

A Profile of Multiple Job Holding in New Zealand based on 2001 census data

by

**James Baines and
Jamie Newell**

Working paper No. 2

Multiple Job Holding in New Zealand

(FRST Research Project TBAX0204)

Taylor Baines & Associates

April 2003

ISSN 1176-3523

CONTENTS

1	Introduction	1
1.1	Background	1
1.2	The 2001 Census as starting point	1
1.3	Purposes of the baseline profile	2
1.4	The scope of this analysis	2
	Three key questions	2
1.5	The discriminating power of different statistical variables	3
	Characteristic clusters of variables sign-posting above-average levels of MJH	5
	Where in the country to find groups of multiple job holders?	5
2	Results of the two-dimensional analysis	6
2.1	Variables which exhibit the greatest differences in levels of MJH	6
	Benchmark figures	6
	Key distinguishing variables	6
2.2	Detailed results of two-dimensional analyses - employment variables	7
	Employment status	7
	Industrial classification	8
	Voluntary work for community	9
	Occupational group	10
	Workforce status	12
2.3	Detailed results of two-dimensional analyses - location	12
	Urban vs rural areas	12
	Territorial local authorities	12
2.4	Detailed results of two-dimensional analyses - personal circumstances	13
	Educational level	13
	Present involvement in study	14
	Ethnicity, birthplace and length time in New Zealand	15
	Personal income	17
	Age	18
	Length of time at current address	21
	Marital status	21
	Household composition, the number of children and the age of children	21
3	Groups of variables associated with clusters of high-MJH workers	25
4	Discussion	27
4.1	Multiple job Holding - a significant attribute of the New Zealand labour market ...	27
4.2	Issues in the collection of statistics on multiple job holding	27
	Absence of critical questions	27
	The level of reporting on multiple job holding	27
	Under-representation of recent migrants	28
4.3	Needs for more detailed analysis	28
4.4	Implications for primary data gathering	28

1 Introduction

1.1 Background

The purpose of this research programme¹ is to provide knowledge about the way individuals, families and communities are adapting to social and economic change through multiple job holding (MJH). The programme complements and extends previous research into the characteristics of work in natural resource sectors to provide comprehensive information on multiple job holding across a range of sectors.

The research, which began in 2001, has two main objectives. The work in these objectives is focussed on:

- developing a profile of multiple job holding in New Zealand over recent years. Data bases used include the 2001 Census and the NZ Household Labour Force Survey series;
- preparing an overview of research interests and issues amongst potential users of the research, and reviewing approaches and definitions to develop the research framework;
- identifying factors which encourage or inhibit the adoption of multiple job holding as a change strategy, and determining the impacts of multiple job holding on individuals, families and communities, through a series of scoping studies that will be followed by a survey of three sectors in 2003.

This report covers the initial profile of multiple job holding in New Zealand, based on analysis of 2001 census data. It addresses the central question, who in New Zealand holds more than one job?

1.2 The 2001 Census as starting point

In the Census of Population and Dwellings, the question is asked “In the 7 days that ended on ..., did you have one job or more than one job?” Since the Census in effect covers the entire working population of the country, it provides by far the best basis for analysing the current patterns of multiple job holding in New Zealand. The working population (i.e. aged 15 years and above) at the time of the 2001 Census was 1,727,271. Other official statistical surveys involve relatively small samples by comparison (Table 1).

¹ The research is funded by the Foundation for Research, Science and Technology, contract TBAX0204.

Table 1: Comparison of census and survey sample sizes

Census/survey	Timing	Sample size
2001 Census of Population and Dwellings	Five-yearly intervals; most recently in March 2001	1,727,27, aged 15 years and above
Household Labour Force Survey	Quarterly since 1985	30,000 individuals in 16,000 households
Household Economic Survey	Annually 1973-98; thereafter every three years; most recently 2001	3,000 households
Time Use Survey ²	Once only so far: July 1998 - June 1999	~8,500 individuals
Longitudinal Survey of Income Dynamics	Only field tested so far: July 1999 and March 2000.	n/a

1.3 Purposes of the baseline profile

The analysis reported here forms a baseline profile of the level and distribution of multiple job holding in New Zealand. It serves several purposes. Firstly, coming as it does at the beginning of the research programme, the baseline profile identifies whether or not multiple job holding has become a significant element in the New Zealand work place and, if so, in what areas or types of work. Secondly, the research team will soon be looking towards field work and a need to contact people who have experience of holding more than one job at a time. The baseline profile therefore provides guidance on where to focus this field research, in terms of the types of work involved, the demographic characteristics of the individuals involved, and the geographic locations likely to be most fruitful for research.

1.4 The scope of this analysis

In this research programme, the concept of multiple job holding encompasses the practice of holding more than one job contemporaneously, as well as more than one job held sequentially in different seasons of the year. The Census is most likely to focus on contemporaneous multiple job holding, since the data relate to a single 7-day period in the month of March. The Census includes “any job(s) for pay, profit or income” as well as “any job(s) in a family business or family farm, without pay”.

This paper reports an analysis of the 2001 Census. Later in the research, a census time series should allow a longitudinal analysis covering the past two decades, assuming any problems with reconciling differences in data categories between the various censi can be addressed adequately.

Three key questions

The Census contains many data sets potentially useful for answering the over-arching question “who in New Zealand holds more than one job?” Bearing in mind the dual purposes described above, the systematic approach adopted in this analysis addressed the following three key questions:

- Which census parameters, considered individually, are the most discriminating variables with respect to the incidence of multiple job holding?

²

Carried out in conjunction with the Ministry for Women’s Affairs.

- Are there particular clusters of parameters which characterise relatively high concentrations of multiple-job-holding activities?
- Where geographically might relatively high concentrations of multiple job holders be expected?

1.5 The discriminating power of different statistical variables

Some variables, even by themselves, will be more useful in discriminating the incidence of multiple job holding than others. To a certain extent, this will be determined by the degree of disaggregation provided within the census data sets. For example, the variable 'sex' divides the set of workers into only two subsets. As a result, by itself it is not a particularly discriminating variable. The generalisation that women are more likely to engage in more than one job than men is certainly borne out by the aggregate statistics - in 2001, 10.4% of working women held more than one job while 9.1% of working men did so. The difference at this level of aggregation is relatively small - women were 14% more likely than men to hold more than one job. It is only when combined with other variables that differences between men and women become more pronounced. However, as will be discussed later, discriminatory power with respect to the incidence of multiple job holding is not simply a reflection of the number of categories.

Other variables have a greater degree of disaggregation even in their basic categories, and some can be further disaggregated, as shown in Table 2 below. The variables analysed either describe the individual worker or the individual's personal circumstances, or describe the wider employment context for the individual concerned.

Table 2: Extent of categorisation in census variables analysed

Census variable	Levels of aggregation	Number of categories
PERSONAL CIRCUMSTANCES		
Sex	Only one level	2
Age	5-year cohorts 1-year cohorts	17 88
Ethnicity	1-digit level 2-digit level	5 18
Personal income	deciles	10
Rent as a % of personal income	Only one level	12
Household income	deciles	10
Household composition	Only one level	9
Marital status	Only one level	5
Living with children	Only one level	2
Number of children	Only one level	6
Age of children	Only one level	9
Educational level	Only one level	13
Present involvement in study	Only one level	3
Birthplace	Only one level	10
Length of time in NZ	Only one level	12
Length of time at current residence	Only one level	8
EMPLOYMENT CONTEXT		
Occupational group	1-digit level 2-digit level 3-digit level 4-digit level 5-digit level	9 23 96 257 539
Workforce status	Only one level	2
Involvement in unpaid work	In same household In other households Voluntary work for community organisations	2 2 2
Employment status	Only one level	8
Industrial classification	1-digit level 2-digit level 3-digit level	9 61 330
Geographical area	urban-rural regions territorial local authorities urban areas/rural areas	6 16 74 140

The relevance of each variable in being able to discriminate different levels of multiple job holding is tested with the use of z-scores³.

Characteristic clusters of variables sign-posting above-average levels of MJH

If disaggregation of a single variable can help to identify particular sub-sets of the population which exhibit above-average levels of multiple job holding, then so can the combination of one variable with another, or with several others. For example, are there groups of women in their thirties who are in full-time or part-time employment in some industry, who engage in multiple jobs simultaneously more than other women? This kind of question can be asked relatively easily in the age of accessible computers.

The rationale used in this analysis began by identifying single variables which even by themselves identify significantly above-average concentrations of multiple job holders. This step was described above. These variables were then combined with other variables in multi-dimensional matrices (4-6 dimensions simultaneously), and searched for values which exceed specified thresholds - for example, all cells (in the nationwide matrix) which exhibit a multiple job holding percentage >20% and a total number of workers >500 or >1,000.

Where in the country to find groups of multiple job holders?

Having used the cluster analysis described above to identify and characterise particular clusters of multiple job holders, these groups of variables were then correlated with data for the country's 74 territorial local authorities.

3

A z-score describes the difference above (+) or below (-) the population mean of any particular category's value of the percentage of the workforce holding more than one job. A value of +1 for a category would indicate that the 'mjh' percentage for that category is one standard deviation higher than the mean 'mjh' percentage for the whole of the country.

2 Results of the two-dimensional analysis

2.1 Variables which exhibit the greatest differences in levels of MJH

Benchmark figures

Firstly, we have established that almost one-in-ten New Zealanders aged 15 years or over held more than one job at March 2001. The overall national figure is 9.7%.

As noted above, when the incidence of Multiple Job Holding is compared between women (10.4%) and men (9.1%), there is a 14% difference in favour of women for the whole population. In all subsequent analyses reported here, more detailed comparisons between sub-populations of women and men will be made. The above figures therefore provide a general benchmark.

Key distinguishing variables

The variables describing people's employment context exhibit the greatest differences in levels of Multiple Job Holding (Table 3). The highest z-scores were found in association with employment status, industrial classification, voluntary work for community organisations, and occupational group. Large differences also showed up in the geographical variables. These will be linked closely to industrial classification because of the locational relationships of rural and urban industries and the fact that the farming sector shows up as a major focus for Multiple Job Holding. The analysis by workforce status showed relatively little difference between Multiple Job Holding among part-time workers (9.9% nationally) and full-time workers (9.7%).

Table 3: Multiple Job Holding and employment context

Census variable	Level (# categories)	Highest z-score	Lowest z-score
Employment status	8	2.99	-0.24
Industrial classification	1-digit (9) 2-digit (61) 3-digit (330)	1.56 2.51 1.94	-0.73 -0.71 -1.21
Voluntary work for community organisations	2	1.26	-0.23
Occupational group	1-digit (9) 2-digit (23) 3-digit (96) 4-digit (539)	1.06 0.87 4.18 2.97	-0.60 -0.62 -1.22 -1.01
Urban/rural	(6)	1.39	-0.25
Urban areas/rural areas	(140)	1.64	-0.51
Territorial Local Authorities	74	1.36	-0.63

As a generalisation, the variables which describe a person's personal circumstances exhibit less discriminating power with respect to the incidence of Multiple Job Holding. Indeed, none of the analyses by these variables resulted in z-scores greater than 1.00. The variables which exhibited the greatest differences in levels of Multiple Job Holding were educational level, involvement in study, birthplace, personal income, and age (Table 4).

Some of these variables were dominated by a single category (Table 5), for which the incidence of Multiple Job Holding was not exceptional when compared with the national figure of 9.7%.

Table 4: Multiple Job Holding and personal circumstances

Census variable	Level (# categories)	Highest z-score	Lowest z-score
Educational level	13	0.76	-0.9
Present involvement in study	3	0.79	-0.11
Birthplace	10	0.68	-1.07
Personal income	10	0.46	-0.76
Age	5-yr cohorts (17) 1-yr cohorts (88)	0.45 0.45	-0.56 -0.43

Table 5: Variables with single dominant categories

Census variable	Dominant category	% of total workforce	Category z-score
Ethnicity	NZ European	79	0.18
Household composition	Couple with children	62	0.15
Marital status	Legally married or partnered	67	0.12
Rent as % of personal income	Non renters	81	0.14

2.2 Detailed results of two-dimensional analyses - employment variables

Employment status

Three categories stand out with relatively high incidence of MJH (Table 6). Those involved in unpaid work, whether full-time or part-time, exhibit the highest levels of MJH, followed by the self-employed. These three categories are the top three categories for both women and men. The most noticeable difference in MJH rates between women and men is in the self-employed category where women (22.1%) were 42% more likely than men (15.6%) to be involved in more than one job.

Wage and salary earners, both full-time and part-time, and both male and female, have the lowest rates of MJH among the categories of employment status.

Table 6: Incidence of MJH by employment status

Category	# of workers	% MJH	z-score
<u>All workers:</u>			
F-T unpaid family worker	19,218	32.8	2.99
P-T unpaid family worker	20,073	29.3	2.54
F-T self-employed (no employees)	162,759	17.2	0.97
P-T self-employed (no employees)	50,355	13.9	0.54
F-T employer	115,608	12.5	0.36
P-T employer	14,028	11.1	0.17
P-T wage/salary	299,586	8.1	-0.21
F-T wage/salary	997,332	7.9	-0.24
<u>Female workers:</u>			
F-T unpaid family worker	9,828	34.4	3.12
P-T unpaid family worker	13,311	29.3	2.46
F-T self-employed (no employees)	40,323	22.1	1.53
P-T self-employed (no employees)	30,060	15.0	0.60
F-T employer	29,112	14.4	0.51
P-T employer	10,638	10.9	0.06
F-T wage/salary	425,088	9.0	-0.18
P-T wage/salary	223,905	8.3	-0.28
<u>Male workers:</u>			
F-T unpaid family worker	9,387	31.0	2.84
P-T unpaid family worker	6,762	29.3	2.61
F-T self-employed (no employees)	122,439	15.6	0.83
P-T self-employed (no employees)	20,295	12.3	0.41
F-T employer	86,493	11.9	0.36
P-T employer	3,387	11.7	0.33
P-T wage/salary	75,681	7.8	-0.18
F-T wage/salary	572,247	7.1	-0.27

Industrial classification

At the 1-digit level, only one industry classification stands out as having a relatively high incidence of MJH and that is the combined rural classification of 'Agriculture, Forestry, Hunting, Fishing' (16.9% compared with the national average of 9.7%). Women working in this broad rural classification number only half the number of men (50,181 and 100,980 respectively). However, these women (21.0%) are currently 41% more likely than men (14.9%) to be involved in more than one job.

At the 2-digit level, several types of land-based farming are distinguished (e.g. beef farming (25%), sheep farming (22%), cropping (22%), dairy farming (16%)) as are veterinary services (17%) and domestic services (18%). Differences between women and men are just as evident, although in some cases men have a higher incidence than women; for example, in veterinary services the men (894 men at 21.3%) are 37% more likely than women (2,013 women at 15.5%) to report more than one job.

The largest groupings (>1,000) of MJH workers by industry classification are listed in Table 7. Rural and land-based industries are predominant amongst those industries with the highest MJH rates in 2001. Entertainment, education and health services also feature in this selection.

Table 7: Incidence of MJH by industrial classification

Category	# of workers			% MJH		
	All	Women	Men	All	Women	Men
Beef cattle farming	7,500	2,628	4,869	25.3	29.8	22.8
Deer farming	1,902	645	1,257	24.9	29.9	22.5
Mixed and other livestock farming	7,941	2,853	5,088	22.9	27.9	20.1
Sheep farming	26,124	8,199	17,925	22.2	29.3	19
Cropping and other farming	3,657	1,101	2,556	21.9	26.6	19.9
Central Govt Fire Service Administration	2,007	195	1,812	19.8	9.4	21
Live entertainment	1,707	843	861	19.5	18.3	20.7
Horse farming and breeding	1,131	558	570	18.7	22.2	15.3
Doctors, Group Practice Admin/Partnerships	9,729	7,584	2,142	18.6	17.3	22.9
Authors, Music Composers, indep. Artists	2,442	1,116	1,329	18.3	18.7	17.9
Physiotherapy Services	1,626	1,251	375	17.8	17.4	18.5
Veterinary Services	2,907	2,016	894	17.3	15.3	21.3
Fruit Growing nec	2,754	1,128	1,626	17.3	19	16.1
Tertiary Education	24,873	14,145	10,728	16.8	15.1	19
Residential property operators nec	2,394	1,158	1,236	16.6	14.1	18.9
Dairy farming	35,037	12,108	22,929	16.1	21	13.6

The shading in Table 7 indicates at a glance whether women or men are more likely at the present time to hold more than one job in each industry classification. It is notable that the MJH rate is consistently higher for women than for men in the rural sector industries, while the opposite is true for the more urban-dominated industries.

Voluntary work for community

People engaged in unpaid work for community organisations (17.3%) are twice as likely to be involved in more than one job (where neither of these jobs is community work according to the definition used in the Census) than those who are not (8.3%). This is true for both men and women.

Involvement in unpaid work (excluding household work) in the same household or in other households is correspondingly associated with higher MJH rates, but the differences are not so great as for those involved in work for voluntary community organisations (Table 8).

Table 8: Incidence of MJH by voluntary work for community

Category	# of workers			% MJH		
	All	Women	Men	All	Women	Men
Unpaid work for community organisations	271,674	139,605	132,072	17.3	18.6	16
Unpaid work in the same household	624,342	318,663	305,679	11.5	12.4	10.5
Unpaid work in other households	365,922	222,537	143,388	13	13.5	12.2

Occupational group

At the 1-digit level, only one occupational group stands out as having a relatively high incidence of MJH and that is the combined rural grouping of 'Agriculture and Fishery Workers' (16.4% compared with the national average of 9.7%). Women working in this broad rural classification number fewer than half the number of men (43,317 and 94,167 respectively). However, these women (20.4%) are currently 41% more likely than men (14.5%) to be involved in more than one job. These results are consistent with the earlier findings under industry classification.

At the 5-digit level, occupations in which approximately one-third of workers report more than one job are identified, although the numbers of people working in these occupations nationally are relatively small (Table 9). This group of occupations is diverse, covering professionals, public representatives, farmers and performing artists.

Table 9: Incidence of MJH by selected occupational groups

Category	# of workers	% MJH	z-score
Surgeon	561	38.4	2.97
Anaesthetist	336	37.8	2.91
Local Government legislator	612	34.8	2.6
Goat farmer, goat farm worker	138	32.6	2.37
Stock and station agent	273	31.1	2.22
Instrumentalist	1,014	30.1	2.12

The 2001 Census recorded very high MJH rates for some very small groupings of women workers, across a diverse group of occupations (Table 10).

Table 10: Incidence of MJH amongst women in selected occupational groups

Category	# of workers	% MJH	z-score
Stock and station agent	9	66.7	5.84
Transport electrician	6	50	4.11
Underwater worker	21	42.9	3.37
Goat farmer, goat farm worker	63	38.1	2.87
Local Government legislator	237	37.5	2.81
Anaesthetist	81	33.3	2.38

Data for males is shown in Table 11, with a preponderance of medical professionals having the highest MJH rates.

Table 11: Incidence of MJH amongst men in selected occupational groups

Category	# of workers	% MJH	z-score
Surgeon	516	39.2	3.12
Gynaecologist and Obstetrician	57	38.9	3.09
Anaesthetist	255	38.8	3.08
Radiologist, radiotherapist	159	35.8	2.77
Singing and music teacher	615	34	2.58
Local Government legislator	372	33.6	2.54

The largest groupings (>1,000) of MJH workers by occupational type are listed in Table 12.

Table 12: High incidences of MJH by occupational groups

Category	# of workers			% MJH		
	All	Women	Men	All	Women	Men
Instrumentalist	1,014	309	702	30.1	29.4	30.6
Singing and music teacher	2,394	1,779	615	28.6	26.8	34
Physician	1,293	405	888	28.3	24.2	30.1
General practitioner	3,801	1,401	2,403	25.3	25.5	25.2
Cattle farmer/farm worker	3,609	1,188	2,421	24.5	28.7	22.4
Other livestock farmer/farm worker	2,607	783	1,821	24.2	28.8	22.3
Psychologist	1,737	1,248	486	23.5	22	26.7
Bookkeeper	1,812	1,695	120	23.2	23.1	23.7
Sheep farmer/farm worker	8,493	2,292	6,201	22.7	29.5	20.2
Farm machinery operator/contractor	2,961	174	2,787	22.3	25.4	22
Veterinarian	1,371	501	870	22	21.2	22.4
Crop and livestock farmer/farm worker	25,917	8,178	17,739	21.2	27.6	18.3
University/Higher Education lecturer/tutor	13,944	6,864	7,080	21	19.4	22.6
Counsellor	2,253	1,635	618	20.8	20.8	20.5
Mixed livestock farmer/farm worker	4,881	1,350	3,534	20.4	28.1	17.5
Survey interviewer	5,409	3,711	1,698	20.4	20.7	19.6
Firefighter	1,893	33	1,860	20.3	0	20.6
Field crop grower/related worker	1,506	426	1,083	19.8	22.7	18.6
Author and Critic	1,419	723	696	19.7	22.7	16.7
Fencer	1,440	48	1,395	18.4	31.3	17.9

Despite the fact that women generally are more likely to have more than one job, there are some occupations in which men are more likely to do so. For example, amongst singing and music teachers, men (34.0%) are 27% more likely to hold more than one job than their women counterparts (26.8%). Similarly, amongst physicians, psychologists and firefighters, men are more likely than women by a considerable margin. On the other hand, in many aspects of farming (cattle, sheep, other livestock, cropping and mixed farming) women are much more likely to hold more than one job than men, as was reported earlier under industry classification.

Workforce status

Over the whole working population, whether someone works part time or full time makes little difference to the corresponding MJH rates; part-time workers (9.9%) are very marginally more likely than full-time workers (9.7%) to have more than one job. For part-time workers, there is no difference between MJH rates for women and men. However, for full-time workers, women are 19% more likely than men to have more than one job (Table 13).

Table 13: Incidence of MJH by workforce status

Workforce status	# of workers			% MJH		
	All	Women	Men	All	Women	Men
Part time workers	399,150	287,934	111,219	9.9	9.9	9.9
Full time workers	1323,118	516,378	811,740	9.7	10.7	9

2.3 Detailed results of two-dimensional analyses - location

Urban vs rural areas

In terms of the spectrum of rural and urban areas, only rural areas stand out as the location for exceptionally higher MJH rates (Table 14). This classification is dominated by the main urban areas. Without further disaggregation, average MJH rates in these main urban areas will be below the national average.

Table 14: Incidences of MJH by geographical type

Category	# of workers	% MJH	z-score
Rural area	231,636	20.2	1.39
Rural centre	34,266	11.5	0.23
Minor urban area	130,197	8.9	-0.11
Secondary urban area	104,355	8.6	-0.15
Main urban area	1,226,301	7.9	-0.25

Territorial local authorities

Patterns of MJH occurrence by local authority area reflect the predominance of the rural sector in the overall incidence of MJH. Without further disaggregation, the main metropolitan local authority areas will have lower MJH rates than the national average.

Table 15: Incidences of MJH by selected TLA

TLA	# of workers	% MJH	z-score
Hurunui District	5,049	19.8	1.36
Southland District	15,984	19.4	1.3
Waimate District	3,384	18.6	1.19
Selwyn District	15,012	17.8	1.09
Western Bay of Plenty District	17,178	17.7	1.07
Banks Peninsula District	4,029	17.3	1.02
Wellington City	90,150	9.5	-0.04
Christchurch City	151,233	8.1	-0.22
Auckland City	174,321	7.9	-0.24
Hamilton City	53,082	7.8	-0.26
North Shore City	93,807	7.4	-0.32
Waitakere City	77,034	6.3	-0.46
Manukau City	117,084	5.4	-0.58

High MJH rates are identified for rural areas. Thigh incidences of these are listed in Table 16 below. In every case, women record considerably higher MJH rates than men.

Table 16: High incidences of MJH in rural areas

Location	# of workers			% MJH		
	All	Women	Men	All	Women	Men
Chatton (Gore District)	1,017	435	582	28.7	31.5	27.1
Hinds (Ashburton District)	2,079	870	1,212	23.6	28.6	20.1
Pohonui-Porewa (Rangitikei District)	1,497	648	849	22.2	26.5	18.9
Hurunui (Hurunui District)	1,320	582	738	22.1	25.8	19.1
Kahutara (South Wairarapa)	2,295	1,044	1,251	19.4	23.3	16.1
Clutha (Clutha District)	2,712	1,104	1,608	19.2	23.6	16.1

2.4 Detailed results of two-dimensional analyses - personal circumstances

Educational level

The 2001 census results show an overall trend for higher MJH rates associated with higher educational achievement. However, with the exception of the highest level of vocational qualification, there appears to be an inverse relationship between MJH rate and level of vocational training (Table 17).

Table 17: Incidence of MJH by education level

Highest Educational Qualification	# of workers	% MJH	z-score
Higher degree	75,414	16	0.76
Advanced vocational qualification	156,651	13.7	0.48
Bachelor degree	160,137	13	0.39
Higher school qualification	99,021	12.2	0.3
Sixth form qualification	199,173	10.5	0.09
Basic vocational qualification	76,212	10	0.03
Intermediate vocational qualification	43,038	10	0.03
Skilled vocational qualification	111,324	9.3	-0.05
Fifth form qualification	262,437	9.1	-0.08
Overseas NZ secondary qualification	80,751	6.7	-0.36
No qualification	335,718	6.6	-0.38

Only in the two categories of university degree do men exceed women in MJH rates (Table 18).

Table 18: Incidence of MJH by education level and sex

Highest Educational Qualification	# of workers			% MJH		
	All	Women	Men	All	Women	Men
Higher degree	75,414	33,630	41,784	16	15.4	16.6
Advanced vocational qualification	15,6651	96,261	60,393	13.7	14.1	13.2
Bachelor degree	160,137	78,960	81,177	13	12.6	13.4
Higher school qualification	99,021	45,888	53,133	12.2	12.7	11.8
Sixth form qualification	199,173	103,101	96,075	10.5	11.1	9.7
Basic vocational qualification	76,212	39,813	36,396	10	10.7	9.2
Intermediate vocational qualification	43,038	14,814	28,227	10	10.2	9.9
Skilled vocational qualification	111,324	27,678	83,649	9.3	11.7	8.5
Fifth form qualification	262,437	134,022	128,415	9.1	9.8	8.4
Overseas NZ secondary qualification	80,751	38,406	42,342	6.7	7.6	5.9
No qualification	335,718	139,659	196,056	6.6	6.9	6.4

Present involvement in study

Over the whole population, involvement in part-time or full-time study is associated with above average rates of MJH (Table 19). The rate for part-time study (14.3%) is slightly higher than the rate for full-time study (13.6%). Women report higher rates for part-time study while men report higher rates for full-time study.

Table 19: Incidence of MJH by involvement in study

Involvement in study	# of workers			% MJH		
	All	Women	Men	All	Women	Men
Part-time study	115,665	67,983	47,679	14.3	14.6	13.9
Full-time study	101,664	56,799	44,865	13.6	13.3	14
No study specified	1,509,945	679,527	830,415	9.1	9.7	8.6

Ethnicity, birthplace and length time in New Zealand

There is only one ethnic group which displays above-average MJH rates and that is NZ Europeans (Table 20). Being numerically so dominant, there is little difference between the MJH rate for this group (10.8%) and the rate for the whole population (9.7%). However, disaggregation by ethnicity reveals some distinct differences in terms of those ethnic groupings which display below-average rates of MJH.

Taken as a whole group, Pacific Island peoples exhibit the lowest rates of MJH, with most Pacific Island ethnicities involved at rates below 4%; Fijians being the only exception with a rate slightly above 5%. Average rates of MJH for NZ Maori are considerably above these levels at 6.8% but still well below the rate for the whole population.

People of Indian, Chinese or African ethnicity exhibit MJH rates that are intermediate between those of Pacific Island peoples and Europeans.

Table 20: Incidence of MJH by ethnicity

Ethnicity	# of workers	% MJH	z-score
NZ European only	1,272,078	10.8	0.18
Other European	88,479	9.7	0
Middle Eastern	4,206	8.4	-0.23
Latin American/Hispanic	1,245	7.8	-0.33
NZ Maori	185,757	6.8	-0.5
African	2,082	6.7	-0.52
Indian	27,453	6.5	-0.55
Chinese	31,776	6.3	-0.59
Other Asian	13,572	6.2	-0.6
Fijian	2,514	5.3	-0.76
Southeast Asian	12,714	4.6	-0.87
Other Pacific Island	1,629	4.5	-0.9
Tongan	10,521	3.8	-1.01
Tokelauan	1,125	3.5	-1.06
Cook Island Maori	13,764	3.3	-1.09
Samoan	36,645	3.3	-1.09
Niuean	4,974	3.3	-1.1

Table 21: Incidence of MJH by ethnicity and sex

Ethnicity	# of workers			% MJH		
	All	Women	Men	All	Women	Men
NZ European only	1,272,078	592,017	680,061	10.8	11.5	10.2
Other European	88,479	41,622	46,857	9.7	10.8	8.7
Middle Eastern	4,206	1,533	2,676	8.4	9.1	8
Latin American/Hispanic	1,245	606	639	7.8	10.1	5.7
NZ Maori	185,757	87,204	98,553	6.8	7.6	6.1
African	2,082	780	1,302	6.7	7	6.3
Indian	27,453	12,108	15,348	6.5	5.8	7.1
Chinese	31,776	15,258	16,518	6.3	6.4	6.2
Other Asian	13,572	6,459	7,116	6.2	6.5	5.9
Fijian	2,514	1,242	1,272	5.3	4.8	5.7
Southeast Asian	12,714	7,275	5,442	4.6	5	4.1
Other Pacific Island	1,629	786	840	4.5	5	4
Tongan	10,521	4,623	5,901	3.8	4.3	3.4
Tokelauan	1,125	486	642	3.5	3.1	4.2
Cook Island Maori	13,764	6,324	7,440	3.3	3.8	3
Samoan	36,645	17,319	19,329	3.3	3.7	3
Niuean	4,974	2,277	2,694	3.3	3.4	3.1

Almost all ethnicities follow the pattern of higher MJH rates among women than men (Table 21). There are three exceptions - Indian, Fijian and Tokelauan.

Data for birthplace reinforces the comparisons between major ethnic groupings summarised above. Birthplace data does reveal some greater differences amongst people originating from 'european' countries. People from 'Canada and the USA' (13.7%) have the highest rates of MJH, with those from 'Other Europe' (10.8%) averaging slightly above NZ Europeans of NZ origin (10.2%).

Table 22: Incidence of MJH by birthplace

Birthplace	# of workers	% MJH	z-score
Canada or USA birthplace	11,529	13.7	0.68
Other Europe Birthplace	29,379	10.8	0.19
New Zealand birthplace	1,375,503	10.2	0.08
Australian birthplace	26,964	9.8	0.01
UK or Ireland birthplace	121,230	9.5	-0.04

In all birthplace groupings, MJH rates are higher for women than for men (Table 22). The differentials between women and men are considerably greater for Europeans born outside New Zealand than for those born here. For example, North American women living in NZ are 24% more likely than North American men to have more than one job, compared with a 14% difference for NZ-born Europeans. For Australians, the difference is even greater, at 32%.

Table 23: Incidence of MJH by birthplace and sex

Birthplace	# of workers			% MJH		
	All	Women	Men	All	Women	Men
Canada or USA birthplace	11,529	5,607	5,922	13.7	15.2	12.3
Other Europe Birthplace	29,379	12,798	16,581	10.8	12	9.9
New Zealand birthplace	1,375,503	643,014	732,489	10.2	10.9	9.6
Australian birthplace	26,964	13,641	13,323	9.8	11.1	8.4
UK or Ireland birthplace	121,230	53,877	67,350	9.5	10.5	8.7

In terms of the length of time since arriving in New Zealand, there is a general relationship between increasing MJH rates and those who have been here for longer. Average MJH rates for those who have lived here for up to six years range from 3.5% to 7.3%, while average rates for those who have lived here for periods greater than six years range from 7.8% to 9.6%.

Personal income

Data for personal income were analysed in the form of decile groupings (where decile 10 is the highest income bracket and decile 1 the lowest). The data show that people at both extremes of the personal income range are represented in above-average levels of MJH activity. The highest rates of MJH are associated with people in the highest income bracket, whether they be women or men. The only other income groupings to exhibit above-average MJH activity in 2001 are all in the lowest five deciles. Indeed, there appears to be a significant difference in MJH rates between the lowest five decile groups (1-5) and the next four decile groups (6-9), as shown in Table 24 below.

Table 24: Incidence of MJH by income

PI decile	# of workers	% MJH	z-score
10	246,426	12.8	0.46
1	69,513	11.9	0.34
4	96,327	11.6	0.29
3	103,968	11.5	0.28
2	85,209	11.5	0.27
5	149,586	10.8	0.17
9	239,775	9	-0.12
6	198,345	8.5	-0.19
8	245,088	8.2	-0.24
7	214,605	7.9	-0.28

Most decile groupings follow the overall pattern with women's MJH rates being higher than men's, but there are two exceptions - for people in the lowest two deciles (1-2). The differences between men's and women's MJH rates are most marked in the middle to upper-middle deciles (6-8). In these deciles, women are 25%-32% more likely to be involved in MJH activity than men, whereas in all other decile groups the differences are generally 10% or less.

Table 25: Incidence of MJH by income and sex

PI decile	# of workers			% MJH		
	All	Women	Men	All	Women	Men
10	246,426	63,138	183,288	12.8	13.8	12.4
1	69,513	47,871	21,639	11.9	11.9	12
4	96,327	64,326	32,004	11.6	11.7	11.4
3	103,968	66,924	37,044	11.5	11.8	11
2	85,209	46,779	38,433	11.5	11.2	11.9
5	149,586	88,467	61,122	10.8	11.3	10.2
9	239,775	88,416	151,359	9	9.5	8.7
6	198,345	102,816	95,529	8.5	9.4	7.5
8	245,088	104,829	140,259	8.2	9.5	7.2
7	214,605	95,109	119,496	7.9	8.9	7.1

Since 80% of all workers do not rent at all, the MJH rate for non-renters dominates this dimension of analysis, and this 80% of workers clearly includes most of the people engaged in MJH (average = 10.4% compared with 9.7% for all workers). Thus, when looking at data on rent as a percentage of personal income, all groups where workers rent exhibit MJH rates lower than the national average. There is a general trend towards increasing MJH rates as rents increase in proportion to personal income - from 6%-7% for those who pay the lowest proportions of income in rent up to nearly 9% for those who pay the highest proportions of income in rent.

Data for household income were also analysed in the form of decile groupings. Although the highest rates of MJH are amongst those from both very high income households (deciles 9 and 10) and low income households (deciles 2 and 4), the ranking of decile groupings overall is much less clear cut than the ranking described above for personal income. The patterns for women and men, in relation to their household's income, are also very different. Indeed, it is difficult to identify any dominant pattern or trend for the household income factor.

Age

The data on age were analysed in two-year bands from 15 up to the age of 24 and in five-year bands from 25 years upwards (Table 26). Over the whole working population, the highest MJH rates are in the higher age bands (45+ years) and the lowest working age band (15-17 years). In the older age bands, the highest MJH rates are in the ages 65 years and over, although the numbers of people working in these age bands is relatively small. The next fifteen-year cohort (45-59 years) has the next highest MJH rates and also the largest numbers of workers in absolute terms.

Table 26: Incidence of MJH by age

Age band	# of workers	% MJH	z-score
75-79 yrs	5,571	12.1	0.45
70-74 yrs	13,281	12.1	0.43
65-69 yrs	27,441	11.9	0.41
45-49 yrs	200,970	11.4	0.31
50-54 yrs	183,036	11.3	0.29
55-59 yrs	125,478	11.1	0.24
15-17 yrs	62,439	11	0.23
40-44 yrs	223,680	11	0.23
80-84 yrs	2,376	10.4	0.13
60-64 yrs	76,506	10.3	0.1
35-39 yrs	221,625	9.6	-0.03
18-19 yrs	55,314	9.1	-0.12
20-22 yrs	90,777	8.3	-0.27
30-34 yrs	199,953	7.8	-0.35
85+ yrs	1,272	6.9	-0.52
25-29 yrs	175,050	6.7	-0.56
23-24 yrs	62,505	6.7	-0.56

Disaggregating the data between men and women is presented in two tables (tables 27a and 27b); firstly ranked in order of decreasing MJH rates by cohort, and secondly in terms of increasing age.

Table 27(a): Incidence of MJH by age bands and sex - ranked according to MJH %

Age band	# of workers			% MJH		
	All	Women	Men	All	Women	Men
75-79 yrs	5,571	1,740	3,831	12.1	10.8	12.7
70-74 yrs	13,281	4,206	9,075	12.1	10.2	12.9
65-69 yrs	27,441	9,528	17,910	11.9	10.7	12.6
45-49 yrs	200,970	97,506	103,467	11.4	12.4	10.5
50-54 yrs	183,036	86,820	96,216	11.3	11.8	10.9
55-59 yrs	125,478	56,541	68,934	11.1	10.9	11.2
15-17 yrs	62,439	30,261	32,181	11	10.5	11.5
40-44 yrs	223,680	107,781	115,899	11	12.3	9.8
80-84 yrs	2,376	924	1,446	10.4	8.8	11.6
60-64 yrs	76,506	31,038	45,468	10.3	9.9	10.6
35-39 yrs	221,625	103,542	118,083	9.6	11.1	8.2
18-19 yrs	55,314	25,776	29,538	9.1	9.8	8.5
20-22 yrs	90,777	43,062	47,718	8.3	8.9	7.7
30-34 yrs	199,953	92,562	107,391	7.8	8.8	7
85+ yrs	1,272	588	684	6.9	6.6	7.2
25-29 yrs	175,050	82,923	92,124	6.7	7.2	6.3
23-24 yrs	62,505	29,511	32,994	6.7	6.9	6.5

Table 27(b): Incidence of MJH by age bands and sex - sequenced by age

Age band	# of workers			% MJH		
	All	Women	Men	All	Women	Men
15-17 yrs	62,439	30,261	32,181	11	10.5	11.5
18-19 yrs	55,314	25,776	29,538	9.1	9.8	8.5
20-22 yrs	90,777	43,062	47,718	8.3	8.9	7.7
23-24 yrs	62,505	29,511	32,994	6.7	6.9	6.5
25-29 yrs	175,050	82,923	92,124	6.7	7.2	6.3
30-34 yrs	199,953	92,562	107,391	7.8	8.8	7
35-39 yrs	221,625	103,542	118,083	9.6	11.1	8.2
40-44 yrs	223,680	107,781	115,899	11	12.3	9.8
45-49 yrs	200,970	97,506	103,467	11.4	12.4	10.5
50-54 yrs	183,036	86,820	96,216	11.3	11.8	10.9
55-59 yrs	125,478	56,541	68,934	11.1	10.9	11.2
60-64 yrs	76,506	31,038	45,468	10.3	9.9	10.6
65-69 yrs	27,441	9,528	17,910	11.9	10.7	12.6
70-74 yrs	13,281	4,206	9,075	12.1	10.2	12.9
75-79 yrs	5,571	1,740	3,831	12.1	10.8	12.7
80-84 yrs	2,376	924	1,446	10.4	8.8	11.6
85+ yrs	1,272	588	684	6.9	6.6	7.2

Length of time at current address

Analysis of the data on the number of years at the present address indicates that above-average MJH rates correspond to people who have lived at the same address for four years or more (10.0% to 12.0%) while below-average MJH rates correspond to people who have lived at their present address for three or fewer years (7.5% to 9.2%). The same generalisation holds for women and men separately.

This factor by itself is not a strong discriminator of MJH rates.

Marital status

Of the five categories of marital status distinguished, only the ‘legally married or partnered’ exhibit above average MJH rates (Table 28).

Table 28: Incidence of MJH by marital status

Marital status	# of workers			% MJH		
	All	Women	Men	All	Women	Men
Legally married or partnered	1,154,808	529,524	625,281	10.5	11.5	9.7
Never married and not partnered	393,747	175,365	218,382	8.5	8.8	8.4
Widowed and not partnered	23,556	17,067	6,486	8.3	8.2	8.8
Divorced and not partnered	73,635	43,302	30,333	8	8.3	7.5
Separated and not partnered	51,465	27,276	24,189	7.7	7.9	7.5

In only one category - ‘widowed and not partnered’ - is the MJH rate for men higher than for women.

Household composition, the number of children and the age of children

The only categories of household which exhibit above-average MJH rates are ‘couples with children’ and ‘couples without children’. Census data indicate that more families living in one household reduces the rate of MJH activity (Table 29).

Table 29: Incidence of MJH by household composition

Category of household composition	# of workers	% MJH	z-score
Couple with children only	455,058	11.2	0.18
Couple without children only	607,719	10.5	0.1
Couple plus others	124,572	8.6	-0.14
One person household	144,426	8.4	-0.17
One parent family only	110,799	8.2	-0.19
Non family household	113,952	7.8	-0.23
One parent family plus others	44,991	6.5	-0.4
Two families	59,049	6.2	-0.43
Three families	4,413	5.1	-0.56

In the case of women involved in MJH, those in households of ‘couple with children’ are 19% more likely to have more than one job than those in households of ‘couple without children’ (Table 30). Where no children live with the couple, the difference in MJH rates for women and men is less (i.e. women in

couples without children are only 7% more likely to engage in MJH activity than men; compared with national average difference of 14% noted previously.)

Table 30: Incidence of MJH by couples with and without children, and by sex

Category of household composition	# of workers			% MJH		
	All	Women	Men	All	Women	Men
Couple with children only	455,058	198,318	256,740	11.2	13	9.8
Couple without children only	607,719	287,643	320,076	10.5	10.9	10.2

There is a general trend towards higher rates of MJH as the number of children in the household increases, with the exception that people living in households with more than four children have the lowest rates overall (Table 31). Overall, people who live in households with two, three or four children exhibit above average MJH rates while those living in households with no children or just one child exhibit below-average MJH rates.

Table 31: Incidence of MJH by number of children in household

Number of children	# of workers	% MJH	z-score
Three children	92,496	11.2	0.27
Four children	25,845	10.2	0.09
Two children	241,536	10.2	0.09
No children	1,029,705	9.6	-0.03
One child	272,064	9.5	-0.05
More than four children	10,389	8.3	-0.26

The patterns for women are different to those for men. Women living in households with two, three or four children are over 30% more likely to engage in MJH activity than men in similar situations; they are even 24% more likely to do so in households with more than four children (Table 32a).

Table 32(a): Incidence of MJH by number of children in household and sex

Number of children	# of workers			% MJH		
	All	Women	Men	All	Women	Men
Three children	92,496	40,713	51,783	11.2	12.9	9.8
Four children	25,845	10,905	14,940	10.2	11.8	9.1
Two children	241,536	111,711	129,828	10.2	11.8	8.9
No children	1,029,705	484,800	544,905	9.6	9.9	9.3
One child	272,064	132,237	139,827	9.5	10.1	8.8
More than four children	10,389	4,197	6,195	8.3	9.4	7.6

Census data on the age of children in the household indicates that the highest MJH rates occur for people in households with pre-teenage and teenage children present, while the lowest rates occur for people in households with either very young children and infants or children aged over 20 years (Table 32b).

Table 32(b): Incidence of MJH by age of children in household

Age of children	# of workers	% MJH	z-score
13-14 years	73,569	11.5	0.32
15-16 years	75,528	11.3	0.28
10-12 years	112,587	11.3	0.28
17 years	34,116	10.9	0.21
5-9 years	190,737	10.6	0.15
18-19 years	48,093	9.8	0.01
20+ years	146,148	9.3	-0.08
2-4 years	133,317	9.1	-0.12
<2 years	126,135	8.3	-0.26

For women, the pre-teenage age cohort associated with higher rates of MJH extends to a younger age (5-16 years) compared with men (10-16 years). These data are presented in Tables 33(a) and 33(b); firstly ranked in order of decreasing MJH rates by cohort, and secondly in terms of increasing age cohorts. The latter table suggests a pattern for people in households with children to engage in higher rates of MJH activity during the middle years of the family cycle, the rates being (relatively) lower when children are either very young or approaching independence.

Table 33(a): Incidence of MJH by age of children in household, and by sex - ranked according to MJH%

Age of children	# of workers			% MJH		
	All	Women	Men	All	Women	Men
13-14 years	73,569	37,062	36,504	11.5	12.2	10.8
15-16 years	75,528	37,821	37,704	11.3	11.7	10.9
10-12 years	112,587	56,988	55,602	11.3	12.3	10.2
17 years	34,116	16,848	17,265	10.9	11.7	10.1
5-9 years	190,737	94,995	95,742	10.6	11.7	9.4
18-19 years	48,093	23,049	25,044	9.8	10.8	8.9
20+ years	146,148	66,540	79,605	9.3	9.8	8.9
2-4 years	133,317	60,123	73,194	9.1	10.3	8.1
<2 years	126,135	47,751	78,387	8.3	9.3	7.7

Table 33(b): Incidence of MJH by age of children in household, and by sex - sequenced by the age cohorts of the children

Age of children	# of workers			% MJH		
	All	Women	Men	All	Women	Men
<2 years	126,135	47,751	78,387	8.3	9.3	7.7
2-4 years	133,317	60,123	73,194	9.1	10.3	8.1
5-9 years	190,737	94,995	95,742	10.6	11.7	9.4
10-12 years	112,587	56,988	55,602	11.3	12.3	10.2
13-14 years	73,569	37,062	36,504	11.5	12.2	10.8
15-16 years	75,528	37,821	37,704	11.3	11.7	10.9
17 years	34,116	16,848	17,265	10.9	11.7	10.1
18-19 years	48,093	23,049	25,044	9.8	10.8	8.9
20+ years	146,148	66,540	79,605	9.3	9.8	8.9

3 Groups of variables associated with clusters of high-MJH workers

Having completed the two-dimensional analysis of the incidence of MJH, explanatory variables were combined in groups of four or five to explore which combinations are associated with particularly high rates of MJH. The key distinguishing variables of employment status, industrial classification and occupational group (identified previously in Table 3) were included in various combinations of other variables. Several illustrative examples are provided below, in Tables 34 to 37, which provide an initial analysis using this method. In each case, the search criteria specified minimum cell populations of 1000 individuals and minimum MJH rates of 20%.

Table 34: High MJH clusters - sex, employment status, occupation, household composition

Sex	Employment Status	Occupation	H'hold comp.	# of workers	% MJH
Women	FT unpaid family wk	Crop/livestock farmer	All h'holds	1,257	43.1
Men	FT unpaid family wk	Crop/livestock farmer	All h'holds	1,359	36.9
Women	FT wage/salary	Teacher aide	All h'holds	1,827	35
All	All	Instrumentalist	All h'holds	1,014	30.4
All	FT wage/salary	Survey interviewer	All h'holds	2,454	29.8
Women	All	Sheep farmer	Couple without	1,233	28.5
Women	All	General practitioner	All h'holds	1,401	25.5
Men	All	General practitioner	All h'holds	2,400	25.3
Men	All	Cattle farmer	Couple without	1,308	23.8
All	FT self employed	Nursery grower	All h'holds	1,434	23.7
Men	All	University/HE lecturer	Couple with	2,043	23.7

Table 35: High-MJH clusters - sex, work status, industry, occupation

Sex	Work Status	Industry	Occupation	# of workers	% MJH
Women	FT	Primary education	Associate professional	1,038	40.2
All	FT	All	Composers, musicians, ..	1,173	37.6
Women	FT	Cent.Govt Def./Adm	Finance clerks	1,158	34.7
Women	FT	Sheep farming	Crop/livestock producer	1,206	32
Women	FT or PT	Beef cattle farming	All	2,628	29.8
Men	FT or PT	All	Composers, musicians, ..	1,563	29.7
Men	FT	All	Medical doctors	5,538	25.6

Table 36: High-MJH clusters - ethnicity, age, sex, work status, occupation

Ethnicity	Age	Sex	Work.St	Occupation	# of workers	% MJH
NZEurop.	15-17	All	PT	Animal producers	2,388	29.9
NZEurop.	45-49	Women	FT	Animal producers	1,953	28.1
All	15-17	Men	PT	Animal producers	1,869	27.9
NZEurop.	50-54	Women	FT	Animal producers	1,995	27.8
NZEurop.	40-44	All	FT or PT	Health profs (not nurses)	2,127	27.4
NZEurop.	All	Men	FT	Tertiary teaching professionals	5,100	24

Table 37: High-MJH clusters - sex, TLA, occupation, hours worked

Sex	TLA	Occupation	Hours worked	# of workers	% MJH
Women	Christchurch City	Animal producers	All	1,566	27.6
Men	Auckland City	Tertiary teaching profs	All	1,701	24.4
All	Auckland City	Animal producers	All	1,506	22.8
All	Wellington City	Tertiary teaching profs	All	1,731	22.3
All	Auckland City	Tertiary teaching profs	All	3,366	21.8
Men	Auckland City	Health profs (not nurses)	All	2,124	21.3
All	Christchurch City	Tertiary teaching profs	All	1,899	20.8
All	Invercargill City	Animal producers	All	2,550	20.5
All	Christchurch City	Health profs (not nurses)	All	1,821	20.4

4 Discussion

4.1 Multiple job Holding - a significant attribute of the New Zealand labour market

The baseline profile of multiple job holding has confirmed that this phenomenon has already become well established within New Zealand patterns of work. One-in-ten of all working people were engaged in multiple job holding in March 2001. The baseline profile has also confirmed that the evolution of multiple job holding in New Zealand has been anything but uniform across all sectors of the workforce. The highest rates of multiple job holding for women's occupational groups (where numbers exceed 1,000 workers nationally) are in excess of 40%, while the corresponding figure for men is almost 30%.

4.2 Issues in the collection of statistics on multiple job holding

Work on the baseline profile using census data has raised several issues and questions.

Absence of critical questions

The most obvious issue concerns a major limitation of the existing census data set. While the census data allow analysis by primary job, they contain no data at all on the nature of a person's second job. For example, there is no information on whether the second job is in the same occupational or industry grouping or in a different grouping.

The level of reporting on multiple job holding

Another issue concerns the likelihood of everyone responding consistently to questions about multiple job holding. Understandings about the concept of multiple job holding may vary considerably in the population at large. There is thus the possibility that people in different situations will respond to the census questions differently, for a number of reasons:

- varying perceptions of what constitutes 'work': Does everyone think of unpaid work as 'work'? For example, high rates of multiple job holding are reported by women in rural industries who give their employment as 'unpaid family worker'. Does the experience of farm women mean they are more likely than other women to respond to a question on multiple job holding when their first job is an unpaid job? Do people of different ethnic backgrounds have different notions of unpaid 'work'? It certainly begs the question of whether or not some unpaid workers even bother to respond to this census question
- some people may confuse the concepts of 'job' and 'occupation' when thinking about multiple job holding. Some may think that having more than one job occurs only if they have more than one occupation
- some people may be reluctant to report on their job status in order to protect their status as a beneficiary.

Taken together, the existence of these factors implies the possibility of significant under reporting of multiple job holding in the Census.

Under-representation of recent migrants

The profile suggested some ethnic groups are less likely to engage in multiple job holding, including those born elsewhere (i.e. immigrants to this country). It is possible they could display higher levels given the 5-yearly interval between census data will tend to under-represent recent immigrants. Also, given the self-completion nature of the Census, it is possible that unfamiliarity with English language or with the concept of multiple jobs may also lead to under-representation amongst recent immigrants, even if they have taken part in a Census.

4.3 Needs for more detailed analysis

The baseline profiling work has also pointed to questions such as:

- Are multiple job holders clustered in households?
- What proportion of multiple job holders have self employment as their first job situation?
- How have the different clusters with high MJH rates changed in size and characteristics over time?

The baseline profiling work is not yet complete. Further analysis has been suggested in the following areas, for example:

- more detail on top-decile and bottom-decile personal income by occupation
- rural sector high multiple job holders by education and income
- inner city area units, by occupation
- more detail on tourism sector occupational groups by district or urban area
- more analysis by hours of work.

The multi-variate matrices will also be re-analysed in more detail by relaxing the qualifying criteria - i.e. allowing for minimum-sized clusters of 50 workers nationally. Not only is this likely to identify some small clusters with much higher MJH rates than has so far been the case. It may also be useful in identifying clusters which, although small nationally, are significant in a particular part of the country.

4.4 Implications for primary data gathering

The baseline profiling has raised questions which are important to consider in planning the next stages of fieldwork in the research. Should future sampling and interviewing (future data gathering) be organised by:

- sector (e.g. different types of farming)
- location (e.g. rural, provincial, metropolitan)

- work place (e.g. polytech/school/university, hospital/medical school)
- organisational membership (e.g. unions and professional associations)?

These factors may converge to some extent if local labour market catchments are used as a frame for sampling.

As noted in the discussion above, it also begs the logistical question of how to contact people who do not see themselves as multiple job holders. This issue may require the use of a two-stage interview sequence; an initial call-in or phone-up with screening questions to create a first-level data set which forms the basis for setting up subsequent, in-depth interviews.

One aspect which demands attention in the forthcoming research is to complement the census data with information on the nature of the second and subsequent jobs.