in 25 of college educated Afro-Americans went to prison (Western, 2007). Figure 16 shows incarceration rates of Afro-American men. Furthermore, Holzer et al., (2005a) argued that Afro-American men also constituted a large number of ex-offenders. They make up 50 percent of about 650,000 of all ex-offenders being released from prison each year. While in prison, the Afro-American ex-offenders generate no skills or work-related experience.

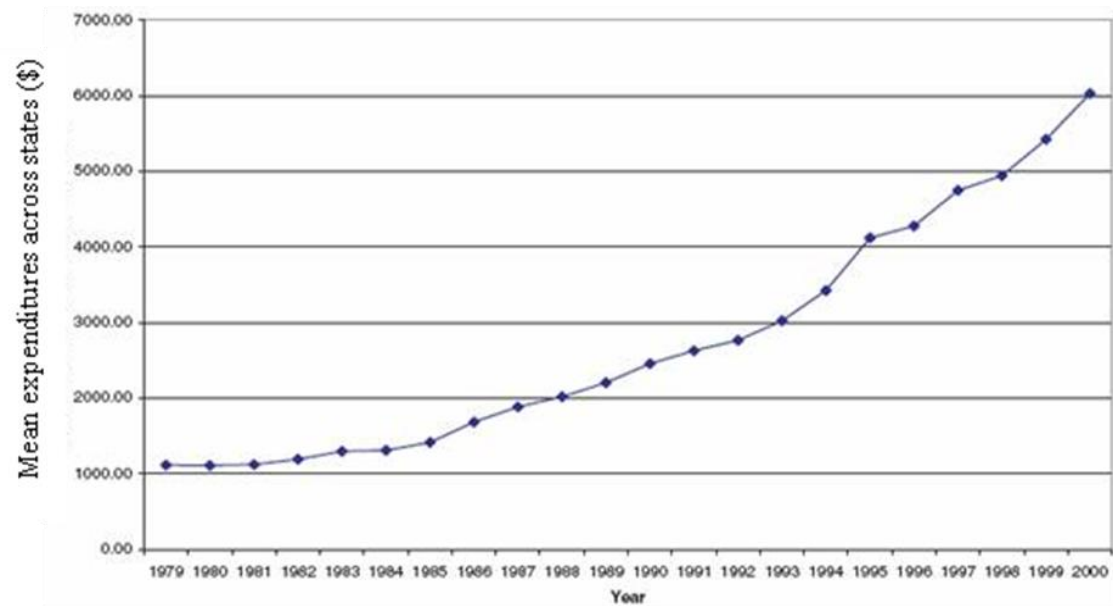


Figure 15: Child Support Enforcement Expenditures

(Holzer et al., 2005a)

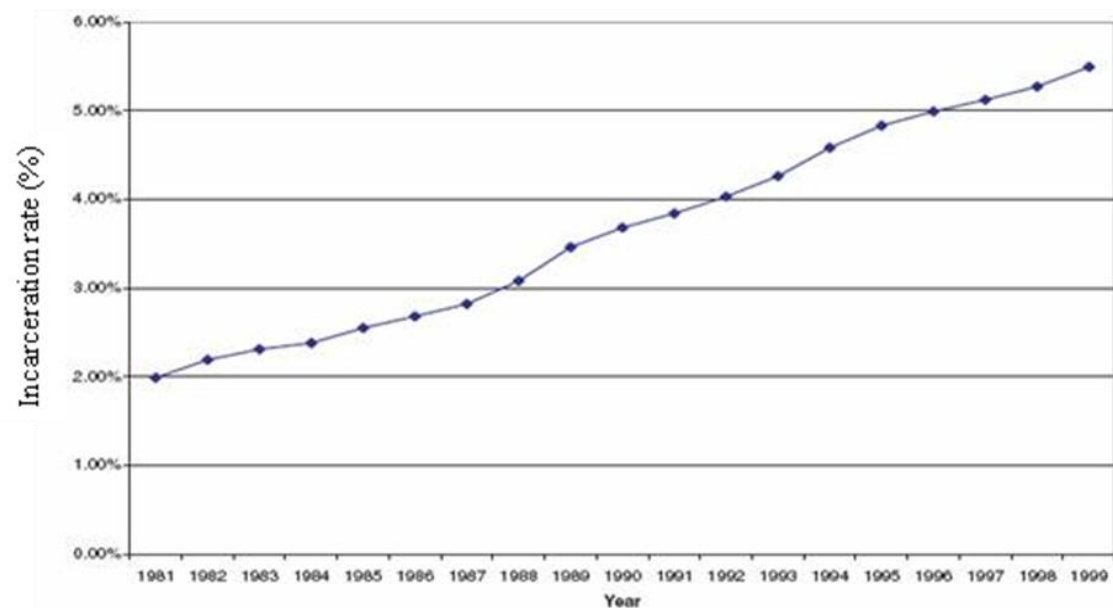


Figure 16: Incarceration rates of Afro-American

(Holzer et al., 2005a)

Because of a lack of skills and work-related experience, together with their criminal record, the Afro-American ex-offenders have little opportunity to obtain a highly paid job after release. For instance, only 40 percent of employers were willing to offer ex-offenders their last job vacancy. As a result, incarceration hampers the employment opportunities of young Afro-Americans and reduces their labour force participation

rates (Holzer et al., 2005a; Western, 2007; Cooke, 2004). Previous incarceration and the child support system explain about 50 percent of the decline in employment of Afro-American men aged 25-34 years. Previous incarceration also explains a decline in the employment of Afro-American men aged 16-24 (Holzer et al., 2005b). There is a relationship between the education and incarceration rates of Afro-Americans. However, human capital theory does not refer to this relationship.

Cooke (2004) investigated the effect of joblessness and homelessness on the health of formerly incarcerated Afro-American men in the U.S. Cooke (2004) argued that homelessness disproportionately affects Afro-Americans more than White-Americans. It contributes to poor health outcomes among Afro-Americans. Moreover, Afro-Americans are less likely to have employer-based insurance and medical insurance compared with White-Americans. Therefore, they are less able to afford the costs of healthcare. Cooke (2004) concluded that reasonable paid jobs and proper housing are important for formerly incarcerated Afro-American men if they are to avoid health problems and reintegrate successfully into society (Cooke, 2004). There is a relationship between homelessness of Afro-Americans and their employment prospects and health outcomes. However, human capital theory does not refer to this relationship.

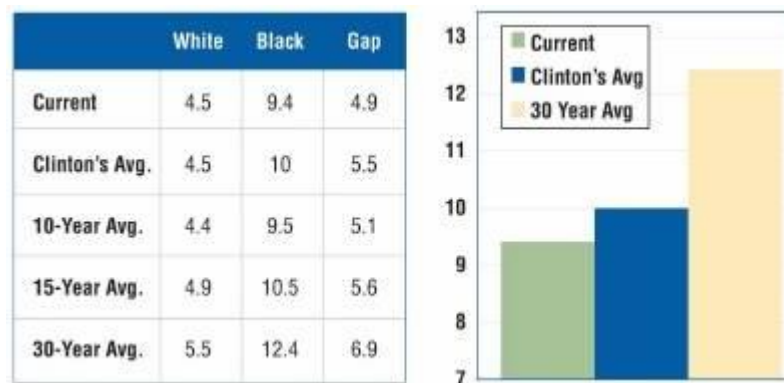


Figure 17: Afro-American unemployment rate
(Bowyer, 2005)

According to Jeffrey (2005), the unemployment rate of Afro-Americans dropped under the Bush administration due to the enforcement the immigration laws that punish employers who continually hire illegal immigrants, and crack down on illegal immigrant workers in the U.S. The unemployment rate of Afro-Americans was 9.4

percent compared with 10 percent under the Clinton administration, and 12.4 percent on average over the past 3 decades. This can be seen in Figure 17. Consequently, the unemployment gap between Afro-Americans and White-Americans reduced. For instance, the unemployment gap was 4.9 points compared with 5.5 points under the Clinton administration and 6.9 points on average over the past 3 decades (Bowyer, 2005). Illegal immigrants may compete directly with Afro-Americans in the labour market. The availability of the labour supply from illegal immigrants may cause the overall labour supply to increase more rapidly than the labour demand.

Wickham (2007) argued that the cheaper labour supply of illegal immigrants negatively affects the employment of Afro-American in the U.S. Profit maximising employers may prefer to hire cheaper-priced illegal immigrants. However, there is no clear evidence indicate that illegal immigrants cause the employment of Afro-Americans to drop (Wickham, 2007). According to Campbell (2006), illegal immigrants have very little bargaining power over wages. They acquire low levels of education, and few language skills. As a result, they are more willing to take up the low paid jobs that Americans, particularly Afro-Americans, do not want and, thus, they may instead drive down the wages of low-skilled Afro-Americans (Campbell, 2006). While Afro-Americans may not have to compete directly with illegal immigrants for the same job, they may have to compete with another ethnic minority who legally reside in the U.S. The next section discusses the labour market outcomes among Hispanic-Americans in the U.S.

4.3 *Hispanic-Americans*

An employment gap also exists between Hispanic-Americans and White-Americans. In March 2006 the unemployment rate in the U.S. among Hispanic-Americans was 5.4 percent compared with only 4 percent among White-Americans (Winters, 2006). Moreover, these two groups also exhibit an educational gap. For instance, only about 50 percent of Hispanic-Americans left high school with formal qualifications compared with 75 percent of White-Americans (Winters, 2006). As a result, Hispanic-Americans do not enrol in higher levels of education after finishing high school, and are less likely to get good jobs (Ganderton, Santos, & Seitz, 2002). Both Hispanic-Americans and Afro-Americans suffer from poor labour market outcomes and are less well-educated than White-Americans.

Ganderton et al. (2002) studied employment patterns of Hispanic-American graduates who did not attend college within 6 years of graduating from high school, and found that they had lower labour participation rates when compared with White-Americans of the same educational status. Moreover, 66 percent of male White-American graduates were in full-time employment compared with only 61 percent of male Hispanic-American graduates. During those 6 years, 44 percent of male Hispanic-American graduates and 52 percent of female Hispanic-American graduates were unemployed for at least one year (Ganderton et al., 2002). Less well-educated Hispanic-Americans were more likely to be unemployed compared with less well-educated White-Americans.

According to Richards (1998), the Hispanic-American labour force rapidly increased in the U.S., especially in the early 1990s. However, their unemployment rates were higher than overall unemployment rates. For instance, the unemployment rates of Hispanic-American men aged 25-64 years were about 60 percent higher than those for overall male unemployment. Low levels of educational attainment among Hispanic-Americans partially explain this (Richards, 1998; DeFreitas, 1990). Moreover, Hispanic-Americans have relatively lower earnings than those for the overall U.S. population. For instance, the average earnings of Hispanic-American men were about 10 percent lower than those of the overall population (Richards, 1998). The earnings of Hispanic-Americans who did not speak fluent English were even lower (Richards, 1998). The findings of these studies on the earnings of Hispanic-Americans support human capital theory in underlining the importance of education in improving employment prospects.

DeFreitas (1990) stressed the negative effects on Hispanic-Americans in the U.S of labour market discrimination. DeFreitas (1990) suggested that policies that stimulate aggregate demand, greater investment in education, and anti-discrimination legislation could induce higher labour force participation rates and raise employment rates of Hispanic-Americans in the U.S. effectively (DeFreitas, 1990). This argument aligns with discrimination theory, which argues that discrimination can account for an earnings gap between two different workers regardless of their productivity. Afro-Americans and Hispanic-Americans in the U.S. both suffer from labour market discrimination.

According to Boisjoly and Duncan (1994) and DeFreitas (1990), Hispanic-Americans in the U.S. consistently suffer their greatest involuntary job loss during recession periods. For instance, the job displacement rate among Hispanic-Americans during the 5 years

prior to January 1992 was 11.8 percent compared with only 7.9 percent among White-Americans (Boisjoly, & Duncan, 1994). During the recession in 1981-1982, about 15 Hispanic-American men became unemployed for every 10 White-American men (DeFreitas, 1990). Boisjoly and Duncan (1994) argued that lower levels of education among Hispanic-Americans account for their high job displacement rate (Boisjoly, & Duncan, 1994).

Moreover, Hispanic-Americans are more likely to be younger, work in low-skilled occupations, and work in industries that are vulnerable to job loss (Boisjoly, & Duncan, 1994). This implies that a large number of Hispanic-Americans work in the secondary markets in which job security is low. Labour market segmentation theory argues that workers in the secondary market tend to be disadvantaged groups (Doeringer, & Piore, 1985), like Hispanic-Americans. The next section briefly discusses the U.S. welfare regimes.

4.4 A snapshot of the U.S. welfare regimes

Similar to New Zealand, the U.S. education system consists of early childhood education, primary school or elementary school, middle school, secondary school or high school, and tertiary education (U.S. Department of Education, 2008). While almost 90 percent of students attended public primary and secondary schools, about 10 percent attended private schools (U.S. Diplomatic Mission to Germany, 2008). The U.S. government introduced Federal Education Aid programme: grants, loans, and campus-based programmes; to financially assist tertiary students.

While the grants do not require students to repay, the federal student loans (Federal Stafford Loans, Federal PLUS Loans, and Federal Perkins Loans) must be repaid together with low interest rates (Federal Student Aid, 2008a). In 2008, there were about 14 million federal student aid applications and more than US\$80 billion have been paid to students annually (Federal Student Aid, 2008b). The campus-based programmes (Federal Work-Study) provide student jobs so that they can pay for school expenses (Federal Student Aid, 2008a).

There was a high incidence of default in the Federal Stafford Loans as many students perceived them as free money. The average default rate had exceeded 15 percent annually for the past 15 years (Boyd, 1997). Defaulting on the student loans resulted in a poor credit rating as it would be reported to credit bureaus. This could potentially restrict defaulting students from borrowing for car or mortgage home loans after graduation. In comparison to White-American students, Afro-American students had higher default rate (Boyd, 1997; Volkwein, Szelest, Cabrera, & Napierski-Prancel, 1998). Their default rate was four times higher than that among White-American students (Boyd, 1997). Default rates were also high among Hispanic-American students and those who left school with no qualification and had annual income of less than US\$10,000 (Volkwein et al., 1998).

There were two factors that were likely to affect the default decision. Firstly, Afro-American students expected discrimination in obtaining home mortgage loans even if they repaid their student loans. For instance, the home mortgage rejection rate among Afro-Americans was 34 percent compared with only 14 percent among White-Americans (Boyd, 1997). Consequently, fewer Afro-Americans owned a home compared with White-Americans. Home ownership among Afro-Americans was only 14 percent compared with 37 percent among White-Americans (Boyd, 1997).

Secondly, ability to repay the student loans could also affect the default decision (Volkwein et al., 1998; Boyd, 1997). Volkwein et al. (1998) and Boyd (1997) argued that defaulting Afro-American and Hispanic-American students were more likely to be unemployed, earn low wages, and come from low-income families. For instance, Afro-American students had income at least US\$10,000 less than that of White-American students during the repayment period (Boyd, 1997). Moreover, about 41 percent of Afro-American students in Boyd's (1997) study came from families with income less than US\$11,000 per year compared with only 13 percent of White-American students.

Boyd (1997) stressed that the Federal Stafford Loans had two negative consequences. Firstly, it resulted in poor credit records among ethnic minorities. Secondly, it raised the federal government expenses on the defaulted student loans (Boyd, 1997). The high rate of the defaulted student loans among Afro-Americans indicated that the Federal Stafford Loans did not effectively and specifically target low-income Afro-American students. More generous student loan programme toward low-income Afro-American

students would reduce their default rate and, in turn, reduce the federal government expenses on the defaulted student loans. It would also raise the home ownership rate among Afro-Americans.

The U.S. Unemployment Insurance: Unemployment Insurance Benefits, Extended Benefits, Trade Readjustment Allowances (TRA), Unemployment Compensation for Federal Employees, and Self Employment Assistance; provide temporary financial assistance to laid-off workers (U.S. Department of Labor, 2008a). While TRA provides income support to those who are laid-off or have their working hours reduced due to foreign imports (U.S. Department of Labor, 2008b), Unemployment Compensation for Federal Employees provides financial assistance to unemployed civilian federal employees (U.S. Department of Labor, 2008c). Moreover, unemployed workers who establish their businesses are eligible for financial supports under Self-Employment Assistance (U.S. Department of Labor, 2008d). Benefit amounts and the length of time that eligible unemployed workers received depend on the state laws. Therefore, unemployed workers from different states may be entitled to different amounts and length of time. The next section summarises this chapter.

4.5 Chapter summary

This chapter discusses the labour market disparities between both Afro-American and Hispanic-American minority groups, and the White-American majority in the U.S. The evidence from this chapter suggests explanatory factors for these poor labour market outcomes, which may be relevant in explaining poor labour market outcomes among Maori in New Zealand. Evidence from this chapter on poor labour market outcomes among Afro-Americans and Hispanic-Americans also helps validate the relevance of the theoretical perspectives outlined in Chapter 2.

Evidence from this chapter suggests that the arguments of human capital theory, labour discrimination theory, labour queue theory, and labour segmentation theory are relevant to the poor labour market outcomes among Afro-Americans and Hispanic-Americans. Both Afro-Americans and Hispanic-Americans have relatively lower levels of education and fewer skills than White-Americans. Afro-Americans lack job networks. This implies they invest less in information regarding employment opportunities. Moreover,

Afro-Americans have relatively poorer health outcomes than White-Americans. Furthermore, both Afro-Americans and Hispanic-Americans are subject to labour market discrimination, which undermines their employment earnings prospects.

This chapter does not discuss labour queue theory directly. However, it is also relevant to the poor labour market outcomes discussed. Lack of education and labour market discrimination may mean that employers place minority groups at the end of the labour queue. Therefore, those who persistently demand a highly paid job remain unemployed for a longer time. This may partly explain their high unemployment rates. Alternatively, to avoid unemployment, they may unwillingly accept a lower paid job. This may partly explain the low earnings among Afro-Americans and Hispanic-Americans.

Less well-educated Afro-Americans and Hispanic-Americans are more likely to be subjected to labour market discrimination and work in low paid, low skilled occupations, and industries that are vulnerable to involuntary job loss. This implies that a large number of them are segregated into the secondary market in which job security is low.

Similar to New Zealand, the U.S. student loan programme (Federal Stafford Loans) is available to financially assist tertiary students. However, owing to a lack of ability to repay and expected discrimination in obtaining home mortgage loans, student loan default rates among Afro-American and Hispanic-American students were relatively higher than that among White-American students. Consequently, Afro-American and Hispanic-American students have poor credit records, which restrict them from borrowing for home mortgage loans after graduation. Similar to New Zealand student loan programme, the Federal Stafford Loans can potentially be a long term burden to Afro-American and Hispanic-American students. This may indicate that the Federal Stafford Loans did not effectively and specifically target low-income students.

The U.S. government also provides allowances to unemployed workers caused by redundancy and foreign imports. Unemployed workers who are starting up their own small businesses are also entitled to financial assistance. These unemployment programmes specifically meet the needs of Afro-Americans and Hispanic-Americans who attain lower levels of education, are more likely to be unemployed, and are less able to pay for their children's education. This indicates that the U.S. government has

strived to improve the labour market outcomes of Afro-Americans and Hispanic-Americans.

The conclusions from this chapter are that the theoretical perspectives discussed in Chapter 2 are relevant and contribute to the explanation for the poor labour market outcomes among Afro-Americans and Hispanic-Americans in the U.S. In addition to the theoretical perspectives in Chapter 2, there are also other factors that have explanatory power over the poor labour market outcomes discussed. These include: sole parenthood, the minimum wage, the child support system, incarceration, housing location, homelessness, immigration, and age composition. Although, the theoretical perspectives in Chapter 2 do not address these factors, they are, however, relevant to poor labour market outcomes. The next chapter discusses the data used in this study.

Chapter 5: Data

The four theoretical perspectives outlined in Chapter 2, as well as other explanatory factors identified in Chapters 3 and 4, were used to guide the collection of updated data for this study. The data were grouped into nine main sub-groups: employment and income; educational attainment; employment-related training; health outcomes; labour market discrimination; labour market segmentation; age composition; illegal activities; and external migration. The purpose of this chapter is to update the statistical profiles related to the labour market outcomes of Pakeha, Maori, Pacific people, and Asian people in New Zealand, as well as those of White-Americans, Afro-Americans, and Hispanic-Americans in the U.S.

5.1 The employment and income data

From discussion in Chapters 3 and 4, ethnic minorities in both New Zealand and the U.S. would seem to share similar labour market outcomes. By comparing updated employment and income data, similarities or differences between Maori, Pacific people or Asian people in New Zealand, and Afro-Americans or Hispanic-Americans in the U.S. may be observed. Comparisons may also enable us to identify employment and earnings gaps between the relevant ethnic minorities and either Pakeha in New Zealand, or White-Americans in the U.S. Refer to Figures 18 and 19 for the employment and income data in New Zealand and the U.S.

5.1.1 New Zealand data

New Zealand employment and income data comprise unemployment rates and labour participation rates among Pakeha, Maori, and Pacific people from December 1999 to September 2007, together with their total personal incomes and those of Asian people in 2006. They constitute data on total hours worked in employment per week by Pakeha, Maori, Pacific people, and Asian people aged 15 years and above in 2006. They also include data on the involvement of Pakeha, Maori, Pacific people, and Asian people in unpaid activities in 2006.

The unemployment rate and the labour participation rate data were collected using AUT University library access to the “Household Labour Force Survey” (NZ Time Series). These data were used to compare the unemployment and labour participation rates of Pakeha with those of Maori and Pacific people, so that their employment gaps could be identified.

The total personal income and total hours worked in employment per week data were collected from “Ethnic Group by Total Personal Income (Grouped), 2006 Census”, and “Total Personal Income and Hours Worked by Ethnic Group, 2006 Census” (Statistics New Zealand). Both data sets were converted into percentages using total people employed by ethnic group data for 2006. The unpaid activities data in 2006 were collected from “Ethnic Group and Unpaid activities by Sex, 2006 Census” (Statistics New Zealand), and converted into percentages using the corresponding total labour force by ethnic group data.

Income gaps between Pakeha and Maori, Pacific people or Asian people were identified through a comparison of their total personal income and total hours worked in paid employment per week. Their income gaps may also be identified through proportional differences in their involvement in unpaid activities.

5.1.2 The U.S. data

U.S. employment and income data comprise unemployment rates for White-Americans, Afro-Americans, and Hispanic-Americans from 2000 to 2007; and their labour force participation rates from 2000 to 2007. The data were collected from “Labor Force Statistics from the Current Population Survey” (U.S. Department of Labor: Bureau of Labor Statistics).

The employment and income data also capture median household incomes for White-Americans, Afro-Americans, and Hispanic-Americans in 2004 and 2005; their median family incomes for 2004 and 2005; their numbers below poverty-level (persons) and their numbers below poverty-level (families) for 2004 and 2005. The data were collected from “Statistical Abstract of the United States” (U.S. Census Bureau).

Employment gaps between White-Americans and Afro-Americans or Hispanic-Americans can be observed by comparing their unemployment and labour participation rates data. Moreover, their income and poverty gaps can be also observed by comparing median household incomes, median family incomes, persons living below poverty-level, and families living below poverty-level.

5.2 *The educational attainment data*

According to human capital theory, education contributes towards an individuals' human capital. Lack of education may result in employment and earnings differences between workers. Although early childhood education prepares young children for higher levels of education, data related to such education were unavailable for New Zealand.

Educational attainment data among Pakeha, Maori, Pacific people, and Asian people, as well as White-Americans, Afro-Americans and Hispanic-Americans were compared in order to identify their educational gaps. These comparisons also enable us to identify similarities or differences in educational attainment between ethnic minorities in New Zealand and the U.S. Refer to Figures 20 and 21 for the educational attainment data in New Zealand; and to Figure 22 for the U.S.

5.2.1 New Zealand data

New Zealand educational attainment data are those of Pakeha, Maori, Pacific people, and Asian people. They comprise data on school leavers with little or no formal attainment in 2004, 2005, and 2006; school leavers with National Certificate of Educational Achievement (NCEA) Level 2 or above in 2005 and 2006; school leavers qualified to attend university in 2004, 2005, and 2006; and school leavers undergoing direct transition to degree level tertiary education in 2004 and 2005. They also comprise data on the number of students completing tertiary qualifications in 2005 and 2006; students passing all tertiary courses and qualifications between 2002 and 2006; students completing tertiary qualification by field of study in 2006; and average income by field

of study for males and females in 2005. The data were collected from Education Counts.

The educational attainment data include data on student loan borrowers; and student allowance recipients in 2005 and 2006 among Pakeha, Maori, Pacific people, and Asian people. These data were also collected from Education Counts. Human capital theory argues that lack of financial resources hinders poor families from investing in their own and their children's education adequately. In contrast, student loans and student allowances can, however, be alternative financial sources for such investment. Therefore, a comparison of proportions of student loan borrowers, and student allowance recipients among Pakeha, Maori, Pacific people, and Asian people, could indicate differences in their educational investment.

The educational attainment data also include the numbers of Pacific people and Asian people who were overseas-born English speakers in 2006. These data were collected from "Pacific Ethnic Groups (Selected) and Birthplace by Language Spoken, 2006 Census", and "Asian Ethnic Groups (Selected) and Birthplace by Language Spoken, 2006 Census" (Statistics New Zealand). The data were converted into percentages using the totals of overseas-born Pacific people and Asian people respectively.

Richards (1998) in Chapter 4 pointed out that the earnings of Hispanic-Americans who did not speak English were relatively low. A lack of ability to speak and understand English hinders non-English speaking workers from accessing employment and well paid jobs. The overseas-born English speaker data indicate that Pacific people and Asian people were facing similar employment barriers.

5.2.2 The U.S. data

U.S. educational attainment data are those of White-Americans, Afro-Americans, and Hispanic-Americans. They include data on the involvement of children aged 3 to 5 years in home literacy activities prior to attending a kindergarten in 1993 and 2005; and on the school readiness skills of children aged 3 to 5 years prior to attending a kindergarten in 1993 and 2005. The data were collected from "Statistical Abstract of the United States" (U.S. Census Bureau).

Human capital theory argues that early childhood education prepares young children for higher levels education. Young children who receive little early childhood education may not perform well in higher levels of education. The involvement of White-American, Afro-American, and Hispanic-American children aged 3 to 5 years in home literacy activities, and their school readiness skills, were compared in order to observe their educational gap in early childhood.

Moreover, the U.S. educational attainment data include data on high school dropout rates in 2004 and 2005; and the educational attainment of people aged 25 years and above in 2005 and 2006. These data were also collected from “Statistical Abstract of the United States” (U.S. Census Bureau). The U.S. educational attainment data also include data on the educational attainment of people aged 15 years and above in 2005 and 2006 collected from “Educational Attainment in the United States: 2006” (U.S. Census Bureau). The high school dropout rates and educational attainment among White-Americans, Afro-Americans, and Hispanic-Americans aged 15 years and above, and those aged 25 years and above were compared, in order to observe the educational gaps between ethnic groups.

5.3 *The employment-related training data*

According to human capital theory, training contributes to an individual’s human capital and lack of training contributes to employment and earnings differences between workers. Human capital theory refers specifically to on-the-job training provided by employers.

Employment-related training data for Pakeha, Maori, Pacific people, and Asian people, as well as for White-Americans, Afro-Americans and Hispanic-Americans are compared, in order to identify their training gaps. These comparisons also enable us to identify similarities or differences in the training received by ethnic minorities in New Zealand and the U.S. Refer to Figures 23 and 24 for the employment-related training data in New Zealand and the U.S.

5.3.1 New Zealand data

New Zealand employment-related training data are those of Pakeha, Maori, Pacific people, and Asian people. They constitute data on participants in Training Opportunities in 2005 and 2006; participants in Youth Training in 2005 and 2006; credits attained in Training Opportunities in 2005 and 2006; credits attained in Youth Training in 2005 and 2006; Gateway training in 2005 and 2006; and Modern apprenticeships of all industries in 2006.

Owing to the unavailability of on-the-job training data, data on employment-related training provided by outsiders were collected from “Participation in workplace-based learning”, “Targeted training programmes”, and “Achievement in targeted training programmes” (Education Counts). The employment-related training data were used to observe training gaps between Pakeha and Maori, Pacific people or Asian people.

5.3.2 The U.S. data

U.S. employment-related training data are those of White-Americans, Afro-Americans, and Hispanic-Americans. They comprise data on employees who received training from their current employers in 1995; hours of training per employee in 1995; and trained employees participating in various training programmes in 1995. Owing to a lack of more recent data, those in 1995 were collected from “BLS Reports on Employer-Provided Formal Training” (U.S. Department of Labor: Bureau of Labor Statistics). The employment-related training data of White-Americans were compared with those of Afro-Americans and Hispanic-Americans in order to reveal whether there was a training gap between them in 1995.

5.4 The health outcomes data

According to human capital theory, health status contributes to an individual’s human capital. Less healthy workers are relatively less productive and have lower earnings than more healthy ones. They are also less likely to invest in high levels of education.

Health outcomes data among Pakeha, Maori and Pacific people, as well as among White-Americans, Afro-Americans and Hispanic-Americans were compared in order to identify any similarities or differences in health gaps. Refer to Figures 25 and 26 for the health outcomes data in New Zealand and the U.S.

5.4.1 New Zealand data

New Zealand health outcomes data include data on all causes of death among non-Maori, Maori, and Pacific people in 2002 and 2004; age-standardised mental health clients per 100,000 for each ethnic group in 2004; prevalence of cigarette smoking among those aged 15 years and above for each ethnic group in 2004, 2005, and 2006; age-standardised intentional self-harm hospitalisation among Pakeha, Maori, Pacific people, and Asian people in 2005 and 2006; and age-standardised suicide rates among non-Maori and Maori in 2004 and 2005.

All causes of death in 2002 and 2004 were collected from “Mortality and Demographic Data 2004”, and “Mortality and Demographic Data 2002 and 2003” (New Zealand Health Information Service). The data on age-standardised mental health clients per 100,000 of population in 2004 were collected from “Mental Health: Service Use in New Zealand 2004” (New Zealand Health Information Service).

Data on the prevalence of cigarette smoking for people aged 15 years and above in 2004, 2005 and 2006 were collected from “Tobacco Trends 2006: Monitoring tobacco use in New Zealand” (Ministry of Health), and from “Cigarette Smoking” (Ministry of Social Development). Data on age-standardised intentional self-harm hospitalisation in 2005 and 2006; and age-standardised suicide rates in 2004 and 2005 were collected from “Suicide Facts 2005-2006 data” (Ministry of Health).

5.4.2 The U.S. data

U.S. health outcome data are those of White-Americans, Afro-Americans, and Hispanic-Americans. The data comprise their health status in 2001-2003 and 2004-2006; proportions of uninsured White-Americans, Afro-Americans and Hispanic-

Americans aged 18 to 64 in 2001-2003 and 2004-2006; and mortality by all causes among White-Americans, Afro-Americans, and Hispanic-Americans aged 18 years and above in 2001-2003 and 2004-2006.

The health outcome data include data on age-adjusted limitations to activity due to chronic condition among White-Americans, Afro-Americans, and Hispanic-Americans in 2001-2003 and 2004-2006; age-adjusted mental health among White-American, Afro-American, and Hispanic-American adults aged 18 years and above in 2001-2003 and 2004-2006; and age-adjusted suicide rates per 100,000 among White-Americans, Afro-Americans, and Hispanic-Americans in 2001-2003 and 2002-2004. These data were collected from “Health Data for All Ages (HDAA)” (Centre for Disease Control and Prevention).

The health outcome data also include data on average annual expenditures per consumer unit on health care among White-Americans, Afro-Americans, and Hispanic-Americans in 2005; their health insurance coverage status in 2005; their 5 year cancer survival rates in 1993-1995 and 1996-2003; and estimated numbers of White-Americans, Afro-Americans, and Hispanic-Americans living with Acquired Immunodeficiency Syndrome (AIDS) in 2004 and 2005. These data were collected from “Statistical Abstract of the United States” (U.S. Census Bureau). Any health gap between White-Americans and Afro-Americans or Hispanic-Americans overall, should be observed by comparing their health outcomes data.

5.5 The labour market discrimination data

According to labour market discrimination theory, employment and earning gaps between two different but equally productive workers can result from discrimination. Labour market discrimination data among Pakeha, Maori and Pacific people, as well as White-Americans and Afro-Americans or Hispanic-Americans were compared in order to observe evidence of labour market discrimination against ethnic minorities. The comparisons also enable us to observe whether Maori and Pacific people, as well as Afro-Americans or Hispanic-Americans suffered from similar labour market discrimination. Refer to Figures 27 and 28 for the labour market discrimination data in New Zealand and the U.S.

5.5.1 New Zealand data

Labour market discrimination data comprise data on unemployment rates and median hourly incomes by qualification level for Pakeha, Maori, and Pacific people aged 15 years and above in 2006. These data were collected from “Life after Study” (Education Counts), and were used to observe indirect evidence of labour market discrimination against Maori and Pacific people.

5.5.2 The U.S. data

U.S. labour market discrimination data comprise median incomes by educational attainment data for White-Americans, Afro-Americans, and Hispanic-Americans aged 18 years and above in 2005 and 2006; and their median earnings by educational attainment in 2005 and 2006. They also include average monthly incomes of White-Americans, Afro-Americans, and Hispanic-Americans in 2001 and 2004; and average monthly earnings by education of full-time White-American, Afro-American, and Hispanic-American workers in 2001 and 2004.

The data were collected from “Population and Household Economic Topics: Education” (U.S. Census Bureau). Evidence of labour market discrimination was observed by comparing income and earnings of White-Americans with those of equally well-educated Afro-Americans and Hispanic-Americans. Any differences in their income and earnings indicated labour market discrimination indirectly.

5.6 *The labour market segmentation data*

Owing to a lack of skills and labour market discrimination, labour market segmentation theory argues that disadvantaged groups are segregated into a secondary market where wages are low. Labour market segmentation data indicate whether there was segregation in New Zealand and the U.S. labour markets between Pakeha and Maori, Pacific people or Asian people, as well as between White-Americans and Afro-Americans or Hispanic-Americans, and whether they concentrated in low paid occupations and industries. Owing to the unavailability of firm-level data, occupational and industry data were

collected for this study. Refer to Figures 29 and 30 for the labour market segmentation data in New Zealand; and Figures 31 and 32 for the U.S. data.

5.6.1 New Zealand data

New Zealand labour market segmentation data include data on occupation by ethnic groups (Pakeha, Maori, Pacific people, and Asian people) aged 15 years and above in 2006; and average hourly income data by occupation in 2006. They also include data on industry by ethnic groups (Pakeha, Maori, Pacific people, and Asian people) aged 15 years and above in 2006; and average hourly income by industry in 2006.

The data on occupation by ethnic group aged 15 years and above in 2006 and the data on industry by ethnic group aged 15 years and above in 2006 were collected from “Occupation (NZSCO99 Major Group) by Ethnic Group, 2001 and 2006 Census”, and “Industry (ANZSIC96 Division) and Ethnic Group by Sex, 2001 and 2006 Census” (Statistics New Zealand). These data were converted into percentages using total employment by ethnic group in 2006.

The data on average hourly income by occupation in 2006, and on average hourly income by industry in 2006 were collected from “Earnings from wage and salary jobs by occupation, sex and broad age groups”, and “Earnings from wage and salary jobs by industry, sex and broad age groups” (Statistics New Zealand).

The New Zealand labour market segmentation data also include data on the numbers of filled jobs for full-time employees by industry in 2005, 2006, and 2007. These data were collected from “Filled jobs by ANZSIC Group, Sex and Employment (000s)” (Statistics New Zealand).

According to a study by Te Puni Kokiri (1994) in Chapter 3, Maori were over-represented in the manufacturing industry, which had experienced a significant decline in job numbers. Therefore, any changes in the numbers of filled jobs between 2005 and 2007 that were captured in the number of filled jobs for full-time employees by industry data, should indicate whether Maori, Pacific people, and Asian people were more likely to work in vulnerable industries compared with Pakeha.

5.6.2 The U.S. data

The U.S. labour market segmentation data comprise data on industry by ethnic group (White-Americans, Afro-Americans, and Hispanic-Americans) in 2006; and wage estimates data in 2006. The industry-by-ethnic-group data were collected from “Job Patterns for Minorities and Women in Private Industry (EEO-1)” (U.S. Equal Employment Opportunity Commission). The wage estimates data were collected from “May 2006 National Industry-Specific Occupational Employment and Wage Estimates” (U.S. Department of Labor: Bureau of Labor Statistics).

The industry by ethnic group and the wage estimates data indicate whether there was industry segregation between White-Americans, Afro-Americans, and Hispanic-Americans, and whether the ethnic minorities concentrated in lower paid industries compared with White-Americans.

5.7 *The age composition data*

According to the arguments in Chapter 3, young people tend to have relatively few work skills and little work-related experience. Therefore, they are more likely to be unemployed and to earn low wages. Age composition data were used to compare the age structure of Pakeha with that of Maori, Pacific people, and Asian people in New Zealand, and to compare the age structure of White-Americans with that of Afro-Americans and Hispanic-Americans in the U.S. These comparisons should enable us to observe similarities or differences in the relative age structures of ethnic minorities in both countries. Refer to Figures 33 and 34 for the age composition data in New Zealand and the U.S.

5.7.1 New Zealand data

The New Zealand age composition data comprise total population by ethnic group (Pakeha, Maori, Pacific people, and Asian people) and age group in 2006. The data were collected from “Ethnic Group by Age, 2006 Census” (Statistics New Zealand), and converted into percentages using the relevant total populations.

5.7.2 The U.S. data

U.S. age composition data comprise median ages for White-American, Afro-Americans, and Hispanic-Americans in 2005 and 2006, and were collected from “Statistical Abstract of the United States” (U.S. Census Bureau). These data should enable comparisons between the age structures of the three ethnic groups.

5.8 *The illegal activities data*

Arguments in Chapter 4 stressed that criminal records might hamper the employment and earnings opportunities of some ethnic minorities. Illegal activities data indicated illegal activities that involved Pakeha, Maori, and Pacific people in New Zealand, as well as White-Americans and Afro-Americans in the U.S. These data were used to indicate similarities or differences in illegal activity by ethnic minorities. Refer to Figures 35 and 36 for illegal activities data in New Zealand and the U.S.

5.8.1 New Zealand data

The illegal activities data in New Zealand comprise data on total offences and sentences among Pakeha, Maori, and Pacific people in 2005 and 2006. The data were collected from “Demographics of convicted cases” (Statistics New Zealand). The total offences and sentences data were converted into percentages using the relevant data for total population in 2006. Owing to the unavailability of total population data in 2005, those for 2006 were also used for the 2005 calculations.

5.8.2 The U.S. data

U.S. illegal activities data comprise data on juvenile arrest rates per 100,000 population among White-Americans and Afro-Americans aged 10 to 17 years in 2005 and 2006; and their delinquency case rates by offence per 1,000 juveniles in 2003 and 2004. The data were collected from “Juvenile Arrest Rates by Offense, Sex, and Race (1980-2006)”, and “Delinquency Case Rates by Offense, Sex, and Race (1985-2004)” (U.S.

Department of Justice: Office of Juvenile Justice and Delinquency Prevention: Statistical Briefing Books). The illegal activities data of White-Americans were compared with those of Afro-Americans in order to observe whether Afro-Americans were more likely to commit offences during those periods.

5.9 *The external migration data*

According to arguments in Chapter 4, immigration may cause the labour supply to increase faster than the labour demand, resulting in higher unemployment rates among current workers and downward pressures on wages. Moreover, one argument of labour queue theory was that the unemployment rates of disadvantaged groups could be even higher and their earnings lower, when fewer jobs are available in the economy. Ethnic minorities, especially less well-educated Maori in New Zealand may be pushed further to the end of the labour queue by an increasing number of new immigrants. Refer to Figure 37 for the external migration data for New Zealand.

External migration data comprise data on permanent and long-term arrivals and departures by occupation in 2006; and data on the number of filled jobs for full-time employees by industry, from 2005 to 2007. The data on permanent and long-term arrivals and departures were collected from “PLT Arrivals and Departures by occupation, age and sex” (Statistics New Zealand). The data on the number of filled jobs for full-time employees by industry from 2005 to 2007 were collected from “Filled jobs by ANZSIC Group, Sex and Employment (000s)” (Statistics New Zealand).

Data on permanent and long-term departures were compared with those for permanent and long-term arrivals to indicate whether there was labour supply surplus or shortage. A labour supply surplus can occur when the number of the permanent and long-term arrivals exceeds that of permanent and long-term departures, and may result in job displacement among workers in New Zealand: particularly among less well-educated Maori.

Data on the numbers of filled jobs for full-time employees by industry reveal changes between 2005 and 2006, and between 2006 and 2007. Increases in the numbers of filled jobs by industry can offset or absorb increases in the labour supply of permanent and

long-term arrivals and these would not then affect the employment and income of current workers negatively. The next chapter discusses findings from this study.

Chapter 6: Findings and discussion

The purpose of this chapter is to analyse recently updated statistical profiles of Maori and compare them with those of Pacific people, and Asian people in New Zealand as well as with those of Afro-Americans and Hispanic-Americans in the U.S. The key trends are linked to explanation for poor labour market outcomes supplied by the theories outlined in Chapter 2, and by other factors derived from Chapter 3 and 4. This chapter identifies similarities or differences in the various ethnic minorities' labour market outcomes.

Findings are organised into ten sections: employment and income (New Zealand and the U.S.), educational attainment (New Zealand and the U.S.), employment-related training (New Zealand and the U.S.), health outcomes (New Zealand and the U.S.), indications of discrimination (New Zealand and the U.S.), labour queue (New Zealand and the U.S.), labour market segmentation (New Zealand and the U.S.), age composition (New Zealand and the U.S.), illegal activities (New Zealand and the U.S.), and external migration (New Zealand). The last section illustrates a vicious cycle in the labour market.

6.1 Employment and Income in New Zealand and the U.S.

Maori and Pacific people in New Zealand have experienced higher unemployment rates compared with Pakeha. In September 2007, their unemployment rates were 8 percent and 5.5 percent respectively compared with only 2.4 percent for Pakeha. The unemployment rates of Maori and Pacific people and those of Pakeha have gradually dropped since December 1999, especially those of Pacific people. However, the unemployment rates of Maori and Pacific people remained higher than those of Pakeha.

Although, there was not much change in the labour participation rates of Pakeha and Maori males since 1999, those of Pakeha and Maori females have increased gradually between December 1999 and December 2007: by 3.1 percentage points and 5.3 percent points respectively.

In 2006, a larger proportion of Pakeha aged 15 years and above worked less than 39 hours per week compared with other ethnic groups of the same ages. Up to 7.5, 8.6, and 12.2 percent of Pakeha worked for 10 to 19 hours, 20 to 29 hours, and 30 to 39 hours per week respectively, compared with only 6.4, 7, and 11 percent of Maori.

New Zealand Data

Unemployment rates (%)				Labour force participation rates (%)					
	Pakeha	Maori	Pacific		Pakeha	Maori	Pacific		
					M	F	M	F	M
Dec-99	4.5	14.4	12.2	Dec-99	75.3	59.2	73.5	55.9	69.5
Dec-00	4	12.9	11.3	Dec-00	75.6	60.2	75.8	54.8	72.6
Dec-01	3.7	12.8	9.9	Dec-01	76	61.2	75.6	57.9	70.8
Dec-02	3.3	11.4	8.2	Dec-02	75.8	61.3	74.8	57.9	70.3
Dec-03	3.2	10	8.8	Dec-03	75.9	62.2	73.1	57.5	70.2
Dec-04	2.3	8.9	6.5	Dec-04	77	62.9	76.9	59.2	69.4
Dec-05	2.5	7.6	6.2	Dec-05	76.6	62.7	76	63	75.7
Dec-06	2.6	7.2	6.8	Dec-06	77.1	62.5	75.6	61.8	71
Sep-07	2.4	8	5.5	Sep-07	75.9	62.3	74.4	61.2	71.7
% Δ 1999-2007	-2.1	-6.4	-6.7	% Δ 1999-2007	0.6	3.1	0.9	5.3	2.2

Total hours worked in employment per week aged 15+ years 2006 (%)					Total personal income 2006 (%)				
	Pakeha	Maori	Pacific	Asian		Pakeha	Maori	Pacific	Asian
10-19 Hours	7.5	6.4	4.7	8.3	\$5,001 - \$10,000	10.7	14.2	13.8	18.4
20-29 Hours	8.6	7.0	5.6	8.3	\$10,001 - \$20,000	32.7	32.7	26.7	25.9
30-39 Hours	12.2	11.0	9.4	11.1	\$20,001 - \$30,000	21.8	25.9	27.5	21.5
40-49 Hours	38.2	41.6	48.9	41.8	\$30,001 - \$50,000	33.8	33.5	35.5	29.6
50-59 Hours	12.0	9.7	7.1	7.3	\$50,001 or More	28.1	14.7	10.1	16.1
60 Hours or more	9.7	8.5	5.2	7.3	Total employed (%)	100%	100%	100%	100%
Total employed (%)	100%	100%	100%	100%					
Total employed (persons)	1,366,917	225,360	96,087	158,067					

Unpaid activities 2006 (%)		
	Voluntary work	Total labour force
Pakeha	14.3	100
Maori	17.6	100
Pacific	12.5	100
Asian	7.9	100

Sources: NZ Time Series, Household Labour Force Survey; Statistics New Zealand, Ethnic Group by Total Personal Income (Group), 2006 Census; Statistics New Zealand, Total Personal Income and Hours Worked by Ethnic Group, 2006 Census; Statistics New Zealand, Ethnic Group and Work and Labour Force Status by Sex, 2006 Census; Statistics New Zealand, Ethnic Group and Unpaid Activities by Sex, 2006 Census.

Figure 18: The employment and income data in New Zealand

In the same year, only 4.7, 5.6, and 9.4 percent of Pacific people worked for 10 to 19 hours, 20 to 29 hours, and 30 to 39 hours per week respectively. Moreover, only 8.3 percent of Asian people worked for 10 to 19 hours and 20 to 29 hours each per week, and 11.1 percent worked for 30 to 39. The relative larger proportion of Pakeha who worked in all part-time categories implies they are more likely to work in part-time employment compared with Maori, Pacific people, and Asian people.

Nevertheless, larger proportions of Maori, Pacific people, and Asian people worked for 40 to 49 hours per week compared with Pakeha in 2006. For instance, 41.6 percent of Maori, 48.9 percent of Pacific people, and 41.8 percent of Asian people worked for 40 to 49 hours per week compared with only 38.2 percent of Pakeha. This implies that the larger proportions of Maori, Pacific people, and Asian people hold full-time positions compared with Pakeha.

Although a smaller proportion of Pakeha hold full-time positions, up to 12 percent of them worked for 50 to 59 hours per week in 2006 compared with only 9.7 percent of Maori, 7.1 percent of Pacific people, and 7.3 percent of Asian people. Moreover, up to 9.7 percent of Pakeha worked at least 60 hours per week compared with only 8.5 percent of Maori, 5.2 percent of Pacific people, and 7.3 percent of Asian people. While larger proportions of Maori, Pacific people, and Asian people worked full-time, they were less likely to work over-time compared with full-time Pakeha.

By comparison with Pakeha, larger proportions of Maori, Pacific people, and Asian people had lower personal incomes. In 2006, up to 14.2 percent of Maori, 13.8 percent of Pacific people, and 18.4 percent of Asian people had personal incomes of NZ\$5,001 to NZ\$10,000 compared with only 10.7 percent of Pakeha. Smaller proportions of them had high personal incomes. In 2006, up to 28.1 percent of Pakeha had personal incomes of NZ\$50,001 or more, compared with only 14.7 percent of Maori, 10.1 percent of Pacific people, and 16.1 percent of Asian people. There were income gaps between Pakeha and Maori as well as between Pakeha, Pacific people and Asian people.

In 2006, a larger proportion of Maori were involved in unpaid activities compared with Pakeha, Pacific people, and Asian people. Among all unpaid activities, 17.6 percent of Maori were involved in other helping or voluntary work for or through an organisation, group or Marae. However, only 14.3 percent of Pakeha, 12.5 percent of Pacific people, and 7.9 percent of Asian people were involved in the voluntary work. The larger proportion of Maori who work in the voluntary sector may contribute to the earning gaps between Maori and Pakeha. However, this represents a virtue that contributes to their human capital. This implies that having high levels of human capital does not necessarily result in higher earnings.

Likewise, Afro-Americans and Hispanic-Americans in the U.S. have also experienced higher unemployment rates compared with those of White-Americans. In 2007, their unemployment rates were 8.3 and 5.6 percent respectively compared with only 4.1 percent for White-Americans. While the unemployment rates of Hispanic-Americans dropped 0.1 of a percentage point from 2000 to 2007, those of White-Americans and Afro-Americans actually increased 0.6 and 0.7 of a percentage point respectively. Nevertheless, the unemployment rates of Hispanic-Americans were still higher than those of White-Americans.

The U.S. Data

THE CSD-1 Data

	Unemployment rates (%)			Median household income (\$)			
	White	Afro	Hispanic	2004	2005	% Δ	
2000	3.5	7.6	5.7	White	46,658	48,554	4.1%
2001	4.2	8.6	6.6	Afro	30,095	30,858	2.5%
2002	5.1	10.2	7.5	Hispanic	34,271	35,967	4.9%
2003	5.2	10.8	7.7	Median family income (\$)			
2004	4.8	10.4	7.0				
2005	4.4	10.0	6.0	2004	2005	% Δ	
2006	4.0	8.9	5.2	White	56,723	59,317	4.6%
2007	4.1	8.3	5.6	Afro	35,148	35,464	0.9%
% Δ 2000-2007	0.6	0.7	-0.1	Hispanic	35,440	37,867	6.8%

	Labour force participation rates (%)						Persons below poverty Level (%)			
	White		Afro		Hispanic		2004	2005	% Δ	
	M	F	M	F	M	F				
2000	75.5	59.5	69.2	63.1	81.5	57.5	White	10.8	10.6	-0.2
2001	75.1	59.4	68.4	62.8	81.0	57.6	Afro	24.7	24.9	0.2
2002	74.8	59.3	68.4	61.8	80.2	57.6	Hispanic	21.9	21.8	-0.1
2003	74.2	59.2	67.3	61.9	80.1	55.9	Families below poverty Level (%)			
2004	74.1	58.9	66.7	61.5	80.4	56.1				
2005	74.1	58.9	67.3	61.6	80.1	55.3	2004	2005	% Δ	
2006	74.3	59.0	67.0	61.7	80.7	56.1	White	8.4	8	-0.4
2007	74.0	59.0	66.8	61.1	80.5	56.5	Afro	22.8	22.1	-0.7
% Δ 2000-2007	-1.5	-0.5	-2.4	-2.0	-1.0	-1.0	Hispanic	20.5	19.7	-0.8

Sources: U.S. Department of Labor: Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey; U.S. Census Bureau, Statistical Abstract of the United States.

Figure 19: The employment and income data in the U.S.

There has been a decline in labour force participation rates among White-American, Afro-American, and Hispanic-Americans of both sexes. While White-American males and females experienced only 1.5 and 0.5 percentage point declines in their labour force participation rates, the labour force participation rates of Afro-American males and females dropped 2.4 and 2 percentage points respectively. Moreover, the labour force

participation rates of Hispanic-American males and females dropped 1 percentage points each.

Both Afro-Americans and Hispanic-Americans had lower median household and family income than White-Americans. In 2005, Afro-Americans and Hispanic-Americans had a median household income of only US\$30,858 and US\$35,967 respectively compared with US\$48,554 for White-Americans. Moreover, their median family incomes were only US\$35,464 and US\$37,867 compared with US\$59,317 for White-Americans. There were income gaps between White-Americans, Afro-Americans and Hispanic-Americans.

Although there were increases in the median household and family incomes in the U.S. between 2004 and 2005, Afro-Americans experienced the lowest increase, followed by White-Americans and Hispanic-Americans. Hispanic-Americans experienced 4.9 and 6.8 percentage point increases in their median household and family incomes respectively. White-Americans experienced 4.1 and 4.6 percentage point increases in their median household and family incomes. However, the median household and family incomes of Afro-Americans increased only 2.5 and 0.9 percentage points respectively.

Larger proportions of Afro-Americans and Hispanic-Americans lived below the poverty level. In 2005, 24.9 percent of Afro-Americans and 21.8 percent of Hispanic-Americans lived below poverty level compared with only 10.6 of White-Americans. While the percentages of White-Americans and Hispanic-Americans living below poverty level declined 0.2 and 0.1 of a percentage point between 2004 and 2005, that of Afro-Americans actually increased by 0.2 of a percentage point.

Larger proportions of Afro-American and Hispanic-American families also lived below the poverty level in 2005. For instance, 22.1 percent of Afro-American families and 19.7 percent of Hispanic-American families lived below the poverty level in 2005 compared with only 8 percent of White-American families. These data imply that Afro-American and Hispanic-American families might have lacked the financial resources necessary to invest adequately in their children's education.

Similarities: Maori and Pacific people in New Zealand and Afro-Americans and Hispanic-Americans in the U.S. have experienced higher unemployment rates than Pakeha and White-Americans. There were income gaps between Pakeha, and Maori, Pacific people and Asian people in New Zealand. There were also income gaps between White-Americans, and Afro-Americans and Hispanic-Americans in the U.S.

Differences: There was a difference in the unemployment patterns between New Zealand and the U.S. While the unemployment rates among Pakeha, Maori, and Pacific people declined between 1999 and 2007, those of White-Americans, Afro-Americans, and Hispanic-Americans increased between 2000 and 2007. There was also a difference in the labour force participation patterns of both sexes between New Zealand and the U.S. While the labour force participation rates in New Zealand increased between 1999 and 2007, those of White-Americans, Afro-Americans, and Hispanic-Americans declined between 2000 and 2007.

The theoretical perspectives in Chapter 2 may contribute to explanations for the poor labour market outcomes among Maori, Pacific people, and Asian people in New Zealand as well as for Afro-Americans and Hispanic-Americans in the U.S. The following six sections evaluate their contributions.

6.2 *Educational attainment in New Zealand and the U.S.*

According to one human capital theory argument, less well-educated workers are less productive, and earn relatively less than the better educated. In general, Pacific people and especially Maori were less well-educated than Pakeha and Asian people in New Zealand. In 2006, up to 21.8 percent of Maori students and 12.2 percent of Pacific students left school with little or no formal educational attainment compared with only 8.8 percent of Pakeha students. Only 4.5 percent of Asian students left school with little or no formal educational attainment in the same year. However, only 36.7 percent of Maori and 49.6 percent of Pacific students left school with NCEA Level 2 or above in 2006 compared with 65.4 percent of Pakeha and 82.2 percent of Asian students.

Moreover, only 14.8 percent of Maori and 16.8 percent of Pacific students qualified for university after leaving school in 2006 compared with 41.3 percent of Pakeha and 63

percent of Asian students. In 2005, only 9.5 percent of Maori and 10.7 percent of Pacific students had a direct transition to tertiary education at degree level compared with 24.8 percent of Pakeha and 49.4 percent of Asian students.

New Zealand Data

School leavers with little or no formal attainment (%)				School leavers with NCEA Level 2 or above (%)			
	2004	2005	2006		2005	2006	
Pakeha	9.6	9.9	8.8	Pakeha	63	65.4	
Maori	25.4	25	21.8	Maori	32.7	36.7	
Pacific	15.9	15.2	12.2	Pacific	45.3	49.6	
Asian	5.2	4.6	4.5	Asian	79.9	82.2	
School leavers qualified to attend university (%)				Direct transition tertiary education - Degree level (%)			
	2004	2005	2006		2004	2005	
Pakeha	37.1	38.1	41.3	Pakeha	24.5	24.8	
Maori	11.7	11.9	14.8	Maori	9.3	9.5	
Pacific	14	14.5	16.8	Pacific	11.4	10.7	
Asian	56.2	58.5	63	Asian	47	49.4	
Number of students completing tertiary qualifications				Students passing all tertiary courses between 2002-2006 (%)			
	2005	2006	% Δ				
Pakeha	72,257	66,166	-8.4%	Pakeha		50	
Maori	22,721	22,379	-1.5%	Maori		33	
Pacific	6,088	6,185	1.6%	Pacific		33	
Asian	20,083	17,867	-11.0%	Asian		47	
Student loan borrowers (%)				Student allowance recipients (%)			
	2005	2006	% Δ		2005	2006	% Δ
Pakeha	52.6	51.9	-0.7	Pakeha	47.2	46.2	-1.0
Maori	17.2	16.7	-0.5	Maori	11.0	10.6	-0.4
Pacific	7.0	7.0	0.0	Pacific	5.2	5.2	0.0
Asian	13.4	15.0	1.6	Asian	22.4	24.4	2.0
Overseas born Pacific and Asian people 2006 (%)							
	Pacific	Asian					
Speak English	82.9	82					
Don't speak English	17.1	18					

Sources: Education Counts, School leavers with no qualifications; Education Counts, School leavers with NCEA Level 2 or above; Education Counts, School leavers with a university entrance standard; Education Counts, School leavers entering tertiary education; Education Counts, Gaining qualifications; Education Counts, Passing courses; Education Counts; The Student Loan Scheme; Education Counts, Student Allowances; Statistics New Zealand, Asian Ethnic Groups (Selected) and Birthplace by Language Spoken, 2006 Census; Statistics New Zealand, Pacific Ethnic Groups (Selected) and Birthplace by Language Spoken, 2006.

Figure 20: The educational attainment data in New Zealand

At the tertiary level, Pakeha and Asian students also performed better than Maori and Pacific people. For instance, up to 50 percent of Pakeha and 47 percent of Asian students obtained their tertiary education qualification from 2002 to 2006 compared with only 33 percent of Maori and 33 percent of Pacific students. Qualifications

included Certificates, Diplomas, Bachelor degrees, Postgraduate certificates or diplomas, Masterates and Doctorates.

There was a decline in the number of students completing tertiary education between 2005 and 2006 for Pakeha, Maori, and Asian students. However, the number of Pacific students completing courses actually increased in the same period. While the number of Pakeha, Maori, and Asian students declined by 8.4, 1.5, and 11 percent respectively, the number of Pacific students increased by 1.6 percent.

A lack of family financial resources probably accounted for the lower investment in education among young Maori and Pacific people. However, tertiary students did have alternative financial sources to fund their educational investments. In 2006, Asian people accounted for 15 percent of total student loan borrowers compared with only 7 percent of Pacific people. Pakeha were the largest student loan borrowers. They accounted for 51.9 percent followed by Maori who accounted for 16.7 percent. Moreover, Pakeha and Asian people accounted for 46.2 percent and 24.4 percent of student allowance recipients in 2006 respectively, compared with only 10.6 percent of Maori and 5.2 percent Pacific people.

The lower numbers of Maori student loan borrowers and student allowance recipients may help to explain their relatively low level of educational attainment compared with Pakeha. However, Pacific students had less than half the numbers of student loan borrowers and student allowance recipients compared with Maori in 2006. Moreover, only 10.1 percent of them had personal incomes of NZ\$50,001 or more compared with 14.7 percent of Maori in the same year. Surprisingly, they acquired higher levels of education than Maori especially at school level. Their unemployment rates were also lower than those of Maori between 1999 and 2007.

This may indicate that the human capital theory argument focusing on financial constraints has weak explanatory power for Pacific students. Fox (1999) argued that Maori may lack positive parental role models (Fox, 1999). In contrast, Pacific students may possess positive parental role models and receive more encouragement to put a higher value on education. That advantage, together with the relatively lower Pacific unemployment rates, might account for their better levels of educational attainment.

Nevertheless, overseas-born Pacific people and Asian people were disadvantaged in terms of language skills. For instance, only 82.9 and 82 percent of these minorities were able to speak English in 2006. Their lack of language skills limits their ability to work efficiently in New Zealand companies and, consequently, employers may be reluctant to offer them a job. Therefore, lack of ability to speak and understand English fluently would have partially contributed to lower personal incomes among Pacific people and Asian people compared with Pakeha. It might contribute to higher unemployment rates among Pacific people as well.

New Zealand Data

Students completing tertiary qualifications by field of study 2006 (%)				
	<i>Pakeha</i>	<i>Maori</i>	<i>Pacific</i>	<i>Asian</i>
Natural & Physical Sciences	4.3	0.9	1.7	4.9
Information Technology	3.3	5.7	6.5	4.5
Engineering & Related Technologies	6.1	3.9	6.6	4.8
Architecture & Building	2.2	1.4	2.1	1.2
Agriculture, Environmental & Related Studies	10.1	5.1	1.1	0.6
Health	9.9	7.1	7.0	5.1
Education	10.5	6.6	7.1	3.5
Management & Commerce	17.9	18.3	29.2	22.6
Society & Culture	20.2	36.1	21.4	27.2
Creative Arts	6.8	6.2	5.4	3.4
Food, Hospitality & Personal Services	4.1	4.3	5.3	2.2
Mixed Field Programmes	7.5	10.0	9.6	25.5
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

Average income by field of study in 2005 (\$)			
	<i>Male</i>	<i>Female</i>	<i>Average</i>
Natural & Physical Sciences	42,470	35,220	38,845
Information Technology	37,170	28,110	32,640
Engineering & Related Technologies	37,140	31,650	34,395
Architecture & Building	34,490	31,320	32,905
Agriculture, Environmental & Related Studies	32,010	28,090	30,050
Health	60,660	35,530	48,095
Education	42,240	34,790	38,515
Management & Commerce	43,000	31,130	37,065
Society & Culture	33,070	30,390	31,730
Creative Arts	29,100	27,240	28,170
Food, Hospitality & Personal Services	27,530	21,890	24,710
Mixed Field Programmes	37,380	29,740	33,560

Sources: Education Counts, Gaining qualifications; Statistics New Zealand, Debt and Income.

Figure 21: The educational attainment data in New Zealand Cont.

In 2005, the highest-paid field of study was health studies, with an average income of NZ\$48,095, followed by NZ\$38,845 for the natural and physical sciences, and NZ\$38,515 for education studies. However, in 2006, only 7.1 percent of Maori, 7

percent of Pacific, and 5.1 percent of Asian students gained a qualification in health studies compared with 9.9 percent for Pakeha students. Moreover, only 0.9 percent of Maori and 1.7 percent of Pacific students gained a qualification in the natural and physical sciences compared with 4.3 percent for Pakeha students in 2006. However, up to 4.9 percent of Asian students gained this qualification.

In 2006, smaller proportions of Maori, Pacific, and Asian students gained a qualification in education studies compared with Pakeha students. While 10.5 percent of Pakeha students gained this qualification, only 6.6 percent of Maori, 7.1 percent of Pacific, and 3.5 percent of Asian students did so. These were indications that course choices accounted partially for the earnings gaps observed between Pakeha, Maori, Pacific people, and Asian people.

Overall, the differences in educational attainment between Pakeha, Maori and Pacific people partly accounted at least partially for their employments and earnings gaps. These finding support arguments underlying human capital theory as discussed in Chapter 2. However, there was no indication that the differences between the personal incomes of Asian people and Pakeha were related to their levels of educational attainment. Pakeha and Asian people acquired similar levels of education attainment.

As with Maori in New Zealand, Afro-Americans and Hispanic-Americans in the U.S. had lower levels of education compared with White-Americans. Afro-American and Hispanic-American children received relatively less early childhood education than White-American children. White-American children aged 3 to 5 years who had not enrolled in kindergarten were more likely to be involved in home literacy activities compared with Afro-Americans and Hispanic-Americans at the same ages, who also lagged behind White-Americans children in school-readiness skills.

Afro-Americans and Hispanic-Americans were more likely to leave school early without formal educational attainment. In 2005, 6.9 percent of Afro-Americans and 4.7 percent of Hispanic-Americans dropped out of high school compared with only 3.1 percent of White-Americans. While the high school dropout rates declined among White-Americans and Hispanic-Americans, those of Afro-Americans actually increased by 1.7 percentage points from 2004 to 2005. Young people who dropped out of school were more likely to be unemployed and to earn low wages.

The U.S. Data

Children's involvement in home literacy activities aged 3 to 5 years old (%)					Children's school readiness skills aged 3 to 5 years old (%)				
		1993	2005	%Δ			1993	2005	%Δ
White	Read to	85	92	7	White	Recognises all letters	23	29	6
	Told a story	44	53	9		Count to 20 or higher	56	65	9
	Taught letters, words or numbers	58	76	18		Writes name	52	60	8
	Visited a library	42	45	3		Read storybooks	76	75	-1
Afro	Read to	66	78	12	Afro	Has 3 to 4 skills	39	47	8
	Told a story	39	54	15		Recognises all letters	18	24	6
	Taught letters, words or numbers	63	81	18		Count to 20 or higher	53	69	16
	Visited a library	29	44	15		Writes name	45	61	16
Hispanic	Read to	58	72	14	Hispanic	Read storybooks	63	67	4
	Told a story	38	50	12		Has 3 to 4 skills	31	44	13
	Taught letters, words or numbers	54	74	20		Recognises all letters	10	16	6
	Visited a library	26	32	6		Count to 20 or higher	32	42	10
High school dropouts (%)									
		2004	2005	%Δ					
White		4.2	3.1	-1.1					
Afro		5.2	6.9	1.7					
Hispanic		8	4.7	-3.3					
Educational attainment aged 15+ years (%)					Educational attainment aged 25+ years (%)				
		2005	2006	%Δ			2005	2006	%Δ
White	High school graduate or higher	80.4	80.7	0.3	White	High school graduate or more	85.7	86.1	0.4
	Bachelor's degree or higher	24.3	24.6	0.3		College graduate or more	28	28.4	0.4
Afro	High school graduate or higher	74.2	74.3	0.1	Afro	High school graduate or more	81.1	80.7	-0.4
	Bachelor's degree or higher	14.3	15.1	0.8		College graduate or more	17.6	18.5	0.9
Hispanic	High school graduate or higher	55.1	55.5	0.4	Hispanic	High school graduate or more	58.5	59.3	0.8
	Bachelor's degree or higher	9.6	10	0.4		College graduate or more	12	12.4	0.4

Sources: U.S. Census Bureau, *Statistical Abstract of the United States*; U.S. Census Bureau, *Educational Attainment in the United States: 2006*.

Figure 22: The educational attainment data in the U.S.

Moreover, relatively smaller proportions of Afro-American students and especially Hispanic-American students graduated from high school and college, and gained a Bachelor degree compared with White-American students. Of Afro-American students aged 15 years and above, only 74.3 percent graduated from high school, and 15.1 percent gained Bachelor degrees in 2006, compared with 80.7 and 24.6 percent of White-American students. Hispanic-American students had the lowest rates of attainment for these markers. Only 55.5 and 10 percent of them graduated from high school or gained Bachelor degrees in the same year.

Similarly, only 80.7 and 18.5 percent of Afro-American students aged 25 years and above graduated from high school and college compared with 86.1 and 28.4 percent of White-American students, in 2006. Only 59.3 and 12.4 percent of Hispanic-American students aged 25 years and above graduated from high school or college in the same year. These low rates of educational attainment among Afro-Americans and Hispanic-

Americans would have contributed partially to their relatively higher unemployment rates and lower median household and family incomes.

Overall, Afro-Americans and Hispanic Americans were relatively less well-educated than White-Americans, and lagged behind White-Americans in early childhood education prior to kindergarten, at high school level, and at college or university levels. Therefore, differences in educational attainment between them might have contributed to their employment and earnings gaps as well as to their higher poverty rates. These findings support human capital theory argument outlined in Chapter 2.

Similarities: Overall, Maori and Pacific people in New Zealand attained lower levels of education than Pakeha. Afro-Americans and Hispanic-Americans in the U.S. also attained lower levels of education than White-Americans.

6.3 Employment-related training in New Zealand and the U.S.

According to human capital theory, employees may improve their old skills and gradually learn new ones through on-the-job trainings provided by employers. However, they are also able to do so through other training programmes provided by outsiders. In New Zealand, these programmes would include Training Opportunities, Youth Training, Gateway, and Modern Apprenticeships. By comparison with Pakeha, Maori have a relatively smaller population and labour force size. However, a large proportion of Maori participated in these training programmes.

Maori were the largest participants in Training Opportunities and Youth Training programmes. In 2006, they constituted 40.7 percent of all participants in Training Opportunities compared with only 36.3 percent of Pakeha, 11.5 percent of Pacific people, and 6 percent of Asian people. In the same year, Maori constituted 46.3 percent of all participants in Youth Training compared to only 39.9 percent of Pakeha, 11 percent of Pacific people, and 1.2 percent of Asian people. Asian people constituted the smallest proportion of all participants followed by Pacific people.

New Zealand Data

Participants in Training opportunities (%)				Participants in Youth training (%)			
	2005	2006	% Δ		2005	2006	% Δ
Pakeha	35.2	36.3	1.1	Pakeha	39.1	39.9	0.8
Maori	41.2	40.7	-0.5	Maori	48.2	46.3	-1.9
Pacific	11.3	11.5	0.1	Pacific	10.4	11.0	0.6
Asian	6.1	6.0	-0.1	Asian	1.0	1.2	0.2
Total	100%	100%		Total	100%	100%	

Credits attained in Training opportunities				Credits attained in Youth training					
	Credits	2005	2006	% Δ		Credits	2005	2006	% Δ
Pakeha	1 - 20	2,051	2,361	15.1%	Pakeha	1 - 20	1,734	1,793	3.4%
	21 - 40	973	982	0.9%		21 - 40	727	825	13.5%
	41 - 60	527	519	-1.5%		41 - 60	349	403	15.5%
	61+	459	489	6.5%		61+	333	324	-2.7%
	Total	5,830	6,173	5.9%		Total	4,299	4,374	1.7%
Maori	1 - 20	2,402	2,474	3.0%	Maori	1 - 20	2,175	2,075	-4.6%
	21 - 40	1,057	1,131	7.0%		21 - 40	882	946	7.3%
	41 - 60	521	592	13.6%		41 - 60	351	394	12.3%
	61+	465	535	15.1%		61+	298	306	2.7%
	Total	6,803	6,979	2.6%		Total	5,365	5,081	-5.3%
Pacific	1 - 20	648	705	8.8%	Pacific	1 - 20	447	510	14.1%
	21 - 40	267	329	23.2%		21 - 40	170	177	4.1%
	41 - 60	163	160	-1.8%		41 - 60	96	84	-12.5%
	61+	132	131	-0.8%		61+	61	70	14.8%
	Total	1,873	1,938	3.5%		Total	1,134	1,200	5.8%
Asian	1 - 20	406	384	-5.4%	Asian	1 - 20	35	42	20.0%
	21 - 40	161	172	6.8%		21 - 40	11	27	145.5%
	41 - 60	82	90	9.8%		41 - 60	13	11	-15.4%
	61+	66	63	-4.5%		61+	9	10	11.1%
	Total	983	988	0.5%		Total	108	131	21.3%

Gateway training (%)				Modern apprenticeships - all industries 2006 (%)	
	2005	2006	% Δ		
Pakeha	51.5	52.6	1.1	Pakeha	76.9
Maori	31.7	30.9	-0.8	Maori	15.1
Pacific	11.9	10.4	-1.5	Pacific	3.1
Asian	2.1	2.3	0.2	Total	100%
Total	100%	100%			

Sources: Education Counts, Participation in workplace-based learning; Education Counts, Targeted training programmes; Education Counts, Achievement in targeted training programmes.

Figure 23: The employment-related training data in New Zealand

Moreover, Maori attained the highest number of credits from Training Opportunities and Youth Training. In 2006, up to 6,979 of Maori participants in Training Opportunities attained 1 to 20, 21 to 40, 41 to 60, and 60 and above credits compared with only 6,173 of Pakeha, 1,938 of Pacific, and 988 of Asian participants. In the same year, up to 5,081 of Maori participants in Youth Training attained the same categories of credits, compared with only 4,374 of Pakeha, 1,200 of Pacific, and 131 of Asian participants. Fewer Asian participants attained high credits from these training programmes.

Nevertheless, a larger proportion of Pakeha participated in Gateway, and Modern Apprenticeships in 2006 compared with Maori. For instance, Pakeha constituted 52.6 and 76.9 percent of all participants in Gateway and Modern Apprenticeships respectively compared with 30.9 and 15.1 percent of Maori. The Pacific participants constituted only 10.4 and 3.1 percent of all participants in these training programmes. Asian people constituted the smallest proportion of all participants in Gateway. They constituted only 2.3 percent of the total participants in Gateway in 2006.

Asian people constituted the smallest proportion of all participants in the training programmes mentioned above. While less well-educated Maori may perceive the training programmes as opportunities for their future employment and earnings, Asian people probably perceive them as less important than formal education. Consequently, there were a larger proportion of Asian people graduating from high school and university compared with Maori in 2006. Maori who left school early with little or no formal education may participate in the training programmes as an alternative way of enhancing their work-related skills and escaping unemployment.

Human capital theory argues that training improves labour productivity and earnings. Overall, there is no evidence that Maori receive less employment-related training compared with Pakeha. Therefore, the differences in training between Maori and Pakeha may not account for their employment and earnings gaps.

In the U.S., Hispanic-Americans constituted the largest proportion of all employees who received training from their current employers in 1995. Up to 90.8 percent and 96.9 percent of Hispanic-Americans received formal and informal training respectively. While a larger proportion of White-Americans received formal training compared with Afro-Americans, fewer of them received informal training. In 1995, 85.2 percent of White-Americans received formal training compared with only 82.6 percent of Afro-Americans. In contrast, 96.6 percent of Afro-Americans received informal training compared with only 95.5 percent of White-Americans.

White-Americans spent longer hours on employer-provided training compared with Hispanic-Americans and Afro-Americans. While each White-American employee spent 48.5 hours on the employer-provided training, each Hispanic-American worker and each Afro-American worker spent only 32.7 and 27.7 hours respectively, in 1995.

Although a larger proportion of Hispanic-Americans received both formal and informal training compared with White-Americans; they, however, spent relatively fewer hours on the training.

The U.S. Data

Employees received training with current employer 1995 (%)		
	<i>Formal</i>	<i>Informal</i>
White	85.2	95.5
Afro	82.6	96.6
Hispanic	90.8	96.9

Hours of training per employee 1995			
	<i>Formal</i>	<i>Informal</i>	<i>Total</i>
White	13.6	35	48.5
Afro	13.8	13.9	27.7
Hispanic	11	21.7	32.7

Trained employees participating in training activities 1995 (%)			
	<i>White</i>	<i>Afro</i>	<i>Hispanic</i>
Conducted by company personnel	74.8	76	85.9
Conducted by outside trainer	50.4	38.2	41.6
Course paid for taken at insitutions	18.5	7.1	12.2
Attended lectures, conferences, or seminars	41.1	13.6	17.5

Source: U.S. Department of Labor: Bureau of Labor Statistics, BLS Reports on Employer-Provided Formal Training.

Figure 24: The employment-related training data in the U.S.

This interesting ethnicity-specific training pattern might indicate that Hispanic-Americans were probably more likely to receive the training in small firms in which a training quality is relatively lower than that in larger firms. As discussed in Chapter 2, large firms incurred relatively higher net costs of training than smaller ones. Therefore, they might provide longer hours of training per employee. In contrast, small firms tended to provide training during slack hours and when the opportunity costs of the training were low (Bougheas, & Georgellis, 2004; Harhoff, & Kane, 1997; Winkelmann, 1996). If this was the case, Hispanic-Americans might receive a lower quality of training than White-Americans and, therefore, they might have lower future

earnings and poorer employment prospects. Nevertheless, there was no evidence that Hispanic-Americans who received fewer hours of training worked in small firms.

There was a larger proportion of White-Americans participating in various training activities in 1995. For instance, 50.4, 18.5, and 41.1 percent of White-Americans participated in training conducted by outside trainers, received a financial support to study at institutions, and attended lectures, conferences, or seminars respectively. By comparison, relative smaller proportions of Afro-Americans and Hispanic-Americans participated in these training activities. However, up to 76 percent of Afro-Americans and 85.9 of Hispanic-Americans participated in training activities conducted by their company personnel compared with only 74.8 percent of White-Americans in 1995.

Overall, there is no clear evidence to indicate that Afro-Americans and Hispanic-Americans received significantly less employment-related training than White-Americans. To some extent, however, White-Americans received slightly more on-the-job training than Afro-Americans and Hispanic-Americans. They received longer hours of training from employers. This finding supports one human capital theory component as outlined in Chapter 2: that on-the-job training improves employment and earnings prospects.

Similarities: Both Maori in New Zealand and Afro-Americans and Hispanic-Americans in the U.S. received employment-related training.

Differences: The training Maori received was provided by outside training providers rather than by employers. By contrast, the training that Afro-Americans and Hispanic-Americans received was both provided and paid for by their employers.

6.4 *Health outcomes in New Zealand and the U.S.*

Human capital theory, as outlined in Chapter 2, includes a part of an individual's human capital, their health status. Healthy workers are deemed to be more productive and to earn relatively more than less healthy ones. Therefore, adequate investments in healthcare can improve workers' health outcomes and enable them to work more productively. Adequate investment in healthcare also reduces mortality rates and, thus,

would extend the length of working life and lifetime earnings of workers. In turn, low mortality rates should motivate workers to invest more in education and training.

Maori and Pacific people in New Zealand both experienced large increases in mortality rates compared with Pakeha. From 2002 to 2004, Maori and Pacific people's deaths from all causes increased 3.6 and 4.6 percent respectively. However, non-Maori deaths increased only 0.7 percent in the same period. This implies that Pacific people and Maori have relatively shorter lengths of working life, and of lifetime earnings, compared with Pakeha.

New Zealand Data

All causes of death (Persons)				Prevalence of cigarette smoking aged 15+ years (%)			
	2002	2004	% Δ		2004	2005	2006 % Δ 2004-2006
Non-Maori	25,720	25,901	0.7%	Pakeha/others	20	19.3	20.6 0.6
Maori	2,640	2,735	3.6%	Maori	47	50.9	45.2 -1.8
Pacific	930	973	4.6%	Pacific	29	33.1	37.4 8.4

Mental health clients per 100,000 populations 2004		Age-standardised intentional self-harm hospitalisation per 100,000 populations		
	Age-standardised rates		2005	2006 % Δ
Non-Maori	2,083.7	Pakeha/others	145.4	158.5 9.0%
Maori	2,451.8	Maori	192.7	209.6 8.8%
Pacific	1,267.6	Pacific	90.4	104.0 15.0%
		Asian	54.4	53.2 -2.2%

Age-standardised suicide rates per 100,000 populations			
	2004	2005	% Δ
Non-Maori	11.4	11.9	0.5
Maori	20	18.1	-1.9

Sources: New Zealand Health Information Service, Mortality and Demographic Data 2004; New Zealand Health Information Service, Mortality and Demographic Data 2002 and 2003; New Zealand Health Information Service, Mental Health: Service Use in New Zealand 2004; Ministry of Health, Tobacco Trends 2006; Ministry of Social Development, Cigarette Smoking; Ministry of Health, Suicide Facts 2005-2006 data.

Figure 25: The health outcomes data in New Zealand

Moreover, Maori and Pacific people had a higher prevalence of cigarette smoking compared with Pakeha and others. In 2006, the prevalence of cigarette smoking among Maori and Pacific people aged 15 years and above was 45.2 and 37.4 percent respectively. However, that among Pakeha and others was only 20.6 percent. The prevalence of cigarette smoking among Pacific people and Pakeha increased 8.4 percentage points and 0.6 of a percentage point respectively between 2004 and 2006.

However, that among Maori actually decreased by 1.8 percentage points over the same period. Maori and Pacific people who had a higher prevalence of cigarette smoking also had a higher probability of lung cancer and higher mortality rates. These would reduce the lengths of their working lives and lifetime earnings.

Maori were generally less well-educated than Pakeha and were more likely to be unemployed. Past evidence showed that young unemployed people had higher risks of mental illness and of developing suicidal behaviours. For instance, the age-standardised rates of mental health Maori clients were 2,451.8 per 100,000 population in 2004 compared with 2,083.7 of Pakeha and 1,267.6 of Pacific people.

Moreover, the age-standardised rates of intentional self-harm hospitalisation among Maori were 209.6 per 100,000 population in 2006 compared with 158.5 among Pakeha, 104 among Pacific people, and 53.2 among Asian people. Similarly, the age-standardised suicide rate among Maori was also higher than that among non-Maori. For instance, the age-standardised suicide rate among Maori was 18.1 per 100,000 population compared to only 11.9 among non-Maori in 2005. The high rates of mental health, intentional self-harm, and suicide among Maori would hamper their employment prospects.

Overall, Maori and Pacific people were less healthy than Pakeha. Their poorer health outcomes may limit their ability to be efficient and productive in the employment. These findings support a key component of human capital theory, as discussed in Chapter 2. Owing to their poor health outcomes, Maori and Pacific people were more likely than Pakeha to be unemployed, and to earn relatively less.

As with Maori and Pacific people in New Zealand, Afro-Americans and Hispanic-Americans in the U.S. were less healthy than White-Americans. Between 2004 and 2006, only 57.1 percent of Afro-Americans and 57 percent of Hispanic-Americans had excellent or very good health compared to 68.1 percent of White-Americans. While only 8.6 percent of White-Americans had fair or poor health, up to 14.4 percent of Afro-Americans and 13.2 percent of Hispanic-American had this health status.

Although, adequate investments in healthcare can improve health outcomes and labour productivity, this investment is costly. As mentioned earlier, Afro-Americans and

Hispanic-Americans had lower median household and family incomes than White-Americans. Moreover, larger proportions of them lived below poverty level. Therefore, Afro-Americans and Hispanic-Americans are less likely to invest adequately in healthcare. The income gap would result in a health gap between White-Americans, and Afro-Americans and Hispanic-Americans.

The U.S. Data

Health status (%)				
	Health status	2001-2003	2004-2006	% Δ
White	Fair/Poor	8.5	8.6	0.1
	Good	21.9	23.3	1.4
	Excellent/Very good	69.6	68.1	-1.5
Afro	Fair/Poor	14.6	14.4	-0.2
	Good	27.9	28.5	0.6
	Excellent/Very good	57.5	57.1	-0.4
Hispanic	Fair/Poor	13.2	13.2	0
	Good	27.8	29.9	2.1
	Excellent/Very good	59	57	-2

Cancer - 5 years relative survival rates (%)			
	1993-1995	1996-2003	% Δ
White	63.4	67	3.6
Afro	52.8	57	4.2
Limitation of activity due to chronic conditions - aged-adjusted (%)			
	2001-2003	2004-2006	% Δ
White	12	11.6	-0.4
Afro	15.2	14.4	-0.8
Hispanic	10.5	10.3	-0.2

Average annual expenditures per consumer unit on health care 2005 (\$)			
	White	Afro	Hispanic
Health insurance	1,431	841	750
Medical services	726	321	444
Drugs & medical supplies	673	287	327
% of total expenditures	5.9%	4.4%	3.8%

Estimated numbers of persons living with AIDS			
	2004	2005	% Δ
White	142,884	149,658	4.7%
Black	174,363	185,988	6.7%
Hispanic	72,723	78,054	7.3%

Health insurance - uninsured aged 18 to 64(%)			
	2001-2003	2004-2006	% Δ
White	17.4	18.8	1.4
Afro	23.3	23.1	-0.2
Hispanic	41.2	42.9	1.7

Mental health among adults 18+ years - aged-adjusted (%)			
	2001-2003	2004-2006	% Δ
White	3.1	2.9	-0.2
Afro	3.4	3.6	0.2
Hispanic	4.1	3.5	-0.6

Health insurance coverage status 2005 (%)			
	White	Afro	Hispanic
Private health insurance	71	54	44.6
Government health insurance	11	24.8	21.7
No health insurance	14.4	19	32.3

Age-adjusted suicide rates per 100,000			
	2001-2003	2002-2004	% Δ
White	11.8	11.9	0.1
Afro	5.3	5.3	0.0
Hispanic	5.6	5.8	0.2

Mortality by all causes aged 18+ years - aged-adjusted per 100,000			
	2001-2003	2004-2006	% Δ
White	1,073.3	1,093.8	1.9%
Afro	1,392.3	1,422.2	2.1%
Hispanic	807.7	831.2	2.9%

Sources: Centers for Disease Control and Prevention, Health Data for All Ages (HDAA); U.S. Census Bureau, Statistical Abstract of the United States.

Figure 26: The health outcomes data in the U.S.

In 2005, 5.9 percent on average of each White-American's total annual expenditure was spent on healthcare including health insurance, medical services, and drugs and medical supplies. However, each Afro-American and Hispanic-American spent only 4.4 and 3.8 percent respectively. While each White-American spent on average US\$1,431 on health

insurance, US\$726 on medical services, and US\$673 on drugs and medical supplies; each Afro-Americans spent only US\$841, US\$321, and US\$287 respectively. Moreover, each Hispanic-American spent on average only US\$750 on health insurance, US\$444 on medical services, and US\$327 on drugs and medical supplies.

Between 2004 and 2006, up to 23.1 percent of Afro-Americans and 42.9 percent of Hispanic-Americans aged 18 to 64 years had no insurance compared with only 18.8 of White-Americans of the same ages. Overall, a large proportion of Afro-Americans and Hispanic-Americans had no health insurance or were covered by government health insurance only. In 2005, only 14.4 percent of White-Americans had no health insurance compared with 19 percent of Afro-Americans and 32.3 Hispanic-Americans.

Moreover, up to 24.8 percent of Afro-Americans and 21.7 percent of Hispanic-Americans were covered by government health insurance only compared with only 11 percent of White-Americans. However, fewer Afro-Americans and Hispanic-Americans were covered by private insurance. While 71 percent of White-Americans were covered by private health insurance in 2005, only 54 percent of Afro-Americans and 44.6 of Hispanic-Americans were. Overall, Afro-Americans and Hispanic-Americans spent less on healthcare and fewer of them were covered by health insurance compared with White-Americans. These differences contribute in part to their health gap. They may also contribute to higher mortality rates among Afro-Americans and Hispanic-Americans compared with those of White-Americans.

By comparison with White-Americans, Afro-Americans had higher mortality rates. Between 2004 and 2006, Afro-Americans aged 18 and above had mortality rates from all causes of 1,422.2 per 100,000 of populations compared with only 1,093.8 of White-Americans. Although Hispanic-Americans had the lowest mortality rates of just 831.2 per 100,000 of populations, their mortality rates increased 2.9 percent compared with only 1.9 for White-Americans and 2.1 percent for Afro-Americans over the period 2001 to 2006. The high mortality rates among Afro-Americans and the large increase in those of Hispanic-Americans would reduce their incentives to invest in education.

Moreover, Afro-Americans had relatively lower survival rates from cancer within 5 years compared to White-Americans. Between 1996 and 2003, the survival rate for White-Americans was 67 percent compared with only 57 percent for Afro-Americans.

However, the survival rates of Afro-Americans increased 4.2 percentage points compared with only 3.6 percentage points for White-Americans between 1993 and 2003. The lack of spending on healthcare and the relatively low numbers of Afro-Americans covered by health insurance would account partially for their lower survival rates from cancer.

Likewise, the lack of spending on healthcare and the relatively low numbers of Afro-Americans covered by health insurance might also contribute to high rates of chronic conditions among Afro-Americans, which restrict them from performing certain activities. Between 2004 and 2006, 14.4 percent of Afro-Americans were not able to perform their usual activities due to chronic conditions, compared with only 11.6 percent of White-Americans and 10.3 percent of Hispanic-Americans.

Moreover, a large number of Afro-Americans had lived with AIDS. In 2005, up to 185,988 of Afro-Americans lived with AIDS compared with 149,658 White-Americans and 78,054 Hispanic-Americans. Chronic conditions and AIDS reduce Afro-Americans' capacity and ability to perform in employment efficiently and productively. Moreover, Afro-Americans living with AIDS have very little incentive to invest in education owing to their short life expectancy.

By comparison with White-Americans, Afro-Americans and Hispanic-Americans had higher rates of mental illness. Between 2004 and 2006, the mental illness rates among Afro-Americans and Hispanic-Americans aged 18 years and above were 3.6 and 3.5 percent respectively, compared with only 2.9 percent among White-Americans. While the mental illness rates among White-Americans and Hispanic-Americans declined 0.2 and 0.6 percentage points, that of Afro-Americans actually increased 0.2 of a percentage point between 2001 and 2006.

Despite of the lower levels of educational attainment and higher unemployment rates, Afro-Americans and Hispanic-Americans had lower suicide rates than White-Americans. Between 2002 and 2004, the White-Americans' suicide rate was 11.9 per 100,000 of population compared with only 5.3 percent for Afro-Americans and 5.8 percent for Hispanic-Americans, indicating that lack of education and high unemployment rates do not necessarily result in higher suicide rates.

Overall, evidence from New Zealand and the U.S. suggests that Maori, Afro-Americans, and Hispanic-Americans had poorer health outcomes than Pakeha and White-Americans. The evidence from previous sections also shows that Maori, Afro-Americans, and Hispanic-Americans also had higher unemployment rates, lower income, and lower levels of educational attainment. These findings support the component of human capital theory that suggests that lack of investments in healthcare can negatively affect employment prospects and reduces incentives to invest in other type of human capital e.g. education and training.

Similarities: Maori and Pacific people in New Zealand and Afro-Americans and Hispanic-Americans in the U.S. had poorer health outcomes than Pakeha and White-Americans.

Differences: Maori in New Zealand had higher suicide rates than the healthier Pakeha. By contrast, Afro-Americans and Hispanic-Americans in the U.S. had lower suicide rates than the healthier White-Americans.

6.5 Indications of discrimination in New Zealand and the U.S.

According to labour market discrimination theory, discrimination affects the employment prospects and reduces the earnings of equally educated workers negatively. Although Maori and Pacific people attained lower levels of educational attainment than Pakeha, the educational gap did not account for their employment and earning gaps entirely. In 2006, the unemployment rates of Maori and Pacific people aged 15 years and above who had no qualifications were 9.5 and 6.9 percent respectively, compared with the 3.7 percent of Pakeha who had no formal qualifications.

The unemployment rates of Maori and Pacific people who had school qualifications were 7 and 7.4 percent respectively compared with only 3.2 percent of Pakeha. Where Maori and Pacific people had the same levels of qualification as Pakeha, their unemployment rates were relatively higher. Labour market discrimination against Maori and Pacific people may contribute in part to these differences.

At tertiary level, the unemployment rate of Pakeha who acquired the same level of qualifications as Maori and Pacific people was surprisingly high in 2006. While no Maori and Pacific people who attained Bachelor degrees or higher were unemployed, up to 1.4 percent of their Pakeha equivalents were unemployed. There is a possible explanation for this. Maori and Pacific people who had just graduated and acquired Bachelor degrees or higher might have experienced discrimination in the past. Therefore, they might have been more willing to accept a low paid job compared with Pakeha. As a result, Pakeha new graduates might have taken a longer time over their job seeking and remained unemployed longer.

New Zealand Data

Unemployment rate by qualification level aged 15+ years 2006 (%)			
	<i>Pakeha</i>	<i>Maori</i>	<i>Pacific</i>
No qualifications or not specified	3.7	9.5	6.9
School qualification	3.2	7	7.4
Bachelors degree or higher	1.4	0	0

Median hourly income by qualification level aged 15+ years 2006 (\$)			
	<i>Pakeha</i>	<i>Maori</i>	<i>Pacific</i>
No qualifications	14.4	13.5	13.5
Total/All school qualifications	15.0	15.0	13.3
Other tertiary qualification	18.8	16.8	16.0
Bachelors degree or higher	24.2	22.2	25.0

Sources: Education Counts, Employment; Education Counts: Income.

Figure 27: The labour market discrimination data in New Zealand

In general, Maori and Pacific people earned a lower median hourly income than Pakeha in 2006 even if they had the same levels of education. Maori and Pacific people aged 15 years and above who had no qualifications earned NZ\$13.5 each per hour for every NZ\$14.4 that Pakeha without qualifications earned. Pacific people who attained school qualifications only, earned NZ\$13.3 per hour compared with NZ\$15 for Pakeha and Maori with the same levels of qualifications.

Moreover, Maori and Pacific people who attained other tertiary qualifications earned NZ\$16.8 and NZ\$16 per hour respectively compared with Pakeha who earned NZ\$18.8.

While Maori who had Bachelor degrees or higher earned only NZ\$22.2 per hour for every NZ\$24.2 that Pakeha with the same qualification earned, Pacific people, earned up to NZ\$25.

There appears to be some evidence of labour market discrimination against Maori and Pacific people, especially those who attained lower levels of qualification than Bachelor degrees. Pacific people who attained lower levels of qualification than Bachelor degrees may be more subject to wage discrimination compared with Pacific people who attained Bachelor degrees or higher.

Similarly, Afro-Americans and Hispanic-Americans may also suffer from labour market discrimination. In 2006, Afro-Americans aged 18 years and above who graduated from high school and gained Bachelor degrees had median incomes of US\$18,304 and US\$39,947 respectively. The median income of the same-age Hispanic-Americans who graduated from high school and gained Bachelor degrees were US\$20,215 and US\$35,843 respectively.

The U.S. Data

Median income by educational attainment aged 18+ years (\$)					Median earning by educational attainment aged 18+ years (\$)				
		2005	2006	% Δ			2005	2006	% Δ
White	High school graduate	21,098	21,540	2.1%	White	High school graduate	24,780	25,356	2.3%
	Bachelor's degree	39,574	40,319	1.9%		Bachelor's degree	41,407	41,791	0.9%
Afro	High school graduate	18,657	18,304	-1.9%	Afro	High school graduate	21,487	21,092	-1.8%
	Bachelor's degree	36,086	39,947	10.7%		Bachelor's degree	36,962	40,882	10.6%
Hispanic	High school graduate	19,838	20,215	1.9%	Hispanic	High school graduate	21,120	21,374	1.2%
	Bachelor's degree	34,916	35,843	2.7%		Bachelor's degree	35,940	36,611	1.9%

Average monthly income by education (\$)					Average monthly earnings by education of full-time workers (\$)				
		2001	2004	% Δ			2001	2004	% Δ
White	High school graduate	1,775	1,846	4.0%	White	High school graduate	2,600	2,778	6.8%
	Bachelor's degree	3,417	3,927	14.9%		Bachelor's degree	4,384	5,039	14.9%
Afro	High school graduate	1,433	1,487	3.8%	Afro	High school graduate	2,106	2,261	7.4%
	Bachelor's degree	3,110	3,412	9.7%		Bachelor's degree	3,673	3,729	1.5%
Hispanic	High school graduate	1,397	1,415	1.3%	Hispanic	High school graduate	2,052	2,169	5.7%
	Bachelor's degree	2,903	3,131	7.9%		Bachelor's degree	3,549	4,001	12.7%

Source: U.S. Census Bureau, *Population and Household Economic Topics: Education*.

Figure 28: The labour market discrimination data in the U.S.

By comparison, in 2006 White-Americans of the same age who graduated from high school and gained Bachelor degrees had median incomes of US\$21,540 and US\$40,319 respectively. Moreover, Afro-Americans and Hispanic-Americans aged 18 years and above had lower median earnings than White-Americans who attained the same levels of education.

Given the same levels of education, Afro-Americans and Hispanic-Americans of all ages had lower average monthly incomes than did White-Americans in 2006. Moreover, average monthly incomes of full-time Afro-American and Hispanic-American workers in 2006 were also lower than those of White-Americans who attained the same levels of education.

There appears to be some indication of labour market discrimination in the U.S. labour market. Labour market discrimination may contribute to the income and earnings gaps between White-Americans and equally well-educated Afro-Americans and Hispanic-Americans. These findings lend support to the labour market discrimination theory outlined in Chapter 2, which suggests that discrimination contributes to employment and earnings gaps between two different but equally productive groups.

Similarities: Maori and Pacific people in New Zealand and Afro-Americans and Hispanic-Americans in the U.S. appear to be subject to labour market discrimination, which could negatively affect their employment and earnings prospects.

6.6 Labour queues in New Zealand and the U.S.

As Maori and Pacific people attained lower levels of education than Pakeha, they might be less preferable as workers. According to labour queue theory, employers might, therefore, place them at the back of the labour queue. Employers might have perceived that the less well-educated Maori and Pacific people required higher costs of on-the-job training compared with the better educated Pakeha and, therefore, were slower to employ them. As a result, they might remain unemployed or accept a low paid job unwillingly. However, there is little evidence to indicate a relationship between unemployment and the costs of on-the-job training in New Zealand.

Likewise, Afro-Americans and Hispanic-Americans in the U.S. acquired relatively low levels of education than White-Americans. Therefore, employers who ought to minimise the costs of on-the-job training might place them at the back of the labour queue. Moreover, jobs may have their 'race labels'. Discriminatory employers may reserve highly paid jobs for White-Americans workers and lower paid ones for Afro-American and Hispanic-American workers.

As mentioned earlier, there were differences in income and earnings between White-Americans, Afro-Americans and Hispanic-Americans even when they acquired the same levels of education. This might indicate that discriminatory employers placed Afro-Americans and Hispanic-Americans behind equally well-educated White-Americans in the labour queue. As a result, Afro-Americans and Hispanic-Americans who ought to avoid long-term unemployment might accept lower paid jobs unwillingly. This could account for the income and earning gaps between them.

Similarly, Maori Pacific people in New Zealand had higher unemployment rates and lower median hourly income than those of equally well-educated Pakeha. This might also indicate that discriminatory employers in New Zealand placed them behind equally well-educated Pakeha in the labour queue. As a result, they might remain unemployed for a longer time or accept lower paid jobs unwillingly in order to avoid long-term unemployment. Overall, labour queue theory seems to provide a plausible explanation for the employment and earnings gaps between Pakeha, and Maori and Pacific people in New Zealand, and between White-Americans and Afro-Americans and Hispanic-Americans in the U.S.

Similarities: Owing to low levels of educational attainment, and labour market discrimination, Maori and Pacific people in New Zealand and Afro-Americans and Hispanic-Americans in the U.S. may be placed at the back of the labour queue.

6.7 Labour market segmentation in New Zealand and the U.S.

There appears to be occupational segregation in the New Zealand labour market between Pakeha, Maori, Pacific people, and Asian people. The occupations are divided

into three different classes in this study. Class A occupations were rewarded with the highest average hourly income in 2006, followed by classes B and C.

Those who worked in class A occupations were ‘legislators, administrators and managers’, ‘professionals’, and ‘technicians and associate professionals’. Their average hourly incomes in 2006 were NZ\$30.69, NZ\$28.86, and NZ\$22.85 respectively. Those who worked in class B occupations were ‘trade workers’, ‘clerks’, and ‘plant and machine operators and assemblers’. Their average hourly incomes in 2006 were NZ\$19.54, NZ\$18.60, and NZ\$17.79 respectively. Those who worked in class C occupations were ‘agriculture and fishery workers’, ‘elementary occupations’, and ‘service and sales workers’. Their average hourly incomes in 2006 were only NZ\$17.42, NZ\$14.82, and NZ\$14.77 respectively.

New Zealand Data

Occupation by ethnic group aged 15+ years 2006 (%)						Industry by ethnic group aged 15+ years 2006 (%)					
	Occupational classes	Pakeha	Maori	Pacific	Asian		Pakeha	Maori	Pacific	Asian	
Legislators, Administrators & Managers	A	14.9	9.0	6.2	13.9	Finance and Insurance	3.2	1.9	3.0	4.3	
Professionals		15.4	9.5	7.7	16.2	Property and Business Services	13.0	8.8	9.9	13.8	
Technicians & Associate Professionals		12.4	10.3	10.3	11.8	Education	7.4	7.2	4.8	5.1	
Trades Workers	B	9.1	7.6	8.2	5.3	Transport and Storage	3.6	4.5	5.0	3.7	
Clerks		11.0	9.6	12.0	11.9	Communication Services	1.1	1.5	2.0	1.5	
Plant & Machine Operators & Assemblers		6.6	13.9	14.7	6.4	Health and Community Services	8.4	7.6	7.2	7.3	
Agriculture & Fishery Workers	C	7.1	6.3	2.3	2.2	Manufacturing	10.8	13.6	19.2	10.3	
Elementary Occupations		5.4	10.7	13.0	6.0	Construction	7.9	8.8	6.2	3.0	
Service & Sales Workers		13.5	14.7	13.9	18.5	Agriculture, Forestry and Fishing	7.5	7.1	2.3	2.3	
Total employed		100%	100%	100%	100%	Wholesale Trade	5.5	4.1	5.5	5.2	
						Retail Trade	12.0	9.8	8.9	20.0	
						Total employed	100%	100%	100%	100%	

Average hourly income by occupation (\$)					Average hourly income by industry (\$)				
	Occupational classes	2006	2007	%Δ		2006	2007	%Δ	
Legislators, Administrators & Managers	A	27.63	30.69	11.1%	Business and Financial Services	25.01	26.37	5.4%	
Professionals		26.37	28.86	9.4%	Education	21.77	23.56	8.2%	
Technicians & Associate Professionals		22.66	22.85	0.8%	Transport, Storage and Communication	21.10	22.15	5.0%	
Trades Workers	B	18.68	19.54	4.6%	Health and Community Services	19.70	21.18	7.5%	
Clerks		17.86	18.60	4.1%	Manufacturing	19.55	21.14	8.1%	
Plant & Machine Operators & Assemblers		17.03	17.79	4.5%	Construction	18.82	20.09	6.7%	
Agriculture & Fishery Workers	C	16.07	17.42	8.4%	Agriculture, Forestry and Fishing	16.30	18.26	12.0%	
Elementary Occupations		13.42	14.82	10.4%	Wholesale and Retail Trade etc	16.39	17.24	5.2%	
Service & Sales Workers		14.04	14.77	5.2%					

Sources: Statistics New Zealand, Occupation (NZCO99 Major Group) by Ethnic Group, 2001 and 2006 Census; Statistics New Zealand, Earnings from wage and Salary jobs by occupation, sex and broad age groups; Statistics New Zealand, Industry (ANZSIC96 Division) and Ethnic Group by Sex, 2001 and 2006 Census; Statistics New Zealand, Earnings from wage and salary jobs by industry, sex and broad age groups.

Figure 29: The labour market segmentation data in New Zealand

In 2006, larger proportions of total employed Pakeha worked in class A occupations compared with Maori and Pacific people. Up to 14.9, 15.4 and 12.4 percent of total employed Pakeha worked as ‘legislators, administrators and managers’, ‘professionals’, and ‘technicians and associate professionals’ respectively compared with 9, 9.5, and 10.3 percent of total employed Maori. Moreover, only 6.2, 7.7, and 10.3 percent of total employed Pacific people worked in these occupations. Although smaller proportion of ‘legislators, administrators and managers’ and ‘technicians and associate professionals’ were Asian people, a larger proportion of their total employed were professionals in 2006.

New Zealand Data

Number of filled jobs of full-time employees by industry (000s)					
	2005	2006	2007	% Δ 2005-2006	% Δ 2006-2007
Forestry & Mining	9,900	10,800	10,800	9.1%	0.0%
Manufacturing	202,500	199,800	194,100	-1.3%	-2.9%
Electricity, Gas & Water	6,900	6,700	6,600	-2.9%	-1.5%
Construction	83,700	92,100	97,500	10.0%	5.9%
Wholesale Trade	89,000	89,400	92,900	0.4%	3.9%
Retail Trade	116,700	115,800	112,300	-0.8%	-3.0%
Accommodation, Cafes & Restaurants	34,800	36,100	37,000	3.7%	2.5%
Transport, Storage & Communication	73,600	77,900	78,100	5.8%	0.3%
Finance & Insurance	39,700	43,700	42,400	10.1%	-3.0%
Property & Business Services	120,500	136,400	137,900	13.2%	1.1%
Government Admin. & Defence	51,200	52,300	53,400	2.1%	2.1%
Education	94,000	94,000	93,900	0.0%	-0.1%
Health & Community Services	91,500	95,300	95,800	4.2%	0.5%
Cultural & Recreational Services	25,100	26,600	26,800	6.0%	0.8%
Personal & Other Services	40,900	41,200	44,200	0.7%	7.3%

Source: Statistics New Zealand, Filled jobs by ANZSIC Group, Sex and Employment (000s).

Figure 30: The labour market segmentation data in New Zealand cont.

Moreover, there also appears to be an industry segregation in the New Zealand labour market between Pakeha, Maori, Pacific people, and Asian people. While the largest proportion of total employed Pakeha worked in the property and business services industry, the largest proportion of total employed Asian people worked in the retail trade industry. In 2006, 13 percent of total employed Pakeha worked in the property and business services industry; 20 percent of total employed Asian people worked in the

retail trade. In 2007, the average hourly income of the property and business services industry and that of the retail trade were approximately NZ\$26.37 and NZ\$17.24 respectively. This implies that Pakeha were more likely to work in the higher paid industry.

The manufacturing industry employed the largest proportion of employed Maori and Pacific people: 13.6 percent of total employed Maori and 19.2 percent of total employed Pacific people in 2006. Only 10.8 percent of total employed Pakeha and 10.3 percent of total employed Asian people worked in this industry. In 2007, the average hourly income of the manufacturing industry was NZ\$21.14. This implies that Maori and Pacific people were more likely to work in a lower paid industry compared with Pakeha. However, they were more likely to work in a higher paid industry compared with Asian people.

There was a decline in the number of filled jobs for full-time workers in some industries in New Zealand. The number of filled-jobs in the manufacturing industry declined 1.3 percentage points between 2005 and 2006 and 2.9 percentage points between 2006 and 2007. As a high proportion of total employed Maori and Pacific people worked in this industry, the decline affected these groups most. The decline in the number of filled jobs for full-time workers in the manufacturing industry probably resulted in job displacement among Maori and Pacific people. The displaced Maori and Pacific people might have found it hard to gain employment in other industries, as their skills were likely to be specific to the manufacturing industry.

However, there was also a decline in the number of filled jobs for full-time workers in the retail trade, and the finance and insurance industries. The declines in these industries affected Asian people more than Pakeha, Maori, and Pacific people. While 20 percent of total employed Asian people worked in retail trade industry, only 12 percent of total employed Pakeha, 9.8 percent of total employed Maori, and 8.9 percent of total employed Pacific people worked in this industry in 2006.

Moreover, the decline in the finance and insurance industry also affected Asian people more than other ethnic groups. In 2006, there were 4.3 percent of total employed Asian people working in the finance and insurance industry compared with only 3.2 percent of total employed Pakeha, 1.9 percent of total employed Maori, and 3 percent of total

employed Pacific people. The declines in the number of filled jobs for full-time workers in the retail trade, and the finance and insurance industries might result in job displacement, especially among Asian people.

Therefore, there is some evidence indicating that occupational and industry segregation may account directly for earnings differences between Pakeha and Maori. These findings support labour market segmentation theory, in that low levels of education and training, and discrimination, disadvantaged groups like Maori who are thereby segregated into a secondary market in which jobs are rewarded with low wages.

The U.S. Data

Industry by ethnic group 2006 (%)			
	White	Afro	Hispanic
Agriculture, forestry, fishing & hunting	42.6	6.4	47.9
Mining	78.9	5.6	11.9
Utilities	78.7	10.7	7.1
Construction	68.2	7.1	22.3
Manufacturing	54.2	15.7	25.8
Wholesale trade	72.0	10.6	12.4
Retail trade	68.8	13.3	13.3
Transportation & warehousing	68.7	16.8	10.7
Information	70.2	14.5	8.5
Finance & insurance	72.2	13.1	7.6
Real estate & rental & leasing	66.5	15.7	13.0
Professional, scientific & technical services	74.6	9.1	6.3
Management of companies & enterprises	73.1	11.6	8.6
Admin/support waste mgt/remediation services	52.4	22.9	20.6
Educational services	69.8	16.7	8.2
Health care and social assistance	68.3	18.0	7.5
Arts, entertainment & recreation	64.2	13.8	15.5
Accommodation & food services	55.2	15.6	23.7
Other services (except public administration)	62.6	17.4	15.3
Public administration	68.1	18.3	8.3

Source: U.S. Equal Employment Opportunity Commission, *Job Patterns For Minorities And Women In Private Industry (EEO-1)*.

Figure 31: The labour market segmentation data in the U.S.

Similarly, there also appears to be industry segregation between White-Americans, Afro-Americans, and Hispanic-Americans in the U.S. In 2006, the largest proportion of White-Americans worked in the mining industry, and the smallest proportion in the

agriculture, forestry, fishing and hunting industry. While 78.9 percent of total employment in the mining industry was White-Americans, only 42.6 percent of total employment in the agriculture, forestry, fishing and hunting industry was White-Americans.

By contrast, the largest proportions of Afro-Americans and Hispanic-Americans worked in an administration, support waste management and remediation services industry, and the agriculture, forestry, fishing and hunting industry respectively. In 2006, Afro-Americans constituted 22.9 percent of the total employment in the administration, support waste management and remediation services industry. Hispanic-Americans constituted 47.9 percent of the total employment in the agriculture, forestry, fishing and hunting industry.

However, Afro-Americans constituted the smallest proportions of the total employment in the mining industry: 5.6 percent. Hispanic-Americans constituted the smallest proportions of the total employment in the professional, scientific and technical services industry: 6.3 percent.

The U.S. Data

Wage estimates by industry 2006 (\$)			
	Median hourly wage	Mean hourly wage	Mean annual wage
Agriculture, forestry, fishing & hunting	8.59	11.04	22,960
Mining	18.51	22.26	46,310
Utilities	25.6	26.8	55,750
Construction	17.26	20.17	41,950
Manufacturing	15.64	19.38	40,320
Wholesale trade	16.58	21.6	44,930
Retail trade	10.1	13	27,040
Transportation & warehousing	17.54	19.39	40,340
Information	21.08	24.93	51,860
Finance & insurance	18.3	24.59	51,150
Real estate & rental & leasing	13.34	17.32	36,020
Professional, scientific & technical services	23.44	29.13	60,590
Management of companies & enterprises	22.81	28.41	59,080
Admin/support waste mgt/remediation services	11.22	14.56	30,290
Educational services	18.39	20.94	43,560
Health care and social assistance	14.72	19.74	41,050
Arts, entertainment & recreation	10.22	14.07	29,260
Accommodation & food services	8	9.45	19,650
Other services (except public administration)	11.97	15.23	31,680
Public administration	19.47	22.13	46,040

Source: U.S. Department of Labor: Bureau of Labor Statistics, May 2006 National Industry-Specific Occupational Employment and Wage Estimates.

Figure 32: The labour market segmentation data in the U.S. cont.

White-Americans were more likely to work in higher paid industries compared with Afro-Americans and Hispanic-Americans. In 2006, jobs in the mining industry were rewarded with an average hourly wage of US\$22.26 and an average annual wage of US\$46,310 compared with US\$14.56 and US\$30,290 respectively for jobs in the administration, support waste management and remediation services industry. In the same year, jobs in the agriculture, forestry, fishing and hunting industry were rewarded with an average hourly wage of only US\$11.04 and an average annual wage of US\$22,960.

The industry segregation between White-Americans, Afro-Americans, and Hispanic-Americans may contribute to their earnings gap. These findings support the labour market segmentation theory, in that disadvantaged groups like Afro-Americans and Hispanic-Americans are segregated into a secondary market in which their jobs are rewarded with lower wages, owing to their low levels of education and to discrimination.

Similarities: Maori, Pacific people, and Asian people in New Zealand, as well as Afro-Americans and Hispanic-Americans in the U.S. were more likely to work in lower paid industries compared with Pakeha and White-Americans.

In addition to the theoretical perspectives discussed in Chapter 2, age composition, illegal activities, and external migration may also help to explain the poorer labour market outcomes described. The following three sections discuss the contribution of these factors.

6.8 *Age composition in New Zealand and the U.S.*

Maori and Pacific people in New Zealand have relatively younger age structures than Pakeha and Asian people. In 2006, 22 percent of the total Maori population and 22 percent of the total Pacific population aged 10 to 19 years. By comparison, young Pakeha and Asian people at matched ages constituted only 14 and 17 percent of their total populations in the same year. For the 20 to 29 years age group, Asian people constituted up to 22 percent of their total population, followed by 15 percent for Pacific

people, and 14 percent for Maori in 2006. Pakeha aged 20 to 29 years constituted only 11 percent of their total population in the same year.

The age structure data imply that the Maori and Pacific groups have younger labour forces than the Pakeha. Based on the argument in Chapter 3, young workers are likely to acquire less worked-related experience compared with older ones. Therefore, they are more likely to earn relatively less and face a higher likelihood of being unemployed. Thus, age composition may partially explain the employment and earnings gaps between Pakeha, and Maori and Pacific people.

New Zealand Data

Total population by ethnic and age groups 2006

	<i>Pakeha</i>	<i>Maori</i>	<i>Pacific</i>	<i>Asian</i>
Less than 10 Years	347,157	133,197	68,448	48,963
10-19 Years	378,279	125,259	59,589	60,066
20-29 Years	294,675	80,880	39,639	77,853
30-39 Years	356,154	78,057	36,204	57,042
<i>Total population</i>	<i>2,609,589</i>	<i>565,326</i>	<i>265,974</i>	<i>354,549</i>

Total population by ethnic and age groups 2006

	<i>Pakeha</i>	<i>Maori</i>	<i>Pacific</i>	<i>Asian</i>
Less than 10 Years	13	24	26	14
10-19 Years	14	22	22	17
20-29 Years	11	14	15	22
30-39 Years	14	14	14	16
<i>Total population</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

Source: Statistics New Zealand, Ethnic Group by Age, 2006 Census.

Figure 33: The age composition data in New Zealand

Although, Maori had a very similar age composition to that of Pacific people, the unemployment rates of Pacific people were relatively lower. By comparison with Pacific people, Maori attained lower levels of education. Therefore, their educational gap may explain this.

As with Maori and Pacific people in New Zealand, Afro-Americans and Hispanic-Americans populations in the U.S. had younger age structures compared with the

White-Americans population. While the median age of White-Americans was 37.8 years in 2006, the median age of Afro-Americans and Hispanic-Americans was only 31 and 27.4 years respectively. Consequently, Afro-Americans and, in particular, younger Hispanic-Americans were less likely to have work-related experience and low unemployment rates when compared with White-Americans. Thus, age composition may partially explain the employment and earnings gaps between White-Americans, and Afro-Americans and Hispanic-Americans.

The U.S. Data

	Median age	
	2005	2006
White	37.6	37.8
Afro	30.9	31
Hispanic	27.2	27.4

Source: U.S. Census Bureau, Statistical Abstract of the United States.

Figure 34: The age composition data in the U.S.

Although the Hispanic-American population has a younger age structure than the Afro-American population, their unemployment and poverty rates were lower than those of Afro-Americans. Moreover, their median household and family incomes were also higher than those of Afro-Americans. This suggests that age composition has only weak explanatory power for employment and earning gaps between ethnic groups.

Similarities: Maori and Pacific people in New Zealand had younger age structures than Pakeha. Afro-Americans and Hispanic-Americans also had younger age structures than White-Americans. Pacific people had a younger age structure than Maori but their unemployment rates were relatively lower than those of Maori. Likewise, Hispanic-Americans also had a younger age structure than Afro-Americans but their unemployment rates were relatively lower than those of Afro-Americans.

6.9 *Illegal activities in New Zealand and the U.S.*

Evidence discussed in Chapter 3 indicates that people who attain low levels of education and experience unemployment for a long time tend to have a high level of involvement in illegal activities. In 2006, the criminal courts convicted 7.4 percent of Maori and 3.4 percent of Pacific people for violent offences, offences against other persons, property offences, drug offences, offences against justice and good order, and traffic and other offences.

New Zealand Data

Total offences and sentences (%)				
	Pakeha	Maori	Pacific	
2005	1.6	7.0	3.1	
2006	1.7	7.4	3.4	
% Δ	0.1	0.4	0.3	
<i>Total population 2006</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	

Total offences and sentences (Persons)				
	Pakeha	Maori	Pacific	
2005	40,667	39,585	8,265	
2006	43,689	41,997	9,100	
<i>Total population 2006</i>	<i>2,609,589</i>	<i>565,326</i>	<i>265,974</i>	

Source: Statistics New Zealand, Demographic of convicted cases.

Figure 35: The illegal activities data in New Zealand

However, the courts convicted only 1.7 percent of Pakeha for these offences. While the rates of conviction of Pakeha increased only 0.1 of a percentage point between 2005 and 2006, the rates for Maori and Pacific people increased 0.4 of a percentage point and 0.3 of a percentage point respectively. These high conviction rates among Pacific people and especially among Maori might hamper their employment prospects. Evidence from the U.S. discussed in Chapter 4 suggests that criminal records may bar Maori and Pacific people from well paid jobs.

Similarly, young Afro-Americans in the U.S. were also more likely to get involved in illegal activities. In 2006, the juvenile arrest rate for Afro-Americans aged 10 to 17 years was 12,178.5 per 100,000 of population compared with only 5,772.9 for White-

Americans. While the juvenile arrest rate for White-Americans had increased 4.5 percent between 2005 and 2006, for Afro-Americans it increased 6.5 percent.

Moreover, the rates of offences including delinquency, offences against other persons, property offences, drug offences, and offences against public order were also high among Afro-Americans. In 2004, 99.7 per 1,000 of the Afro-American population was involved in delinquency, 30.1 in offences against other persons, 32.9 in property offences, 8.2 in drug offences, and 28.5 in offences against public order. By comparison, 44.6 per 1,000, 9.6 per 1,000, 16.8 per 1,000, 6 per 1,000, and 12.4 per 1,000 of the White-Americans population were involved in these offences in that order. Criminal records may also prevent Afro-Americans from having a well paid job.

The U.S. Data

Juvenile arrest rates aged 10 to 17 per 100,000				
		2005	2006	% Δ
White		5,526.8	5,772.9	4.5%
Afro		11,434.5	12,178.5	6.5%

Delinquency case rates by offense per 1,000 juveniles				
	Offense	2003	2004	% Δ
White	Delinquency	44.7	44.6	-0.2%
	Person	9.6	9.6	0.0%
	Property	17.2	16.8	-2.3%
	Drugs	5.8	6	3.4%
	Public Order	12	12.4	3.3%
Afro	Delinquency	96.7	99.7	3.1%
	Person	29	30.1	3.8%
	Property	33.4	32.9	-1.5%
	Drugs	8	8.2	2.5%
	Public Order	26.3	28.5	8.4%

Source: U.S. Department of Justice: Office of Juvenile Justice and Delinquency Prevention, Statistical Briefing Book.

Figure 36: The illegal activities data in the U.S.

Similarities: Maori and Pacific people in New Zealand and Afro-Americans in the U.S. were more likely to commit offences. Therefore, they were unlikely to generate employment-related skills while in prison.

6.10 External migration in New Zealand

The evidence in Chapter 4 suggested that there was a relationship between immigration and the unemployment rates of less well-educated Afro-Americans in the U.S. An increase in the number of immigrants probably caused the labour supply to exceed the labour demand. A higher labour supply could raise the unemployment rates of Afro-Americans and drive down their wages.

New Zealand Data

Permanent & long-term external migration by occupation 2006 (Persons)				
	Arrivals	Departures	% Δ	
Legislators, Administrators & Managers	2,981	3,013	-1.1%	
Professionals	9,945	7,851	26.7%	
Technicians & Associate Professionals	3,904	3,823	2.1%	
Clerks	2,427	2,244	8.2%	
Service & Sales Workers	4,322	4,410	-2.0%	
Agriculture & Fishery Workers	970	1,128	-14.0%	
Trades Workers	2,855	2,844	0.4%	
Plant & Machine Operators & Assemblers	1,177	1,631	-27.8%	
Elementary Occupations	641	938	-31.7%	

Number of filled jobs of full-time employees by industry (000s)					
	2005	2006	2007	% Δ 2005-2006	% Δ 2006-2007
Forestry & Mining	9,900	10,800	10,800	9.1%	0.0%
Manufacturing	202,500	199,800	194,100	-1.3%	-2.9%
Electricity, Gas & Water	6,900	6,700	6,600	-2.9%	-1.5%
Construction	83,700	92,100	97,500	10.0%	5.9%
Wholesale Trade	89,000	89,400	92,900	0.4%	3.9%
Retail Trade	116,700	115,800	112,300	-0.8%	-3.0%
Accommodation, Cafes & Restaurants	34,800	36,100	37,000	3.7%	2.5%
Transport, Storage & Communication	73,600	77,900	78,100	5.8%	0.3%
Finance & Insurance	39,700	43,700	42,400	10.1%	-3.0%
Property & Business Services	120,500	136,400	137,900	13.2%	1.1%
Government Admin. & Defence	51,200	52,300	53,400	2.1%	2.1%
Education	94,000	94,000	93,900	0.0%	-0.1%
Health & Community Services	91,500	95,300	95,800	4.2%	0.5%
Cultural & Recreational Services	25,100	26,600	26,800	6.0%	0.8%
Personal & Other Services	40,900	41,200	44,200	0.7%	7.3%

Sources: Statistics New Zealand, *PLT Arrivals and Departures by occupation, age and sex*; Statistics New Zealand, *Filled jobs by ANZSIC Group, Sex and Employment (000s)*.

Figure 37: The external migration data in New Zealand

The largest proportion of total employed Maori worked as service and sales workers. In 2006, 14.7 percent of Maori worked in this industry. In the same year, 4,322 permanent and long-term immigrants who were service and sales workers immigrated to New

Zealand. At first glance, it seems that the labour supply of service and sales workers had probably exceeded their labour demand. However, in the same year, up to 4,410 service and sales workers left New Zealand permanently or for a long-term. Therefore, there was a labour shortage for service and sales workers of 2 percent in 2006.

However, up to 9,945 of permanent and long-term immigrants who were professionals immigrated to New Zealand in 2006. By contrast, only 7,851 of professionals left New Zealand permanently or for the long-term in the same year. Therefore, there was an excess labour supply for professionals of 26.7 percent in 2006. If the presence of new immigrants negatively affected the unemployment rates and wages of workers in New Zealand, the arrival of permanent and long-term professional immigrants in 2006 probably hurt Pakeha more than Maori, since a larger proportion of total employed Pakeha were professionals.

Moreover, there was also a surplus of permanent and long-term arrivals of technicians and associated professionals, clerks, and trade workers in 2006. However, these surpluses may not have resulted in a labour supply excess. Between 2006 and 2007, there was an increase in a number of filled jobs for full-time workers in most industries. For instance, there was a 5.9 percent increase in the construction industry, a 3.9 percent increase in the wholesale industry, a 2.5 percent increase in the accommodation, cafes and restaurants industry, a 0.3 percent increase in the transport, storage and communication industry, and a 1.1 percentage point increase in the property and business services industry.

These increases in the numbers of filled jobs imply that there were also increases in the labour demand, which would offset and absorb increases in the labour supply. Therefore, there is no evidence that the presence of new immigrants raised unemployment rates and drove down wages of current workers and Maori in New Zealand. The next section discusses a vicious cycle in the labour market.

6.11 Vicious cycle in the labour market

Owing to the lack of human capital: education, training, and health as well as labour market discrimination, less well-educated workers may be placed at the end of the

labour queue behind better educated ones. They may be also segregated into a secondary market. These factors appear to have contributed to their higher unemployment rates and lower incomes, at least partially, compared with those of better educated workers. In addition, a young population age structure and high offence rates among the less well-educated workers also appears to have contributed partially to their high unemployment rates and low incomes.

With high unemployment rates and low incomes, less well-educated workers were more likely to lack incomes and family financial resources. Therefore, they tended to invest relatively less in their own human capital and that of their children. Owing to this lack of investment, they acquired low levels of education and training, and had poor health outcomes. They may also have been subject to labour market discrimination.

There appears to be a vicious cycle (refer to Figure 38) in both the New Zealand and the U.S. labour markets. This cycle may repeat endlessly unless the employment and earnings gaps between Pakeha and Maori or Pacific people, as well as between White-Americans and Afro-Americans and Hispanic-Americans, are narrowed. There is also a need to narrow their educational and health gaps, and to minimise the negative effects of labour market discrimination against Maori and Pacific people in New Zealand, and Afro-Americans and Hispanic-Americans in the U.S.

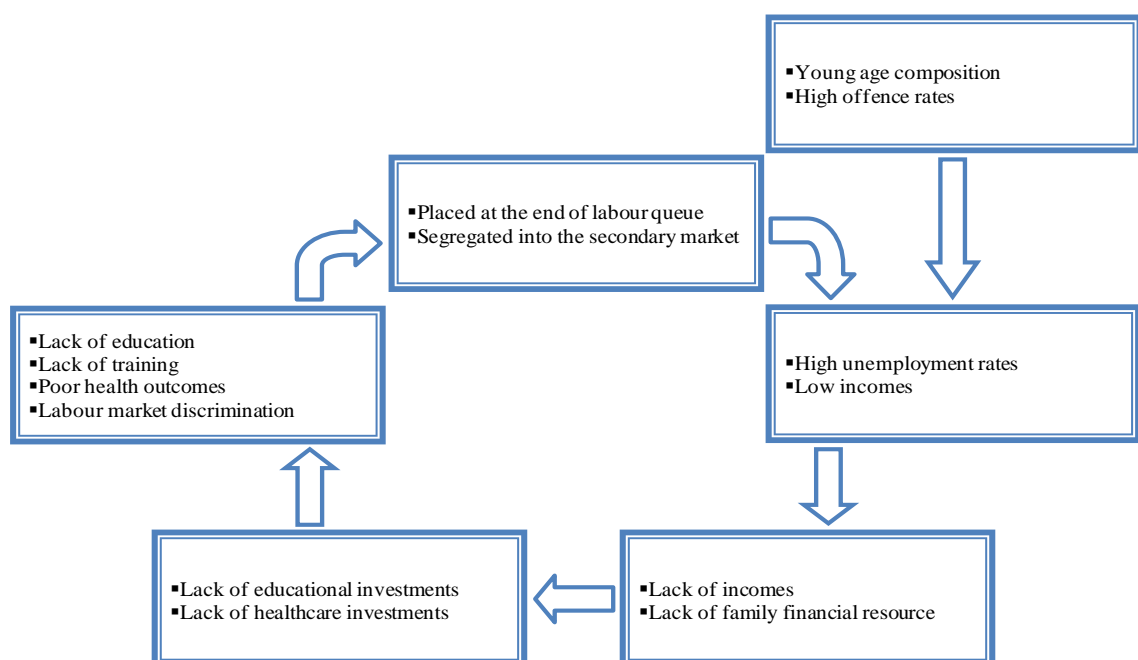


Figure 38: Vicious cycle

This argument aligns with that of Myrdal (1972) regarding cumulative circular causation. Myrdal (1972) argued that a decline in unemployment rates tend to raise earnings, standards of living, education, health outcomes and law adherence, and vice versa. Better educated individuals had higher chances of working in a highly paid job, and those who worked in such a job have better chances of acquiring higher levels of education (Myrdal, 1972). Moreover, if Afro-Americans had poor labour market outcomes, they are more likely to be subject labour market discrimination and, in turn, labour market discrimination might hamper their labour market outcomes (Myrdal, 1972). The next chapter summarises these findings and discusses the implications of this study, identifies its limitations, and indicates directions for future research related to this topic.

Chapter 7: Conclusions and implications

The findings of this study indicate that Maori had similar labour market outcomes as Pacific people in New Zealand, and Afro-Americans and Hispanic-Americans in the U.S. Maori and Pacific people's unemployment rates were higher and their median personal incomes lower than those of Pakeha in New Zealand. Similarly, the unemployment rates of Afro-Americans and Hispanic-Americans were higher, and their median incomes lower than those of White-Americans in the U.S.

However, there were some differences in the unemployment and labour force participation patterns between Maori, and Afro-Americans and Hispanic-Americans. While the Maori unemployment rates declined and their labour force participation rates increased between 1999 and 2007, in contrast, those of Afro-Americans and Hispanic-Americans increased and declined respectively between 2000 and 2007.

Overall, Maori and Pacific people attained lower levels of education and were less healthy than Pakeha. Afro-Americans and Hispanic-Americans in the U.S. also attained lower levels of education and were less healthy than White-Americans. However, Asian people received higher levels of education than Maori.

There were some differences in training among Maori and the other ethnic minorities in New Zealand and the U.S. Maori received more training (Training Opportunities and Youth Training) provided by outsiders, compared with Pakeha. Asian people received the least training, followed by Pacific people. In contrast, Afro-Americans and Hispanic-Americans were more likely to receive training provided and paid for by their employers. However, they received slightly less on-the-job training compared with White-Americans.

These findings support the human capital theory argument that lack of human capital contributes to poor employment and earnings prospects. Less well-educated, and less healthy Maori and Pacific people had higher unemployment rates and lower incomes compared with the better educated, and healthier, Pakeha. Moreover, less well-educated, less well-trained, and less healthy Afro-Americans and Hispanic-Americans also had

higher unemployment rates and lower incomes than the better educated, better trained, and healthier White-Americans.

Maori and Pacific people were subject to labour market discrimination. Given the same levels of qualification, they had relatively higher unemployment rates and received a lower median hourly income than Pakeha. Afro-Americans and Hispanic-Americans were also subject to labour market discrimination. They received relatively lower incomes and earnings than White-Americans of equivalent educational levels. These findings support the labour market discrimination theory argument that discrimination can hamper the employment prospects and reduce the incomes of equally productive and educated workers.

Owing to low levels of educational attainment, and labour market discrimination, employers may place Maori, Pacific people, Afro-Americans, and Hispanic-Americans at the back of the labour queue. As a result, they may remain unemployed for a longer time and accept a low-paid job unwillingly. This contributes to the explanation for their high unemployment rates and low incomes. It also indicates that labour queue theory may contribute to an explanation for their poor labour market outcomes.

Overall, large proportions of Maori, Pacific people, and Asian people had worked in low-paid occupations and industries that experienced large declines in the numbers of filled jobs for full-time employees between 2005 and 2007. Similarly, Afro-Americans and Hispanic-Americans were more likely to work in low paid industries.

These findings support the labour segmentation theory argument that owing to low levels of education and training, and labour market discrimination; disadvantaged groups like Maori, Pacific people, and Asian people in New Zealand, and Afro-Americans and Hispanic-Americans in the U.S., are segregated into a secondary market where jobs are rewarded with comparatively low wages.

Maori and Pacific people had younger age structures than Pakeha and Asian people in New Zealand. Similarly, Afro-American and Hispanic-American populations also had younger age structures compared with the White-American population. Young people are less likely to have high skills and work-related experience. Therefore, they are more likely to be unemployed and earn lower incomes than older people.

Although, Pacific people had a very similar age structure to that of Maori, their unemployment rates were lower than those of Maori. Similarly, Hispanic-Americans also had a younger age structure than Afro-Americans but their unemployment and poverty rates were lower than those of Afro-Americans. Moreover, their incomes were higher than those of Afro-Americans. These findings suggest a weak explanatory power for age composition in deciding poor labour market outcomes.

Maori and Pacific people had higher offence rates than Pakeha. Similarly, Afro-Americans also had higher offence and juvenile arrest rates than White-Americans. Criminal records may hamper the employment and earnings prospects of ethnic minorities.

Overall, there is no evidence indicating that the presence of new immigrants raised unemployment rates or drove down wages of Maori in New Zealand. The number of permanent and long-term arrivals, by occupational group, as offset by the number of permanent and long-term departures in the same occupational groups. Moreover, New Zealand has experienced increases in the number of full-time filled jobs in most industries between 2005 and 2007. These increases would have absorbed the increases in the labour supply from permanent and long-term arrivals.

The conclusions from this study are that components of human capital theory, labour market discrimination theory, labour queue theory, and labour market segmentation theory contribute to explain poor labour market outcomes among Maori and Pacific people in New Zealand, as well as among Afro-Americans and Hispanic-Americans in the U.S. Moreover, labour market segmentation theory also helps to explain the lower personal incomes of Asian people compared with those of Pakeha.

Further conclusions from this study are that there were similarities in labour market outcomes between Maori and Pacific people in New Zealand. There were also some similarities between Maori and Asian people. Although, Maori and Asian people tended to concentrate in different occupations and industries, both were more likely to work in lower paid occupations and industries when compared with Pakeha. They were more likely to work in the industries that experienced declines in the number of filled jobs. There were also similarities in labour market outcomes for Maori in New Zealand, and Afro-Americans and Hispanic-Americans in the U.S.

This study contributes to an understanding of the factors that accounted for the poor labour market outcomes among Maori, Pacific people, and Asian people in New Zealand. It also contributes to an understanding of the similarities in labour market outcomes between Maori in New Zealand and Afro-Americans and Hispanic-Americans in the U.S. The factors that provide explanations for the poor labour market outcomes among Afro-Americans and Hispanic-Americans may be also relevant to the poor labour market outcomes among Maori.

This study serves to inform New Zealand policy makers about these factors, so that effective policies can be implemented in order to improve the employment and earnings prospects of Maori and the other ethnic minorities. The findings of this study could also be used to formulate a statistical model for further research related to this topic.

Moreover, the findings of this study could alert Maori to the importance of human capital investment, especially investment in education and healthcare. The lack of human capital is a very significant factor contributing to employment and earning gaps between Maori and Pakeha.

7.1 Limitations

Owing to data unavailability and time constraints, a number of explanatory factors derived from the New Zealand literature in Chapter 3, and the international literature in Chapter 4, were not discussed in this study. These factors are: sole parenthood, family size, housing location, homelessness, the minimum wage, child support systems, and technological advances. In addition to the theoretical perspectives in Chapter 2, these factors might also have explanatory power for poor labour market outcomes among ethnic minorities.

There were missing data on Asian unemployment rates, labour force participation rates, health outcomes, labour market discrimination, and illegal activities. As a result, this study lacks conclusions regarding the labour market outcomes for Asian people. Therefore, it was not able to draw explicit conclusions on similarities or differences between Maori and Asian people. Illegal activity data for Hispanic-Americans in the U.S. were also unavailable.

The employment-related training data in New Zealand were those for training programmes provided by outsiders rather than for ‘on-the-job’ training provided by employers. The unavailability of ‘on-the-job’ training data might undermine the explanatory power of human capital theory in this study.

Moreover, there was a lack of data on labour market segmentation in both New Zealand and the U.S. As firm-level data were not available, occupational and industry data were used as a proxy to study segregation in the New Zealand and U.S. labour markets.

This study lacks an explicit conclusion regarding the contribution of labour queue theory to explanations for the poor labour market outcomes among Maori, Pacific people, Afro-Americans, and Hispanic-Americans. There is no direct evidence indicating that employers place them at the back of the labour queue.

7.2 Further research

Future research built on from this study should focus on the areas identified as limitations above. It should include the omitted factors: sole parenthood, family size, housing location, homelessness, the minimum wage, child support systems, and technological advances. These factors may contribute to an explanation for the poor labour market outcomes among Maori and the other ethnic minority groups, but are not examined here.

The future research should explore a correlation between a training firm size and duration of training provision, as well as future earnings and employment prospects of trainees in New Zealand. It should also explore a relationship between the other categories of human capital – values and virtues – and the labour market outcomes of Maori in New Zealand as well as Afro-Americans and Hispanic-Americans in the U.S. As data sets used for such purpose are usually categorical in nature, the future research requires the application of ordered logit or probit models.

Walker and Duncan (1967) and McKelvey and Zavoina (1975) developed the ordered logit and probit models respectively (Peel, Goode, & Moutinho, 1998; Kemperman, Borgers, Oppewal, & Timmermans, 2003). Peel et al. (1998) and Quddus, Noland, and

Chin (2002) argued that the models are appropriate for a study where a dependent variable is categorical and ordinal. Therefore, the ordered logit and probit models can be used to study values and virtues of Maori in New Zealand as well as Afro-Americans and Hispanic-Americans in the U.S.

The future research requires an investigation of the effectiveness of New Zealand and the U.S. welfare policies in improving the labour market outcomes of Maori and Afro-Americans as well as Hispanic-Americans. This would be a useful corrective to the sense that the problems in the New Zealand and the U.S. labour markets were individuals' problems.

Moreover, the further research should use a wider range of methodologies. According to Rist (1997), one methodology cannot answer all questions and solve all issues. Therefore, there is a need to combine different research methodologies – quantitative and qualitative – in order to achieve reliability and validity (Shapiro, 1973).

The future research methods should attempt to formulate an appropriately specified model in order to test hypotheses and estimate causal effects of the factors that might contribute to the employment and earning gaps between Maori and Pakeha in New Zealand. However, there are limits to the reliability of statistical regression analysis alone (Rist, 1977). A study based on statistical formulations may reduce people's words to statistical equations or variables and, therefore, cannot fully learn about their personal experience and daily struggles in society. As a result, the study may lack an understanding of the meanings behind its results and conclusions (Taylor, & Bogdan, 1998; Rist, 1977).

Therefore, the future research should also strive to test the validity of the findings in this study, using in-depth interviewing to encounter a representative range of Maori face-to-face in order to understand their perspectives and experiences (Taylor, & Bogdan, 1998) on educational investment, investment in healthcare, the employment consequences of their involvement in illegal activities, and labour market discrimination. From these investigations, effective policies could be implemented and customised to meet the specific needs of Maori.

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Appendix 1: Terms and definitions

Pakeha: “New Zealand European” (Statistics New Zealand, 2006).

Maori: “the indigenous people of New Zealand. A Maori is a person who identifies with or feels they belong to the Maori ethnic group” (Statistics New Zealand, 2008a).

Pacific people: “New Zealanders who identify with or feel they belong to one or more Pacific ethnicities. The seven largest ethnicities among Pacific peoples are Cook Island Maori, Fijian, Niuean, Samoan, Tokolauan, Tongan and Tuvaluan peoples” (Statistics New Zealand, 2008b).

Asian people: “New Zealanders who identify with or feel they belong to one or more Asian ethnicities. The largest ethnicity among Asian people is Chinese, followed by Indian, Korean, Filipino, Japanese, Sri Lankan, Cambodian and Thai” (Statistics New Zealand, 2008c).

White-American: “White people; the human group having light-coloured skin; a member of a light-skinned race, living in the U.S.” (Hawkins, & Allen, 1991, p. 1649).

Afro-American: “African American; Black American; an American citizen of African origin or descent” (Hawkins, & Allen, 1991, p. 23).

Hispanic-American: “a Spanish-speaking person, especially one of Latin-American descent, living in the U.S.” (Hawkins, & Allen, 1991, p. 674).

Angioplasty: “a medical procedure to open narrowed or blocked blood vessels of the heart” (Medline Plus, 2008a).

Cardiac: “of, relating to, or affected with heart disease; an individual with heart disease” (Medline Plus, 2008b).

Cardiovascular: “the heart (cardio) and the blood vessels (vascular)” (Medline Plus, 2007).

Coronary Artery Bypass Graft: “a type of surgery used to improve blood flow to the heart” (National Institutes of Health, 2007).

Ischemic heart disease: “congestive heart failure” (Medline Plus, 2008c).