SkillsInsight TOOL

USER GUIDE

2009

SkillsInsight represents a collection of tools and reports that strive to provide clear and concise occupational labour market information from both official and non-governmental sources. These tools and reports include skills information for the most detailed occupation groups possible to provide accurate, up-to-date data on skills supply and demand.

Department of Labour
TE TARI MAHI

SKILLS INSIGHT TOOL (SIT)

Purpose

The SIT has been designed to provide quantitative evidence about the supply of, and demand for, labour in New Zealand. The tool displays supply and demand indicators as well as demographic characteristics and industry compositions for all ninety-six 3-digit occupation groups. To go to the tool, click here.

Context

The SIT is the first component of a larger suite of reports and information tools that will come under the brand "SkillsInsight." These tools and reports aim to provide extensive labour market information for all occupation groups in order to facilitate decision making by Department of Labour stakeholders. It is also the goal of the Department to incorporate occupational information from a range of non-governmental sources in addition to official sources to better reflect current labour market conditions. A pilot project with the Institution of Professional Engineers New Zealand (IPENZ) demonstrating this type of collaboration can be found in the SkillsInsight tab along with the SIT on the Department of Labour webpage.

Updates

The SIT has a variety of source data that is updated with varying frequency (quarterly, yearly, and five-yearly). For scheduling consistency the tool will be updated twice per year at the end of March and September.

HOW TO USE THE SIT

Introduction/occupation selection

The SIT contains six separate information pages shown in the tree at the bottom of the **Introduction** page.

1. Start by choosing an occupation. Either type something into the yellow box below the "How it works" section and choose from the options generated in the first red bar, or choose an occupation from the full occupation list in the second red bar. The selected occupation will appear in the blue bar above the tree. This will remain the selected occupation for all pages until it is changed again here at the introduction page.
2. After choosing an occupation you can pick a page of information. It is recommended that you start with the summary page at the top of the information tree and work your way down.
3. To change the selected occupation, you must return to the introduction page and begin again.
4. Depending on your settings, you may have to press F9 to get the occupation selection to update.

It is important to note that a cell with **this format** means it is a link or a dropdown menu.

Page Summaries

Summary view: Contains a selection of labour market supply and demand indicators to provide a general overview of the labour market status of an occupation.

Detailed demand measures: This page provides a closer look at the labour market demand indicators, both historical and future, for the selected occupation group.

Detailed supply measures: This page provides a more in-depth look at the labour market supply indicators for the selected occupation group.

Occupational characteristics: This page contains demographic information about the selected occupation group from the latest Population Census (2006). It also shows the top fields of study for that occupation group.

Detailed industry employment measures: This page shows the top ten industries that employ the selected occupation group relating to the following four criteria:

1. The proportion of the occupation employed in the industry. (*Example*: 55.4% of Electricians are employed in Installation Trade Services, 6.4% in Motor Vehicle Services and so on)
2. The amount of absolute employment growth over the past five years. (*Example*: For Electricians, the Installation Trade Services industry had the most growth with 2,172 electricians added followed by Non-Building Construction which added 247 and so on)
3. Displays the portion of overall employment growth (shown in point 2) that came from industry growth alone. (Achieved by applying 2003 occupation shares to 2008 employment numbers)
4. Displays the portion of overall employment growth (shown in point 2) that came from shifts in the relative importance of the occupation group. (Achieved by subtracting point 2 from point 3. Shows the employment change after removing industry growth.)

NOTE: For any particular occupation group, the employment changes shown in points 3 and 4 sum up to the overall employment growth in point 2. In some cases, the fixed industry share effect (point 3) is large enough to overwhelm a negative occupational shift effect (point 4) and vice versa. Therefore, growth may not always be the appropriate term to describe the shifts shown in points 3 and 4.

Occupational rankings for selected measures: Shows the top and bottom twenty occupations for a selection of labour market supply and demand indicators.

WHAT TYPES OF DATA DOES THE SIT HAVE?

The SIT is divided into six pages based upon the type of information presented. Below is an indicators list for each component. For further information concerning a particular indicator, see the Glossary contained within the tool itself.

Caveats

- Every effort has been made to provide robust information using rigorous methods of analysis. However, it is important to understand all information within its context and its limitations. It is therefore recommended that the SIT be used in conjunction with other data sources and that the Glossary be consulted to ensure total understanding of the SIT indicators and related caveats.
- The SIT should not be used on its own for highly detailed planning. For example, it cannot tell you that there should be training for, say, 32 more plumbers in Napier in any one year.

Summary Page

DEMAND

Estimated employment 2008 (annual averages) – shows the estimated level of employment in each occupation group for the most recently updated quarter.

Estimated change in employment since 2003 (annual averages) – shows the annual average percentage change in the estimated level of employment over the past five years.

Estimated change in employment since 2007 (annual averages) – shows the annual average percentage change in the estimated level of employment over the last year.

Estimated change in employment to 2013 (annual averages) – shows a forecast of annual average percentage change in the estimated level of employment for the next five years.

SUPPLY

Growth in post-school completions (2001-2006) – shows the percentage growth in the number of students getting post-school qualifications in fields of study leading to work in the selected occupation.

Work Permits 2007-2008 – shows the number of temporary work permits given to people who state their occupation in the permit application.

Net PLT Migration 2007-2008 – shows the number of permanent and long-term migrants (arrivals – departures) to New Zealand identified with the selected occupation.

Training rate as a % of occupation (2006) – shows the number of people trained in qualifications leading to employment in the selected occupation as a percentage of the number of workers already employed within that occupation:

$$\frac{\text{Number of graduates in subjects leading to employment in the occupation}}{\text{Number of workers currently employed in the occupation}}$$

Detailed demand indicators (both level and change)

Estimated employment 2003 (annual averages) – shows the level of employment in 2003 and the annual average percentage change in estimated employment from 2003 to 2008. For more information on estimated employment methodology, click here.

Estimated employment 2007 (annual averages) – shows the level of, and annual average percentage change in, estimated employment from 2007. For more information on estimated employment methodology, click here.

E**stimated employment 2008 (annual averages)** – shows the level of estimated employment for March 2008 as an annual average. For more information on estimated employment methodology, click here.

Estimated employment 2013 (annual averages) – shows the forecasted level of, and annual average percentage change in, estimated employment expected in the next five years leading to 2013. For more information on occupational forecasting methodology, click here.

Net replacement demand 2008-2013 – workers naturally leave their occupations for a variety of reasons (retirement,

occupational dissatisfaction, lifestyle changes etc). Net Replacement Demand is the estimated percentage of the current workforce in an occupation that will need to be replaced (because of natural turnover factors) to maintain employment at its current level. For more information on net replacement demand methodology, click here.

Additional labour required to meet economic growth and replacement demand by 2013 – shows the estimated number of additional workers that will be required by 2013 for the selected occupation based upon DoL forecasts.

Estimated employment change 2003 – 2008 (June quarters) due to industry demand and occupational shifts

NOTE: These two indicators attempt to break down the growth in employment of the selected occupation into two components. The first is the employment change caused solely by the expansion of those industries that the selected occupation services (due to industry demand). The second is the employment change that comes from a shift in the relative importance of the selected occupation (due to occupational shifts). For example, the automotive industry used to employ many assembly workers to screw together various car components. As robots began to replace some of these workers, the demand for assembly workers decreased while the demand for robot technicians increased, regardless of whether the industry itself has grown in terms of the demand for labour. For more information on this decomposition methodology, click here.

Detailed supply indicators

Growth in post-school completions (2001 – 2006) – Shows the annual average percentage change in the number of students obtaining post-school qualifications in fields of study leading to work in the selected occupation.

Work permits (2007-2008) – Shows the number of temporary work permits given to people who identify the selected occupation.

Percentage of occupations on Skill Shortage Lists – Shows the percentage of 5-digit detailed occupations within the selected occupation group that are included on the Long-Term and Immediate Skills Shortage Lists.

Net permanent and long-term (PLT) migration (2007-2008) – Shows the net migration (arrivals – departures) of permanent and long-term migrants.

Training rates (using 2006 completions) – Training rates are computed by the DoL through a multi-step process. First, Census responses are analysed to determine the percentage of workers with a certain field of study within each occupation group. *For example:* 25% of Census respondents who had completed qualifications within Taxation Law (FoS code 90911) stated that their occupation group was Legal Professionals (NZSCO 242). Therefore, we can expect that 25% of those completing a qualification in Taxation Law will become Legal Professionals. Next, we look at the number of students completing a degree in each field of study and multiply it by the occupation shares produced in the first step to get completions by occupation, or in other words, the number of students we expect will go into each occupation based upon their field of study. We then use these completion numbers to calculate the training rate shown.

Training rate as a percentage of occupation takes the completions number for the selected occupation and divides it by the total number of workers within that occupation. This tells us the percentage of an occupation that is being trained in a given year.

Industry weighted job turnover (IWJT) – Job turnover percentages for each industry are multiplied by the selected occupation's share of employment in each industry. The sum of the resulting figures gives the weighted average turnover for the occupation, based on the key industries in which each occupation is employed. This gives an indication of the volatility of employment (quality of work or work environment) for the selected occupation based on the industries it services. *Example:* 512 Housekeeping and Restaurant Services Workers have a high IWJT number (26.8%) relative to the national average of 17.8%. This suggests high volatility in employment in the industries these workers service.

$$\sum \text{Turnover of each industry} \times \text{Occupation share of industry employment} = \text{Industry weighted job turnover}$$

Mean hours worked – Shows the average hours worked a week by the selected occupation group.

Approved Skilled Migrant Category applicants (2007/08) – shows the number of migrants who were approved Skilled Migrant Category principal applicants and identified as working in the selected occupation.

Demographic characteristics

Age bands – shows whether the selected occupation group is composed of relatively older or younger workers.

Gender – shows the proportions of male and female workers within an occupation group.

Ethnicity – shows the ethnic breakdown of the selected occupation.

NOTE: Ethnicity data are sourced from the most recent Population Census (2006) which allows people to choose multiple ethnicities. All given ethnicities have been counted, therefore the percentages sum to more than 100%.

Highest qualification – shows the proportion of the selected occupation with each level of qualification.

Percentage born overseas – shows the percentage of workers in the selected occupation that were born overseas.

Percentage part-time – shows the percentage of workers in the selected occupation that work 30 hours or less according to the 2006 Census.

Top three fields of study– shows the top three fields of study for the selected occupation.

NOTE: One might notice some counter-intuitive results here. Example: 214 Architects, Engineers and Related Professionals lists No Post-School Qualification as its most important field of study. This result says more about changes in required qualifications for practice in that occupation rather than the most important field of study for that occupation.

Industry breakdown (top 10 industries)

Industries that employ the selected occupation group – industries are ranked according to the level of estimated employment in the most recent quarter. For more information on this decomposition methodology, click here.

Industries that have recorded the largest change in employment for the selected occupation group – (industries are ranked according to the change in the level of employment over the past 5 years (2003 – 2008) For more information on this decomposition methodology, click here.

Industries that have contributed most to the employment growth of the selected occupation group – this shows the amount of overall employment growth for the selected occupation group that came from industry growth alone. For more information on this decomposition methodology, click here.

Industries in which the selected occupation has most improved its occupation share – this shows the amount of overall employment growth for the selected occupation group that came from shifts in the relative importance of the occupation group within the industries with the greatest overall change in employment. For more information on this decomposition methodology, click here.

Indicator rankings

This shows the top and bottom twenty occupations ranked by the indicator selected in the upper left-hand corner. The indicators chosen are listed below:

Employment 2008 (Annual Average Change)

Employment Growth 2003-2008

Employment Growth 2007-2008

Future Employment Growth 2008-2013 (Percentage)

Future Employment Growth 2008-2013 (Absolute Values)

Net Replacement Demand (Annual Percentage)

Work Permits 2007-2008

Growth in Post-School Completions (Annual Average Change 2001-2006)

Industry Weighted Job Turnover

Net PLT Migration 2007-2008

Training Rate as a Percentage of Occupational Employment (2006)

Approved SMC Applicants (2007/08)