

## **BACKGROUND AND TECHNICAL NOTE: TRADE SKILL SHORTAGE ASSESSMENT REPORTS**

This note provides background to the skill shortage assessment reports and further technical information on methodology and definitions than is provided in the reports.

This note:

- 1) describes the structure of the Job Vacancy Monitoring Programme
- 2) provides some details of the Survey of Employers who have Recently Advertised (SERA) Intensive on which the reports are largely based and
- 3) defines a number of indicators used in the reports and briefly outlines methodology and data sources used to calculate these indicators.

### **Job Vacancy Monitoring Programme: An overview**

The skill shortage assessment reports are one of the outputs of the Department of Labour's (DoL) Job Vacancy Monitoring Programme (JVMP). The programme comprises a number of components and processes, which are described below.

#### *Job Vacancy Monitor*

The Job Vacancy Monitor (JVM) is a monthly analysis of job advertisements in selected editions of 25 major newspapers<sup>1</sup> around New Zealand and 2 internet job boards. The purpose of the job ad series is to monitor changes in occupational labour markets. It also provides the basis of the sample for the Survey of Employers who have Recently Advertised (SERA).

Each month all advertisements appearing in a single edition (first Saturday of the month)<sup>2</sup> of the 25 major newspapers are captured electronically. A number of fields of information from each advertisement are captured including job title, location and number of vacancies. The job title for each advertised vacancy is coded to a 5-digit occupation using the New Zealand Standard Classification. Likewise location of the vacancy is coded to a standard classification of Urban Areas and Region. Advertisements that are repeated across newspapers are identified and discarded. In addition to monitoring newspaper advertisements the JVM also monitors two Information Technology Internet job boards. The number of new vacancies posted over the previous seven days is counted each Friday.

The results of the JVM are published in a monthly report which is posted on the Department of Labour website (<http://www.dol.govt.nz/publications/jvm>).

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<sup>1</sup> Coverage of the JVM was increased from 14 newspapers to 25 newspapers in January 2005.

<sup>2</sup> JVM uses the NZ Herald from the second Wednesday and the second Friday edition of some of the small regional papers.

### *Survey of Employers how have Recently Advertised - Extensive*

The Survey of Employers who have Recently Advertised (SERA) – Extensive is a short telephonic survey of employers who have advertised professional, technical/semi-professional or trade vacancies. The purpose of the survey is to identify skilled occupations in which employers are having difficulty filling vacancies. It provides a broad overview of the skilled labour market.

The survey is conducted in the first part of the year. Its sample is drawn from the JVM. Employers are approached six to eight weeks after advertising and asked whether they have filled their vacancy and how many suitable applicants applied. From this information DoL is able to calculate a fill rate for each occupation. The fill rate describes the proportion of vacancies that were filled within six to eight weeks of advertising. DoL is also able to calculate the average number of suitable applicants per vacancy. These measures are key indicators of shortage. Occupations with fill rates lower than about 80% are generally regarded as being in shortage.

### *Identification of key occupations*

The next step of the JVMP process is to identify key occupations for further in-depth analysis. A number of criteria are used to select key occupations including some evidence that the occupation is currently in shortage. Evidence of shortage may be drawn from the SERA Extensive (a low fill rate for a specific occupation), JVM (a rapid increase in the number of advertised vacancies may indicate that a shortage is emerging), presence of the occupation on NZ Immigration Service skill shortage lists or anecdotal accounts of shortage. Key occupations need to represent a spread of economic sectors. Key occupations may also be selected on the basis that they are of considerable strategic importance to the New Zealand economy and do not necessarily have to be in shortage all the time to be included.

### *SERA Intensive*

This is a survey of employers who have recently advertised vacancies in the key occupations identified in the previous step. Its objective is to gain in-depth knowledge of the causes of shortages in each occupation. The survey is conducted in the second half of the year and it also draws its sample from the Job Vacancy Monitor. The sample may be complemented from other sources of advertising such as professional and trade journals and internet job boards. The survey is based on a sample of 20 employers for each occupation.

The questionnaire is a mix of quantitative and qualitative questions. Identical quantitative questions to those used in the Extensive are included to enable a fill rate and average number of suitable applicants per vacancy to be calculated for each occupation. Additional qualitative questions cover the following issues:

- The supply and demand forces that are contributing to shortages
- Whether the shortage is a genuine skill shortage or a recruitment difficulty
- Implication for the employer and their response to their inability to fill vacancies
- Skill sets that employers are unable to obtain in applicants to their vacancies.

### *Quantitative research*

Various data sources that provide additional insight into the supply and demand forces contributing to shortages in each of the key occupations are analysed. These sources include:

- Enrolments and completions for courses related to the occupation;
- Migration of persons qualified in the occupation;
- Employment data from sources such as Household Labour Force Survey, censuses and employer bodies;
- Economic data related to the economic sector in which the occupation is concentrated.

### *Occupational reports*

Comprehensive reports on each of the key occupations are compiled. These reports draw together information gathered from the SERA Intensive and analysis on other statistical sources.

Draft reports are distributed to industry and occupational bodies such as Industry Training Organisations (ITOs) and professional associations. Feedback on analysis and conclusions are incorporated into final reports.

## **Survey of Employers who have Recently Advertised (SERA) Intensive – Trade occupations**

The skill shortage assessment reports draw heavily on the results of the SERA Intensive. The following gives a summary of the main features of the survey:

- It was conducted from 7 to 30 July 2004.
- It is based on a non-random sample of advertised vacancies drawn from major newspapers published over the period 15 May to 25 June 2004. If there were insufficient advertisements in newspapers then other sources such as internet job sites and trade journals were used. DoL attempted to achieve a sample of 20 employers for each occupation. This was not possible when fewer than 20 advertisements appeared over the time period.
- A total of 244 successful interviews were conducted with employers who advertised 453 vacancies.
- It involved telephonic interviews which took from five to 40 minutes to complete. Average duration was 10 to 15 minutes.
- The questionnaire was administered using a Computer Assisted telephone Interviewing (CATI) system.
- The questionnaire was complex and numerous paths could be taken in the questionnaire depending on answers from respondents. A simplified version of the questionnaire is available from DoL on request.

## Indicators used in the reports: definitions and methodological issues

Table 1 provides definitions of skill shortage indicators used in the reports.

*Table 1. Skill shortage indicators*

Indicator	Definition
<b>Skill shortage</b>	A skill shortage exists when employers have considerable difficulty in filling their job vacancies because there are not enough individuals with the required skills in the potential labour market to fill the positions on offer.
<b>Recruitment difficulty</b>	A recruitment difficulty exists when there is an adequate supply of individuals with the required skills in the potential labour market but they are unwilling to take up employment at current levels of remuneration and conditions of employment in reasonably accessible locations.

Table 2 provides definitions and some methodological notes on labour supply indicators used in the skill shortage assessment reports.

*Table 2. Labour supply indicators*

Indicator	Definition	Methodological notes
<b>Training rate (National Certificate level 4)</b>	Number of trainees who have completed the relevant National Certificate Level 4 qualification expressed as a percentage of employment in that occupation.	The number of completions of the national certificate overseen by ITOs was obtained from the ITOs directly or from Tertiary Education Commission (TEC). Completions of qualifications which were offered by other providers were obtained from Tertiary Data Warehouse at Ministry of Education.  The number of persons employed in each occupation is based on estimates from the DoL Occupational Employment model.
<b>Training enrolment rate (National Certificate level 4)</b>	Number of trainees enrolled for relevant national certificates (L4) expressed as a percentage of employment in that occupation.	Same sources as above.
<b>Training enrolment rate (all related training)</b>	Number of trainees enrolled in relevant courses expressed as a percentage of employment in that occupation.	Number of trainees obtained from TEC. The number of persons employed in each occupation is based on estimates from the DoL Occupational Employment model.
<b>Retirement rate</b>	The proportion of employed people in an occupation expected to retire each year.	This indicator is calculated from census data. It expresses the proportion of the workforce in each occupation that retires each year. The number of persons retiring each year is estimated as 20% of the population aged 60 and above.