Department of Labour
TE TARI MAHI

A profile of temporary workers and their employment outcomes

September 2009

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ABSTRACT

This paper describes the characteristics, jobs, employment patterns and employment outcomes of temporary workers, using data collected in Statistics New Zealand's Survey of Working Life 2008.

Approximately one in 10 (9.4 percent) of employees were working in temporary jobs in the March 2008 quarter. 4.9 percent of employees were employed in casual jobs, 2.3 percent in fixed-term jobs, and 0.7 percent in jobs organised by a temporary employment agency. 2.7 percent of employees were working in seasonal jobs.

Temporary workers are a diverse group in terms of their demographic profile, skills, occupational status, earnings, employment conditions, and working time patterns. They include highly skilled and high paid employees in jobs with regular working patterns, as well as low skilled and low paid employees in jobs with irregular or non-standard working patterns.

A fairly small proportion of temporary employees said they were working in a temporary job because they were not able to find a suitable permanent job (13 percent). However a substantially larger group, 40 percent, indicated they would ideally prefer a permanent job. Most of the other 60 percent preferred to work in a temporary job.

The employment outcomes of temporary workers are influenced by the demographic make-up and skills of the workers who hold temporary jobs, and by the occupational profile and skill requirements of temporary jobs. This paper explores the influence of those compositional factors on the hourly wages and training participation rates of temporary employees. After adjusting for differences in characteristics, little evidence is found of a wage penalty for temporary employment relative to permanent employment. However, temporary work is associated with a lower probability of having undertaken workplace training in the last year. This is consistent with the hypothesis that employers provide less training to temporary employees, although it is also possible that the lower training rates of temporary employees can be explained by their lower employment continuity and other unmeasured factors.

CONTENTS

SUMMARY

This paper examines the characteristics and employment outcomes of employees in temporary jobs. It uses information that was collected by Statistics New Zealand in the March 2008 quarter in the Survey of Working Life, a supplementary survey attached to the Household Labour Force Survey.

How common is temporary employment?

Approximately one in ten employees (9.4 percent) were working in temporary jobs in the March 2008 quarter[1]. One in twenty employees (4.9 percent) were employed on a casual basis, 2.3 percent were employed on a fixed-term contract, and 0.7 percent worked for a temporary employment agency. Nearly three percent of all employees (2.7 percent), and 28.4 percent of temporary employees, were working in seasonal jobs.

Who is most likely to work in a temporary job?

Youth employees (those aged 15–24 years) had the highest rate of temporary employment. Prime-aged women (aged 25–54), and employees aged 65 years and over of both genders, were substantially more likely to be working in a temporary job than prime-aged men. The incidence of temporary work was also much higher among part-time than full-time employees.

The incidence patterns differed for different types of temporary work. Youth workers were particularly likely to be working in casual jobs. Tertiary educated employees had a higher rate of employment in fixed-term jobs than those with lower levels of education. Employees with low levels of educational attainment were more likely to be employed in casual or seasonal jobs.

In a multivariate analysis of factors influencing the probability of working in a temporary job, life-cycle stage (being at the start or end of the working age range) and part-time employment were identified as the characteristics most strongly associated with a higher likelihood of temporary employment.

Preferences for and satisfaction with temporary work

Data on reasons for doing temporary work indicate that people work in temporary jobs for a variety of reasons, such as only wanting to work for a finite period of time, preferring the flexibility associated with casual or short-term work arrangements, wanting to earn a pay premium, or not being able to find a suitable permanent job. Thirteen percent said that they held a temporary job because they were not able to find a permanent one, or because they hoped their current temporary job would become permanent. This implies that around 13 percent were working in temporary jobs on an involuntary basis. However, forty percent of temporary employees said they would prefer a permanent job,

1 People who had two or more jobs were classified according to their main job.

indicating that a more substantial group of temporary employees were not entirely happy with their temporary job status.[2]

The job satisfaction ratings of temporary employees were similar to those of permanent employees.

The demographic and educational profile of temporary workers

More than one third of temporary employees were youth workers (ie males or females aged under 25 years). Another one third were women aged between 25 and 54. Prime-aged men made up about 17 percent, and older men and women comprised the remainder, 15 percent. Compared with permanent employees, temporary employees were younger on average and more likely to be female. They were more likely to be living in a minor urban area or rural location, less likely to be married or living with a partner, less likely to have dependent children, and somewhat less likely to hold an educational qualification.

There were substantial differences between the demographic and educational profiles of the workers undertaking the four main types of temporary work (casual, fixed-term, agency and seasonal). Employees in fixed-term jobs tended to be prime-aged, to have relatively high levels of education, and to have skills for professional or technical occupations. Casual employees were younger than fixed-term employees, and included people with a wider range of educational levels. Seasonal workers had the lowest level of educational attainment. Although some clear patterns are evident, there was also considerable diversity within each subgroup of temporary workers.

The job profile of temporary workers

Job profiles vary across the four main types of temporary work. The largest group of casual workers (29 percent of the total) was employed in service and sales occupations. Most other casual employees worked in professional, technical, clerical, primary sector, or elementary occupations. More than half of fixed-term employees were working in professional or technical occupations, and more than two thirds were employed in professional, technical, or clerical jobs. Around one quarter of temporary employment agency workers were employed in clerical jobs, while the rest worked in jobs requiring a wide range of skills from professional to elementary. Seasonal workers were most likely to work as agriculture and fishery workers or plant and machine operators and assemblers.

Job durations

Most temporary workers had worked for their current employer for less than one year (52 percent), but a significant percentage had worked for 1–3 years (23 percent), or for 3 or more years (25 percent). The comparative figures for permanent employees were 21, 25 and 54 percent.

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[2] Fifty-three percent said they preferred working in a temporary or seasonal job, and 7 percent weren't sure or did not respond.

The job tenure question in the survey was designed to measure the duration of the employment relationship rather than the length of the most recent spell of work. Therefore, temporary employees who reported relatively long job durations had not necessarily worked continuously throughout the period.

Hours and working time patterns

Nearly half of temporary employees (48 percent) worked part-time hours, compared with only 20 percent of permanent employees.

Temporary employees were far more likely than permanent employees to say that they would like to work more hours than at present. Nineteen percent did so, compared with 8 percent of permanents, suggesting a higher level of under-employment. However, further analysis indicated that an individual's current hours per week was the primary determinant of whether they wanted to work more hours, not their temporary job status. Employees who currently worked shorter hours were more likely to want additional hours.

Working time data show that casual and seasonal workers were more likely than permanent workers to have worked at non-standard times of the day or week, in the last four weeks. In contrast, fixed term and temporary agency workers were less likely to have worked at non-standard times. Of all the temporary worker groups, seasonal employees had the highest rates of work at non-standard times. Seventy percent had worked at a non-standard time at least once in the past month and 30 percent had done so more than 10 times.

Variability in working hours

To assess the variability in working hours that is associated with temporary work, temporary workers were asked whether their hours of work changed from week to week to suit the employer's needs. More than half of all temporary workers said this was the case. The need to change one's hours to suit the employer's needs was particularly common among casual workers (62 percent).

When asked how much advance notice was given of the shifts that had to be worked, eighteen percent of casual workers, 19 percent of temporary agency workers and 16 percent of seasonal workers said they were usually told of their days and times of work only one day in advance, or less. By implication, these employees do not have much certainty about their working time arrangements, and have to adapt quickly to changes in their schedule.

Pay rates

In the March 2008 quarter the average hourly earnings of temporary employees were 79 percent of the average hourly earnings of permanent employees. The hourly wage differential between temporary and permanent employees of the same gender was substantial for casual employees (both sexes), seasonal employees (both sexes), and temporary agency employees (males only). Women in fixed term jobs earned higher hourly wages on average than women in permanent jobs.

Analysing the factors contributing to these temporary-permanent pay differentials, we find that they can be largely or entirely attributed to differences in measured demographic, educational, and job characteristics. The evidence does not suggest that temporary workers are systematically paid less per hour than similar permanent workers in similar types of jobs.

The total annual earnings of temporary employees are likely to be substantially lower than those of permanent employees, however, because temporary employees tend to work fewer hours per week, and are very likely to work for fewer weeks of the year.

Training

Temporary employees were much less likely than permanent employees to have received structured training at work in the previous year. Eighteen percent of temporary employees, and 32 percent of permanent employees, said they had undertaken some employer-funded study or training in the past twelve months.

Fixed-term employees were the sub-group of temporary employees who were most likely to have received employer-funded training: their participation rate was similar to that of permanent employees. The participation rate was lowest among casual workers (13 percent) and temporary employment agency workers (10 percent).

Further analysis of the training gap between temporary and permanent employees indicates it is partly due to differences in the demographic and educational profiles of temporary and permanent employees. Differences in job characteristics, including part-time status, industry and occupation, also make a contribution. These factors do not fully account for the lower training rate of temporaries: there is a significant 'unexplained' differential. Some portion of the unexplained differential in training rates is likely to be due to temporary workers being employed for fewer weeks of the year on average, reducing their opportunities to receive workplace training.

The finding that there is temporary employment is associated with a significantly lower probability of having undertaken training is consistent with the hypothesis that employers offer less training to temporary workers. However, the analysis was not able to control for differences in weeks of employment during the reference period, or differences in prior employment histories, or individual heterogeneity, factors that are likely to influence training rates and may account for the remaining differences in the training rates of temporary and permanent employees.

Work-related health and safety

The survey included measures of the levels of stress, fatigue and physical pain that were associated with work. Temporary employees were less likely than permanent employees to report that they had often or always found work stressful in the last 12 months (14 percent compared with 18 percent). There was little difference between temporary and permanent workers in the proportions

saying that they were often or always too tired from work to enjoy life outside work, or that they had often or always experienced physical problems or pain because of work. However, seasonal workers stand out as a group with a relatively high level of physical symptoms, with 15 percent of all seasonal workers saying that they had often or always experienced physical problems or pain because of work. The average rate for all employees was 7 percent.

Similar proportions of temporary and permanent employees reported that they had experienced harassment, discrimination or bullying at work during the past year. In addition, there was little difference between temporary and permanent employees in the proportions who felt that health and safety risks at work were managed well, poorly, or neither well nor poorly.

Knowledge of statutory entitlements

Temporary employees were much more likely than permanent employees to be unaware that they had a paid annual leave entitlement, or not know what their entitlement was. Twenty-six percent of temporary workers said they had no leave entitlement, and 15 percent either did not know what leave entitlement they had or believed their leave was less than the statutory minimum. Among temporary workers, casual and temporary agency workers had the lowest level of knowledge.

Temporary workers were also much more likely than permanent workers to not know whether they were covered by an individual or a collective employment agreement.

1. INTRODUCTION

This paper presents a descriptive profile of temporary work in New Zealand, using information that was collected by Statistics New Zealand in the March 2008 quarter in the Survey of Working Life (SoWL), a supplement to the Household Labour Force Survey. The main objective of the paper is to examine the extent to which the employment conditions and outcomes of temporary workers differ from those of permanent workers. A secondary objective is to investigate the factors contributing to disparities between temporary and permanent workers in key employment outcomes, such as pay levels and participation in training.

The SoWL is a new survey which was designed specifically to measure aspects of employment and job conditions that have never been rigorously measured in New Zealand before. It is intended that the survey be repeated every few years, so that trends in work patterns can be monitored. In future, it should be possible to identify whether temporary work or particular types of temporary work are growing, stable or declining, by comparing SoWL results from different years.

The term 'temporary' is used to denote all types of short-term employment that are undertaken by employees, including fixed-term jobs, casual jobs, seasonal jobs, and jobs arranged through temporary employment agencies. Self-employed people who work on short-term contracts are not considered in this paper. A job is temporary if the worker does not have any expectation of continuous long-term employment. A temporary employee is an employee who is working until the completion of a specific project, temporarily replacing another worker, has been hired for a specific time period, is filling a seasonal job, or is employed only when needed by their employer.

Temporary employment has historically played an important role in the New Zealand labour market. Temporary jobs have always been common in industries that experience seasonal fluctuations in activity, such as agriculture, fishing, forestry, food processing, construction, transport, accommodation, cafes and restaurants, and retailing. In recent decades, temporary jobs have often been created in service industries that provide services outside of standard business hours, such as health care, retail trade, hospitality, and recreational services. Employers use casual and temporary work arrangements to better match staffing levels to work flows in situations where work flows and labour demand vary across days, weeks, or the year. Employers also use temporary employees to increase staffing levels for short-duration projects and to fill positions that are temporarily vacant, for reasons such as illness, parental leave, or recruitment difficulties.

The consequences of temporary employment for both the welfare of temporary workers and the performance of the labour market have at times been the focus of concerns. An OECD review published in 2002 noted that the short-term nature of temporary jobs is potentially a source of emotional and financial insecurity for the people who work in them. Because temporary jobs are on average associated with lower pay than permanent jobs, there are concerns that temporary workers face discrimination due to their relatively poorer bargaining power. Another

persistent concern is that temporary jobs reduce the incentives for employers to provide training and the incentives for employees to acquire job-specific skills. A lower level of training could limit employees' opportunities for skill development, career progression and wage growth, and constrain productivity growth within firms. Some OECD governments have responded with regulations that restrict the use of temporary job contracts, or require employers to equalise the pay and fringe benefits of permanent and temporary employees who perform equivalent work (OECD, 2002, p129).

Casual work, an employment arrangement in which workers are typically employed at short notice for relatively short episodes of work to meet the needs of their employer and do not have a guarantee of ongoing work, has been the focus of some specific concerns in New Zealand. Case study research into the use of casual and other non-standard forms of employment contracting in selected industries has identified a number of issues (Innovation and Systems Limited, 2007). These include:

- lack of training opportunities or pathways into permanent work;
- shift work patterns that are potentially disruptive to personal and family wellbeing;
- workers receiving inadequate notice of changes to their shifts or hours;
- a need for employers to clarify whether turning down particular shifts will adversely affect a worker's access to future work;
- limited knowledge of the legal entitlements of casual workers, particularly their holiday entitlements;
- difficulties in accessing sick or bereavement leave.

This paper uses information from the Survey of Working Life to address some of the above issues. It focuses particularly on the following questions:

- How common is temporary employment? How does the prevalence of temporary employment in New Zealand compare with other OECD nations?
- Which types of employees are most likely to be employed in temporary jobs, and how do temporary workers differ from permanent workers?
- Why do people work in temporary jobs? Is temporary work the preferred type of work for persons doing it? Are temporary employees as satisfied with their jobs as permanent employees?
- Are temporary workers more likely than permanent workers to be underemployed – to be working fewer hours than they would prefer?
- How stable and predictable are the working hours and working time patterns of temporary employees?
- Are temporary employees more likely than permanent employees to work at non-standard times of the day and week?
- How do the wages paid to temporary workers compare with those paid to similar workers in permanent jobs?

- Do temporary workers receive less employer-funded training than similar workers in permanent jobs?
- Do temporary workers tend to have limited or poor knowledge of their legal entitlements, such as their paid holiday entitlements?

The SoWL data were gathered from a point-in-time survey, in which respondents were interviewed just once about their current work situation. Work history data was not collected, and therefore the survey results do not reveal whether respondents had worked in temporary jobs for a short period of time only or had done so for many years, moving from one temporary job to another. Because it lacks a longitudinal dimension, the study is not able to answer questions about the longer-term consequences of temporary work, such as the impact of working in temporary jobs on future employment rates and pay, or the frequency of transitions into permanent work.

The paper is structured in the following way. Section 2 provides information on the definition and measurement of temporary work in the SoWL, and some basic information about the survey. Section 3 analyses the frequency and incidence of temporary work in the New Zealand labour market. Section 4 provides a descriptive profile of temporary workers, including their job characteristics, working patterns, and conditions of employment. Information on permanent employees is also provided for comparative purposes. Section 5 reviews the reasons that are given for working in a temporary job, and temporary employees' preferences regarding their type of employment arrangement. Section 6 examines the pay and training rate gaps between temporary and permanent employees in more depth. It discusses the reasons why pay and training disparities may exist and uses regression models to assess their size and significance, taking into account the differences between temporary and permanent workers in characteristics, skills and distribution across jobs. Section 7 offers some concluding comments on the scope for further analysis.

2. DEFINITIONS AND SURVEY METHODS

2.1 Who is a temporary employee?

In theory, a job is temporary if the worker does not have any expectation of continuous long-term employment. A temporary employee has been hired for a specific time period, is working until the completion of a specific project, was hired to temporarily replace another worker, is filling a seasonal job, or is employed only when needed by their employer.

In practice, some individuals in jobs that are technically 'temporary' have relatively long-term relationships with their employer and do have some expectation of continuing work. The most significant group of 'quasi-temporary' employees who are considered in this paper are 'permanent seasonals': employees who said that their main job was permanent but also said that it was only available at certain times of the year, ie was seasonal. Some of the casual and fixed-term employees who were surveyed in SoWL had also been in their jobs for several years and may have had an expectation of continuing (or even long-term) employment, despite indicating that their job was technically not permanent.

2.2 How temporary work was measured in the Survey of Working Life

A temporary employee was defined in the survey as an employee whose job only lasts for a limited time or until the completion of a project. In practice, employees who answered 'no' to a question on whether their main job was permanent, or 'yes' to one of the temporary job questions, were classified as temporary. The initial question that was used to distinguish between temporary and permanent employees was worded as follows:

> 'A permanent employee is guaranteed continuing work. They can stay in their job until they decide to leave or their employer makes them redundant. In your job, are you a permanent employee?'

Employees who said that their job was *not* permanent were asked a series of follow-up questions designed to identify their type of employment relationship, so that they could be classified as a fixed-term worker, a casual worker, a temporary employment agency worker, or having some other type of employment relationship. All employees, including those who said that their job was permanent, were asked whether their job was seasonal. People who initially said that their job was permanent but later indicated that their job was seasonal, were classified as temporary, because seasonal jobs do not provide continuous work throughout the year.[3]

People who gave more than one 'yes' response to the sequence of questions on the nature of their temporary job were classified to one job type using a

[3] It is possible to use alternative definitions of temporary work in customised analysis, for example by restricting the category to people who said that their job was not permanent.

prioritisation scheme. This framework prioritised 'yes' responses in the following order:

1. temporary agency worker
2. casual worker
3. fixed-term worker
4. seasonal worker (employment relationship not further defined)
5. other temporary worker.

The full set of questions that were used to classify temporary employees by their type of employment relationship is given in Appendix 1.

Previous qualitative research in New Zealand has shown that many temporary and casual employees do not have a good understanding of the terms of their employment, and would struggle to define their job as casual, fixed term, or something else.[4] The SoWL did not ask respondents to classify themselves, and instead classified them using their responses to more concrete questions such as 'were you hired to temporarily replace another worker?'. However, this strategy did not eliminate the potential for confusion, and it is likely that there is some measurement error in the survey's estimates of the total number of temporary employees and the numbers in each type of temporary work.

2.3 Survey design and data collection

The Survey of Working Life was administered as a supplement to the Household Labour Force Survey (HLFS), and shared the same sample and collection methods. Copies of the HLFS and SoWL questionnaires can be downloaded from the Statistics NZ website.

All eligible responding individuals in the March 2008 quarter HLFS who were employed in the reference week were asked to participate in the SoWL. Eighty-four percent responded, giving a total sample size of 14,510 individuals. Proxy responses from other members of the same household were not accepted (except under certain limited conditions). Interviews were carried out by phone or in person.

The pattern of response by employed people in the Household Labour Force Survey sample to the SoWL was not strictly random. Non-respondents were disproportionately male, aged under 25 years, members of the Maori and Pacific ethnic groups, people without any educational qualifications, and people who had worked relatively long hours in the reference week. However, the survey weights developed by Statistics New Zealand were designed to increase the representativeness of the final estimates, offsetting to some degree those response biases. The SoWL sample was benchmarked to the HLFS employed

4 WEB Research and Department of Labour (2004) identified this problem in case studies of employment patterns in cleaning, labour hire, fish processing and call centre employment.

sample by detailed age and gender group, Māori /non-Māori ethnicity, month and region.

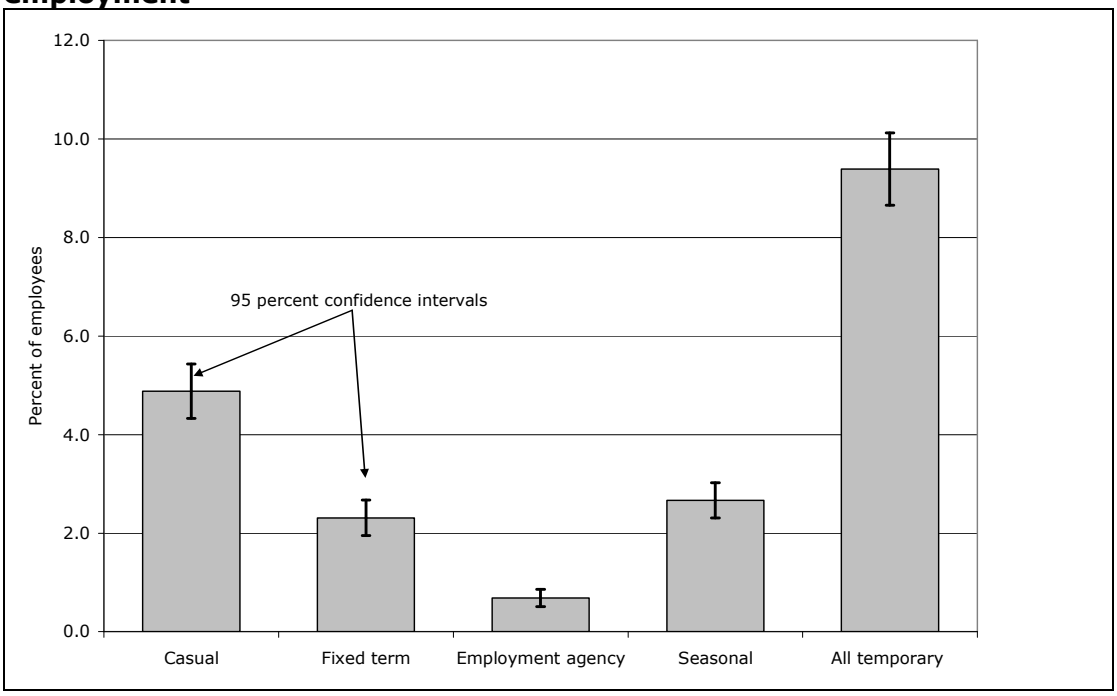
3. THE INCIDENCE OF TEMPORARY WORK

How common is temporary employment in the labour market? How common is it for different labour force groups and in different sectors of the labour market? Section 3.1 describes the frequency of temporary work in the economy as a whole. Section 3.2 describes the incidence patterns that exist for different demographic groups and in different types of firm, industry and occupation. In Section 3.3, regression methods are used to explore the association between particular worker characteristics and the likelihood of being employed in a temporary job.

3.1 How common is temporary work?

Approximately one in ten employees (9.4 percent) were working in temporary jobs in the March 2008 quarter.[5] This overall proportion is close to the proportion that was estimated in a previous non-official survey (Brosnan and Walsh, 1996).[6]

Figure 1: Percent of employees in different types of temporary employment



In 2002 the OECD compiled cross-country data on the percentages of employees who were employed in temporary jobs in 2000.[7] In most OECD countries, the percentage of employees who were in temporary jobs fell in the 5–15 percent range. The SoWL estimate puts New Zealand roughly in the middle of the OECD

5 People who had two or more jobs were classified according to their main job.

6 Brosnan and Walsh (1996) surveyed firms to gather information on their workforce employment arrangements and compiled estimates of the frequency of different types of employment in the New Zealand workforce as a whole. They estimated that 11.5 percent of employees were temporary. Of these, 5.6 percent were casual and 3.1 percent were fixed-term employees. The employment relationship of the other 2.8 percent was not defined.

7 OECD, 2002, pp 127-185.

distribution, assuming that the distribution has not changed substantially since the early years of this decade. The OECD study found that temporary employment had become more common between 1985 and 2000 in some countries, but this was not a general trend.

More than half of those working in temporary jobs in the March 2008 quarter were classified as casual workers (see table 1). Casual workers made up 4.9 percent of all employees. The remaining temporary employees were classified as fixed-term workers (2.3 percent of all employees), temporary employment agency workers (0.7 percent), or seasonal workers not further defined (1.3 percent). A small percentage of jobs were temporary but could not be classified by type (0.2 percent).

All employees were asked a question on whether their job was seasonal, allowing seasonal workers to be separately identified. Just under 3 percent (2.7 percent) of all employees (representing 28 percent of all temporary employees), were identified as being seasonal workers. Note that the seasonal/non-seasonal classification overlaps the 'type of temporary employment relationship' classification. Therefore, seasonal workers can also be classified as casual, fixed term, or temporary employment agency workers, or having an employment relationship that is not further defined.

3.2 Who is most likely to work in a temporary job?

Incidence patterns by worker characteristics

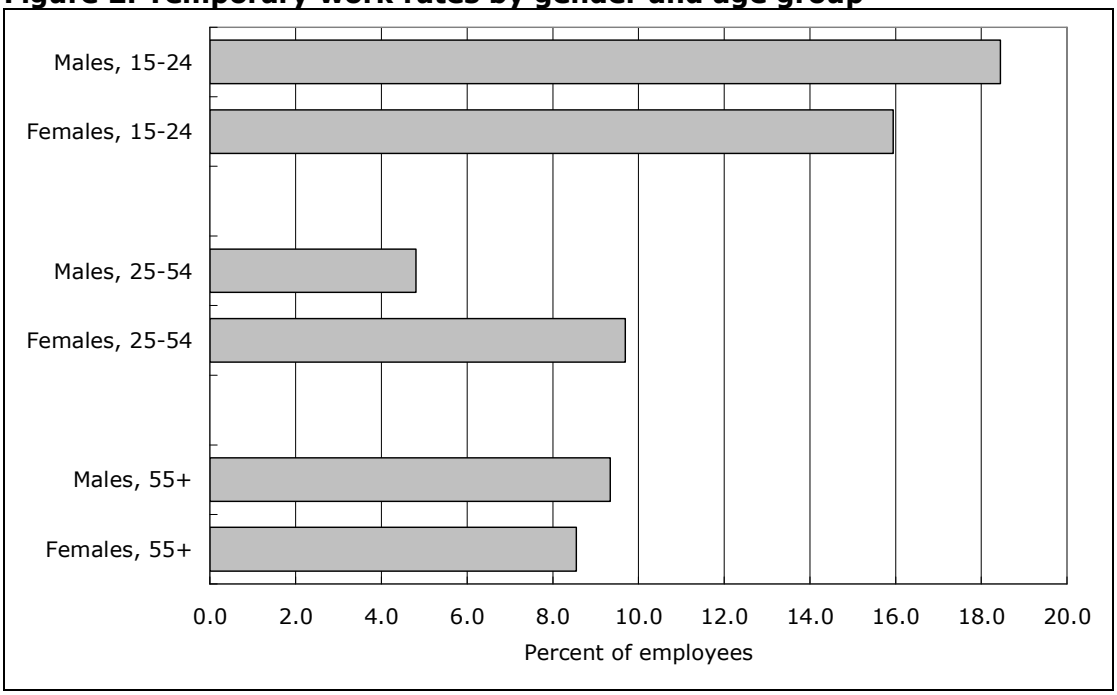
Variations in the incidence of temporary work across population and labour force groups are shown in table 1. The first four columns of the table give results for the temporary workers who were in each type of employment relationship (casual, fixed-term, temporary employment agency, or seasonal not further defined). The fifth column, labelled 'all seasonal', gives results for all employees who indicated that their job was seasonal. The final column gives results for all temporary employees. Each figure in the table represents the percentage of employees in a particular population group (given by the row labels) whose main job was classified to a particular job type (given by the column labels). For instance, the first number in the first column (4.9 percent) represents the number of people who worked in casual jobs as a percentage of all employees. The figure immediately below it (4.3 percent) represents the number of male employees who were employed in casual jobs as a percentage of all male employees (or in other words, the incidence of casual work among male employees).

We begin by focusing on the results shown in the final column of table 1, which give the incidence of all forms of temporary employment for different population groups. Youth employees (aged 15–24 years), and employees aged 65 years and over, were much more likely to be working in temporary jobs in the March 2008 quarter than prime-aged adults. Seventeen percent of both youth employees and employees the '65 plus' age group were in temporary jobs, compared with just 7–8 percent of prime-aged employees. The relatively high incidence rate for young employees suggests that temporary jobs may serve as entry ports into the world of work. The relatively high incidence rate among adults aged 65 years and over

suggests that temporary work may be used to extend employment in the final stages of the working life.

Females were more likely than males to be working in temporary jobs: their overall incidence rate was approximately 11 percent, compared with 8 percent for men. Although temporary work incidence rates are similar for men and women in the 'youth' and '55 plus' age groups, they diverge substantially in the intervening years. Prime-aged female employees were about twice as likely to be in temporary work as prime-aged male employees (10 percent compared with 5 percent). Detailed analysis of the incidence rates by five year age group indicates that the gender gap in the likelihood of working in a temporary job was largest in the 35–39 and 40–44 year age groups, where 3–4 percent of male employees and 10–11 percent of female employees were in temporary jobs.

Figure 2: Temporary work rates by gender and age group



Maori employees were more slightly likely to be working in temporary jobs than workers of other ethnic groups. The incidence of temporary work was also slightly higher than average among recent immigrants (defined as people born outside New Zealand who had lived in New Zealand for less than five years) and people living outside the main urban areas. Women with dependent children were much more likely to be working in temporary jobs than men with dependent children. This was true of both sole mothers and mothers in two-parent families.

The relationship between educational attainment and the incidence of temporary work is not a simple one. The incidence rate is highest among employees with no qualifications, but it is also relatively high among workers with degrees, and is lower for some of the intermediate educational levels. The incidence rates among workers aged 30 years and over by level of qualification are also shown in the table, in order to exclude the majority of students from the analysis. The exclusion of young people does not change the fact that educational level and

incidence rates are not strongly correlated, although workers with no qualifications continue to have the highest rate of temporary work.

There is a striking difference between part-time and full-time employees in temporary work incidence. While 6 percent of full-time employees held temporary jobs, 20 percent of part-time employees did so. The incidence of temporary work was also particularly high among people whose usual weekly hours were in the 0–19 range.

The other columns of table 1 give information on the incidence of the four main types of temporary work. A few clear patterns emerge. First, youth employees and employees aged 65 and over were particularly likely to be employed in casual jobs. The casual work incidence rates for these age groups were over 10 percent, compared with 2–4 percent for the intervening age groups. The incidence of other types of temporary work did not vary as much by age.

Second, more highly educated employees were more likely to be working in a fixed-term job than those with lower levels of education. The incidence of employment in fixed-term jobs was 4.4 percent for those with a degree but only 1.2 percent for those with no qualifications. At the same time, more highly educated employees were less likely to be working in casual or seasonal jobs than employees with no qualifications or only school qualifications.

Incidence patterns by firm characteristics, occupation and industry

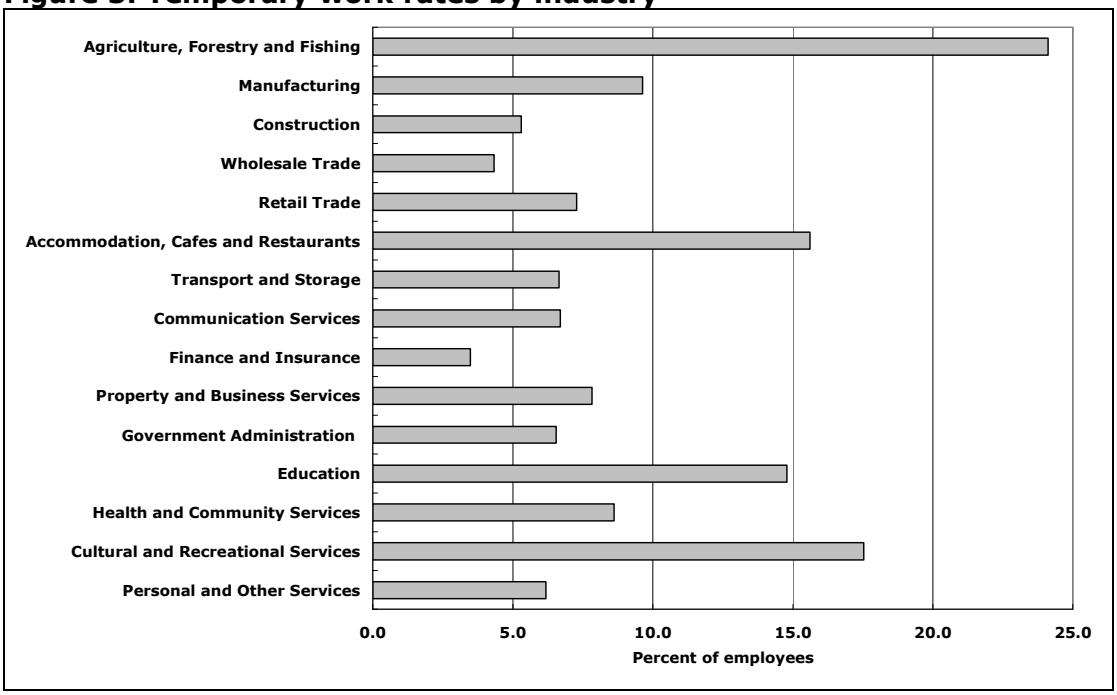
Temporary work incidence rates by occupation, industry, business type and size of firm are summarised in table 2. The 'agriculture and fishery workers' occupational group and the 'elementary' occupational group had the highest proportions of their workers in temporary jobs: 23 percent and 19 percent of the employees in these occupational groups were in temporary arrangements. Data on occupational groups defined at a more detailed two-digit level (not shown in the table) indicate that the incidence of temporary work was also relatively high among teaching professionals (12 percent), other associate professionals (11 percent), personal and protective services workers (13 percent), and stationary machinery operators and assemblers (17 percent).

The 'agriculture and fishery' and the 'elementary' occupational groups had the highest incidence of casual employment. The professional and the 'technicians and associate professional' occupational groups had the highest incidence of fixed-term employment. The incidence of seasonal employment was highest within the 'agriculture and fishery workers' and the 'plant and machine operators and assemblers' occupational groups.

Turning to industries, four major industries had the highest proportions of their workforces in temporary jobs: agriculture, forestry and fishing (24 percent); accommodation, cafes and restaurants (16 percent), education (15 percent) and cultural and recreational services (18 percent). At a more detailed two-digit industry level (not shown in the table), the incidence of temporary work was also particularly high among workers in agriculture (23 percent), services to agriculture (37 percent), food, beverages and tobacco manufacturing (23

percent), motion picture, radio and television services (18 percent), libraries, museums and the arts (18 percent), and sport and recreation (17 percent).

Figure 3: Temporary work rates by industry



Considering the use of different types of temporary work in different industries, the data show that the agriculture, fishing and forestry industry made greatest use of casual and seasonal employment arrangements. The education industry had the highest fraction of its workforce employed on fixed-term arrangements (8 percent of its employees). The property and business services industry employed the highest fraction of workers in temporary agency jobs (with 3 percent of its employees in this job type), probably because temporary employment agencies are classified to this major industry group.

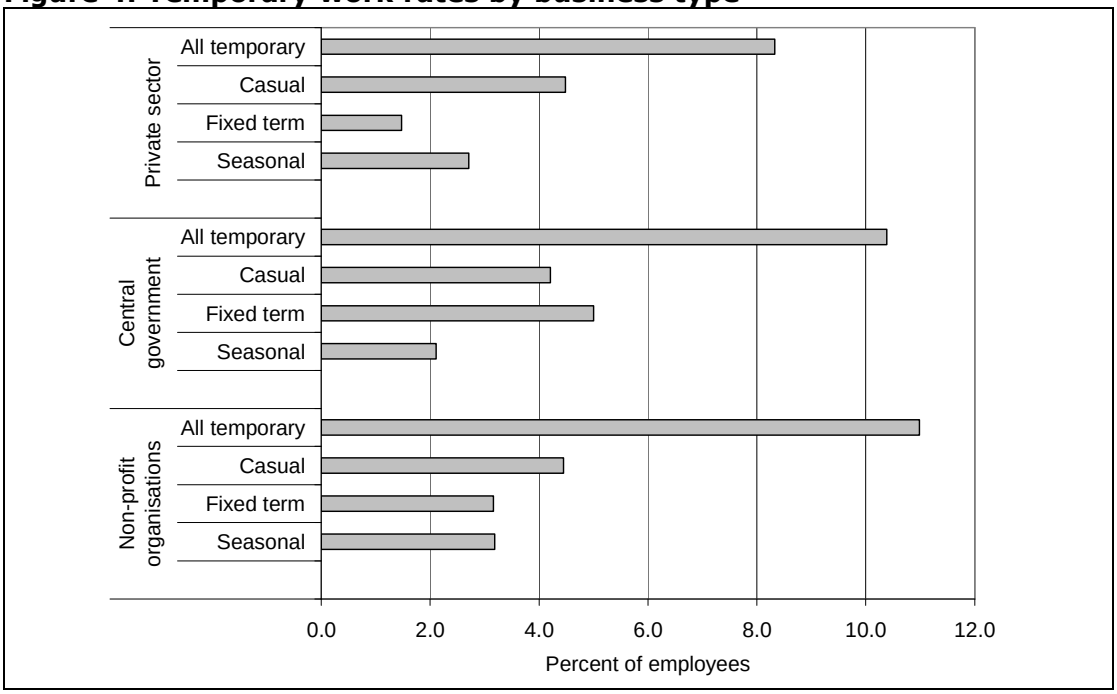
Turning to business type, it appears that the incidence of temporary work was slightly higher within the workforces of government organisations and not-for-profit organisations than in private sector firms. Specifically, the incidence was 8 percent in the private sector, 10 percent in central government, 10 percent in local government and 11 percent in the not-for-profit sector. These results could, however, be distorted by the fact that a relatively high proportion of temporary employees (and a smaller but still substantial proportion of permanent employees) could not be classified to a business type.[8] If most of the 'unclassified' temporary employees were employed by private sector firms, the

[8] This is because their employer could not be matched with an employer on the Business Frame. The 'business type' variable was derived by matching each respondent to an organisation appearing on Statistics New Zealand's Business Frame, using the information they gave on the name and address of their employer. The Business Frame is a register of all businesses and employing organisations that meet certain economic significance criteria. Thirteen percent of temporary employees and 8 percent of permanent employees gave employer details that could not be matched to an entity on the Business Frame.

true incidence of temporary work might be similar across the private and public sectors.

One clear pattern is that central and local government employees were more likely than private sector employees to be employed on fixed-term contracts. This is due to a relatively high level of fixed-term employment arrangements in the education industry, and to a lesser extent in government administration and health services.

Figure 4: Temporary work rates by business type



There were minor variations in the incidence of temporary work across differently sized establishments and enterprises. A greater fraction of employee positions were temporary in the very smallest establishments (those with less than five employees) and in the largest establishments (those with 100 or more employees) than in the intermediate size categories. Temporary employment was also slightly more common in the smallest and largest enterprises than in small and medium sized enterprises. It is possible that these firm size variations are caused by other factors, such as the variations in the use of temporary employment relationships across industries and occupations. It is also possible that these results are somewhat distorted by the relatively high rate of non-classification (13 percent of temporary employees and 8 percent of permanent employees could not be assigned to a firm size group).[9]

3.3 Worker characteristics and the likelihood of working in a temporary job

Although looking at the bivariate results on the incidence of temporary work is interesting, when considering the relationship between any particular characteristic and temporary work, it is important to control for other factors that

[9] See footnote 7.

may also be influencing the probability of holding a temporary job. Binomial logistic regressions were estimated to explore the association between particular individual characteristics and temporary work, while holding all other variables constant. These regression models use information on the personal characteristics of individuals to predict the likelihood of being in a temporary rather than a permanent job. Using the model estimates, the impact (or marginal effect) of a change in one characteristic on the chance of participating, while holding all other measured characteristics constant at their mean values, can be estimated.

The models were estimated for males and females separately. Separate models were estimated for the following outcomes: employed in a casual job; employed in a fixed-term job; and employed in a seasonal job. These were treated as separate outcomes because the two-variable results indicated there are substantial differences in the characteristics of people doing different types of temporary work. In the estimation of each model, the records of temporary workers who were employed in other types of arrangement were dropped from the estimation sample. Therefore, the estimates capture the association between personal characteristics and the likelihood of working in a specific type of temporary work as opposed to permanent work.

The following variables were included as explanatory variables: five-year age group; ethnic group; born overseas and arrived less than 5 years ago; born overseas and arrived 5–10 years ago; born overseas and arrived more than 10 years ago; living in a minor or provincial urban area; living in a rural location; sole parent of a dependent child or children, and joint parent of a dependent child or children; highest qualification; and whether the individual was working on a part-time basis.

The full results of the logistic regressions are set out in tables A.1 to A.3 in Appendix 3. Table 3 summarises the statistically significant effects that were identified, expressed in the form of marginal effects. A marginal effect represents the impact of a change in a particular variable (eg in the case of ethnicity, moving from 'European' to 'Maori') on the probability of a particular outcome (eg, working in a casual job). Each number in the table can be interpreted as the estimated increase or reduction in the probability of working in a casual/fixed term/seasonal job experienced by individuals with the characteristic shown, relative to the probability of the omitted group. The omitted categories are 40–44 year olds in the case of age; European in the case of ethnic group; New Zealand-born in the case of immigrant status; living in a major urban area in the case of geographical location; having no dependent children in the case of parental status; having lower high school qualifications only in the case of educational qualifications; and working on a full-time basis. Note that we present and discuss all marginal effects that were statistically significant at the 90 percent confidence level, or higher. The stars in the table indicate the relative levels of significance.[10]

[10] Because the logit model is non-linear, the marginal effect of each independent variable is not constant, as in a linear regression model. Rather, it varies according to the values of all the other independent variables that are included in the model. In this paper we adopt the conventional

For males, the characteristics that are positively and significantly associated with working in a casual job after other demographic characteristics are held constant at their mean values are: being aged 15–19 or 20–24, living in a minor urban area, having no qualifications, and working on a part-time basis. Part-time employment shows the strongest association: relative to full-time employed men, men who were part-time employed were 12.6 percentage points more likely to be working in a casual job. Relative to men aged 40-44, men in the 15-19 years age group or in the 20–24 years age group were 4.9 percentage points more likely to be working in a casual job. Most of the other effects found in the regression for males in casual work are relatively small in magnitude. Recent immigrants were slightly less likely to be employed in a casual job than the New Zealand born, and men without dependent children were less likely to be employed in a casual job than men without dependent children.

For women, the characteristics that are positively and significantly associated with working in a casual job after other demographic characteristics are held constant are being aged 15–19, and working on a part-time basis. Part-time employed women were 7.8 percentage points more likely to be working in a casual job than their full-time employed counterparts, and teenage women were 4.8 percentage points more likely to be working in a casual job than women aged 40–44.

Turning to fixed term employment, men with degree qualifications were significantly more likely to be employed in a fixed-term job than men in the omitted group (those with lower high school qualifications only). Men of Maori/European ethnicity were slightly *less* likely to be working in a fixed-term job than other ethnic groups. Both these marginal effects are quite small, however. The fixed-term employment regression for women also shows that women with degrees were more likely to be working in a fixed-term job: the marginal effect is 7.4 percentage points. Overall, relatively few personal characteristics appear to have a significant influence on the probability of an individual being in a fixed-term job rather than a permanent job, implying that fixed-term and permanent employees are fairly similar on most dimensions, or at least the dimensions considered here.

Turning to seasonal employment, men aged 15–19 and men who were living in a minor urban area were more likely to be working in a seasonal job than older men and those living in the main urban centres. Established immigrants and men with degrees were *less* likely to be working in a seasonal job than New Zealanders and other educational attainment groups.

Maori women, Pacific women, women living in minor or provincial urban areas and women living in rural locations, and part-time employed women, had an increased likelihood of working in a seasonal job. Women aged 30–34, 35–39, 55–59 and 60–64 had a slightly reduced likelihood of working in a seasonal job than women aged 40–44, and Asian women and established immigrants were

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approach to reporting the marginal effects of each independent variable by evaluating the probabilities at the sample averages for all other independent variables.

slightly lower likelihood of working in a seasonal job than the omitted European and New Zealand-born group.

Summarising these patterns, we find strong positive relationships between working on a part-time basis and working in a casual job, and between being a teenager and working in a casual job. Degree qualifications are a significant predictor of working in a fixed-term job. Living in a minor urban centre or a rural area is associated with a higher likelihood of seasonal employment for both men and women. Teenage males have a higher likelihood of being employed in seasonal jobs, as do women of Maori or Pacific ethnicity.

3.4 Summary

Approximately one in ten employees (9.4 percent) were working in temporary jobs in the March 2008 quarter. One in twenty employees (4.9 percent) were employed on a casual basis, 2.3 percent were employed on a fixed-term contract, and 0.7 percent worked for a temporary employment agency. Nearly three percent of all employees (2.7 percent) were working in seasonal jobs.

Youth employees had the highest rate of temporary employment. Women aged between 25 and 54, and employees aged 65 years and over of both genders, were also substantially more likely to be working in a temporary job than prime-aged men. The incidence of temporary work was also much higher among part-time than full-time employees.

The incidence patterns differed across different types of temporary work. Youth workers were particularly likely to be working in casual jobs. Tertiary educated employees had a higher rate of employment in fixed-term jobs than those with lower levels of education. Employees with low levels of educational attainment were more likely to be employed in casual or seasonal jobs.

In a multivariate analysis of factors influencing the probability of working in a temporary job, life-cycle stage (being at the start or end of the working age range) and part-time employment were identified as the characteristics most strongly associated with a higher likelihood of temporary employment.

4. A PROFILE OF TEMPORARY WORKERS AND THEIR EMPLOYMENT OUTCOMES

This section of the paper presents a descriptive profile of temporary workers, comparing their characteristics, employment conditions and outcomes with those of permanent employees. Section 4.1 summarises temporary workers' demographic and educational characteristics. Section 4.2 describes their job characteristics. Section 4.3 describes the employment conditions and working patterns of temporary employees, including their job tenure, earnings, working time patterns, training, annual leave entitlements, job flexibility, rates of union membership, type of employment agreement, and reported rates of work-related stress, pain, fatigue, and discrimination, harassment or bullying.

The purpose of this section of the paper is to provide an accurate description of temporary workers as a labour force group, to describe their employment patterns and outcomes, and to identify whether their employment outcomes are significantly different from those of permanent workers. Differences in employment outcomes may be important from a welfare perspective.

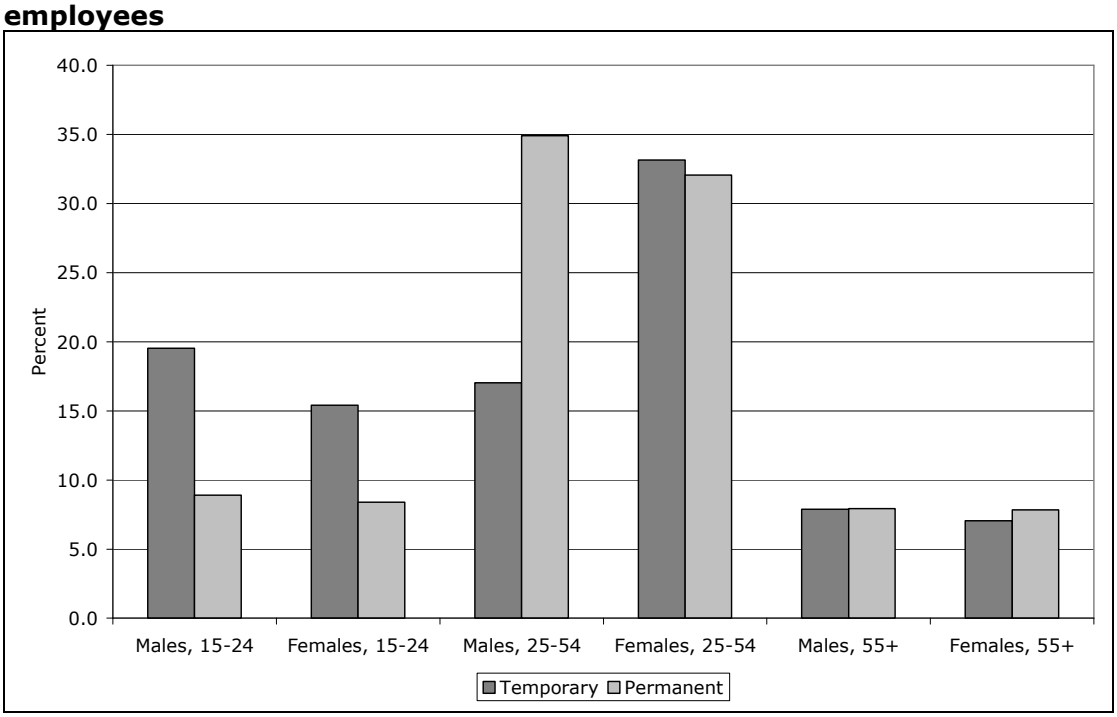
The differences in employment outcomes that are identified through the temporary-permanent comparisons could be due to the nature of the employment relationship or could be caused by a range of other factors, such as the younger average age of temporary workers, the occupational characteristics of temporary jobs, or the part-time hours typical of many temporary jobs, to note just a few possibilities. In this section of the paper, we do not rigorously try to identify whether the patterns and differences described are caused by the nature of the employment relationship or by other factors. However, where there are obvious demographic explanations (such as younger age of temporary employees), these are briefly explored. In Section 6, the factors that influence the relative hourly earnings and relative training rates of temporary employees are analysed in a more systematic manner.

4.1 Demographic and educational characteristics

Information on the demographic and educational profiles of temporary and permanent employees is presented in table 4. Slightly over half of all temporary employees were female. More than one third were youth workers (ie males or females aged under 25 years), and another one third were women aged between 25 and 54. Prime-aged men made up about 17 percent, and older men and women comprised the remainder, around 15 percent.

Compared with permanent employees, temporary employees were significantly younger (by 4 years on average), more likely to be living in a minor urban area or rural location, less likely to be married or living with a partner, less likely to have dependent children, and less likely to hold a qualification. Some of these differences were relatively small. There were very minor differences between temporary and permanent employees in ethnic group composition and the likelihood of having being born overseas.

Figure 5: Age and gender profiles of temporary and permanent employees



Despite these differences in demographic composition, the majority of temporary employees, like the majority of permanent employees, were aged between 25 and 54, European, born in New Zealand, and living in urban areas. Temporary workers were spread across all levels of educational attainment, and their educational distribution was not dramatically different from that of permanent employees.

There are substantial variations in the demographic profiles of the different types of temporary worker. Temporary agency, fixed-term and casual workers were more likely to be female than male (70 percent, 62 percent, and 55 percent respectively were female), while seasonal workers were more likely to be male. On average, females working in temporary jobs were nearly three years older than males in temporary jobs, but the gender age gap was larger among fixed-term employees. Fixed-term employees also had the highest educational levels, with 71 percent holding a post-school qualification, and 40 percent having a degree. Seasonal workers had the lowest educational levels. Thirty-five percent of all seasonal workers held a post-school qualification, and 10 percent had a degree.

4.2 Job characteristics

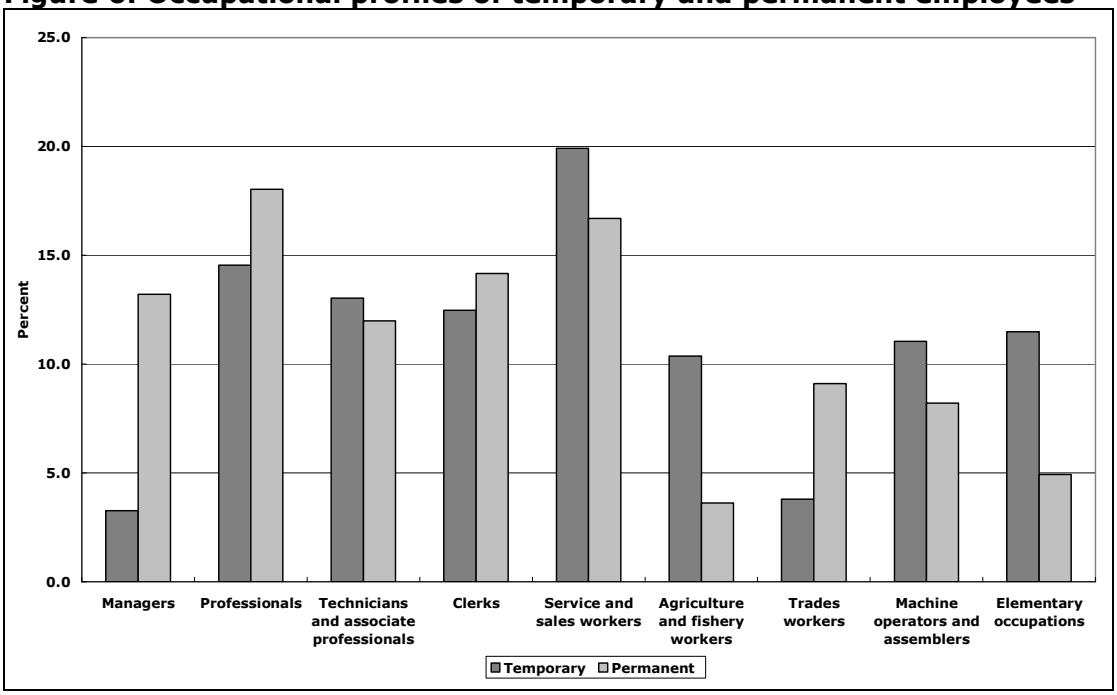
Information on the basic job characteristics of temporary and permanent employees, including their occupation, industry, and employer characteristics, is presented in table 5.

Occupation and industry

In the March 2008 quarter, temporary workers were located in all of the main occupational and industry groups. Compared with permanent employees,

however, they were more likely to be working as service and sales workers, agriculture and fishery workers, plant and machine operators and assemblers, or in elementary occupations. They were less likely to be employed in management or trades occupations. Only 3 percent of temporary workers were classified as managers, compared with 13 percent of permanent employees.

Figure 6: Occupational profiles of temporary and permanent employees



Turning to the specific types of temporary work, we find that casual workers were in jobs featuring a variety of different skill levels. The largest group of casual workers was employed in service and sales occupations (29 percent of the total). Most other casual employees worked in professional; technical and associate professional; clerical; primary sector; or elementary occupations.

More than half of all fixed term employees were working in professional or technical and associate professional occupations. Around 70 percent were working in professional, technical and associate professional, or clerical jobs (that is, in one of these three broad occupational groups).

About one quarter of temporary agency workers were employed in clerical jobs (26 percent). The remainder mostly worked in professional and technical, service and sales, and elementary occupations.

Seasonal workers were most likely to work as agriculture and fishery workers, or as plant and machine operators and assemblers. These two broad occupational groups account for more than half of all seasonal workers. The rest were employed in technical, sales and service, or elementary occupations.

The industry statistics show that temporary workers were more likely than permanent workers to be working in the agriculture, forestry and fishing industry;

in accommodation, cafes and restaurants; in education; and in health and community services.

Business type and size of firm

The available data on business type show that 59 percent of temporary employees were employed by private sector firms, which is substantially lower than the share of permanent employees (68 percent). Temporary employees were more likely to work for central government organisations or non-profit organisations. However, if we assume that the 13 percent of temporary employees and 8 percent of permanent employees whose employer's business type was unclassified were mainly working for private-sector businesses, the overall difference between temporary and permanent workers in the proportions working in the private sector is likely to be smaller.[11]

As discussed in section 3, a significantly-sized group of employees with fixed-term employment arrangements work for central government, particularly in the education industry.

Temporary employees were slightly more likely than permanent workers to be employed by very small firms (those with less than 5 employees) or large firms (those with 100 or more employees).

4.3 Employment conditions and outcomes

Information on the job tenure, hourly earnings and weekly earnings of temporary and permanent employees is presented in tables 5 and 6. Information on their weekly hours and working time patterns in presented in tables 7–9. Information on their job conditions and job flexibility is set out in table 10. Table 11 gives measures of union membership rates, and the percentages who were employed on individual and collective employment agreements. Table 12 presents information on the health and safety outcomes that were measured in SoWL.

Job tenure

The SoWL asked respondents how long they had worked for their employer, in their current main job. Many temporary workers work on an intermittent basis, and the intention of the question was to measure the duration of the employment relationship rather than the duration of the last episode of work. Respondents who had worked for two or more spells for their employer, with breaks between spells, are likely to have counted their job tenure from the beginning of the first spell.[12]

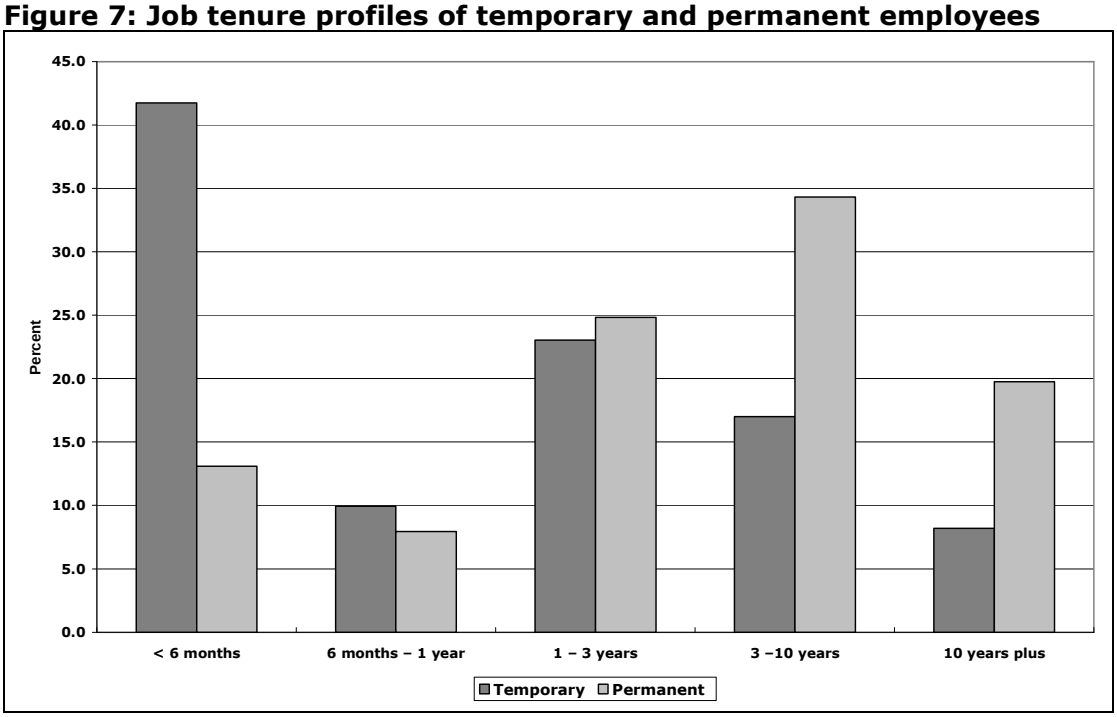
Most temporary workers said they had been in their jobs for less than one year (52 percent), but a significant percentage had worked for 1–3 years (23 percent) or for three or more years (25 percent). The majority of casual, fixed-term and temporary agency workers had tenure of less than one year. Seasonal workers

[11] See footnote 7.

[12] However, some may have taken different approaches, such as reporting the duration of their current job spell only.

are the exceptional group in terms of their tenure: only 41 percent of seasonal workers indicated that they had worked for their employer for less than one year, while 36 percent had worked for their employer for three or more years. (The equivalent figure for permanent employees was 54 percent.) These results imply that a significant proportion of seasonal employees had long-term relationships with their current employer and had worked for multiple seasons.

Figure 7: Job tenure profiles of temporary and permanent employees



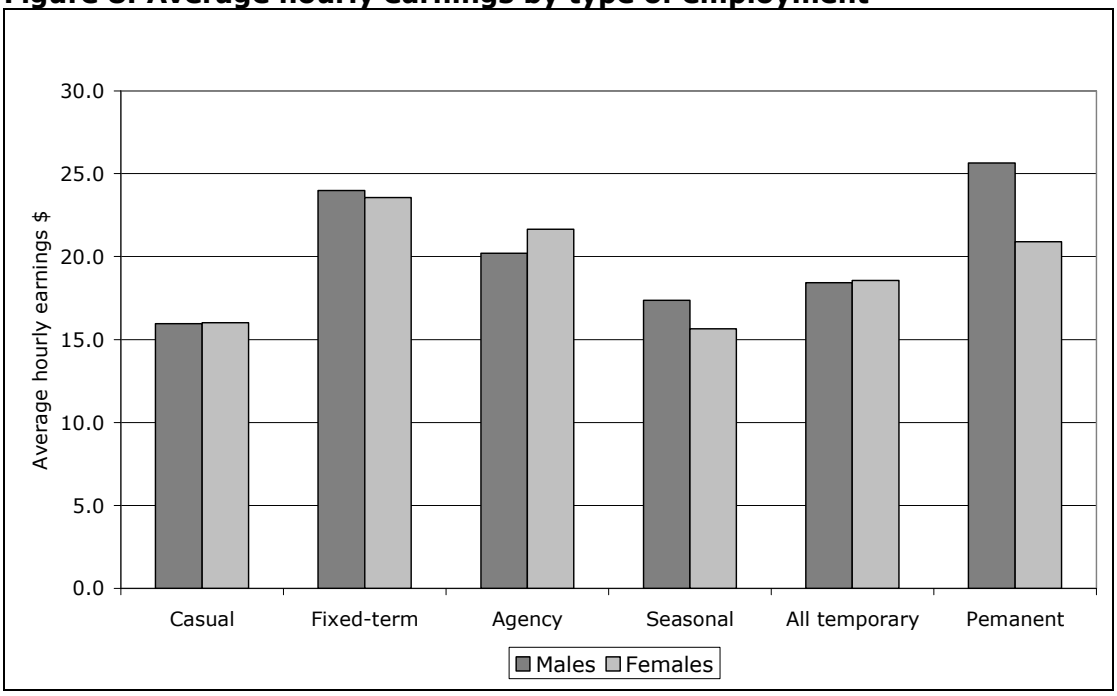
The median job tenure of all temporary workers was 47 weeks or 0.9 years, which is well below the median tenure of permanent employees (3.0 years). While most types of temporary worker had a median tenure of less than one year, for seasonal employees the median was 1.8 years.

Earnings

The average hourly earnings of temporary employees were $18.50, which was 79 percent of the average hourly earnings of permanent employees ($23.40). Of all temporary work groups, casual employees had the lowest mean hourly earnings ($16.00) and fixed-term employees the highest ($23.70).

There was little difference between the average hourly earnings of male and female temporary workers. Consequently, the temporary/permanent wage gap is much larger for males than for females.

Figure 8: Average hourly earnings by type of employment



Turning to average weekly earnings, the difference between temporary and permanent employees was substantially larger, reflecting the greater tendency for temporary workers to be part-time employed. The average weekly earnings of temporary workers were 60 percent of the average weekly earnings of permanent workers.

The reasons for the gap in average hourly earnings between temporary and permanent employees are analysed in Section 6.

Weekly hours and preferences regarding number of working hours

Information on weekly hours of work and satisfaction with hours of work is given in table 7. On average, temporary workers usually worked about 10 hours per week less than permanent employees: 27.4 hours as compared with 37.6 hours. This difference in mean hours reflects the fact that nearly half of all temporary workers were part-time employees, compared with only 20 percent of permanent employees.

Among temporary workers, casual workers were the group most likely to be working part-time hours: 61 percent were part-time. Fixed-term employees were least likely to be working part-time hours: 70 percent were full-time.

Although temporary employees were much less likely than permanent employees to usually work long hours (defined in the survey as working 45 hours a week or more), a reasonably high proportion of seasonal workers did so. Twenty-three percent of seasonal workers said that their usual working hours were 45 or longer.

Ten percent of temporary employees said they had worked some paid overtime hours in the last four weeks, which was lower than the comparable proportion of

permanent employees (15 percent). Temporary employees were only about half as likely as permanent employees to say that they had done some extra hours without pay in the last four weeks. Among temporary workers, seasonal workers were the group most likely to have worked some paid overtime hours and fixed-term employees were the group most likely to have worked some unpaid hours.

Temporary employees were far more likely than permanent employees to say that they would like to work more hours that at present: 19 percent did so, compared with eight percent of permanents. Within every type of temporary work, at least ten percent of employees said they would like to work for more hours. Consistent with this, temporaries were less likely than permanents to say that they would like to work for fewer hours with a comparable reduction in pay: 11 percent wanted to work fewer hours, compared with 17 percent of permanent workers.

Further analysis of the factors that are associated with wanting to work more hours showed that an individual's current hours of work is the primary determinant of whether they would prefer more hours, and not their temporary employment. Employees who worked shorter hours were far more likely to want additional hours than employees who worked longer hours, and vice versa.[13] In a multivariate regression, the marginal effect of temporary job status on the likelihood of wanting to work more hours was slight.

Working time patterns

Working time patterns are summarised in tables 8 and 9. Working at non-standard times of the day or week is not unusual for permanent employees. A significant minority of permanent employees (nearly one-third) said that they usually did at least some of their work outside of the conventional working week, defined in the survey as from 7am to 7pm on weekdays. Twelve percent usually worked for more than five days a week. A series of questions about the work that was actually done in the past four weeks at non-standard times revealed that 56 percent of permanent employees had worked at least once at a non-standard time during the last month. Twenty-five percent had done so 1–5 times in the last four weeks, 11 percent had done so 6–10 times, and 19 percent more than ten times.

Casual and seasonal employees were more likely than permanent employees to say that they usually did at least some of their work outside of the conventional working week. This was true for 43 percent of casuals and 45 percent of seasonal workers. In addition, casual and seasonal workers were more likely than permanent workers to have worked at non-standard times, on one or more occasions, during the last month. When specific non-standard times are

[13] In multivariate regressions of individual characteristics on the survey measure of wanting to work more hours, the marginal effect of working in a temporary on the likelihood of wanting to work more hours was small but significant for males, and small and insignificant for females. Employees working shorter hours were significantly more likely to want additional hours, and teenagers and employees aged 60 years and over were significantly less likely to want additional hours.

considered, it appears that casual workers were more likely than permanent employees to have worked during the evening or on the weekend.

Of all the temporary worker groups, seasonal employees had the most diverse working time patterns and the highest rates of work at non-standard times. While 25 percent usually worked for fewer than five days a week, 20 percent usually worked for more than five days. Seasonal workers were less likely than permanent workers to have worked in the evening, but much more likely to have worked in the early morning or during the weekend, in the past four weeks. Seventy percent had worked at a non-standard time at least once in the past month and 30 percent had done so more than ten times.

In contrast, fixed term and temporary agency employees were *less* likely than permanent employees to have worked on the weekend, and they had similar or lower rates of evening, night and early morning work. These lower rates of work at non-standard times may be associated with the fact that fixed term and temporary agency workers were predominantly female and tended to work in clerical, professional and technical occupations.

One potential problem with these comparisons of the number of episodes of work done at non-standard times is that temporary workers often work part-time hours, which may mean they worked fewer shifts during the last month than permanent employees, reducing their opportunities for working at non-standard times, and biasing the comparison. To further explore the question of whether temporary employment is associated with a higher probability of working at non-standard times after differences in usual working hours and other potentially confounding factors are controlled for, the probability of having worked at non-standard times was modelled in a series of regressions which included usual hours of work and other personal and job characteristics as explanatory variables. The results obtained supported the view that seasonal work is significantly associated with a higher probability of working at non-standard times, but were inconclusive for the other types of temporary work.

Variability in working times

To assess the flexibility in hours of work that is required or expected by employers, temporary workers were asked whether their hours of work changed from week to week to suit the employer's needs. Permanent workers were not asked this question. Casual, temporary agency and seasonal workers (but not fixed-term workers) were also asked how far in advance they were told the work schedule they were required to work in a given week.

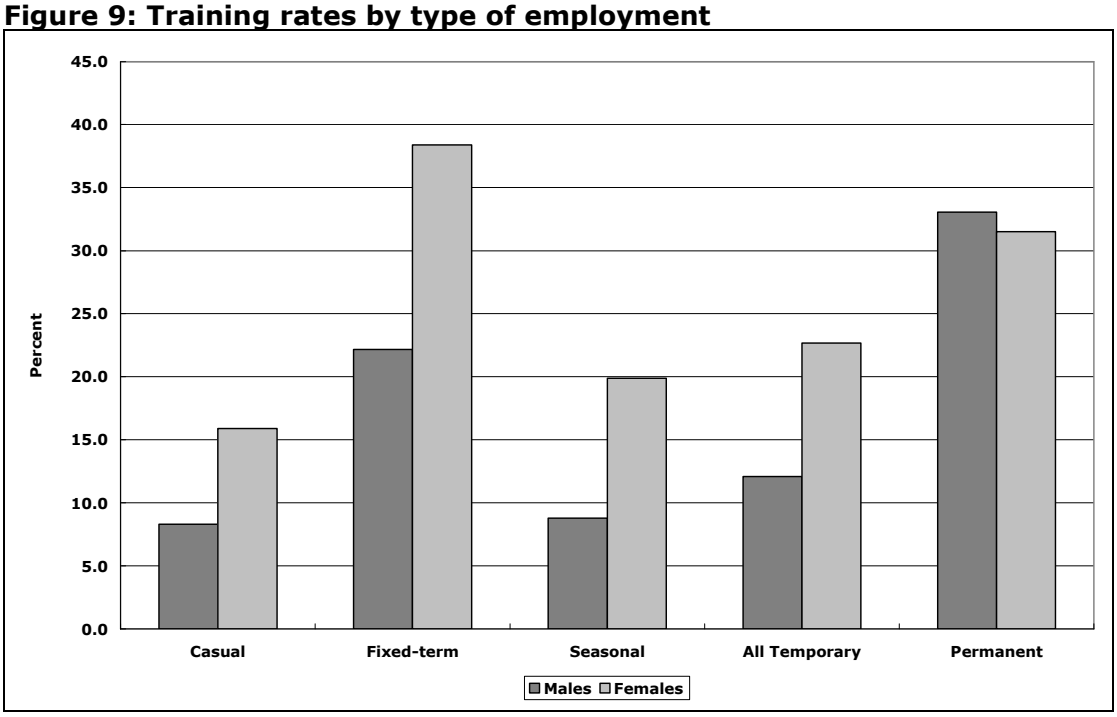
More than half of all temporary workers said that their hours changed from week to week to suit their employer's needs. This situation was particularly common among casual workers (62 percent), and least common among fixed-term workers (32 percent). Interestingly, 32 percent of casual workers said that their hours did *not* change from week to week, implying that they had a stable arrangement.

Eighteen percent of casual workers, 19 percent of temporary agency workers and 16 percent of seasonal workers said they were told the days and times they had to work only one day or less in advance. By implication, these employees do not have much certainty about their working time arrangements, and have to adapt quickly to changes in their work schedule. Although only a minority of temporary workers are in this situation, the proportion is still fairly substantial.

Training

Eighteen percent of temporary employees, and 32 percent of permanent employees, reported they had undertaken some employer-funded study or training in the last twelve months (see table 10). This training may have taken place in a previous job if the respondent had changed jobs within the past year. If they had received employer-funded training, temporary employees were also more likely than permanent employees to have trained for one day or less, and were less likely to have trained for 6 days or more.

Figure 9: Training rates by type of employment



Fixed-term employees were the subgroup of temporary workers who were most likely to have studied or trained: their participation rate was similar to that of permanent employees. The participation rate was lowest among casual workers (13 percent) and temporary agency workers (10 percent).

Women working in temporary jobs were far more likely to have received employer-funded study or training than men. This is probably due to differences in age, job tenure, educational level, and occupation.

The reasons for the gap in training between temporary and permanent employees are considered in Section 6.

Annual leave entitlements

A question on paid annual leave was included in the SoWL to identify how common entitlements above the legal minimum are, and who is receiving more than the minimum amount of leave. In addition, the question was designed to provide data on employees' awareness of their annual leave entitlements.

Sixteen percent of permanent employees reported they had an annual leave entitlement of more than four weeks (the statutory minimum). Around 13 percent of fixed term employees reported they had more than the minimum entitlement. However, very few people in the other temporary work categories had more than four weeks of annual leave.

The proportion of temporary employees who were either not aware that they had a paid annual leave entitlement, or did not know what their entitlement was, was far higher than the proportion of permanent employees. Twenty-six percent of temporary workers said they had no leave entitlement, and 15 percent either believed their leave was less than the statutory minimum or did not know what leave entitlement they had. Of the temporary worker groups, casual and temporary agency workers had the lowest level of knowledge.

Job flexibility

The SoWL collected information on whether employees had flexible hours that allowed them to alter the times they started or finished work, whether they had worked at home in the last four weeks, whether they believed their employer would let them take a few days of unpaid leave if they needed to, and whether they believed their employer would let them reduce their hours from full-time to part-time if they wanted to. Results are shown in table 10.

Forty-one percent of all employees said they had flexible hours which allowed them to alter the times they started or finished work. Temporary workers were slightly more likely than permanent staff to have flexible hours. The proportion with flexible hours was particularly high among temporary agency workers, and a little higher than average among casual and fixed term workers. It was lower than average among seasonal workers.

The proportion of employees who had worked at home in their main job during the last four weeks was 21 percent for permanent employees and 12 percent for temporary employees. Fixed-term employees were the only group of temporary workers in which a substantial number (26 percent) said they had done paid work from home. Of the employees who had worked from home, 34 percent of permanents and 41 percent of temporaries were paid for some or all of the hours worked. This implies that around 60 percent were working additional hours on an unpaid basis, possibly at their own initiative rather than through a formal arrangement with their employer.

When asked about their ability to take unpaid leave from their job, a lower percentage of temporary workers than permanent workers were confident of their ability to do so, but the proportion was still relatively high at 75 percent.

Employees who usually worked for at least 35 hours a week were asked if their employer would let them reduce their hours from full-time to part time if they wanted to do so. Overall, 21 percent said yes to this question, and another 12 percent said 'probably'. Temporary workers somewhat more likely than permanent workers to believe they would have the flexibility to reduce their hours to part time. The proportion saying 'yes' or 'probably' was particularly high among casual workers, possibly because many were employed in workplaces where part-time employment was already common.

Union membership and type of employment agreement

Union membership data are given in table 11. The SoWL estimated that 525,200 employees were union members in the March 2008 quarter, representing 30 percent of all employees. In contrast, figures from union membership returns held by the Department of Labour indicate that as at 1 March 2007 there were 376,763 union members, implying a membership rate of only around 21 percent of employees.

Questionnaire routing in the SoWL may have led to some overestimation of union membership. Employees who said they were on a collective employment agreement were automatically coded as union members, and were not asked the union membership question. However, the SoWL estimate of the proportion of employees on a collective agreement is also significantly higher than the estimates that have been derived from existing data sources, such as the collective employment databases, suggesting that some employees believed they were on a collective agreement when they were not. If so, this would have led to an over-estimation of the rate of union membership in SoWL.

Another factor possibly contributing to the difference is that the union membership returns held by the Department of Labour may not cover 100 percent of union members, making the implied membership rate constructed using the membership returns an underestimate.

In the SoWL results, temporary workers were less likely than permanent workers to be union members (26 percent compared with 31 percent). Only 17 percent of casual workers were classified as union members in the survey. However, union membership rates were higher for workers on fixed-term contracts (35 percent) and seasonal workers (33 percent) than permanent employees.

Similar patterns were found in the coverage of collective employment agreements. The results show that fixed-term and seasonal workers were more likely than permanent employees to be covered by a collective agreement, while casual and temporary agency workers were less likely to be covered by a collective.

Levels of knowledge regarding employment agreements were also much lower among temporary than permanent staff, and particularly among casual workers. Twenty-two percent of temporaries said they were not aware of being covered by any type of agreement, and nine percent did not know what type they were covered by. Forty percent of all casual workers were either not aware of being on

any agreement or did not know what type of agreement they were on. Among casual workers aged 15-24 years, as many as 54 percent said they were not aware of having an employment agreement or did not know what type of agreement they were on.

Work-related health and safety outcomes

Respondents were asked how often in the last 12 months they had found being at work, or the work itself, stressful; how often they had experienced physical problems or pain because of work; and how often they had felt so tired from work that they were unable to enjoy the things they like to do outside of work. They were also asked whether they had experienced any discrimination, harassment or bullying in the workplace, and their perception of how well health and safety risks were managed in their main job. Results for temporary and permanent workers are shown in table 12.

Temporary employees were less likely than permanent employees to say that they found work stressful, either often or always in the last 12 months (14 percent compared with 18 percent). Among temporary workers, fixed term and seasonal workers were more likely to report frequent stress than casual and agency workers.

There was little difference between temporary and permanent employees in the proportions saying that they were often or always too tired from work to enjoy life outside work, or that they had often or always experienced physical problems or pain because of work. However, seasonal workers stand out as a group with a relatively high level of physical symptoms, with 15 percent of seasonal workers saying that they often or always experienced physical problems or pain. The average rate across all employees was 7 percent. Among the different types of temporary worker, seasonal workers were also more likely than the other groups to report fatigue, reflecting the long hours worked by a substantial minority of seasonal workers (approximately 23 percent usually worked for 45 hours or more).

If health outcomes such as the experience of stress, fatigue or pain at work are shaped by other factors that differ systematically between temporary and permanent employees, such as age, an underlying relationship between holding a temporary job and these health outcomes could potentially be hidden the unadjusted percentage statistics. To check whether there is any underlying relationship, the probabilities of reporting stress, fatigue, or physical pain were modelled in separate regressions, using personal characteristics, job characteristics, and a dummy for holding a temporary job, as the explanatory variables. No evidence was found of a statistically significant relationship between holding a temporary job and reporting these three health outcomes.

There were only small differences between temporary and permanent workers in the proportions who said they had experienced harassment, discrimination or bullying at work during the past year. There was also little difference in the proportions who felt that health and safety risks were managed well, neither well nor poorly, or poorly.

4.4 Summary

This section presented a descriptive profile of temporary workers in the March 2008 quarter, comparing their characteristics, employment conditions and employment outcomes with those of permanent workers.

Based on the results from the survey, there are substantial differences in the worker and job profiles associated with different types of temporary work (casual, fixed-term, agency and seasonal). Employees in fixed-term jobs tend to be aged over 25, to have relatively high levels of education, and to work in professional, technical or clerical occupations. Nearly two-thirds were female, 71 percent held a post-school qualification, and 40 percent held a degree. Around 70 percent were working in professional, technical, or clerical jobs. Seventy percent were working on a full-time basis. Fixed-term employees as a group earned slightly more per hour than permanent employees, and women in fixed-term jobs earned significantly higher hourly wages than women in permanent jobs. Fixed-term employees were also the sub-group of temporaries who were most likely to have undertaken employer-funded training in the previous year: their training participation rate was similar to that of permanent employees.

Temporary employment agency workers – a relatively small group – were predominantly (70 percent) female. Around one quarter were employed in clerical jobs, while the remainder worked in a wide variety of occupations requiring a variety of skill levels, including professional and technical, service and sales, agricultural, production and elementary occupations. Male temporary agency employees earned substantially less per hour than males in permanent jobs, on average, while female temporary agency employees earned slightly more than females in permanent jobs.

Casual employees were the youngest sub-group of temporaries: 42 percent were aged under 25 years. Casual workers held jobs featuring a variety of different skill levels. The largest group of casual workers was employed in service and sales occupations, while others worked in professional, technical, clerical, agricultural, and elementary occupations. Over 60 percent were in part-time jobs. Reflecting the high proportion of youth workers in this group, casual employees had relatively low average hourly earnings. Along with temporary agency and seasonal workers, their rate of participation in training was well below that of permanent workers.

Seasonal workers were younger than the workforce as a whole, although somewhat older than the casual group. They had the lowest level of educational attainment among the four main types of temporary worker. Nevertheless, thirty-five percent held a post-school qualification, and 10 percent a degree. Seasonal workers were most likely to work as agriculture and fishery workers, or as plant and machine operators and assemblers. The rest were mainly employed in technical, sales and service, or elementary occupations. Two-thirds were employed on a full-time basis and one-third on a part-time basis. Of the four main types of temporary worker, seasonal employees had the most diverse working-time patterns, and the highest rates of working at non-standard times of the day or week. Seventy percent of seasonal workers in the survey had worked

at a non-standard time at least once in the past month, and 30 percent had done so more than 10 times. Their average hourly wages and rates of participation in employer-funded training were comparatively low.

Despite the diversity among temporary workers, some valid generalisations can be made about the profile of temporary employees overall compared with the profile of permanent employees. Based on the March 2008 survey results, we can say that temporary employees are on average significantly younger (by four years). They are somewhat more likely to be women than men (56 percent were female). Nearly half work on a part-time basis, compared with just 20 percent of permanent employees. Although temporary employees are found in every occupational group, their occupational profile is somewhat less skilled than that of permanent employees. There are very few temporary employees in management or skilled trade jobs, and they are less likely to be working in professional occupations.

To assess the variability in working hours that is associated with temporary work, temporary workers were asked whether their hours of work changed from week to week to suit the employer's needs. More than half of all temporary workers said this was the case. The need to change one's hours to suit the employer's needs was particularly common among casual workers (62 percent). When asked how much advance notice was given of the shifts that had to be worked, eighteen percent of casual workers, 19 percent of temporary agency workers and 16 percent of seasonal workers said they were usually told of their days and times of work only one day in advance, or less.

The information that the SoWL collected on flexitime, the ability to take unpaid leave from one's job, and the ability to move from full-time to part-time hours, indicates that temporary workers had broadly similar levels of access to these flexibility provisions as permanent employees (with some variation across temporary job types). Temporary workers were slightly less likely than permanent workers to say that they had often or always found their work stressful. They gave similar responses to the questions on fatigue at work and physical problems or pain at work, as permanent employees. However, seasonal workers reported a relatively high level of physical symptoms, with 15 percent of all seasonal workers saying that they had often or always experienced physical problems or pain because of work in the last year. The average rate for all employees was 7 percent.

Some of the more substantial differences between the employment outcomes of temporary and permanent employees lie in the disparities in average hourly earnings, in the likelihood of having received or undertaken employer-funded training in the last 12 months, in rates of under-employment (wanting to work more hours), and in awareness of the statutory annual leave entitlements. Temporary employees earned significantly less per hour on average, were less likely to have undertaken employer-financed training, were more likely to say that they wanted to work more hours than at present, and were less likely to have an accurate understanding of their annual leave entitlement. As discussed above, the higher likelihood of wanting to work more hours appears to be mainly

due to the higher rate of part-time employment among temporary workers. Factors that may be contributing to the wage rate and training rate differentials are considered in Section 6.

5. MOTIVATIONS FOR AND SATISFACTION WITH TEMPORARY WORK

Do people work in temporary jobs primarily because they prefer to do so, or because they are not able to obtain a suitable permanent job? The SoWL included a number of questions that shed some light on the question of the extent to which temporary jobs are undertaken on an involuntary basis.

5.1 Reasons for working in a temporary job

Temporary employees were asked to give their reasons for doing temporary or seasonal work in the SoWL. The question was open-ended, and multiple responses were recorded if given. The results are summarised in table 13. The responses were diverse, with no single reason dominating. Thirteen percent indicated that they were in a temporary job because they were not able to find a permanent job, or said that they hoped or expected their temporary job to become permanent. Nine percent indicated that they worked in a temporary job for family reasons, for example to manage childcare responsibilities, or because of certain family obligations or family circumstances. Twenty four percent said they worked in a temporary job because they were studying, or wanted to gain work experience. Fifteen percent gave lifestyle reasons, such as only wanting to work for a short period of time, or enjoying the variety that short-term jobs offer. Nine percent cited financial reasons, such as the money being better in their temporary job. One percent referred to health limitations as a reason for working in a temporary job.

Casual workers were particularly likely to give educational reasons for working in a temporary job (one-third did so), suggesting that students are well represented in this type of temporary work. Seasonal workers were particularly likely to mention financial reasons for working in a temporary job. This may mean that they believed their wages were higher in their seasonal job, or alternatively that they misinterpreted the question to mean 'why are you working' rather than 'why are you working in a temporary rather than a permanent job'.[14]

These results indicate that perhaps 13 percent of temporary workers were in temporary jobs for 'involuntary' reasons. The true percentage may be higher, if some of the people whose responses were difficult to classify were also working in temporary jobs because they were unable to find a suitable permanent job.

A logistic regression model was estimated to identify the personal characteristics that are significantly associated with working in a temporary job on an involuntary basis, holding the effects of other characteristics constant. The sample of all temporary employees was used for this analysis. The dependent variable in the regression was set to '1' if the individual said they were in a temporary job because they weren't able to find a permanent job, and '0' otherwise. The explanatory variables were gender, age group, ethnic group, highest educational qualification, parental status, whether an immigrant to New Zealand interacted with duration of residence, urban/rural location, job tenure,

[14] The question was 'what are your reasons for working in a temporary job?'

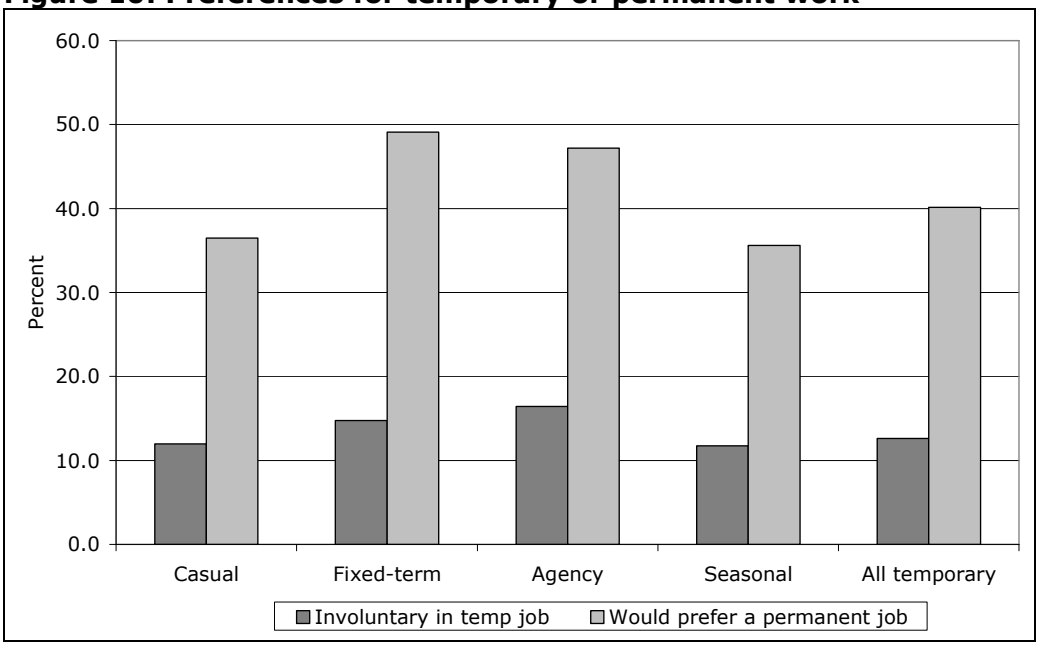
part-time status, type of temporary job, occupation, industry, firm size and business type.

The coefficient estimates from the regression and corresponding marginal effects (not shown in this paper) indicate that employees living in minor urban areas were more likely than those living in major urban areas to be working in temporary jobs for involuntary reasons. Seasonal employees, those who were working on a part-time basis, and those with longer tenure in their jobs, were significantly *less* likely to be working in temporary jobs for involuntary reasons than employees in other types of temporary employment, those who were full-time employed, and those with shorter job tenure.

5.2 Preferences for a permanent job

Temporary employees were also asked if they would prefer to have a permanent job. Forty percent said 'yes' to this question, demonstrating that for a substantial minority, temporary work is not the preferred mode of working. Fifty-three percent said they would prefer to continue doing temporary or seasonal work, and approximately 7 percent did not know or did not give a response. Although the 40 percent saying they would prefer a permanent job could be interpreted an a measure of 'involuntary' temporary work, this is probably not a valid interpretation, as some respondents may have thought about their 'ideal' employment arrangement rather than the one they would actively seek at present, given their current circumstances.

Figure 10: Preferences for temporary or permanent work



Similar proportions of men and women in temporary jobs said they would prefer to have a permanent job. Almost half of fixed term employees and temporary agency workers did so, while the proportions saying they would prefer a permanent job were somewhat lower among casual and seasonal employees (37 percent and 36 percent respectively). In most types of temporary work (with the

exception of seasonal work), prime-aged employees were more likely than youth or older workers to say that they would prefer a permanent job.

A regression model was estimated to identify the personal and job characteristics that are significantly associated with the preference to work in a permanent job, holding the effects of other characteristics constant. The sample used for this analysis all temporary employees who gave a valid answer to the question. The explanatory variables were gender, age group, ethnic group, highest educational qualification, parental status, whether an immigrant to New Zealand interacted with duration of residence, urban/rural location, job tenure, part-time status, type of temporary job, occupation, industry, firm size and business type.

The results (not shown in this paper) indicate that teenagers, those aged 60 or over, those who were working on a part-time basis, and those with longer tenure in their jobs, were significantly *less* likely to prefer a permanent job than employees in other age groups, the full-time employed, and those with shorter job tenure. There were no statistically significant differences between casual, fixed term, agency and seasonal workers in the likelihood of wanting permanent work, indicating that temporary job type does not have a major impact once differences in personal characteristics are held constant.

5.3 Job satisfaction

In other countries, temporary workers have tended to report a lower level of job satisfaction than permanent employees (Booth et al 2000, Wooden and Warren, 2003)[15]. In the SOWL this was also the case, but the differences were very small, too small to be consequential. Eighty-one percent of temporary workers and 84 percent of permanent workers said they were satisfied or very satisfied with their job. Six percent of temporary workers said they were dissatisfied or very dissatisfied, compared with 5.0 percent of permanents (see table 14).

If job satisfaction is shaped by other factors that differ systematically between temporary and permanent employees, such as age, then any underlying relationship between holding a temporary job and job satisfaction could potentially be hidden in the unadjusted differences between group proportions. To check whether there is any underlying relationship, the probability of being dissatisfied with the job (as opposed to satisfied, or neither satisfied nor dissatisfied) was modelled in logistic regressions, using personal characteristics, job characteristics, and a dummy for holding a temporary job as the explanatory variables. No evidence was found of a statistically significant relationship between holding a temporary job and the likelihood of being dissatisfied with the job.[16]

Survey respondents were also asked to rate their satisfaction with their work-life balance. Temporary employees were slightly more satisfied with their work-life balance than permanent employees, although once again the differences were too small to be consequential. Seventy-eight percent of temporary employees and 76

[15] Wooden and Warren (2003) report that casual employees in Australia are less satisfied with their jobs than permanent employees, but fixed-term employees are more satisfied.

[16] The results obtained are not reported here.

percent of permanents were satisfied or very satisfied. Among temporary workers, those who worked for a temporary employment agency rated their work-life balance most highly.

5.4 Summary

The survey results suggest that the majority, but by no means all, temporary employees work in temporary jobs by choice. The reasons given for working in a temporary job included only wanting or only being available to work for a finite period of time, preferring the flexibility associated with the working arrangement (such as the ability to turn particular shifts down), or wanting to obtain work experience or training. Approximately 13 percent indicated that the temporary job they currently held was taken for want of a better alternative.

Around 40 percent of temporary employees said that they would prefer a permanent job. Unfortunately, the question on preferences did not clarify what they meant in terms of context and timing (for example, did they want a permanent job now, or ideally in the future?), or ask about their job search intentions.

6. FACTORS INFLUENCING THE PAY AND TRAINING RATES OF TEMPORARY WORKERS

6.1 Introduction

Section 4 compared the employment outcomes of temporary and permanent employees using a range of different measures, and found disparities on some measures. Among those differences, it is notable that temporary employees earned significantly less per hour on average, and were substantially less likely to have undertaken employer-funded training in the last year.

These outcome differences are not necessarily caused by the nature of the job contract or the non-permanence of the employment relationship, because temporary workers differ from permanent workers on a range of other characteristics, such as age, work experience, education, and hours of work. This section of the paper discusses the factors that may be contributing to the wage rate and training rate differentials that are found between temporary and permanent employees. Regression methods are then used to estimate the size and significance of the wage and training differentials after taking into account additional information on measured personal and job characteristics.

Section 6.2 draws on the economic literature to review the reasons why temporary workers might earn less than permanent workers and undertake less training. Section 6.3 presents an analysis of the gap in average hourly earnings, and section 6.4 examines the gap in training rates.

6.2 Theory and research evidence

In a competitive labour market, in which workers have a choice about what form of employment contract they enter into and most workers prefer permanent jobs, temporary workers could be expected to receive a wage premium to compensate for the fact that their job is not permanent (Booth et al, 2002). The theory of compensating differentials suggests that temporary employees should earn more than permanent employees.

There are a number of reasons why a wage premium might not be paid, or why the wage premium that *is* paid to compensate temporary workers for the non-permanency of their job is offset by other factors, leading to lower observed wages. One reason is that employers with high quality jobs could use temporary employment contracts as a screening devise, requiring employees to work on a temporary basis for an initial period, at a lower rate of pay, before being hired on a permanent basis. If the likelihood of promotion to more attractive permanent positions is relatively high, these temporary jobs may readily filled by workers despite lower pay rates (Booth et al, 2002).

Another reason why the wages of temporary worker might be lower is that it is not efficient for workers in temporary jobs to invest heavily in job-specific skills or human capital, or for firms to provide them with large amounts of training. Employees in temporary jobs are less likely to receive training that is funded by

employers than permanent employees, because the post-training period in which benefits can be gained (through improvements in employee performance) is usually shorter, making the investment less attractive. Temporary employees may also be less likely to agree to undertake training because they are less likely to gain future benefits through higher wages or promotions. Lower job-specific skills could to lead to lower wages being paid to employees in temporary positions.

If temporary jobs tend to offer lower wages and less training, this could have implications for the typical characteristics of the workers who hold temporary jobs (Booth et al, 2002). The workers holding these jobs may be the ones for whom there is a greater probability of wanting to leave (in order to change jobs, leave the labour market, or migrate), or those who face a higher cost (or lower benefit) to acquiring specific human capital. For example, young workers and new migrants might be disinclined to make a large investment in a particular job if they are unsure of their future employment and locational preferences, leading to an over-representation of these groups in temporary jobs. Older workers who are near to retirement might also be less inclined in invest in specific skills, and therefore be over-represented in temporary jobs.

These theoretical ideas imply that whether temporary jobs offer higher or lower wage rates, and are filled by high ability or low ability workers, will depend on the circumstances. For example, if firms maintain a pool of temporary workers in order to adjust staffing levels to fluctuations in activity, and do not promote these workers to better jobs, they may be filled by workers who have low ability or low desire to acquire specific skills. These workers will go through a succession of low-paid temporary jobs. If firms use temporary jobs as a screening device and the likelihood of promotion to more attractive permanent positions is high, then those temporary jobs could potentially be filled with high ability workers. In other circumstances, if a worker's productivity depends on general and transferable skills rather than skills that are specific to a job or firm, then highly productive and high ability workers may be in a position to negotiate wage premiums in temporary jobs, and may actually prefer to be employed in a series of temporary jobs (Booth et al, 2002).

A number of overseas studies have estimated the wage penalty or premium that is associated with temporary work. Typically they use models to adjust the 'raw' or observed average wage gap for differences between temporary and permanent workers in skill-related characteristics, with the aim of better estimating the wage differential that is due to the temporary nature of the job contract. Dekker (2001) finds evidence of significant wage penalties for temporary workers in Germany, the United Kingdom, and the Netherlands, in wage regressions estimated using national longitudinal data that included controls for gender, age, marital status, qualifications, industry, size of firm, tenure in the current job, and unobserved individual heterogeneity. Houseman (1997, p29) estimated that US workers employed on a short-term basis earned 10-16 percent less per hour than permanent employees, after controlling for a range of personal, job and workplace characteristics. Workers employed through temporary employment agencies earned 16-19 percent less, and on-call workers earned 5-10 percent

less. The OECD (2002, p143) estimated the independent effect of holding a temporary job on hourly earnings using data for 13 OECD countries. It reports that standardising for worker and job characteristics reduces the wage penalty associated with holding a temporary job, but does not eliminate it.

Although many of the published overseas studies have found that temporary workers earn less per hour than permanent workers even after adjustments have been made for differences in other characteristics, this is not always the case. Bono and Weber (2008) studied the earnings of seasonal employees in Austria. Although seasonal workers earn 3 percent less than non-seasonal workers on average, Bono and Weber estimate that an 11 percent wage premium is actually paid for seasonal work, after taking other factors into account.

Studies that have compared the workplace or job-related training rates of permanent and temporary employees have generally found an association between temporary work and lower training (Long et al 2000, p42; OECD 1999; Arulampalam and Booth, 1998). Arulampalam and Booth (1998) find that both measured and unmeasured individual characteristics contribute to the observed training gap between permanent and temporary employees in the United Kingdom, but do not full explain it, suggesting that temporary job contracts do in fact lead to a lower level of training. The OECD (2002, p.158) estimated the relationship between temporary employment and participation in job-related training using data for 12 OECD countries. It found evidence of a lower rate of training in eight countries, but no significant difference between the training probabilities of temporary and permanent workers in the other four countries.

The existing studies vary in the quality of the data used and the extent to which other relevant factors are controlled for. The ideal dataset for identifying whether temporary jobs offer wage premiums or wage penalties, or differing opportunities for training, is a longitudinal dataset in which individuals move between temporary and permanent jobs, because this allows the effects of movements between temporary and permanent positions on the outcome of interest (wages or training) to be isolated from the effects of individual heterogeneity in characteristics, preferences and behaviour. Estimates obtained from cross-sectional data sets, which are not able to control for the effects of unmeasured individual heterogeneity, may be biased.

6.3 Hourly earnings

In the March 2008 quarter the raw wage differential between temporary and permanent employees in New Zealand was relatively large. The average hourly earnings of temporary employees were $18.50, 79 percent of the average hourly earnings of permanent employees ($23.40 percent). As explained above, a simple comparison of the average temporary worker wage with the average permanent worker wage is unlikely to reveal the true wage effects that are associated with entering a temporary job, because temporary employees differ from the norm on a number of dimensions.

We explore the contribution of demographic, educational, and job characteristics to the temporary-permanent gap in average hourly earnings in New Zealand

using the SoWL data. The sample used for this analysis was all employees who supplied valid data on their average hourly earnings, 91 percent of the total. The earnings of males and females were modelled separately. The log of hourly earnings was modelled as a function of personal and job characteristics X_i, whether employed in a temporary job T_i, and an individual-specific error term ε_i:

$$\text{Ln } W_i = X_i\beta + T_i\delta + \varepsilon_i$$

In a first set of regressions we included age, ethnicity, parental status, immigrant status, geographical location, and highest educational qualification in X_i, the vector of individual attributes. In a second set of specifications the following job characteristics were also included: part-time status, occupation defined at one-digit level, industry defined at one-digit level, the employer's business type (using indicator variables for public sector and non-profit organisations), and the size of the employer's enterprise. We do not control for variations in job tenure because this is likely to be determined jointly with temporary job status.

The way in which temporary employees are identified (T_i) varies across equations. Initially we identify all temporary workers using a single dummy variable that is set to one for all temporary workers and to zero otherwise. In a second set of equations, we use four dummies which separately identify each type of temporary worker (casual, fixed-term, temporary employment agency and seasonal not otherwise classified). In a third set, we use a pair of dummy variables that identify both seasonal workers and temporary non-seasonal workers, distinguishing them from permanent workers.

Table 15 shows the coefficient estimates and standard errors that were obtained for the temporary employment dummy variables, in each of the different specifications.[17] The coefficient estimates represent the approximate percentage difference between the earnings of temporary and permanent employees. If negative, they represent the wage penalty that is associated with working in a temporary job, holding the other factors constant. If positive, they represent a wage premium.

The first column of the table shows the unadjusted or 'raw' log wage gap between temporary workers (or a particular subgroup of temporaries) and permanent employees. The second column gives the estimated log wage gap once the effects of differences in personal characteristics are controlled for. Controlling for personal characteristics dramatically reduces the size of the temporary-permanent gap in log hourly earnings. For instance, there is a 64 percent reduction in the wage gap estimated for all male temporary workers (which declines from a 30 percent penalty to approximately 11 percent), and a 44 percent reduction in the wage gap estimated for all female temporaries (which declines from 13 percent to 7 percent). Temporary employees are younger and less qualified than permanent employees, on average, and controlling for these

[17] The estimates for males in temporary agency employment are not shown because of small sample sizes. Additional results are given in Appendix 3, tables A.4 and A.5.

and other differences reduces the wage 'penalty' that is assigned to the temporary work indicators in the regression estimates.

Controlling for job characteristics as well as personal characteristics further reduces the estimated wage penalties associated with temporary work. For all temporary and for most subgroups of temporary employees, there is no longer a statistically significant difference between the wages of temporaries and the wages of permanent employees. The hourly earnings of fixed-term employees are now estimated to be higher than those of permanent employees, but not significantly so. Female casual workers are an exception: they are estimated to earn 6.5 percent less than female permanent employees, after taking part-time status, industry and occupation as well as demographic characteristics into account.

To summarise, the analysis indicates that the temporary-permanent gap in average hourly wages can be largely or entirely attributed to differences in measured demographic, educational, and job characteristics. Although we continue to find that a small wage penalty is associated with casual work for women, we have not been able to make any adjustment for a number of other factors that prior research findings suggest may influence the casual/non-casual wage differential, such as differences in previous work experience and unmeasured heterogeneity in attitudes and skills.

Overall, the results of the analysis undertaken here suggest that most temporary workers earn roughly the same amount per hour as *similar* permanent workers, after taking both their personal characteristics and some key job characteristics (industry, occupation and hours) into account. They imply that temporary workers in New Zealand are not systematically employed at lower rates of pay than permanent employees, as a result of their type of employment relationship. Some types of temporary work may in fact attract pay premia. Due to the limitations of the SoWL dataset, the wage premiums or wage penalties that are associated with different kinds of temporary work can't be estimated using all the information that ideally would be brought to bear on the issue, and for that reason the finding that most temporary workers earn roughly the same hourly wages as similar permanent workers in similar types of work should be regarded as a provisional one.

The finding that temporary employment is not generally associated with a wage rate penalty relates only to *hourly* compensation. Because temporary employees work fewer hours per week than permanent employees on average, their weekly earnings will be lower. If temporary workers also work for fewer weeks of the year than permanent workers, which seems very likely, their annual earnings will also be commensurately lower.

6.4 Job-related training

In the descriptive statistics reported above, the absolute difference between temporary and permanent employees in rates of training participation was quite large. Eighteen percent of temporary employees, and 32 percent of permanent employees, reported they had undertaken some employer-funded study or

training in the past twelve months, a difference of 14 percentage points. Clearly, this 14 percentage point gap does not represent the marginal effect of working in a temporary job on the probability of receiving training.

To estimate the marginal effect of working in a temporary job on the probability of having received training in the last year, we modelled the probability of having received training using binominal logistic regressions. The sample used for this analysis was all employees in the SoWL. The training rates of males and females were modelled separately.

The reduced-form model takes the form:

$Y = f(X, T) + \varepsilon$

The dependent variable Y is the incidence of any employer-funded study of training in the last year (which takes the value one if the individual reported that they undertook training and zero otherwise). The explanatory variables comprise individual characteristics (X) and temporary job status (T). T varies across specifications. It is either a single dummy variable that is set to one for all temporary workers and zero otherwise; or a set of four dummies that separately identify each type of temporary worker (casual, fixed-term, temporary agency and seasonal not otherwise classified); or a pair of dummies that identify seasonal workers and temporary non-seasonal workers, distinguishing them from permanents.

Initially, we model the training participation probability of men and women as a function of their measured personal characteristics (age, ethnicity, parental status, immigrant status and years in New Zealand, geographical location, and highest educational qualification) and temporary job status (or type of temporary job). In a second set of regressions, the following job characteristics were added to the explanatory variables: part-time status, occupation defined at one-digit level, industry defined at one-digit level, size of employer, and the employer's business type (private sector, public sector or non-profit sector). We do not control for variations in job tenure because this is likely to be determined jointly with temporary job status. With only one observation for each respondent, we are unable to make any statistical adjustments for heterogeneity on unmeasured factors such as career aspirations or the motivation to learn job-related skills. We are also unable to control for differences across individuals in weeks or months of employment during the previous year, a factor that is likely to have a direct impact on our measure of training rates (because people who worked for only part of the year would have had less time in which to receive training, all else being equal).

Table 16 presents the key results, showing the marginal effects of being in a temporary job on the estimated probability of having received training.[18] The first column of the table shows the unadjusted or raw percentage point gap in training

[18] The results for males in temporary agency employment are not shown because of small sample sizes. Additional results are given in Appendix 3, tables A.6-A.7.

rates between a particular group of temporary workers (as specified by the row heading) and permanent employees. The second column shows the marginal effect of temporary employment on training rates after controlling for personal characteristics. The third column shows the marginal effect of temporary employment on training rates after controlling for both personal and job characteristics. These marginal effects represent the difference between the predicted training participation rates of temporary and permanent employees, calculated while holding the effects of other variables constant.[19]

For all male temporary employees and for each sub-group of male temporaries, the predicted training probabilities remain substantially lower than those of permanent employees after adjustments for personal and job characteristics have been made. The training probability for all male temporary workers is estimated to be approximately 15 percentage points lower than that for males in permanent employment, with similar personal and job characteristics. (The unadjusted difference was 21 percentage points.) The estimated training probabilities are also significantly lower for males in casual, fixed-term, and seasonal jobs.

Women in temporary jobs face a smaller gap in training rates than men, relative to women in permanent jobs, both before and after adjustments are made for differences in characteristics. In the specification with a full set of controls for personal and job characteristics (ie model 2), the estimated training probability for all females in temporary work is 5.6 percentage points lower than that for 'similar' female permanents in similar jobs. (The unadjusted difference was 9 percentage points.) The disaggregated results show that women in casual and temporary employment agency jobs have significantly lower training probabilities than those in permanent jobs, but women in fixed term and seasonal jobs do not.

Temporary and permanent employees are likely to differ in their continuity of employment, and this can be expected to directly influence training rates when the reference period for measuring training participation is the previous year. Although it isn't possible to control for differences between survey respondents in weeks worked, we explore the potential impacts of employment continuity on our results by restricting the estimation sample to individuals with tenure of at least one year with their current employer, and re-estimating the models. The results obtained are shown as 'model 3' in the fourth column of table 16.

Restricting the sample to employees with job tenure of one year or more reduces the size of most of the marginal effects estimated for temporary work, consistent with the idea that differences in employment continuity are likely to matter. Males in casual and seasonal employment, and females in casual employment, continue to have significantly lower estimated probabilities of participation in training in these regression estimates. However, it is highly likely that some differences in

[19] Because the logit model is non-linear, the marginal effect of each independent variable is not constant, as in a linear regression model. Rather, it varies according to the values of all the other independent variables that are included in the model. In this paper we adopt the conventional approach to reporting the marginal effects of each independent variable by evaluating the probabilities at the sample averages for all other independent variables.

employment continuity remain even in the restricted sample. The job tenure restriction is unlikely to equalise weeks worked across the two groups, because the job tenure measure in the SoWL does not specify that employment with the current employer must have been continuous to be counted as part of the current job. So it is unclear whether temporary employment would continue to be associated with a lower training probability if it was possible to fully control for the effects of differences in weeks worked.

The implications of a lower rate of training in temporary work will depend on the role of temporary employment in individuals' working lives. Teenagers who work in temporary jobs may receive higher levels of training when they move on to permanent jobs at a later age, while older employees may have received substantial training in the permanent jobs they held earlier in their working lives. In the final column of table 16, we show the differentials for temporary work that were estimated when the sample was restricted to prime-aged employees, ie persons aged 25-54. In the case of males, these marginal effects are smaller than those estimated for all age groups. In the case of females, the age restriction makes little difference.

If a causal relationship between temporary employment and a reduced likelihood of receiving training does exist, the implications are also likely to depend on the duration of time that individuals spend working in temporary jobs. Short spells may have relatively little impact on skill accumulation and wage growth, but if some individuals work in a succession of temporary jobs over a number of years, adverse long-term impacts may be more likely. The OECD (2002) reviewed the evidence on rates of mobility from temporary to permanent jobs in Europe, and found the patterns were complex. In most countries a significant proportion of temporary workers move into permanent jobs within a two-year horizon, but this proportion varied across countries from a minority of temporary workers to a majority. Transition probabilities also varied across different types of temporary work and different types of worker. It is possible that a minority of temporary workers remain 'trapped' in temporary jobs for an extended period of time, but firm evidence of this phenomena is not currently available.

To summarise the findings of this section, the temporary-permanent gap in training rates appears to be partly due to differences in the personal characteristics of temporary and permanent employees. On average temporary employees are less highly educated than permanent employees and more likely to be aged under 25 years, and both these factors are correlated with a lower likelihood of receiving employer-funded training. Differences in job characteristics, including part-time status, industry, occupation and job tenure, also make a contribution to the temporary-permanent training gap. These factors do not fully account for the lower training rates of temporary employees. It is likely that some of the remaining gap is due to the fact that temporary employees typically worked for fewer weeks in the previous year than permanent employees.

The finding that there is a significant association between temporary employment and a lower probability of having undertaken training is consistent with the hypothesis that employers offer less training to temporary workers. It is also

possible that there are unmeasured differences between temporary and permanent employees on other factors such as weeks worked during the year and the motivation to undertake training that are contributing to the gap in participation rates. Greenhalgh and Mavrotas (1994) found that employees' career aspirations and attitudes to training were significant determinants of their participation in employer-based training.

6.5 Summary

This section of the paper has considered the factors that may be contributing to the wage rate and training rate differentials that are found between temporary and permanent employees. Regression methods were used to estimate the size and significance of those wage and training differentials after taking into account differences in the measured personal and job characteristics of temporary and permanent employees.

Little evidence was found of a statistically significant gap between temporary and permanent employees in hourly average earnings after adjusting for personal and job characteristics. Females in casual jobs are the only sub-group of temporary workers whose hourly earnings were significantly (approximately 6 percent) lower than those of permanent employees of the same gender. This result could indicate the existence of pay penalty for casual employment, but the presence of uncontrolled differences in unmeasured characteristics such as prior work experience (which is likely to be associated with skill accumulation and therefore earnings), is also a plausible explanation.

Adjusting for differences in personal and job characteristics substantially reduced the size of the estimated training rate 'penalty' associated with temporary work, but did not eliminate it. The model results imply that males in temporary jobs were approximately 15 percentage points less likely to have undertaken employer-funded training than males in permanent jobs, while females in temporary work were approximately 6 percentage points less likely to have done so than females in permanent jobs. The analysis was not able to control for differences in weeks of employment during the reference period, or differences in prior employment histories, or individual heterogeneity, factors that are likely to influence both earnings and training rates and may account for the remaining differences in training probabilities. Consequently, although the results obtained suggest that temporary employment is associated with a lower likelihood of receiving employer-funded training, this should be treated as a provisional finding.

7. SCOPE FOR FURTHER WORK ON THIS TOPIC

This paper used data collected in the March 2008 Survey of Working Life to provide a general overview of temporary workers, their jobs and their conditions of employment. It focused particularly on the distinctive characteristics of casual, seasonal, fixed term, and temporary agency employees and their jobs. There are other ways in which the characteristics and employment outcomes of temporary workers could be usefully analysed, such as by age group. The implications of job characteristics such as low pay and variable hours may differ according to whether the work is undertaken by teenagers or by adults with families, for example.

Casual work has been the focus of particular concerns in New Zealand. Until now, the evidence on casual work has been largely qualitative, obtained from interviews carried out with those working in particular occupations and industries. That qualitative research identified a number of potential issues, such as limited training opportunities or pathways into permanent work, shift work patterns that are potentially disruptive to personal and family wellbeing, workers receiving inadequate notice of changes to their shifts or hours, workers having limited knowledge of their legal entitlements (particularly their holiday entitlements), and difficulties in accessing sick or bereavement leave.

The analysis of casual work that is presented in this paper provides some new insights into the prevalence of these issues or problems. It appears that casual workers do undertake less training than similar permanent workers who are employed in broadly similar jobs, although 13 percent of casual workers in the survey *had* received some employer-funded training in the last year, and the gap in informal on-the-job training is not necessarily as large as the gap in formal training. Through further analysis of the dataset, it may be possible to gain more insights into the characteristics of the casual workers who do and do not receive training.

The survey results confirm that casual workers were more likely than permanent workers to be at work during the evenings and weekends, and show that they largely did their evening and weekend hours as part of an organised and paid shift, which means it is unlikely that those hours were worked at home. Seasonal workers (many of whom are employed on a casual basis) were particularly likely to work at unsocial times of the day or on the weekend. To assess whether these work patterns are likely to be disruptive to personal and family wellbeing, further analysis could be undertaken of the characteristics of the casual and seasonal employees who worked during evenings and weekends, looking at whether they had spouses and children, and their responses to the survey question on whether working at non-standard times caused them difficulties.

The survey results also indicate that a substantial minority of casual workers receive very little notice of the specific hours they are required to work (or of changes to those shifts and hours). Eighteen percent said they usually received one day's notice or less, and 13 percent said that the usual notice period varied. In addition, there is evidence that a large proportion of casual workers had a

relatively poor knowledge of their holiday entitlements. The characteristics of casual employees in these situations could also be further examined.

If survey is repeated in future years as planned, it will be possible to use the data from successive surveys to monitor changes in the prevalence of temporary work and the employment patterns of temporary workers.

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TABLES[20]

Table 1: The incidence of temporary work by personal characteristics (continued on next page)

	Type of temporary work				All seasonal employees	All temporary employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined		
	Number of people in each type of temporary work as a percentage of all employees					
All employees	4.9	2.3	0.7	1.3	2.7	9.4
Gender						
Male	4.3	1.7	0.4	1.5	2.9	8.2
Female	5.5	2.9	1.0	1.0	2.4	10.7
Age group (years)						
15–24	10.9	2.8	1.0	2.1	5.3	17.3
25–34	2.9	2.8	0.8	1.1	1.8	7.7
35–44	3.4	2.2	0.5	0.9	2.1	7.1
45–54	2.8	1.8	0.7	1.3	2.1	6.9
55–64	4.0	1.8	S	1.0	2.0	7.5
65+	11.6	2.4	S	S	3.6	16.6
Gender by broad age group (years)						
Males, 15-24	11.4	3.0	0.7	3.0	6.5	18.4
Males, 25-54	2.0	1.3	0.3	1.1	1.7	4.8
Males, 55+	5.3	1.5	S	1.7	3.2	9.3
Females, 15-24	10.3	2.5	1.4	1.1	4.1	15.9
Females, 25-54	4.2	3.3	1.0	1.1	2.2	9.7
Females, 55+	5.2	2.2	S	S	1.3	8.5
Ethnic group						
European only	4.7	2.4	0.5	1.2	2.5	9.0
Māori only	6.0	2.1	1.4	2.0	5.2	11.5
European/Maori	4.4	S	S	2.4	3.4	8.9
Pacific peoples only	3.7	1.9	2.3	1.8	3.8	9.7
Asian only	6.2	2.6	1.1	S	1.1	10.7
Other categories	5.2	2.4	S	S	S	10.8
Birthplace						
New Zealand	5.0	2.2	0.6	1.5	3.0	9.5
Overseas – lived in NZ for less than 5 years	4.4	3.9	S	S	2.2	10.3
Overseas – lived in NZ for 5 years but less than 10	3.9	2.1	1.3	1.5	2.4	8.8
Overseas – lived in NZ for 10 years or more	4.7	2.0	0.8	S	1.2	8.1
Type of geographical area						
Main urban area	4.6	2.3	0.8	0.8	1.8	8.8
Minor urban area	6.0	1.9	0.6	2.6	5.3	11.3
Rural	5.4	2.8	S	2.9	5.7	11.7
Marital status						
Married/partnered	3.3	1.9	0.6	1.1	1.9	7.1
Not living with a spouse or partner	7.5	3.0	0.8	1.6	3.9	13.2

[20] The tables presented in this study were prepared by the author, not Statistics New Zealand.

Table 1: The incidence of temporary work by personal characteristics (continued from previous page)

	Type of temporary work				All seasonal employees	All temporary employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined		
	Number of people in each type of temporary work as a percentage of all employees					
Parental status						
Sole parent mother of dependent child(ren)	6.2	3.3	S	1.8	2.7	12.4
Sole parent father of dependent child(ren)	S	S	S	S	S	4.3
Mother of dependent child(ren): 2-parent family	5.1	3.2	1.3	1.0	2.2	10.9
Father of dependent child(ren): 2-parent family	1.8	1.2	S	1.1	1.7	4.6
Not parent of dependent child	5.6	2.4	0.7	1.3	3.0	10.2
Highest qualification						
No qualification	6.4	1.2	0.9	2.4	4.6	11.0
School Certificate/NCEA Level 1	5.8	1.2	S	1.8	3.3	9.4
Higher school qualification	7.2	2.4	1.0	1.5	3.6	12.7
Other school qualification	4.1	S	S	2.5	3.2	7.9
Vocational or trade qualification	3.7	2.1	0.5	1.0	2.0	7.5
Degree	3.9	4.4	0.7	S	1.3	9.4
Other post-school qualification	3.2	S	S	S	S	6.5
Highest qualification - people aged 30 or over						
No qualification	5.1	1.0	0.9	1.9	3.7	9.1
School Certificate/NCEA Level 1	2.6	S	S	1.6	2.5	5.5
Higher school qualification	4.5	1.4	1.0	S	1.7	7.8
Other school qualification	4.3	S	S	S	S	7.7
Vocational or trade qualification	3.2	1.9	0.5	1.1	2.1	7.0
Degree	3.0	3.9	0.6	S	1.0	7.7
Other post-school qualification	1.9	S	S	S	S	5.5
Usual hours worked per week in main job						
0–19	16.8	3.1	1.5	1.9	4.8	23.8
20–29	8.5	2.9	S	1.7	2.9	14.6
30–39	4.4	2.7	1.0	0.7	2.6	9.1
40–44	1.9	2.1	0.5	0.9	1.9	5.5
45–49	0.8	1.3	S	1.7	2.7	4.3
50+	1.6	2.2	S	1.3	2.5	5.2
Part-time or full-time status in main job						
Part time	13.0	3.0	S	1.8	3.9	19.6
Full time	2.1	2.1	0.5	1.1	2.2	5.9

Symbol: S=suppressed for confidentiality reasons.

Note: Variable definitions are given in Appendix 1 and 2.

Table 2: The incidence of temporary work by job characteristics

	Type of temporary work				All seasonal employees	All temporary employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined		
	Number of people in each type of temporary work as a percentage of all employees					
Occupation						
Legislators, administrators and managers	0.9	1.5	S	S	S	2.5
Professionals	2.7	3.9	0.6	S	0.9	7.7
Technicians and associate professionals	4.4	3.9	0.7	1.0	2.4	10.1
Clerks	3.7	2.9	1.3	S	0.9	8.4
Service and sales workers	8.3	0.7	0.6	0.9	1.7	11.0
Agriculture and fishery workers	12.9	2.4	S	6.7	17.1	22.8
Trades workers	2.1	1.1	S	S	S	4.1
Plant and machine operators and assemblers	4.3	1.6	S	5.2	8.2	12.3
Elementary occupations	13.0	1.7	1.7	2.8	5.5	19.4
Industry						
Agriculture, Forestry and Fishing	13.2	2.8	S	7.0	18.4	24.1
Manufacturing	3.0	2.2	0.4	3.8	5.4	9.6
Construction	3.5	1.5	S	S	S	5.3
Wholesale Trade	2.9	S	S	S	S	4.3
Retail Trade	5.4	1.1	S	S	0.7	7.3
Accommodation, Cafes and Restaurants	12.2	S	S	1.3	2.3	15.6
Transport and Storage	4.2	S	S	S	S	6.6
Communication Services	5.0	S	S	S	S	6.7
Finance and Insurance	1.8	S	S	S	S	3.5
Property and Business Services	3.7	1.2	2.6	S	0.9	7.8
Government Administration and Defence	1.9	3.9	S	S	S	6.5
Education	5.1	7.7	S	1.2	2.9	14.8
Health and Community Services	5.2	2.3	0.7	S	S	8.6
Cultural and Recreational Services	8.5	5.2	S	2.9	8.0	17.5
Personal and Other Services	3.3	2.3	S	S	S	6.2
Business type						
Private sector	4.5	1.5	0.7	1.4	2.7	8.3
Central government	4.2	5.0	S	0.8	2.1	10.4
Local government	4.4	4.7	S	S	S	9.6
Not for profit sector	4.4	3.2	1.0	2.1	3.2	11.0
Size of establishment						
1-4 employees	5.4	2.1	0.6	1.7	3.4	10.0
5-9 employees	4.7	1.8	S	1.0	1.8	7.9
10-19 employees	5.1	2.0	S	0.8	1.8	8.6
20-49 employees	3.0	2.4	0.5	1.0	1.9	7.3
50-99 employees	3.2	1.6	0.8	0.8	1.9	6.3
100-499 employees	4.2	3.1	1.6	1.1	2.6	10.2
500 employees or more	5.5	3.6	S	3.8	6.7	13.5
Size of enterprise						
1-4 employees	5.3	2.0	0.6	1.7	3.4	9.9
5-9 employees	4.8	1.8	S	1.0	1.9	8.1
10-19 employees	5.1	2.1	S	0.7	1.5	8.4
20-49 employees	3.2	2.5	0.6	1.3	2.5	8.0
50-99 employees	3.6	1.5	S	1.1	2.3	6.8
100-499 employees	4.2	2.2	1.4	0.7	1.7	8.7
500 employees or more	4.2	3.3	0.8	2.1	3.9	10.5

Symbol: S=suppressed for confidentiality reasons.

Note: Variable definitions are given in Appendix 1 and 2.

Table 3: Marginal effects of personal characteristics on the probability of working in a temporary job

	Males			Females		
	Casual employment	Fixed-term employment	Seasonal employment	Casual employment	Fixed-term employment	Seasonal employment
	Marginal effects					
15-19 years	0.049 *		0.030 *	0.048 *		
20-24 years	0.049 *					
25-29 years						-0.013 ***
30-34 years						-0.010 **
55-59 years						-0.014 ***
60-64 years						-0.012 ***
Māori ethnicity						0.023 **
European/Maori ethnicity		-0.011 ***				
Pacific ethnicity						0.052 **
Asian ethnicity						-0.011 **
Born overseas – lived in NZ for less than 5 years	-0.015 **					
Born overseas – lived in NZ for 5–10 years	-0.014 **		-0.003 **			
Born overseas – lived in NZ for 10 years or more			-0.009 ***		-0.012 **	-0.008 **
Lives in minor urban area	0.015 *		0.025 ***			0.032 ***
Lives in rural location						0.027 ***
Sole parent of dependent child(ren)	-0.014 *					
No qualification	0.029 **					
Degree		0.031 *	-0.009 ***		0.074 **	
Part-time employed	0.126 ***			0.078 **		0.012 **

* Significant at the 90 percent confidence level. **Significant at the 95 percent confidence level. ***Significant at the 99 percent confidence level.

Notes: Each number represents the marginal effect of a particular characteristic on the probability of being employed in a temporary job, relative to the probability of the omitted group. The omitted groups are 40-44 year olds, European, born in NZ, living in a main urban area, has no dependent children, has lower school qualifications only, and full-time employed. Each marginal effect represents the percentage point change in the predicted probability. Only marginal effects that were statistically significant at the 90 percent confidence level or higher in the underlying regressions are shown in the table.

Table 4: Personal characteristics of temporary workers (continued on next page)

	Type of temporary work				All seasonal employees	Temporary employees	Permanent employees	All employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined				
	(%)							
Sex								
Male	45.3	37.6	30.3	61.7	55.3	44.4	51.7	51.1
Female	54.7	62.4	69.7	38.3	44.7	55.6	48.3	48.9
Age group (years)								
Mean age	34.6	36.5	35.0	36.9	35.1	35.5	39.4	39.0
Mean age - males	33.4	33.6	35.9	34.6	34.0	34.1	39.0	38.6
Mean age - females	35.6	38.3	34.6	40.5	36.5	36.7	39.7	39.4
15–24	42.4	22.7	28.7	31.5	38.0	34.9	17.3	19.0
25–34	12.8	26.4	24.4	17.6	14.2	17.5	21.8	21.4
35–44	15.8	21.6	15.8	15.3	17.9	17.0	23.1	22.5
45–54	12.4	16.7	23.3	22.3	16.6	15.7	22.0	21.4
55–64	10.7	10.0	S	9.8	9.9	10.4	13.4	13.1
65+	6.0	2.6	S	S	3.5	4.5	2.4	2.6
Gender by broad age group (years)								
Males, 15-24	23.2	13.1	10.7	23.6	24.0	19.5	8.9	9.9
Males, 25-54	13.6	19.3	16.6	27.9	21.7	17.0	34.9	33.2
Males, 55+	8.5	5.2	S	10.3	9.5	7.9	7.9	7.9
Females, 15-24	19.2	9.7	18.0	7.9	13.9	15.4	8.4	9.1
Females, 25-54	27.3	45.3	46.8	27.3	27.0	33.1	32.0	32.1
Females, 55+	8.2	7.4	S	S	3.8	7.1	7.8	7.7
Ethnic group								
European only	72.3	77.7	52.1	69.8	71.3	71.9	75.0	74.7
Māori only	6.3	4.7	10.2	8.0	10.1	6.4	5.1	5.2
European/Māori	4.4	S	S	8.9	6.1	4.6	4.8	4.8
Pacific peoples only	2.8	3.0	12.6	5.3	5.4	3.9	3.7	3.7
Asian only	10.5	9.2	12.8	S	3.3	9.4	8.1	8.3
Other categories	3.6	3.5	S	S	S	3.9	3.3	3.4
Birthplace								
New Zealand	78.2	73.9	67.4	86.5	84.1	77.3	75.9	76.0
Overseas – lived in NZ for less than 5 years	5.9	11.0	S	S	5.5	7.2	6.5	6.5
Overseas – lived in NZ for 5 years but less than 10	4.4	4.9	10.8	6.5	4.9	5.2	5.6	5.5
Overseas – lived in NZ for 10 years or more	11.5	10.2	13.5	S	5.5	10.3	12.1	11.9
Type of geographical area								
Main urban area	73.1	76.2	86.5	50.6	52.3	71.8	77.5	76.9
Secondary or minor urban area	13.6	9.1	9.3	22.1	21.9	13.2	10.8	11.0
Rural	13.4	14.7	S	27.3	25.8	15.1	11.8	12.1
Marital status								
Married/partnered	42.2	51.6	57.5	51.6	45.2	47.3	64.0	62.4
Not living with a spouse or partner	57.8	48.4	42.5	48.4	54.8	52.7	36.0	37.6

Table 4: Personal characteristics of temporary workers (continued from previous page)

	Type of temporary work				All seasonal employees	Temporary employees	Permanent employees	All employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined				
	(%)							
Parental status								
Sole parent mother of dependent child(ren)	4.5	5.1	S	4.9	3.6	4.7	3.4	3.5
Sole parent father of dependent child(ren)	S	S	S	S	S	S	0.8	0.8
Mother of dependent child(ren): two-parent family	13.9	18.2	24.2	10.4	11.1	15.4	13.1	13.3
Father of dependent child(ren): two-parent family	6.5	8.9	S	14.8	11.0	8.3	18.0	17.1
Not parent of dependent child	74.8	67.7	63.4	68.7	73.5	71.2	64.7	65.3
Highest qualification								
No qualification	22.9	8.8	23.1	33.1	30.3	20.5	17.1	17.5
School Certificate/NCEA Level 1	9.5	4.2	S	11.3	9.9	8.0	7.9	8.0
Higher school qualification	20.9	14.5	20.5	16.1	19.1	19.2	13.6	14.1
Other school qualification	2.2	S	S	5.1	3.2	2.2	2.7	2.6
Vocational or trade qualification	24.7	29.7	22.2	25.7	24.7	26.0	33.3	32.5
Degree	16.9	39.5	21.6	S	10.0	20.9	20.9	20.9
Other post-school qualification	2.6	S	S	S	S	2.7	4.0	3.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	600	280	90	180	370	1,170	10,740	11,940
Estimated population size (000s)	85.1	40.3	12.0	22.3	46.5	163.6	1,575.2	1,743.2

Symbol: S=suppressed for confidentiality reasons.

Note: Variable definitions are given in Appendix 1 and 2.

Table 5: Job characteristics of temporary workers

	Type of temporary work							
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined	All seasonal employees	All temporary employees	Permanent employees	All employees
	(%)							
Occupation								
Legislators, administrators and managers	2.2	7.7	S	S	S	3.3	13.2	12.3
Professionals	9.7	30.1	16.7	S	5.7	14.5	18.0	17.7
Technicians and associate professionals	10.8	20.3	12.0	9.6	11.1	13.0	12.0	12.1
Clerks	10.7	17.7	26.4	S	4.9	12.5	14.2	14.0
Service and sales workers	29.1	5.5	14.4	12.1	10.8	19.9	16.7	17.1
Agriculture and fishery workers	11.3	4.5	S	22.3	27.4	10.4	3.6	4.3
Trades workers	3.7	4.2	S	S	S	3.8	9.1	8.6
Plant and machine operators and assemblers	7.4	5.9	S	34.5	26.0	11.0	8.2	8.4
Elementary occupations	14.8	4.1	14.0	12.3	11.4	11.5	4.9	5.6
Industry								
Agriculture, Forestry and Fishing	12.9	5.8	S	26.3	32.8	12.2	4.0	4.8
Manufacturing	9.0	13.7	8.5	42.8	29.4	14.9	14.6	14.6
Construction	4.4	4.0	S	S	S	3.5	6.5	6.2
Wholesale Trade	3.0	S	S	S	S	2.3	5.3	5.0
Retail Trade	14.9	6.4	S	S	3.4	10.6	13.9	13.6
Accommodation, Cafes and Restaurants	11.7	S	S	4.9	4.1	7.8	4.3	4.7
Transport and Storage	3.5	S	S	S	S	2.9	4.3	4.1
Communication Services	1.8	S	S	S	S	1.3	1.8	1.8
Finance and Insurance	1.3	S	S	S	S	1.3	3.8	3.6
Property and Business Services	7.2	5.1	36.0	S	3.1	8.0	9.7	9.6
Government Administration and Defence	1.8	8.0	S	S	S	3.3	4.9	4.8
Education	9.5	30.4	S	8.5	9.7	14.3	8.5	9.1
Health and Community Services	11.5	10.7	11.1	S	S	9.8	10.8	10.7
Cultural and Recreational Services	4.3	5.6	S	5.7	7.5	4.7	2.2	2.5
Personal and Other Services	2.7	4.0	S	S	S	2.6	4.1	4.0
Business type								
Private sector	61.1	42.5	70.9	71.5	67.5	59.0	67.3	66.5
Central government	13.7	34.4	S	9.8	12.6	17.6	15.7	15.9
Local government	1.8	4.1	S	S	S	2.1	2.0	2.0
Not for profit sector	6.4	9.6	10.7	11.5	8.4	8.2	6.9	7.0
Not classified	17.0	9.4	10.1	7.2	10.3	13.1	8.0	8.5
Size of establishment								
1-4 employees	22.4	18.1	16.5	26.8	25.6	21.4	20.0	20.1
5-9 employees	11.8	9.5	S	9.2	8.1	10.4	12.6	12.3
10-19 employees	13.5	11.2	S	8.1	8.5	11.7	13.0	12.9
20-49 employees	9.2	15.7	11.9	11.3	11.0	11.8	15.6	15.2
50-99 employees	6.3	6.6	11.2	6.3	6.8	6.6	10.0	9.7
100-499 employees	13.1	20.1	34.9	12.9	14.7	16.4	15.1	15.2
500 employees or more	6.5	9.2	S	17.3	14.7	8.4	5.6	5.8
Not classified	17.3	9.7	8.7	8.1	10.7	13.3	8.2	8.8
Size of enterprise								
1-4 employees	20.3	16.2	16.5	24.7	23.3	19.5	18.5	18.6
5-9 employees	9.9	8.0	S	7.4	7.1	8.6	10.1	10.0
10-19 employees	10.8	9.4	S	5.3	5.7	9.2	10.4	10.3
20-49 employees	8.0	13.2	10.6	12.4	11.7	10.6	12.6	12.4
50-99 employees	5.9	5.0	S	6.6	6.8	5.7	8.1	7.9
100-499 employees	13.2	14.3	31.1	8.2	9.7	14.1	15.4	15.2
500 employees or more	14.7	24.5	18.9	27.7	25.2	19.1	16.9	17.1
Not classified	17.1	9.4	8.7	7.6	10.5	13.1	8.0	8.5
Job tenure (in bands)								
Less than 6 months	46.3	42.4	51.2	20.5	36.9	41.7	13.1	15.9
6 months to less than 1 year	9.5	14.2	11.9	S	4.4	9.9	7.9	8.1
1 to less than 3 years	23.6	20.5	25.4	23.8	22.4	23.0	24.8	24.7
3 to less than 5 years	8.7	10.6	S	14.7	11.3	9.8	16.0	15.4
5 to less than 10 years	6.5	4.4	S	16.7	11.7	7.2	18.3	17.2
10 to less than 15 years	2.6	4.1	S	8.5	4.8	3.8	8.6	8.1
15 years+	2.8	3.8	S	13.7	8.3	4.4	11.2	10.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	600	280	90	180	370	1,170	10,740	11,940
Estimated population size (000s)	85.1	40.3	12.0	22.3	46.5	163.6	1,575.2	1,743.2

Symbol: S=suppressed for confidentiality reasons.

Note: Variable definitions are given in Appendix 1 and 2.

Table 6: Job tenure and earnings of temporary workers

	Type of temporary work				All seasonal employees	All temporary employees	Permanent employees	All employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined				
Job tenure								
Mean (weeks)	120.2	130.7	60.8	334.6	214.9	149.5	305.7	290.4
Median (weeks)	35.0	43.0	23.0	161.0	96.0	47.0	156.0	156.0
Mean (years)	2.3	2.5	1.2	6.4	4.1	2.9	5.9	5.6
Median (years)	0.7	0.8	0.4	3.1	1.8	0.9	3.0	3.0
Hourly earnings								
Mean hourly earnings ($)	16.0	23.7	21.2	18.0	16.6	18.5	23.4	22.9
Median hourly earnings ($)	13.1	19.5	15.5	17.0	15.0	15.0	19.2	19.0
Ratio 90/10 percentiles	2.4	3.3	2.9	2.3	2.3	2.7	3.2	3.2
Mean hourly earnings - males ($)	16.0	24.0	20.2	18.6	17.4	18.4	25.6	25.0
Mean hourly earnings - females ($)	16.0	23.6	21.6	16.8	15.6	18.6	20.9	20.7
Weekly earnings								
Mean weekly earnings ($)	354	814	581	649	569	527	884	850
Median weekly earnings ($)	258	700	450	602	522	425	769	756
Ratio 90/10 percentiles	12.2	8.0	8.8	9.6	10.9	12.7	6.4	7.6
Sample size	600	280	90	180	370	1,170	10,740	11,940
Estimated population size (000s)	85.1	40.3	12.0	22.3	46.5	163.6	1,575.2	1,743.2

Symbol: S=suppressed for confidentiality reasons.

Note: Variable definitions are given in Appendix 1 and 2.

Table 7: Weekly hours of work and preferences for more or less hours

	Type of temporary work				All seasonal employees	All temporary employees	Permanent employees	All employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined				
	(%)							
Usual hours worked per week (main job)								
Mean number of usual hours	22.0	34.2	28.5	34.9	32.7	27.4	37.6	36.6
Median number of usual hours	20.0	40.0	35.0	40.0	40.0	29.0	40.0	40.0
0–19	46.6	18.1	30.3	20.3	24.3	34.3	11.3	13.5
20–29	15.9	11.4	S	12.1	9.8	14.2	8.6	9.1
30–39	12.2	15.8	19.7	7.1	13.1	13.0	13.5	13.5
40–44	14.8	35.5	30.3	28.7	27.5	22.9	40.4	38.7
45–49	1.7	6.2	S	14.5	10.7	4.9	11.3	10.7
50+	4.2	12.6	S	14.0	12.3	7.4	13.9	13.3
Missing	4.5	S	S	S	S	3.4	0.9	1.1
Part-time employee	61.4	29.4	36.9	32.4	33.0	47.6	19.9	22.5
Full-time employee	33.9	70.0	58.7	64.3	64.6	48.9	79.3	76.4
Paid overtime hours in last 4 weeks								
Yes	5.9	10.8	S	27.0	21.3	10.1	15.1	14.6
No	88.7	78.8	82.4	62.9	69.9	82.3	81.6	81.6
Unpaid extra hours in last 4 weeks								
Yes	5.1	17.3	S	S	3.2	7.4	14.7	13.9
No	90.2	72.0	86.4	87.8	88.1	85.2	82.0	82.3
Wants to work more hours								
Yes	20.3	14.1	22.2	17.6	20.9	18.6	7.7	8.8
No	79.7	85.9	77.8	82.4	79.1	81.4	92.3	91.2
Wants to work fewer hours and be paid less (only asked of full-time employees)								
Yes	9.4	11.5	19.0	11.6	11.6	11.2	17.1	16.7
No	89.5	87.4	81.0	87.4	87.4	87.8	81.7	82.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	600	280	90	180	370	1,170	10,740	11,940
Estimated population size (000s)	85.1	40.3	12.0	22.3	46.5	163.6	1,575.2	1,743.2

Symbol: S=suppressed for confidentiality reasons.

Note: Variable definitions are given in Appendix 1 and 2.

Table 8: Usual working time patterns

	Type of temporary work				All seasonal employees	All temporary employees	Permanent employees	All employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined				
	(%)							
Usual working time (all jobs)								
standard times	53.6	70.6	75.2	44.8	53.2	58.2	67.1	66.2
standard times	42.7	27.3	16.9	54.0	44.7	38.6	31.5	32.2
No usual working time	3.4	S	S	S	2.2	3.1	1.5	1.6
Overall work pattern								
Mainly daytime	80.5	90.5	89.9	87.6	87.9	84.9	89.0	88.6
Mainly evening, 7pm–11pm	10.8	3.6	S	6.1	6.1	7.5	3.5	3.9
Mainly night, 11pm–5am	S	S	S	S	2.5	1.1	1.2	1.2
Changing shifts	6.6	3.2	S	S	2.6	5.2	5.2	5.2
Other pattern	S	S	S	S	S	0.9	1.1	1.1
Number of days usually worked per week								
Less than 5 days per week	45.4	23.2	31.3	20.7	25.1	35.3	17.7	19.4
5 days per week	29.5	64.6	50.0	38.1	42.8	41.0	67.5	64.9
More than 5 days per week	8.3	10.0	S	27.0	20.0	11.2	11.6	11.6
No usual number of days	16.0	S	13.0	11.2	10.4	11.6	3.1	3.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	600	280	90	180	370	1,170	10,740	11,940
Estimated population size (000s)	85.1	40.3	12.0	22.3	46.5	163.6	1,575.2	1,743.2

Symbol: S=suppressed for confidentiality reasons.

Note: Variable definitions are given in Appendix 1 and 2.

Table 9: Working time patterns in the last four weeks

	Type of temporary work				All seasonal employees	All temporary employees	Permanent employees	All employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined				
	(%)							
Evening work (7–11pm) in last 4 weeks								
1–5 times	16.7	16.3	15.0	10.9	10.7	15.8	16.6	16.5
6–10 times	7.5	4.6	S	S	2.6	5.7	6.2	6.2
More than 10 times	8.2	9.1	S	7.4	8.9	7.9	6.9	7.0
Total who worked evenings	33.3	31.7	15.8	18.3	22.6	30.2	30.1	30.1
None	66.2	68.2	79.6	78.1	77.0	69.4	69.8	69.8
Night work (11pm–5am) in last 4 weeks								
1–5 times	5.5	3.7	S	S	3.7	4.6	5.2	5.1
6–10 times	S	S	S	S	S	1.1	2.0	1.9
More than 10 times	2.7	4.8	S	5.6	7.3	3.4	2.7	2.8
Total who worked nights	8.4	8.8	S	6.5	11.6	9.5	10.1	10.0
None	90.2	89.6	94.5	87.8	87.2	90.2	89.9	89.9
Early morning work (5–7am) in last 4 weeks								
1–5 times	4.5	4.7	10.6	8.4	6.3	5.6	6.5	6.4
6–10 times	2.0	S	S	S	3.7	2.5	2.6	2.6
More than 10 times	3.5	S	S	22.0	15.4	5.6	5.5	5.6
Total who worked mornings	10.1	5.0	10.6	30.4	25.7	13.7	14.8	14.7
None	89.3	89.7	84.4	65.2	73.7	85.9	85.1	85.2
Saturday work in last 4 weeks								
1–2 times	25.9	19.1	15.8	22.2	26.6	23.1	21.5	21.7
3–4 times	21.7	14.1	11.7	38.9	27.7	21.7	19.5	19.7
None	52.4	66.8	72.6	39.0	45.7	55.2	58.9	58.6
Sunday work in last 4 weeks								
1–2 times	18.3	15.7	S	15.9	17.3	16.6	15.3	15.5
3–4 times	14.0	10.8	11.3	17.3	15.4	13.4	12.9	13.0
None	67.7	73.5	79.6	66.8	67.3	69.9	71.8	71.6
Weekend work in last 4 weeks								
1–4 Saturdays/Sundays	36.7	30.7	19.4	49.3	43.6	35.8	33.5	33.7
5–8 Saturdays/Sundays	15.2	9.4	10.9	15.1	14.6	13.6	12.6	12.7
Total who worked weekends	52.8	40.3	30.3	64.4	58.6	49.9	46.4	46.7
None	47.2	59.7	69.7	35.6	41.4	50.1	53.6	53.3
Non-standard working time totals								
1–5 times	28.6	19.9	14.3	25.4	27.4	25.1	24.5	24.6
6–10 times	13.3	10.1	21.3	13.5	11.8	13.2	11.1	11.3
More than 10 times	19.8	16.8	S	38.3	29.9	20.4	19.2	19.3
standard time	63.4	48.9	42.6	77.7	70.2	60.3	55.5	55.9
None	36.6	51.1	57.4	22.3	29.8	39.7	44.5	44.1
Paid for evening work done in last 4 weeks								
Yes/partly	96.8	80.1	94.7	100.0	95.8	93.0	78.8	80.1
No	S	19.3	S	S	S	6.8	20.8	19.5
Paid for weekend work done in last 4 weeks								
Yes/partly	98.4	82.5	94.0	99.2	98.6	95.4	84.7	85.7
No	S	17.0	S	S	S	4.4	14.9	13.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	600	280	90	180	370	1,170	10,740	11,940
Estimated population size (000s)	85.1	40.3	12.0	22.3	46.5	163.6	1,575.2	1,743.2

Symbol: S=suppressed for confidentiality reasons.

Note: Variable definitions are given in Appendix 1 and 2.

Table 10: Job conditions (continued on next page)

	Type of temporary work				All seasonal employees	All temporary employees	Permanent employees	All employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined				
	(%)							
Employer-funded study or training								
No employer-funded study or training in last 12 months	87.5	67.7	90.2	83.0	86.3	82.0	67.7	69.1
Some employer-funded study or training in last 12 months	12.5	32.3	9.8	17.0	13.7	18.0	31.9	30.5
Some study or training in last 12 months - males	8.3	22.2	S	13.4	8.8	12.1	33.1	31.3
Some study or training in last 12 months - females	15.9	38.4	S	22.9	19.9	22.7	31.5	30.5
Amount of study or training: all employees								
1 day or less	3.0	12.2	S	5.7	5.7	5.5	6.6	6.5
2 to 5 days	6.4	14.9	S	7.3	5.2	8.7	15.0	14.4
6 days or more	3.1	5.2	S	S	2.9	3.8	10.3	9.7
Amount of study or training: participants only								
1 day or less	19.0	32.4	S	26.9	34.3	25.2	15.6	16.0
2 to 5 days	40.8	39.6	S	34.6	31.3	40.1	35.5	35.7
6 days or more	20.1	14.0	S	19.3	17.2	17.3	24.5	24.1
Paid annual leave entitlement								
4 weeks	14.1	39.8	24.6	32.9	22.0	24.7	69.8	65.5
than 5 weeks	S	S	S	S	S	0.7	4.0	3.7
5 weeks or more	S	11.4	S	5.3	3.4	4.2	12.0	11.2
Percentage added to pay instead of annual leave	36.9	20.2	23.8	26.3	37.1	29.6	4.1	6.5
Less than 4 weeks	S	S	S	4.8	2.9	1.5	2.1	2.0
No leave entitlement	30.7	17.3	38.2	15.8	24.6	26.0	3.3	5.5
DK /other	16.5	8.4	10.1	13.1	9.2	13.2	4.7	5.5
Has flexible hours								
Yes	46.6	46.7	53.7	25.4	38.6	43.6	40.6	40.8
Sometimes	5.4	S	S	S	3.9	5.1	6.7	6.6
above)	*52.0*	*46.7*	*53.7*	*25.4*	*42.6*	*48.7*	*47.2*	*47.4*
No	47.1	48.1	43.1	70.7	56.7	50.5	52.5	52.3
DK /other	S	S	S	S	S	0.8	0.2	0.3
Did some work at home during the last 4 weeks (main job)	7.6	26.0	8.4	9.4	8.7	12.4	20.9	20.1
Was paid for some or all of the hours worked at home, if worked at home in last 4 weeks	53.1	35.8	S	S	37.7	40.7	34.2	34.5
Can take a few days of unpaid leave								
Yes	74.1	75.0	78.5	75.7	77.1	74.9	82.0	81.2
Probably	5.4	11.0	S	6.4	5.7	6.7	8.8	8.6
Yes or probably (sum of above)	*79.4*	*86.1*	*78.5*	*82.1*	*82.8*	*81.6*	*90.8*	*89.9*
No	14.4	10.8	13.1	13.6	12.7	13.4	6.7	7.4
DK /other	6.1	3.2	S	S	4.5	5.0	2.5	2.8
Could reduce to less than 30 hours per week (Only asked of persons usually working at least 35 hours a week)								
Yes	43.5	16.8	25.7	22.0	28.2	27.0	20.6	20.9
Probably	15.0	9.8	S	9.1	8.5	11.2	11.8	11.8
Yes or probably (sum of above)	*58.5*	*26.6*	*25.7*	*31.1*	*36.6*	*38.2*	*32.4*	*32.7*
No	32.9	63.6	51.0	63.5	57.0	52.9	60.8	60.3
DK /other	8.5	9.8	S	S	6.4	8.9	6.8	6.9

Table 10: Job conditions (continued from previous page)

	Type of temporary work				All seasonal employees	All temporary employees	Permanent employees	All employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined				
	(%)							
Hours change from week to week to suit employer's needs (only asked of temporary workers)								
Yes	62.4	31.7	52.4	56.1	58.0	52.6		
Sometimes	5.7	5.6	S	11.3	7.8	6.4		
No	31.8	62.5	42.8	32.6	34.2	40.8		
Advance notice of work schedule (only asked of selected types of temporary employee)								
Always known	32.4		40.7	47.3	41.5			
2 weeks or more	11.5		10.8	8.0	7.3			
1 week to less than 2	11.9		S	S	7.0			
2 to 6 days	12.4		12.4	13.7	12.1			
One day or less	18.0		19.0	15.6	21.3			
It varies	12.5		S	11.4	9.8			
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	600	280	90	180	370	1,170	10,740	11,940
Estimated population size (000s)	85.1	40.3	12.0	22.3	46.5	163.6	1,575.2	1,743.2

Symbol: S=suppressed for confidentiality reasons.

Note: Variable definitions are given in Appendix 1 and 2.

Table 11: Union membership and type of employment agreement

	Type of temporary work				All seasonal employees	All temporary employees	Permanent employees	All employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined				
	(%)							
Union member								
Yes	17.3	34.6	24.5	45.1	33.3	25.8	30.7	30.1
No	79.2	65.4	73.1	52.4	63.3	71.8	68.3	68.6
DK/other	3.5	S	S	S	3.3	2.3	1.1	1.2
Type of employment agreement								
Collective agreement	14.4	29.3	23.2	39.0	29.5	22.1	27.4	26.8
Individual agreement	45.0	53.4	47.4	38.2	39.0	46.4	59.1	57.9
Not aware of being on any agreement	29.1	13.4	16.6	13.4	19.8	22.2	8.8	10.2
DK/other	11.6	3.8	12.8	9.4	11.8	9.2	4.7	5.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	600	280	90	180	370	1,170	10,740	11,940
Estimated population size (000s)	85.1	40.3	12.0	22.3	46.5	163.6	1,575.2	1,743.2

Symbol: S=suppressed for confidentiality reasons.

Note: Variable definitions are given in Appendix 1 and 2.

Table 12: Health and safety at work

	Type of temporary work				All seasonal employees	All temporary employees	Permanent employees	All employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined				
	(%)							
Found work stressful								
Always/Often	10.2	17.2	11.8	19.7	15.2	13.7	18.4	18.0
Sometimes	29.7	39.2	34.6	24.9	25.5	31.9	42.2	41.2
Hardly ever/Never	59.2	43.1	52.9	55.0	58.3	53.7	38.9	40.3
Had physical problems/pain because of work								
Always/Often	5.9	5.4	S	18.4	14.5	7.3	6.3	6.5
Sometimes	19.5	16.3	17.9	25.6	21.5	19.3	21.4	21.2
Hardly ever/Never	73.7	78.3	77.1	55.3	63.1	72.7	71.9	72.0
Too tired to enjoy life outside of work								
Always/Often	12.3	13.7	13.6	17.0	16.5	13.4	13.7	13.7
Sometimes	23.9	27.2	26.7	34.2	25.9	26.1	32.6	31.9
Hardly ever/Never	62.7	59.1	59.6	48.0	56.4	59.7	53.4	54.0
Experienced discrimination, harassment or bullying								
Yes/sometimes	8.1	11.0	11.0	10.6	9.7	9.7	10.8	10.7
No	90.9	89.0	89.0	88.6	89.4	89.7	88.7	88.8
Perception of how health and safety risks are managed								
Very well/Well	83.2	85.9	93.2	86.2	84.2	84.8	85.6	85.5
Neither well nor poorly	7.3	6.9	S	S	5.9	6.6	8.6	8.4
Poorly/Very poorly	4.3	3.2	S	7.5	5.9	4.2	4.5	4.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	600	280	90	180	370	1,170	10,740	11,940
Estimated population size (000s)	85.1	40.3	12.0	22.3	46.5	163.6	1,575.2	1,743.2

Symbol: S=suppressed for confidentiality reasons.

Note: Variable definitions are given in Appendix 1 and 2.

Table 13: Reasons for working in a temporary job and preferences for a permanent job

	Type of temporary work				All seasonal employees	All temporary employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined		
	(%)					
Reasons for doing temporary work						
Family reasons	9.7	7.7	14.5	6.7	7.6	9.2
Educational reasons	33.0	14.2	26.0	6.7	16.9	24.1
Health limitations	2.1	S	S	S	S	1.4
Lifestyle reasons	13.9	13.0	17.0	19.5	15.5	14.9
Financial reasons	6.9	5.8	S	22.4	17.6	8.5
Involuntary (only type of work available, hopes job becomes permanent)	12.0	14.8	16.4	8.3	11.7	12.6
Other reasons	27.7	41.9	29.4	46.5	38.8	34.0
Would prefer a job that is permanent/ongoing						
All temporary employees	36.5	49.1	47.2	33.5	35.6	40.1
Males	34.6	49.6	54.4	38.9	37.8	39.7
Females	38.0	48.8	44.0	25.0	32.9	40.4
15-24 years	37.0	39.9	46.6	36.7	40.7	38.4
25-54 years	44.2	55.0	48.5	35.7	35.2	47.2
55 years and over	16.4	35.5	S	S	22.7	20.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	600	280	90	180	370	1,170
Estimated population size (000s)	85.1	40.3	12.0	22.3	46.5	163.6

Symbol: S=suppressed for confidentiality reasons.

Note: Variable definitions are given in Appendix 1 and 2.

Table 14: Job satisfaction and satisfaction with work-life balance

	Type of temporary work				All seasonal employees	All temporary employees	Permanent employees	All employees
	Casual	Fixed-term	Temp agency worker	Seasonal worker not further defined				
	(%)							
Job satisfaction (main job)								
Satisfied/very satisfied	80.6	81.0	83.8	80.9	80.9	80.7	83.5	83.2
Neither satisfied nor dissatisfied	13.1	13.2	11.5	11.2	12.8	12.9	11.2	11.4
Dissatisfied/ very dissatisfied	5.6	5.5	S	7.1	5.4	5.8	5.0	5.1
Work-life balance satisfaction (all jobs)								
Satisfied/very satisfied	78.5	76.9	84.5	76.7	79.5	78.1	75.8	76.0
Neither satisfied nor dissatisfied	13.6	14.2	10.8	14.0	12.7	13.6	15.0	14.9
Dissatisfied/ very dissatisfied	6.6	8.1	S	8.1	6.5	7.2	8.7	8.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	600	280	90	180	370	1,170	10,740	11,940
Estimated population size (000s)	85.1	40.3	12.0	22.3	46.5	163.6	1,575.2	1,743.2

Symbol: S=suppressed for confidentiality reasons.

Note: Variable definitions are given in Appendix 1 and 2.

Table 15: Estimates of the gap in average hourly earnings between temporary and permanent employees

	Unadjusted difference in log wage (temp-permanent)	Model 1 - demographic controls			Model 2 - Controls for personal and job characteristics		
		Coefficient		Std Error	Coefficient		Std Error
Males							
All temporary workers	-0.301	-0.107	***	0.028	-0.007		0.022
Casual	-0.414	-0.159	***	0.039	-0.023		0.029
Fixed term	-0.090	-0.022		0.057	0.012		0.050
Seasonal	-0.312	-0.058		0.037	0.032		0.033
Females							
All temporary workers	-0.130	-0.072	***	0.018	-0.022		0.017
Casual	-0.254	-0.143	***	0.022	-0.065	***	0.022
Fixed term	0.114	0.034		0.035	0.040		0.031
Temporary agency	-0.043	0.021		0.067	-0.018		0.067
Seasonal	-0.239	-0.096	***	0.030	-0.029		0.032

* Significant at the 90 percent confidence level. **Significant at the 95 percent confidence level. ***Significant at the 99 percent confidence level.

Notes: The coefficients for all temporary workers; for casual, fixed-term and temporary agency workers; and for seasonal workers are derived from three separate regressions. The model 1 regressions include controls for five-year age group, ethnic group, parental status, immigrant status interacted with years in New Zealand, rural/urban location, highest educational qualification, and each temporary worker group. The model 2 regressions include the model 1 controls and also controls for part-time status, occupation defined at one-digit level, industry defined at one-digit level, the employer's business type and the size of the employer's enterprise.

Table 16: Estimates of the gap in training rates between temporary and permanent employees

	Unadjusted difference in training rates (temporary-permanent)	Model 1 Controls for personal characteristics	Model 2 Controls for personal and job characteristics	Model 3 Employees with job tenure of one year or more, full set of controls	Model 4 Prime-aged employees, full set of controls
		Marginal effect			
Males					
All temporary workers	-0.210	-0.176 ***	-0.147 ***	-0.085 **	-0.109 ***
Casual	-0.247	-0.208 ***	-0.172 ***	-0.110 **	-0.118 **
Fixed term	-0.110	-0.102 **	-0.101 **	-0.006	-0.102 *
Seasonal	-0.243	-0.200 ***	-0.176 ***	-0.128 ***	-0.125 **
Females					
All temporary workers	-0.089	-0.082 ***	-0.056 **	-0.021	-0.061 **
Casual	-0.158	-0.134 ***	-0.086 **	-0.088 *	-0.091 **
Fixed term	0.068	0.013	-0.014	0.058	-0.010
Temporary agency	-0.222	-0.201 ***	-0.188 ***	S	S
Seasonal	-0.116	-0.090 **	-0.031	0.063	0.028

* Significant at the 90 percent confidence level. **Significant at the 95 percent confidence level. ***Significant at the 99 percent confidence level.

Notes: Each number represents the marginal effect of working in a temporary job on the probability of having undertaken employer-funded training in the last 12 months. The model 1 regressions include controls for five-year age group, ethnic group, parental status, immigrant status interacted with years in New Zealand, rural/urban location, highest educational qualification, and each temporary worker group. The model 2 regressions include the model 1 controls and also controls for part-time status, occupation defined at one-digit level, industry defined at one-digit level, the employer's business type and the size of the employer's enterprise.

APPENDIX 1: TEMPORARY WORK DEFINITIONS

Temporary employee

A temporary employee was defined in the survey as an employee whose job only lasts for a limited time or until the completion of a project. In practice, employees who answered 'no' to a question on whether their main job was permanent, *or* 'yes' to a question on whether their main job was seasonal, were classified as temporary. These questions were worded as follows:

> 'A permanent employee is guaranteed continuing work. They can stay in their job until they decide to leave or their employer makes them redundant. In your job, are you a permanent employee?'
>
> 'Is your job only available at certain times of the year, in other words, is it a seasonal job?'

A person who said 'yes' to the first question and 'yes' to the second was classified in the survey outputs as a temporary employee. Some seasonal workers have long-term relationships with a particular employer and return to the same job each season, and therefore may believe they have a guarantee of continuing work. Nevertheless, employees in seasonal jobs were classified as 'temporary' in the main survey outputs and in this paper because their job does not provide continuous work around the year.

Temporary employment agency worker

A temporary employment agency worker was defined in the survey as a temporary worker who is paid by, or through, a temporary employment agency and placed by this agency to perform work at the premises of a third party customer enterprise, that is, someone other than the business enterprise that pays their wage or salary.

In practice, employees who answered 'no' to the initial question on whether their main job was permanent, and 'yes' to the following question, were classified as temporary agency workers.

> 'Are you a temporary agency worker who is paid by, or through, an employment agency?'

Casual worker

A casual worker was defined in the survey as a temporary worker who only works when their employer asks them to, on an as-needed basis, whose work is typically done in short episodes. A casual worker may be asked to work a shift, for a few days or, less often, for several weeks at a time. Casual workers do not have any guarantee of regular ongoing work.

In practice, employees who answered 'no' to the initial question on whether their main job was permanent, 'no' to the question on whether they were a temporary agency worker, and 'yes' to the following question, were classified as casual workers.

> 'In this job, are you a casual worker, that is, you ONLY work when your employer asks you to work and you have no guarantee of regular work?'

Fixed term worker

A fixed term worker was defined in the survey as a temporary employee who is hired until a fixed date or until a project has been completed. This includes replacement workers who are employees contracted to temporarily replace another employee who is absent on leave.

Employees who answered 'no' to the initial question on whether their main job was permanent, 'no' to both the 'temporary agency' and 'casual' questions, and said 'yes' to at least one of the following questions, were classified as fixed term employees.

> 'In your current [main] job, are you working on a fixed-term contract, until a certain date?'
>
> 'Are you working just until a task or project is finished?'
>
> 'Were you hired to temporarily replace another worker?'

Seasonal worker

A seasonal job is a job that only exists at certain times of the year, because the work does not need to be done year round. Whether a job is seasonal is reasonably clear cut in some industries (such as fruit picking or meat processing). In others, it can be unclear. For example, people who are employed to work during school terms (and are not paid at other times of the year) are technically doing seasonal work, but they may not see themselves as seasonal workers. Classification within the Survey of Working Life relied on self definition.

The basis on which seasonal workers are employed varies. They can be employed on a casual basis (to work as required by the employer); hired to work continuously until a certain date; or hired to work continuously until a project has been finished. Knowing that someone works in a seasonal job does not fully describe their employment relationship.

Two measures of seasonal employment are used in this paper. The broadest measure, 'all seasonal employees' includes everyone who said 'yes' to the question on seasonal work, including people who can also be classified as casual, fixed term or agency workers:

> ‘Is your job only available at certain times of the year, in other words, is it a seasonal job?’

A narrower measure, ‘seasonal work not further defined’ covers only the employees who said they worked in a seasonal job but did not provide any further information on the nature of their employment relationship that would allow them to be classified as a casual, fixed term or agency employee. The majority of people in this group initially said that their job was permanent, but were later reclassified as temporary employees.

APPENDIX 2: DEFINITIONS OF TABLE VARIABLES

This appendix provides definitions of the variables and classifications that are used in this paper, and appear as row variables in the tables. Temporary work variables are defined in Appendix 1.

Business type
The 'business type' variable indicates whether the respondent worked for a private sector firm, a government sector organisation, or not-for-profit organisation in their main job. It was derived by matching each respondent to a specific business identity appearing on Statistics New Zealand's Business Frame, using the information they gave on the name and address of their employer. The Business Frame is a business register containing data on the characteristics of all businesses that meet certain size and economic significance criteria, including their employee numbers and business type.

Nine percent of respondents could not be linked to any business on the BF, either because their employer was too small to be recorded on the Business Frame or because the details they gave were too vague. These respondents are shown in the 'not classified' category.

Employment agreement
An employment agreement is a document agreed by an employee and an employer that covers the employee's terms and conditions of employment. An individual agreement applies only to an individual employee. A collective agreement covers two or more employees who are members of a union.

Ethnic group
Respondents to the HLFS-SOWL were able to specify up to three ethnic groups that they are affiliated with. Their overall ethnic group was determined on the basis of all their responses. For example, the 'European only' group represents people who specified a European ethnic group and no other. The 'European/Maori' group includes people who gave these two ethnic groups and no others. The final 'other categories' group includes everyone who gave responses or combinations of responses that are not covered by preceding categories.

Highest qualification
- The category 'Higher school qualification' includes NZ Bursary, NZ Scholarships, NCEA level 2 or 3, NZ Higher School Certificate, and NZ 6th Form Certificate.
- The category 'Other school qualification' includes overseas school qualifications and any school qualifications that could not be classified by level.
- The category 'Other post-school qualification' includes people who said they had a post-school qualification but did not provide enough details for it to be classified.

Industry
Industry was classified using the ANZSIC96 classification.

Job tenure
The survey's measure of job tenure was derived from a question on the duration of time the respondent had worked for their employer in their main job. The wording of the question did not specify that the work under consideration must have been continuous and unbroken. Some people may have referred to the date when they first began working for their current employer even if they had not worked continuously.

Occupation
Occupation was classified using the NZSCO99 classification.

Parental status
The parental status variable uses the concept of a dependent child. A dependent child is a child who is either aged under 16, or aged 16-17 and not employed full-time.

Part-time employee
A part-time employee is one who usually works for fewer than 30 hours a week.

Size of establishment and size of enterprise
An establishment is a business unit or workplace with a single geographical location. An enterprise is a legally-defined business entity, which may have one or more establishments.

The 'size of establishment' and 'size of enterprise' variables were derived by matching each respondent to a specific business identity appearing on Statistics New Zealand's Business Frame, using the information they gave on the name and address of their employer. The Business Frame is a business register containing data on the characteristics of all businesses that meet certain size and economic significance criteria.

Nine percent of respondents could not be linked to any business on the BF, either because their employer was too small to appear on the Business Frame or because the details they gave were too vague. These respondents are shown in the 'not classified' category.

Type of geographical area
Main urban areas are towns and cities with at least 30,000 residents. Minor urban areas are towns with at least 1,000 residents but less than 30,000. The rural category includes rural centres that have less than 1,000 residents and geographical areas with lower population densities.

APPENDIX 3: SUPPLEMENTARY TABLES

Table A.1: Coefficients and marginal effects from a model of whether employed in a casual job

	Males, casual employment			Females, casual employment		
	Coefficient	Std Error	Marginal effect	Coefficient	Std Error	Marginal effect
15-19 years	1.212 ***	0.454	0.049 *	0.860 **	0.335	0.048 *
20-24 years	1.245 ***	0.437	0.049 *	0.585 *	0.343	0.029
25-29 years	0.366	0.448	0.010	-0.151	0.334	-0.006
30-34 years	0.180	0.443	0.005	-0.147	0.314	-0.006
35-39 years	0.063	0.462	0.002	0.096	0.266	0.004
45-49 years	0.209	0.463	0.005	-0.377	0.295	-0.013
50-54 years	0.579	0.467	0.018	-0.276	0.324	-0.010
55-59 years	0.828	0.523	0.028	-0.233	0.344	-0.008
60-64 years	0.539	0.484	0.016	-0.174	0.357	-0.006
65-69 years	1.015 *	0.548	0.040	0.446	0.414	0.022
70-74 years	1.021	0.653	0.041	0.835	0.690	0.049
Māori ethnicity	0.504 *	0.294	0.015	0.335	0.258	0.015
European / Maori ethnicity	-0.049	0.423	-0.001	-0.149	0.288	-0.006
Pacific ethnicity	0.123	0.460	0.003	0.339	0.349	0.016
Asian ethnicity	1.057 **	0.458	0.040	0.170	0.317	0.007
Other ethnicity	0.336	0.470	0.009	-0.162	0.401	-0.006
Born overseas – lived in NZ for less than 5 years	-0.861	0.554	-0.015 **	0.196	0.291	0.008
Born overseas – lived in NZ for 5–10 years	-0.772	0.504	-0.014 **	-0.315	0.382	-0.011
Born overseas – lived in NZ for 10 years or more	0.004	0.297	0.000	-0.209	0.251	-0.008
Lives in minor urban area	0.500 **	0.229	0.015 *	0.173	0.187	0.007
Lives in rural location	0.268	0.250	0.007	0.337	0.218	0.015
Sole parent of dependent child(ren)	-0.820	0.679	-0.014 *	0.234	0.252	0.010
Joint parent of dependent child(ren)	-0.183	0.243	-0.004	-0.055	0.203	-0.002
No qualification	0.891 ***	0.331	0.029 **	0.234	0.280	0.010
Upper school qualification	0.598 *	0.345	0.018	0.090	0.283	0.004
Other school qualification	-0.204	0.748	-0.004	0.374	0.458	0.017
Vocational qualification	0.298	0.354	0.007	0.268	0.272	0.011
Degree	0.653	0.415	0.019	0.319	0.316	0.014
Other post-school qualification	0.455	0.611	0.013	-0.023	0.428	-0.001
Part-time hours	2.143 ***	0.258	0.126 ***	1.474 ***	0.154	0.078 ***
Intercept	-4.930 ***	0.513		-3.929 ***	0.374	
Model summary statistics						
Number of observations	5,390			5,980		
Log-likelihood	-788.9			-1182.2		
Psuedo R^2	0.200			0.097		

* Significant at the 90 percent confidence level. **Significant at the 95 percent confidence level.

***Significant at the 99 percent confidence level.

Notes: The estimation sample is employees who were in casual or permanent jobs. See appendix 2 for further information on the explanatory variables.

Table A.2: Coefficients and marginal effects from a model of whether employed in a fixed-term job

	Males, fixed-term employment			Females, fixed-term employment		
	Coefficient	Std Error	Marginal effect	Coefficient	Std Error	Marginal effect
15-19 years	1.480 **	0.687	0.035	-0.063	0.512	-0.002
20-24 years	1.070 **	0.533	0.020	0.114	0.391	0.003
25-29 years	0.548	0.546	0.008	0.333	0.387	0.009
30-34 years	0.200	0.566	0.003	-0.156	0.367	-0.004
35-39 years	0.562	0.548	0.008	-0.066	0.370	-0.002
45-49 years	-0.475	0.619	-0.005	0.288	0.320	0.008
50-54 years	-0.670	0.802	-0.006	-0.370	0.371	-0.008
55-59 years	-0.335	0.702	-0.004	-0.051	0.435	-0.001
60-64 years	0.709	0.619	0.012	-0.358	0.563	-0.008
65-69 years	0.971	0.727	0.019	0.401	0.683	0.012
Māori ethnicity	-0.021	0.709	0.000	0.216	0.334	0.006
European / Maori ethnicity	-1.930 *	1.018	-0.011 ***	-0.633	0.450	-0.012 *
Pacific ethnicity	0.380	0.489	0.005	0.077	0.503	0.002
Asian ethnicity	-0.471	0.533	-0.005	0.032	0.424	0.001
Other ethnicity	0.284	0.576	0.004	-0.336	0.504	-0.007
Born overseas – lived in NZ for less than 5 years	0.721 *	0.396	0.012	0.311	0.435	0.009
Born overseas – lived in NZ for 5–10 years	0.055	0.599	0.001	-0.304	0.475	-0.007
Born overseas – lived in NZ for 10 years or more	0.394	0.391	0.005	-0.564	0.353	-0.012 **
Lives in minor urban area	0.262	0.405	0.003	-0.102	0.263	-0.002
Lives in rural location	0.147	0.353	0.002	0.432	0.266	0.013
Sole parent of dependent child(ren)	-0.803	1.054	-0.007	0.251	0.330	0.007
Joint parent of dependent child(ren)	-0.226	0.297	-0.003	-0.045	0.237	-0.001
No qualification	0.259	0.667	0.003	0.131	0.510	0.003
Upper school qualification	0.790	0.616	0.013	0.801	0.498	0.027
Other school qualification	-0.057	1.203	-0.001	-0.039	0.780	-0.001
Vocational qualification	0.464	0.628	0.006	1.119 **	0.451	0.036 **
Degree	1.556 **	0.607	0.031 *	1.727 ***	0.459	0.074 **
Other post-school qualification	0.182	0.823	0.002	0.525	0.668	0.017
Part-time hours	0.492	0.474	0.007	0.289	0.207	0.008
Intercept	-5.327 ***	0.706		-4.570 ***	0.489	
Model summary statistics						
Number of observations	5,250			5,770		
Log-likelihood	-440.5			-776.3		
Psuedo R^2	0.076			0.050		

* Significant at the 90 percent confidence level. **Significant at the 95 percent confidence level.

***Significant at the 99 percent confidence level.

Notes: The estimation sample is employees who were in fixed term or permanent jobs. See appendix 2 for further information on the explanatory variables.

Table A.3: Coefficients and marginal effects from a model of whether employed in a seasonal job

	Males, seasonal employment			Females, seasonal employment		
	Coefficient	Std Error	Marginal effect	Coefficient	Std Error	Marginal effect
15-19 years	1.028 **	0.469	0.030	0.075	0.372	0.001
20-24 years	1.127 ***	0.421	0.033 *	0.147	0.365	0.003
25-29 years	0.199	0.463	0.004	-1.082	0.549	-0.013 ***
30-34 years	0.567	0.428	0.013	-0.708	0.374	-0.010 **
35-39 years	-0.107	0.439	-0.002	-0.378	0.369	-0.006
45-49 years	0.065	0.422	0.001	-0.319	0.341	-0.005
50-54 years	-0.292	0.472	-0.005	-0.360	0.328	-0.005
55-59 years	0.233	0.475	0.005	-1.300 **	0.542	-0.014 ***
60-64 years	0.584	0.480	0.014	-0.980 **	0.441	-0.012 ***
65-69 years	0.732	0.645	0.019	-0.609	0.620	-0.008
Māori ethnicity	0.239	0.319	0.005	0.872 ***	0.257	0.023 **
European / Maori ethnicity	-0.142	0.368	-0.002	0.571 *	0.313	0.013
Pacific ethnicity	-0.207	0.504	-0.003	1.457 ***	0.342	0.052 **
Asian ethnicity	-0.146	0.477	-0.003	-0.919	0.668	-0.011 **
Other ethnicity	0.285	0.487	0.006	-0.355	0.571	-0.005
Born overseas – lived in NZ for less than 5 years	-0.120	0.416	-0.002	0.859 *	0.478	0.022
Born overseas – lived in NZ for 5–10 years	-0.162	0.533	-0.003	0.412	0.460	0.009
Born overseas – lived in NZ for 10 years or more	-0.600	0.371	-0.009 **	-0.595 *	0.346	-0.008 **
Lives in minor urban area	0.941 ***	0.236	0.025 ***	1.139 ***	0.217	0.032 ***
Lives in rural location	1.320 ***	0.215	0.041 ***	1.035 ***	0.264	0.027 ***
Sole parent of dependent child(ren)	-0.208	0.806	-0.003	-0.152	0.353	-0.002
Joint parent of dependent child(ren)	-0.191	0.249	-0.003	-0.268	0.251	-0.004
No qualification	0.555 *	0.323	0.012	0.526	0.343	0.011
Upper school qualification	0.226	0.365	0.004	0.393	0.389	0.008
Other school qualification	1.267 **	0.573	0.043	-0.803	0.857	-0.010
Vocational qualification	-0.316	0.338	-0.005	0.204	0.368	0.004
Degree	-0.602	0.436	-0.009	0.157	0.420	0.003
Other post-school qualification	-1.178 *	0.703	-0.013 ***	0.092	0.573	0.002
Part-time hours	0.674 **	0.282	0.016 *	0.589 ***	0.212	0.012 **
Intercept	-4.324 ***	0.495		-4.179 ***	0.420	
Model summary statistics						
Number of observations	5,330			5,760		
Log-likelihood	-640.3			-643.3		
Psuedo R^2	0.120			0.093		

* Significant at the 90 percent confidence level. **Significant at the 95 percent confidence level.

***Significant at the 99 percent confidence level.

Notes: The estimation sample is employees who were in seasonal or permanent jobs. See appendix 2 for further information on the explanatory variables.

Table A.4: Hourly wage regressions, males

	Model 1 - controls for personal characteristics		Model 2 - controls for personal and job characteristics	
	Coefficient	**Std Error**	**Coefficient**	**Std Error**
Intercept	3.123 ***	0.033	2.949 ***	0.037
Casual worker	-0.159 ***	0.039	-0.023	0.029
Fixed-term worker	-0.022	0.057	0.012	0.050
Employment agency worker	-0.108	0.093	-0.057	0.080
Seasonal worker nec	-0.021	0.047	0.059	0.041
15-19 years	-0.626 ***	0.030	-0.400 ***	0.029
20-24 years	-0.414 ***	0.028	-0.287 ***	0.025
25-29 years	-0.234 ***	0.029	-0.172 ***	0.025
30-34 years	-0.081 **	0.033	-0.049 *	0.026
35-39 years	-0.010	0.030	-0.012	0.025
45-49 years	0.029	0.029	0.038	0.025
50-54 years	0.011	0.030	0.005	0.026
55-59 years	0.021	0.036	0.026	0.028
60-64 years	-0.011	0.040	0.017	0.031
65-69 years	-0.118 **	0.048	-0.031	0.040
70-74 years	-0.314 ***	0.100	-0.145 *	0.086
Māori ethnicity	-0.107 ***	0.025	-0.078 ***	0.023
European / Maori ethnicity	-0.082 ***	0.025	-0.055 **	0.022
Pacific ethnicity	-0.208 ***	0.027	-0.155 ***	0.023
Asian ethnicity	-0.227 ***	0.035	-0.142 ***	0.029
Other ethnicity	-0.069 *	0.038	-0.044	0.032
Born overseas – lived in NZ for less than 5 years	-0.050	0.034	-0.040	0.026
Born overseas – lived in NZ for 5–10 years	-0.106 ***	0.037	-0.072 **	0.029
Born overseas – lived in NZ for 10 years or more	0.040 *	0.024	0.028	0.020
Lives in minor urban area	-0.109 ***	0.017	-0.057 ***	0.015
Lives in rural location	-0.058 ***	0.021	0.008	0.019
Sole parent of dependent child(ren)	-0.090 ***	0.042	-0.032	0.033
Joint parent of dependent child(ren)	0.111 ***	0.017	0.092 ***	0.014
No qualification	-0.105 ***	0.026	-0.074 ***	0.022
Upper school qualification	0.128 ***	0.029	0.063 **	0.025
Other school qualification	0.086	0.056	0.049	0.044
Vocational qualification	0.110 ***	0.026	0.059 ***	0.022
Degree	0.406 ***	0.032	0.189 ***	0.028
Other post-school qualification	0.101 ***	0.038	0.042	0.034
Part-time hours			-0.104 ***	0.024
Occupational controls			Y	
Industry controls			Y	
Private/public/non-profit sector			Y	
Firm size controls			Y	
Model summary statistics				
Number of observations	5,130			
F(33, 5096)	81.1		F(62, 5067) = 74.76	
R squared	0.399		0.560	

* Significant at the 90 percent confidence level. **Significant at the 95 percent confidence level.

***Significant at the 99 percent confidence level.

Notes: Model 2 includes controls for one-digit occupational group, 1-digit industrial group, whether employed in the public or non-profit sector, and enterprise size.

Table A.5: Hourly wage regressions, females

	Model 1 - controls for personal characteristics		Model 2 - controls for personal and job characteristics	
	Coefficient	Std Error	Coefficient	Std Error
Intercept	2.931 ***	0.023	2.919 ***	0.029
Casual worker	-0.143 ***	0.022	-0.065 **	0.022
Fixed-term worker	0.034	0.035	0.040	0.031
Employment agency worker	0.021	0.067	-0.018	0.067
Seasonal worker nec	-0.034	0.045	0.083 **	0.041
15-19 years	-0.457 ***	0.025	-0.267 ***	0.022
20-24 years	-0.283 ***	0.024	-0.205 ***	0.022
25-29 years	-0.153 ***	0.023	-0.127 ***	0.020
30-34 years	0.022	0.025	0.027	0.021
35-39 years	0.028	0.025	0.017	0.021
45-49 years	0.043 *	0.023	0.026	0.019
50-54 years	-0.007	0.024	-0.003	0.021
55-59 years	0.015	0.029	0.025	0.023
60-64 years	-0.036	0.026	-0.004	0.022
65-69 years	-0.031	0.049	0.015	0.045
70-74 years	-0.113 **	0.056	-0.072	0.052
Māori ethnicity	-0.049 **	0.020	-0.055 ***	0.018
European / Maori ethnicity	-0.005	0.022	-0.016	0.019
Pacific ethnicity	-0.109 ***	0.025	-0.091 ***	0.023
Asian ethnicity	-0.164 ***	0.026	-0.123 ***	0.023
Other ethnicity	-0.028	0.026	-0.029	0.022
Born overseas – lived in NZ for less than 5 years	-0.069 **	0.028	-0.047 **	0.024
Born overseas – lived in NZ for 5–10 years	-0.040	0.029	-0.033	0.029
Born overseas – lived in NZ for 10 years or more	0.038 **	0.020	0.036 *	0.017
Lives in minor urban area	-0.147 ***	0.016	-0.088 ***	0.014
Lives in rural location	-0.108 ***	0.016	-0.064 ***	0.015
Sole parent of dependent child(ren)	-0.115 ***	0.021	-0.063 ***	0.018
Joint parent of dependent child(ren)	0.008	0.016	0.025 *	0.014
No qualification	-0.073 ***	0.018	-0.002	0.016
Upper school qualification	0.093 ***	0.019	0.081 ***	0.017
Other school qualification	0.031	0.035	0.044	0.029
Vocational qualification	0.117 ***	0.018	0.088 ***	0.016
Degree	0.425 ***	0.022	0.270 ***	0.021
Other post-school qualification	0.100 ***	0.037	0.083 ***	0.031
Part-time hours			-0.065 ***	0.012
Occupational controls			Y	
Industry controls			Y	
Private/public/non-profit sector			Y	
Firm size controls			Y	
Model summary statistics				
Number of observations	5,750			
F(33, 5096)	72.3		F(62, 5685) = 83.56	
R squared	0.350		0.518	

* Significant at the 90 percent confidence level. **Significant at the 95 percent confidence level.

***Significant at the 99 percent confidence level.

Notes: Model 2 includes controls for one-digit occupational group, 1-digit industrial group, whether employed in the public or non-profit sector, and enterprise size.

Table A.6: Training participation regressions, males

	Model 1 - controls for personal characteristics			Model 2 - controls for personal and job characteristics			
	Coefficient	Std Error	Marginal effect	Coefficient	Std Error		Marginal effect
Intercept	-1.133 ***	0.192		-1.748 ***	0.277	-6.320	
Casual worker	-1.391 ***	0.268	-0.208 ***	-1.105 ***	0.266	-4.160	-0.172 ***
Fixed-term worker	-0.557 **	0.272	-0.102 **	-0.567 **	0.274	-2.070	-0.101 **
Employment agency worker	-1.251 *	0.693	-0.189 ***	-1.257 *	0.682	-1.840	-0.183 ***
Seasonal worker nec	-0.813 ***	0.300	-0.140 ***	-0.642 **	0.312	-2.060	-0.112 **
15-19 years	-0.548 **	0.224	-0.103 ***	-0.022	0.233	-0.090	-0.004
20-24 years	-0.153	0.173	-0.031	0.127	0.181	0.700	0.026
25-29 years	0.147	0.154	0.031	0.309 *	0.162	1.910	0.066 *
30-34 years	0.158	0.148	0.034	0.284 *	0.153	1.860	0.060 *
35-39 years	0.160	0.137	0.034	0.230 *	0.143	1.610	0.048
45-49 years	0.063	0.141	0.013	0.048	0.144	0.330	0.010
50-54 years	0.227	0.150	0.049	0.189	0.152	1.240	0.040
55-59 years	0.004	0.166	0.001	-0.003	0.172	-0.020	-0.001
60-64 years	-0.031	0.176	-0.006	-0.068	0.185	-0.370	-0.014
65-69 years	-0.435 *	0.264	-0.082 *	-0.274	0.284	-0.960	-0.052
70-74 years	-1.220 **	0.593	-0.186 ***	-0.777	0.557	-1.390	-0.130 *
Māori ethnicity	0.152	0.150	0.033	0.087	0.154	0.570	0.018
European / Maori ethnicity	-0.027	0.152	-0.006	0.012	0.155	0.080	0.002
Pacific ethnicity	-0.522 ***	0.191	-0.097 ***	-0.646 ***	0.205	-3.150	-0.113 ***
Asian ethnicity	-0.296 *	0.175	-0.058 *	-0.156	0.182	-0.860	-0.031
Other ethnicity	-0.301	0.213	-0.059	-0.275	0.225	-1.220	-0.053
Born overseas – lived in NZ for less than 5 years	-0.166	0.165	-0.034	-0.182	0.173	-1.050	-0.036
Born overseas – lived in NZ for 5–10 years	-0.346 *	0.195	-0.067 *	-0.283	0.202	-1.400	-0.054
Born overseas – lived in NZ for 10 years or more	-0.061	0.127	-0.013	-0.092	0.131	-0.710	-0.018
Lives in minor urban area	0.221 **	0.095	0.048 **	0.335 ***	0.099	3.390	0.072 ***
Lives in rural location	-0.040	0.115	-0.008	0.179	0.128	1.400	0.037
Sole parent of dependent child(ren)	0.302	0.273	0.066	0.284	0.264	1.080	0.061
Joint parent of dependent child(ren)	0.278 ***	0.083	0.059 ***	0.295 ***	0.087	3.390	0.061 ***
No qualification	-0.321 *	0.176	-0.064 *	-0.289	0.178	-1.620	-0.056 *
Upper school qualification	0.278	0.189	0.060	0.118	0.192	0.610	0.024
Other school qualification	-0.561 *	0.332	-0.103 *	-0.605 *	0.333	-1.810	-0.107 **
Vocational qualification	0.451 ***	0.162	0.096 ***	0.316 *	0.162	1.950	0.066 *
Degree	0.846 ***	0.173	0.190 ***	0.403 **	0.182	2.210	0.086 **
Other post-school qualification	0.591 **	0.238	0.135 **	0.438 *	0.238	1.840	0.096 *
Part-time hours				-0.723 ***	0.178	-4.060	-0.128 ***
Occupational controls				Y			
Industry controls				Y			
Firm size controls				Y			
Private/public sector controls				Y			
Model summary statistics							
Number of observations	5,600			5,600			
Log-likelihood	-3274.0			-3107.9			
Psuedo R^2	0.061			0.108			

* Significant at the 90 percent confidence level. **Significant at the 95 percent confidence level.

***Significant at the 99 percent confidence level.

Notes: Model 2 includes controls for one-digit occupational group, 1-digit industrial group, whether employed in the public or non-profit sector, and enterprise size.

Table A.7: Training participation regressions, females

	Model 1 - controls for personal characteristics			Model 2 - controls for personal and job characteristics		
	Coefficient	Std Error	Marginal effect	Coefficient	Std Error	Marginal effect
Intercept	-1.096 ***	0.170		-1.803 ***	0.251	-7.180
Casual worker	-0.780 ***	0.199	-0.134 ***	-0.495 ***	0.212	-2.330 -0.086 ***
Fixed-term worker	0.061	0.218	0.013	-0.072	0.216	-0.330 -0.014
Employment agency worker	-1.444 ***	0.517	-0.201 ***	-1.423 ***	0.506	-2.810 -0.188 ***
Seasonal worker nec	-0.286	0.334	-0.055	0.210	0.366	0.570 0.043
15-19 years	-0.742 ***	0.208	-0.130 ***	-0.124	0.239	-0.520 -0.024
20-24 years	-0.235	0.174	-0.046	0.030	0.184	0.160 0.006
25-29 years	-0.193	0.150	-0.038	-0.093	0.156	-0.600 -0.018
30-34 years	-0.104	0.144	-0.021	-0.029	0.150	-0.190 -0.006
35-39 years	-0.134	0.140	-0.027	-0.172	0.150	-1.150 -0.033
45-49 years	0.153	0.129	0.032	0.054	0.138	0.390 0.011
50-54 years	0.189	0.140	0.040	0.036	0.149	0.240 0.007
55-59 years	0.106	0.158	0.022	-0.043	0.169	-0.250 -0.008
60-64 years	-0.081	0.173	-0.016	-0.114	0.180	-0.630 -0.022
65-69 years	-0.492 *	0.267	-0.090 **	-0.538 *	0.290	-1.850 -0.092 **
70-74 years	-0.237	0.436	-0.046	-0.262	0.440	-0.600 -0.048
Māori ethnicity	0.161	0.138	0.034	-0.085	0.154	-0.550 -0.016
European / Maori ethnicity	0.056	0.154	0.012	-0.084	0.174	-0.480 -0.016
Pacific ethnicity	-0.317	0.198	-0.060 *	-0.516 **	0.212	-2.440 -0.089 ***
Asian ethnicity	-0.609 ***	0.176	-0.110 ***	-0.508 ***	0.182	-2.800 -0.089 ***
Other ethnicity	0.201	0.192	0.043	0.244	0.183	1.330 0.050
Born overseas – lived in NZ for less than 5 years	-0.082	0.177	-0.016	-0.073	0.187	-0.390 -0.014
Born overseas – lived in NZ for 5–10 years	0.234	0.198	0.050	0.342 *	0.210	1.620 0.071
Born overseas – lived in NZ for 10 years or more	-0.291 **	0.120	-0.056 **	-0.285 **	0.122	-2.330 -0.053 **
Lives in minor urban area	-0.038	0.097	-0.008	0.086	0.103	0.840 0.017
Lives in rural location	0.060	0.106	0.012	0.235 **	0.117	2.000 0.048 *
Sole parent of dependent child(ren)	-0.090	0.130	-0.018	0.013	0.136	0.090 0.002
Joint parent of dependent child(ren)	-0.053	0.089	-0.011	0.067	0.096	0.700 0.013
No qualification	-0.416 ***	0.157	-0.080 ***	-0.313 *	0.170	-1.840 -0.058 *
Upper school qualification	0.095	0.162	0.020	0.036	0.174	0.210 0.007
Other school qualification	0.144	0.255	0.030	0.150	0.269	0.560 0.030
Vocational qualification	0.734 ***	0.139	0.158 ***	0.436 ***	0.153	2.840 0.088 ***
Degree	1.112 ***	0.150	0.250 ***	0.360 **	0.167	2.150 0.074 **
Other post-school qualification	0.440 **	0.215	0.097 *	0.269	0.235	1.140 0.055
Part-time hours				-0.666 ***	0.088	-7.610 -0.123 ***
Occupational controls				Y		
Industry controls				Y		
Firm size controls				Y		
Private/public sector controls				Y		
Model summary statistics						
Number of observations	6,280			6,280		
Log-likelihood	-3602.4			-3298.6		
Psuedo R^2	0.069			0.147		

* Significant at the 90 percent confidence level. **Significant at the 95 percent confidence level.

***Significant at the 99 percent confidence level.

Notes: Model 2 includes controls for one-digit occupational group, 1-digit industrial group, whether employed in the public or non-profit sector, and enterprise size.