

February 2005

## SKILL SHORTAGE ASSESSMENT OCCUPATION: BAKER

**Current situation:** Skill shortage

**Short term outlook:** Skill shortage

### Executive summary

- 1 The Department of Labour's (DoL) Survey of Employers who have Recently Advertised (SERA) has shown that there is currently a shortage of bakers, with fewer than five out of 10 vacancies filled. On average, there was less than one suitable applicant for each advertised position. This report considers these survey results in the context of trends in the demand for and supply of bakers.

*Table 1: employer survey indicators, 2004*

	Fill rate	Average number of suitable applicants
Bakers	47%	0.6
All trades surveyed	41%	0.7

Source: Department of Labour, SERA

- 2 The baking occupation is currently in shortage and looks like it will remain that way in the medium term. Demand for bakers grew slowly but steadily between 1991 and 2001. This was driven by a strong rise in household expenditure, which resulted in growth in the number of cafés and restaurants, and the introduction of in-store supermarket bakeries. Demand is expected to continue to rise steadily. However increasing automation and labour-saving processes in bread making may restrain this growth somewhat.
- 3 The supply of trade-qualified bakers has diminished over the past few years due to migratory outflows and low numbers achieving nationally recognised (national certificate level 4) qualifications. Recent data shows the training rate (0.5%) for bakers (a comparison of achievements of the national certificate level 4 and equivalent qualifications with average employment) is substantially lower than the average (1.8%) for all trades surveyed in New Zealand. It is also considerably lower than the equivalent training rate for bakers in New South Wales, Australia (2.2%). While the number of trainees achieving the nationally recognised qualification for bakers has risen slightly, the relatively small numbers of enrolments suggest that the number of qualified bakers entering the labour market will continue at low levels for the next few years.
- 4 Current and future training levels will be inadequate to meet new demand and replacement demand arising from retirements and outward migration, or make an impact on the existing shortage of bakers. DOL concludes that the shortage of bakers will persist and possibly even worsen in the short-term

## Introduction

This report presents the results of an investigation into shortages of bakers in New Zealand. The report aims to provide an assessment of whether there is a shortage of bakers, an explanation of the factors contributing to this situation, and an outlook for the future.

Bakers (code 74121 under the New Zealand Standard Classification of Occupations) prepare and bake a variety of breads, pastries and other flour-based products. They are also required to use machinery, make calculations, clean and inspect baking equipment and serve customers. The majority of bakers are employed in supermarkets, specialty stores and cafés. DoL estimates that there were approximately 4,900 bakers employed in New Zealand in 2003.

A background and technical note to this report is available from DoL. The note provides an overview of the broader Job Vacancy Monitoring Programme, of which this report is an output. It also provides a brief description of the employer survey conducted for this report and explanations of indicators and definitions used in the report.

## Demand for bakers

### Historical demand

Employment of bakers has been steadily increasing over the past decade, according to figures from the Population Censuses. Table 2 shows that annual average growth in employment of bakers was 1.1% between 1991 and 1996. In comparison, trade occupations remained static and all occupations grew by 3.2%. In the subsequent five-year period (1996-2001), employment of bakers continued growing (1.3% per annum) while trade occupations declined by an average of 0.4% per annum.

Table 2: employment growth of bakers, 1991-2001

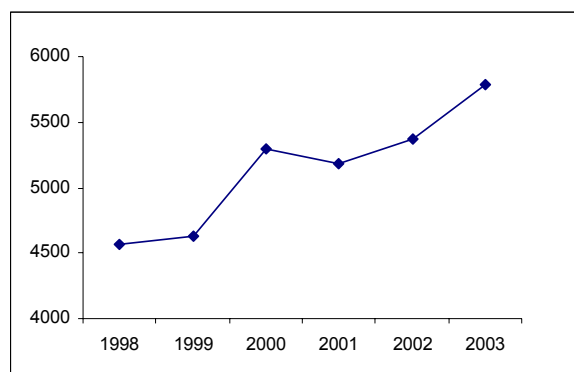
	Annual average growth in employment		
	1991-1996	1996-2001	1991-2001
<b>Bakers</b>	1.1%	1.3%	1.2%
<b>All trades</b>	0.0%	-0.4%	-0.2%
<b>All occupations</b>	3.2%	1.2%	2.2%

Source: Statistics New Zealand, Census of Population and Dwellings 1991, 1996, 2001

Factors that have contributed to the steady growth in demand for bakers include:

- A strong increase in total household disposable income of 38% (in real terms) from 1991 to 2003.
- A strong increase in total household consumption of food and beverages of 37% between 1991 and 2003. This is reflected in growth in the number of restaurants and cafés (figure 2).
- Increasing popularity of specialty breads and bakery products.

Figure 2: number of cafés and restaurants, 1998-2003



Source: Statistics New Zealand

- Increasing tourist numbers, as New Zealand continues to be perceived as a safe tourist destination. Some bakeries in smaller towns rely heavily on tourist dollars. Increases in tourist numbers will have a flow-on effect to the food and service industries.

### ***Future demand***

Historical factors driving growth in demand for bakers look set to continue into the future. Factors affecting demand include:

- Moderately strong economic growth leading to increased private consumption. Consensus forecasts suggest that private consumption will increase by 3.6% between 2004 and 2005.
- According to Statistics New Zealand's 'medium assumption growth projections' the population will grow by around 0.9% in 2005. This will result in greater food consumption, which could increase demand for baked goods.
- Continued customer preferences for freshly baked products and artisan baking.
- Tourism growth is expected to remain strong as a result of positive publicity and marketing efforts.

On balance DoL expects demand for bakers to continue rising in the short term. However, positive factors will be partially offset by a move away from 'scratch baking' to the timesaving processes of 'frozen dough' and increased automation of the bread making process.

### ***Summary***

Demand for bakers increased slowly but steadily between 1991 and 2001. This was driven by a rise in household expenditure, which resulted in growth in the number of cafes, restaurants, and the introduction of in-store supermarket bakeries. Demand is expected to continue to rise steadily, however this may be partially offset by increased automation and timesaving processes.

## **Supply of bakers**

### ***Training – National certificate (Level 4) qualifications and equivalent***

This section investigates the growth in supply of *fully qualified* bakers through training. It considers three sources of supply:

1. The award of the National Certificate in Baking (craft or plant baking) Level 4 by the New Zealand Food and Manufacturing Industry Training Organisation (COMPETENZ). This is the nationally recognised qualification for bakers which is designed by the ITO to meet the needs of employers of bakers. It takes an average of three years to achieve.
2. The award of the National Certificate in Baking (craft or plant baking) Level 4 by other providers such as polytechnics.
3. The award of qualifications apart from national certificates which are deemed to be equivalent to the national certificate in terms of level and number of credits.

Table 3 shows that all national certificates were awarded by COMPETENZ in the time period under review. Both total and new enrolments have increased between 2001 and 2003, with new enrolments increasing from 98 in 2001 to 117 in 2003. This may result in an increase in the number of trainees achieving this qualification in the future. The number of achievements has increased slightly between 2000 and 2003. There were no non-national certificate qualifications at the equivalent level of the national certificate

awarded over this time period. A list of national certificate level 4 and equivalent qualifications and the proportion of trainees enrolled for these qualifications is provided in Appendix 1.

*Table 3: enrolments for National Certificate in Baking (craft or plant baking) Level 4 and other equivalent qualifications*

		National Certificate in Baking Industry (craft or plant baking) Level 4 (COMPETENZ)	National Certificate in (craft or plant baking) Level 4 (Other providers)	Other equivalent qualifications	Total
2000	Total enrolled	Not available	None	None	-
	New enrolments	69	None	None	69
2001	Total enrolled	245	None	None	245
	New enrolments	98	None	None	98
2002	Total enrolled	281	None	None	281
	New enrolments	94	None	None	94
2003	Total enrolled	323	None	None	323
	New enrolments	117	None	None	117

Source: COMPETENZ, Tertiary Education Commission (TEC)

*Table 4: number of trainees achieving the National Certificate in Baking (craft or plant baking) Level 4 and other equivalent qualifications*

	National Certificate in Baking Industry (craft or plant baking) Level 4 (COMPETENZ)	National Certificate in (craft or plant baking) Level 4 (Other providers)	Other equivalent qualifications	Total
2000	9	Not available	None	9
2001	16	Not available	None	16
2002	23	Not available	None	23
2003	26	Not available	None	26

Source: COMPETENZ, Tertiary Education Commission (TEC)

Training rate indicators are shown in table 5. A comparison of the number of trainees achieving the national certificate (NC level 4) in baking and equivalent qualifications with the number of bakers employed yields a training rate of 0.5%. This indicator provides a crude measure of the rate at which the supply of fully qualified bakers can potentially grow through training<sup>1</sup>. This training rate is substantially lower than the average training rate (1.8%) for all trades surveyed in the SERA and the comparable training rate in New South Wales (NSW), Australia. The NSW baker training rate is 2.2%<sup>2</sup>.

An alternative measure of training levels is the training enrolment rate (National Certificate Level 4) which compares the number of trainees enrolled for the national certificate with the number of bakers employed. The enrolment rate for bakers was 6.6% in 2003 (table 5).

<sup>1</sup> This assumes that there is full employment of bakers. This is a reasonable assumption in the current environment of low unemployment and skill shortages.

<sup>2</sup> Source: NSW Labour Economics Office, Department of Employment and Workplace Relations.

### Training – Other related qualifications and courses

While the level 4 national certificate in craft baking or plant baking may be regarded as the qualification required to be a fully qualified baker there are other lower level baking qualifications and courses (such as the Certificate in Professional Patisserie). These qualifications may be regarded as adequate to some employers of bakers, especially during times of acute skill shortages. They are also of significance as these qualifications may staircase trainees towards the national certificate level 4 qualifications. Credits obtained in these qualifications may be recognised towards a national certificate level 4, should the trainee later wish to become a fully qualified tradesperson. A list of these qualifications and the number of trainees enrolled in courses leading to these qualifications is provided in Appendix 1. Training in these courses is reflected in the training enrolment rate (all related training) which compares the number of trainees enrolled in all baking-related training with the number of employed bakers, and is measured at 19.2% in 2003 (table 5).

A number of other government-funded vocational educational and training programmes (including Training Opportunities, Youth Training and Skill Enhancement Training) offer trades related training which lead to credit achievement on the National Qualifications Framework<sup>3</sup>. A further 28 people were enrolled for this training in 2003 (see Appendix 2).

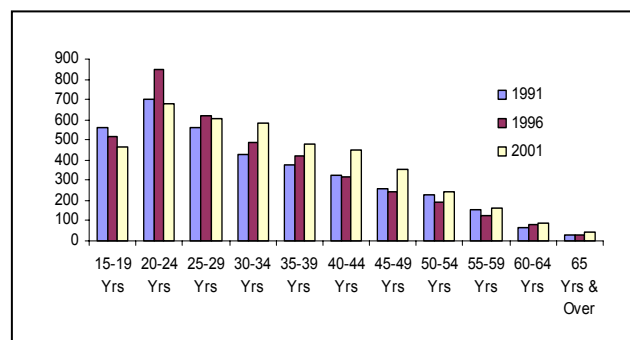
Table 5: training rates for bakers

Indicator	Explanation	Bakers (NZ)	All SERA trades surveyed (NZ)	Bakers (NSW, Australia)	All trades (NSW, Australia)
Training rate (national certificate L4 and equivalent)	Number of trainees achieving relevant national certificates (level 4) and equivalent non-national certificate qualifications expressed as a percentage of employment in that occupation.	0.5%	1.8%	2.2%	2.8%
Training enrolment rate (national certificate L4 and equivalent)	Number of trainees enrolled for relevant national certificates (level 4) and equivalent non-national certificate qualifications expressed as a percentage of employment in that occupation.	6.6%	16.4%		
Training enrolment rate (all related training)	Number of trainees enrolled in all relevant courses expressed as a percentage of employment in that occupation.	19.2%	30.5%		

Source: Department of Labour (New Zealand), Department of Employment and Workplace Relations (Australia)

The current low training rate was confirmed by employers spoken to during the SERA. Employers commented that there were few young people joining the trade. These comments are substantiated by census data which shows the declining numbers of 15-19 year olds employed in the baker occupation (shown in figure 4). The age profile also shows a drop in employment in the 20-24 year old age group, which

Figure 4: age profile for bakers



Source: Statistics New Zealand, Census

<sup>3</sup> Enrolments in these programmes are not included in the training enrolment rate (all related training).

accounted for 22% of employment in 1996, declining to 11% in 2001.

### **Migration**

New Zealand experienced a net migratory loss of more than 600<sup>4</sup> food trade workers over the seven-year period to June 2004 (table 6), amounting to approximately 6% of the food-trade workforce. There was even a net outflow in 2003 despite most other skilled occupations experiencing strong inward migration in that year<sup>5</sup>.

*Table 6: permanent and long-term (PLT) annual arrivals, departures and net migration of food and related products processing trade workers, June years*

	1998	1999	2000	2001	2002	2003	2004
<b>PLT annual arrivals</b>	123	81	94	106	108	100	97
<b>PLT annual departures</b>	180	228	219	234	172	124	154
<b>PLT annual net migration</b>	-57	-147	-125	-128	-64	-24	-57

Source: Statistics New Zealand, External Migration

Employers had varying views about the quality of migrant bakers. Bakers from the United Kingdom were well regarded by employers who had hired them. However, comments on other groups were less favourable. A lack of good communication skills was most frequently mentioned.

### **Retirement**

It is estimated from the 2001 population census that between 20 and 30 bakers retire each year. This amounts to approximately 0.6% of the baker workforce.

### **Summary**

The supply of trade-qualified bakers has diminished over the past few years due to migratory outflows and low numbers achieving nationally recognised (national certificate level 4) qualifications. Recent data shows the training rate (0.5%) for bakers (a comparison of achievements of the national certificate level 4 and equivalent qualifications with average employment) is substantially lower than the average (1.8%) for all trades surveyed in New Zealand. It is also considerably lower than the equivalent training rate for bakers in New South Wales, Australia (2.2%). While the number of trainees achieving the nationally recognised qualification for bakers has risen slightly, the relatively small numbers of enrolments suggest that the number of qualified bakers entering the labour market will continue at low levels for the next few years.

## **Employer recruitment experiences**

### ***Is there a shortage of bakers?***

Results from the SERA suggest employers have considerable difficulty filling their vacancies. Employers interviewed as part of the SERA filled only 47% of their baker

<sup>4</sup> This analysis uses the 3-digit occupational category 'food and related products processing trade workers', NZSCO code 741. Bakers make up only 52% of this category. However, the close association of constituent occupations means trends in 'food and related products processing trade workers' are likely to reflect trends in the number of bakers.

<sup>5</sup> These estimates could underestimate the migrant flows of bakers because 40% of persons entering and leaving New Zealand do not record their occupations or are not identifiable.

vacancies within six weeks<sup>6</sup> of advertising them, which was slightly higher than the fill rate of all trades surveyed (41%). The average number of suitable applicants per advertised baker position was 0.6.

*Table 7: SERA results for bakers*

	Number of employers	Number of Positions	Positions filled	Fill rate	Suitable applicants	Average number of suitable applicants per vacancy
<b>Bakers</b>	14	17	8	47%	11	0.6
<b>All trades surveyed</b>	240	453	186	41%	337	0.7

Source: Department of Labour, SERA

When employers were asked if their applicants required any particular skills or experience, the majority said they just wanted a skilled, qualified baker. A few said they wanted someone qualified, but had taken a non-experienced person because that was all they could get. One employer noted it was: ‘...hard to get anyone, let alone complicate the process by asking for specific skills’.

Employers interviewed also reported that baker shortages had forced them to use unskilled or semi skilled labour, and to increase the burden on existing staff, from managers to apprentices. One employer had been forced to close one of his businesses due to lack of qualified staff. Employers mentioned two things that might prevent someone from considering baking as a career: hours of work and working conditions. The majority of employers interviewed made some reference to the long and unsociable hours bakers are required to work. One employer, commenting on working conditions, said “...getting up at 3 a.m. ... working 14-15 hour shifts on top of an early start. You have no social life when you have to be in bed by 8:30 p.m. Not exactly selling itself is it”.

### ***What are employers paying?***

Wage data shows that the mid-point of the wage bands offered by employers interviewed in the SERA was approximately \$16.88 per hour (see table 8). This is very close to the mean wage of \$16.47 for Bakers measured in the Labour Cost Index (LCI), but substantially less than the LCI average wage for all trades (\$19.54). This suggests that baker’s wages are not competitive compared with other trades.

*Table 8: baker wage rates*

	Mid point	Mean
<b>SERA – bakers</b>	\$16.88	
<b>Labour Cost Index – bakers</b>		\$16.47
<b>Labour Cost Index – all trades</b>		\$19.54

Source: Statistics New Zealand (LCI), Department of Labour (SERA)

### ***Genuine skill shortage or recruitment difficulty***

There are a number of factors which might make baker vacancies unattractive to job seekers. These are: below average wage rates, difficult working environments and unsociable hours of work. However, there is not adequate evidence to suggest that employers are experiencing a recruitment difficulty with a pool of trained bakers who are

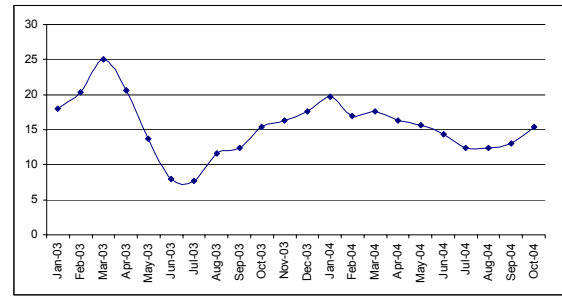
<sup>6</sup> Employers are approached approximately six weeks after having advertised a vacancy. If they have not completed their recruitment process after six weeks employers are approached at a later stage when the process has been completed.

not prepared to take up the vacancies on offer. In fact, low training levels suggest that there is a small potential supply of bakers. Consequently DoL describes this situation as a genuine skill shortage.

### **Changes in market conditions**

The DoL's Job Vacancy Monitor shows that the number of vacancies varies with the seasons, peaking in summer and declining in winter (figure 5). This suggests the recruitment of bakers is linked to the tourist season.

Figure 5: advertised baker vacancies



Source: Department of Labour, Job Vacancy Monitor

### **Outlook**

The demand for bakers is expected to continue growing in line with rising personal incomes and consumer expenditure on baked goods. However, supply will continue to be a constraint. While there should be a rise in the number of newly trained bakers entering the labour market due to rising training enrolments, training levels will be inadequate to meet new demand, replacement demand arising from retirements and outward migration, or to make an impact on the existing shortage of bakers. DoL therefore expects the shortage of bakers to persist.

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## APPENDIX 1: TRAINING ENROLMENTS FOR BAKER TRADE: 2003

### Enrolments in National Certificate Level 4 and equivalent qualifications: 2003

Qualification Title	Qualification Code	Provider Name	Level	Credits	Share of Enrolments (%)
NC in Food Production Baking - Craft	na	Competenz	4	279	85.4%
NC in Food Production Baking - Plant	na	Competenz	4	225	14.6%
Total					<b>100.0%</b>

### Enrolments in other qualifications

Qualification Title	Qualification Code	Provider Name	Level	Credits	Share of Enrolments (%)
Certificate in Professional Patisserie	OT4914	Otago Polytechnic	na	na	0.6%
Certificate in Professional Patisserie	OT4914	Otago Polytechnic	na	na	1.0%
City & Guilds Diploma in Culinary Arts – Patisserie	WR2785	Waiariki Institute of Technology	3	77	2.9%
MIT Certificate in Baking	MN4389	Manukau Institute of Technology	3	120	12.1%
NC in Food Production Baking	na	Competenz	3	169	83.4%
Total					<b>100.0%</b>

### Enrolments in Training Opportunities Programme, Youth Training and Skill Enhancement Training related to the baking trade

Course name	Programme type	Share of Enrolments (%)
Hospitality & Bakery	YOUTH	100.0%
Total		<b>100.0%</b>