Research to support the ITOs' leadership role

Analysis of economic and social environment

Summary of the New Zealand Institute of Economic Research's report to the Industry Training Federation

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INDUSTRY TRAINING FEDERATION
LEADING A SKILLED FUTURE

Contents

Foreword

In 2005 the Industry Training Federation (ITF) commissioned from the New Zealand Institute of Economic Research (NZIER) a future-focused study of the New Zealand economic and social environment, with a specific emphasis on the strategic skills and training issues arising from that environment.

The study was conducted in the context of Industry Training Organisations' (ITOs) legislated leadership role, which involves —

(i) identifying current and future skill needs,

(ii) developing strategic training plans to assist the industry to meet those needs, and

(iii) promoting training that will meet those needs to employers and employees.

The work that NZIER has done allows ITOs to put the skills leadership they are doing for their industries in the context of broader national and international trends. The trends discussed in the report, such as demographic change, globalisation, and the growing importance of the service sector, are going to change the way New Zealanders participate in learning and work.

This summary document gives an excellent overview. The full report, available from the ITF, provides a deep analysis of interest to all people involved in meeting industry skill needs.

Having a consistent and rigorous evidence base provides ITOs with a secure foundation for their discussions with industry, education organisations and other stakeholders on the future directions of skill development and use in New Zealand workplaces.

Darel Hall
Executive Director

Key Messages

Global trends

Key global trends over the next ten years affecting employment and labour markets are:

- The *ageing population*. Not only does this impact on the supply of labour, but it also affects the demand for goods and services and therefore the sectoral distribution of employment. Health care and leisure related industries will become progressively more important

- Increasing *globalisation*. Whilst trade ultimately benefits economies, there can be significant adjustment processes and the transition phase can be difficult. The emergence of China and India, both in terms of global labour and product and service markets, will have significant impacts

- The role of *migration*. Global migration flows have increased significantly in the last couple of decades. In particular, there has been increased demand for ICT skills, health skills and seasonal labour. In terms of supply, there has been an increase in students and temporary labour into the international labour market. However, the pattern of migration is complex and varies markedly by country and industry.

New Zealand labour market trends and prospects

High employment growth, low unemployment rates and *high labour force participation rates* have characterised the New Zealand labour market in the recent past.

Labour supply constraints will inhibit future growth in employment in New Zealand. The (relatively modest) growth in the number of jobs will be primarily determined by the number of people available to fill them, rather than derived demand from employers. *Improving labour productivity* rates will increasingly be required to lift income levels – working smarter not harder.

The *ageing* of the New Zealand population, its increasing *ethnic diversity* and *urbanisation* are key demographic issues going forward. Most of the growth in the labour force will come from the older age groups, with a decline in the proportion of the younger age groups.

The *services sector* - retail and wholesale trade, services to households, and communications - has the strongest economic and employment prospects over the next five years. In the longer term, key trends include slowing growth in population, increased tourism, slow growth in demand for agricultural exports and rising consumption of services by households.

Implications for ITOs

Future labour supply constraints could be important to ITOs and the industries they represent in a number of ways. For example, ITOs may want to target their promotional activity at those groups (such as older workers, female returners to work and non-European ethnic groups) which are most likely to be fruitful sources of future labour supply. In addition, they may want to take a “thought leadership” role in communicating labour force trends to employers.

Productivity will continue to be a major policy focus. This means that ITOs will need to understand the role that industry training plays in enhancing labour productivity, and how training complements other parts of the productivity “mix”, such as technology and innovation.

Migration may have a role in alleviating labour supply problems, the importance of which will vary by industry. However, there are some caveats in relying on migration as the “silver bullet” to labour supply constraints, including the fact that migration levels are volatile. Where immigration *does* occur, industry training can assist in the successful settlement of migrants.

At a *pan-ITO level*, current industry training activity does not appear to be overly well aligned to employment prospects. For example, employment growth in the manufacturing industries, which currently have high levels of engagement in industry training, will be modest at best. Conversely certain industries - notably Communication Services and Health and Community Services - which currently have relatively low levels of industry training activity, are expected to grow strongly. On a more encouraging note, the service industries, which have strong employment prospects, feature relatively prominently in planned development of industry training activity.

ITOs covering industries of high projected employment growth may be expected by employers to take a proactive role in promoting the industry, to respond effectively to *market expansion employment demand*. Those covering industries of low projected growth are likely to have a focus on training arising from *replacement demand* (due to retirements etc), and possibly in assisting employers with strategies to redeploy workers.

In conclusion, labour supply constraints and the associated policy focus on labour productivity are the important contextual issues for ITOs over the next ten years. The training system must be sufficiently flexible to respond to a changing environment and a wide diversity of training needs.

Summary of Findings

The following section summarises NZIER's predictions of broad trends and how they will impact on Industry Training in the future. It draws on the conclusion of NZIER's full report, which can be accessed on the Industry Training Federation website: www.itf.org.nz.

Demand for and supply of labour – broad trends

The labour market in New Zealand has been characterised in the recent past as one of high employment growth, low unemployment rates and high participation rates.

Going forward, growth in employment will be constrained by labour supply – the (relatively modest) growth in the number of jobs will be primarily determined by the number of people available to fill them, rather than derived demand from employers. Therefore the current tight labour market will (barring major economic shocks) continue through the foreseeable future.

This in turn means that economic growth will be determined by the availability of labour, i.e. that slow growth is a result of constrained labour supply, rather than external or internal demand. It also means that lifting income levels will increasingly depend on improving labour productivity as opposed to increasing labour utilisation – working smarter not harder.

Overall, this means that employers will increasingly be competing for the skills they need. It also means that they should be looking to enhance labour productivity, introduce new production technologies and/or substitute capital for labour. Increasingly, training will need to focus on these issues.

Demand related factors

New Zealand has experienced a somewhat different pattern of sectoral employment change over the last ten years compared to other developed countries. Whilst employment in New Zealand in agriculture has declined over the period 1994 to 2004, it has declined less rapidly than the OECD average; over the same period industrial employment has increased in New Zealand, in contrast to the OECD average; however, employment in services has increased both in New Zealand and elsewhere.

With regard to growth in employment by occupation and sector, it is very important to differentiate between absolute and percentage changes. For example, in North America, the fastest growing occupations relate to IT and the health profession and care. However, many of these are growing from small bases. The fastest growing occupations in terms of absolute numbers is a very mixed bag of occupations. In terms of the implications for training strategy, it is important that we do not “throw the baby out with the bath water” by focusing too much on small emerging industries.

A key theme going forward, both in New Zealand and in other developed economies, is the impact of the ageing population. Not only does this impact on the supply of labour, but it also affects the demand for goods and services and therefore the sectoral distribution of employment. The ageing population will increase the demand for health care and related services. In addition, leisure services related industries will become progressively more important.

Another key theme is increasing globalisation, which will have the biggest impact on those ITOs covering industries with a strong export focus. Whilst trade ultimately benefits economies and leads to increased employment and living standards, there can be significant adjustment processes and the transition phase can be difficult. There will be gains in some sectors and losses in others. Training can play a key role in ensuring a smooth flow of labour from declining to growing industries. It is also important that training is focused on those sectors where New Zealand has a sustainable comparative advantage.

The emergence of China and India, both in terms of global labour and products/services markets, will have significant impacts. Both have become important in world trade: trade in services, in India’s case; and trade in goods, in China’s case. China in particular, with its rising income levels, is becoming an important market for New Zealand’s products - consumption of milk and other dairy products has increased substantially in the last decade. It is also an important competitor in relation to manufactured goods.

In terms of economic and employment prospects in New Zealand at an industry level over the next five years, we expect the strongest growth to be in the service sectors – retail and wholesale trade, services to households, and communications. In the longer term, the influence of underlying trends will return to the fore. These trends include slowing growth in population, increased tourism, slow growth in demand for agricultural exports and rising consumption of services by households.

Table 1 Projected employment growth

Average annual percent change; numbers employed and full-time equivalent employees

	Numbers employed (Supply-side approach)			Full-time equivalent employees (Demand-side approach)		
	2005-10	**2010-15**	**2015-20**	**2005-10**	**2010-15**	**2015-20**
Agriculture	0.8	-0.4	-0.6	2.3	-0.1	0.1
Fishing	-0.6	-0.9	-1.1	2.9	0.4	0.5
Forestry and Logging	4.8	2.1	1.5	0.7	1.2	0.5
Mining and Quarrying	0.7	-1.1	-1.2	2.5	0.5	0.5
Food, Beverage and Tobacco Manufacturing	0.8	-0.4	-0.6	1.3	-0.7	-0.6
Textiles and Apparel Manufacturing	-1.4	-1.8	-1.8	0.8	-1.0	-1.0
Wood and Paper Products Manufacturing	1.2	0.0	-0.3	1.1	-1.1	-1.0
Printing, Publishing and Recorded Media	-1.3	-1.5	-1.6	0.3	-0.9	-1.0
Petroleum, Chemical, Plastics and Rubber Products Manufacturing	0.1	-0.9	-1.1	0.8	-1.0	-1.0
Non-Metallic Mineral Products Manufacturing	0.8	-0.5	-0.8	-0.1	-0.7	-1.0
Metal Product Manufacturing	1.8	0.1	-0.2	0.6	-0.9	-1.0
Machinery and Equipment Manufacturing	2.5	0.4	0.0	-1.0	-0.4	-1.0
Furniture and Other Manufacturing	-0.1	-0.8	-1.0	-0.7	-0.6	-1.0
Electricity, Gas and Water Supply	0.3	-0.9	-1.1	1.8	0.6	0.5
Construction	-2.1	-1.1	-1.2	-1.3	1.7	0.5
Wholesale Trade	2.5	0.8	0.4	0.9	-0.2	-0.3
Retail Trade (including motor vehicle repairs)	2.0	1.0	0.5	0.9	-0.2	-0.3
Accommodation, Cafes and Restaurants	2.4	0.7	0.3	1.4	-0.3	-0.3
Transport and Storage	1.7	0.3	-0.1	-0.1	-2.3	-2.2
Communication Services	9.5	5.4	4.3	-1.2	-2.0	-2.2
Finance and Insurance	2.0	0.6	0.2	1.0	-0.2	-0.3
Property Services	0.7	-0.6	-0.8	-1.8	0.8	-0.3
Business Services	1.9	0.6	0.2	0.6	-0.1	-0.3
Central Govt Administration and Defence	-0.3	-1.7	-1.7	2.4	-1.6	-0.7
Local Government Administration	-	-	-	2.2	-1.5	-0.7
Education	0.8	-0.2	-0.2	3.7	0.1	0.9
Health and Community Services	3.9	2.5	1.8	3.4	0.3	0.9
Cultural and Recreational Services	3.8	2.1	1.5	2.7	0.7	0.9
Personal and Other Community Services	1.7	0.5	0.1	2.2	0.9	0.9
Total Employment	1.7	0.6	0.3	1.3	-0.1	0.0

Source: NZIER

The mapping of training activity suggests that current industry training activity does not appear to be overly well aligned to industries of high anticipated employment growth. For example, slow employment growth is anticipated in the manufacturing industries, which currently have high levels of engagement in industry training. Conversely certain industries - notably Communication Services and Health and Community Services - which currently have relatively low levels of industry training activity, are anticipated to grow strongly. On a more encouraging note, the service industries, which are expected to grow strongly in terms of future employment, feature relatively prominently in planned development of industry training activity.

Growth prospects at an industry level have implications for the ITF (at a pan-ITO level), and for individual ITOs in terms of shaping the relative emphasis of different labour market strategies and plans. For example, those ITOs covering industries with low anticipated growth are likely to have a focus on training arising from replacement demand (due to retirements etc) and possibly in assisting employers with strategies to redeploy workers.

Labour supply and participation rates

The key demographic issues in New Zealand going forward are the ageing of the population, its increasing ethnic diversity and urbanisation.

A major issue for ITOs is labour supply constraints. Growth in the labour force is anticipated to slow from its recent rate of increase, partly due to the increasing proportion of older workers who are less likely to participate in employment, and partly due to lower levels of net migration**.**

Essentially, the future labour force will to a large extent comprise the same people as currently in the labour force, as the working population ages. This means that training provision will need to cater for the learning styles of older workers. It also means that an important focus for training should be on enhancing the productivity of the existing labour force.

New Zealand currently has one of the highest labour force participation rates amongst the OECD. Because of this overall high participation rate, there is limited scope to increase it further. There is, however, an opportunity to increase labour supply by raising participation rates amongst those groups whose rates are currently lower than others:

- Women, especially returners to work
- Non-European, especially “Other” ethnic group
- Older workers.

If they restrict their recruitment efforts to targeting traditional entrants to the workforce (such as school leavers), employers will find themselves up against stiff competition. Not only will this age group become a diminishing proportion of the labour force, but higher levels of engagement in tertiary study mean that many people in the 15-19 year age group are increasingly in part-time employment. ITOs can play a "thought leadership" role in alerting employers to potential labour supply constraints.

Strategies such as flexible working arrangements, achieving a better work-life balance and improved childcare provision will need to be adopted by employers seeking to attract into the labour force those groups whose participation is lower than others (eg women returning to work, non-European ethnic groups and older workers).

The increasing importance of attracting the groups identified above into the labour force has important implications for training. Older workers and those on "atypical" contracts often fare badly in terms of participation in training. In addition, the most appropriate learning style, length of training programme and training content may differ by demographic group.

The role of migration

Migration clearly has a role to play in terms of employment and economic growth prospects, and has been a key driver of New Zealand's economic growth in the recent past.

Across the OECD, migration flows have increased significantly in the last couple of decades. In particular, there has been increased demand for ICT skills, health skills and seasonal labour. In terms of supply, there has been an increase in students and temporary labour into the international labour market.

However, the pattern of migration is complex and varies markedly by country and industry. For example, in New Zealand migration plays more of a role in the Professionals and Technicians & Associate Professionals than in Agriculture & Fishing Workers, Operators & Assemblers, and people employed in Elementary occupations.

In addition, there are some caveats in relation to relying too heavily on migration as the "silver bullet" to New Zealand's labour supply problems:

- Immigration is volatile and difficult to sustain and control. New Zealand is not alone in seeking skilled labour
- Outflows are even more difficult to influence than inflows
- Labour force participation rates are lower for immigrants
- There is a time lag between "turning the immigration tap on" and addressing skill shortages. By the time migrants arrive in New

Zealand, the vacancies in specific occupations for which they were targeted may no longer be available

- Migration policy is concerned with humanitarian as well as labour market objectives; large outflows of skilled workers from developing countries might undermine the economic development potential of these countries.

In terms of training, the needs of migrant workers may be quite different to other groups. It is important that ITOs understand the learning needs of this diverse audience to assist in their successful settlement in New Zealand.

Labour productivity

As noted above, labour productivity is an important driver of economic growth and income levels. With the current and projected high levels of labour force participation in New Zealand, productivity is likely to remain a key policy focus. Industry training will have a major role to play in terms of achieving productivity gains, so it is important for ITOs to understand the contribution that industry training makes.

The shift of policy emphasis from labour utilisation to labour productivity has important implications for skill development. According to the Workplace Productivity Working Group (WPWG) (2004), more skilled workers can:

- Undertake tasks more quickly and with fewer mistakes
- Allow more skilled tasks or technologies to be undertaken
- Require less supervision, performing more complex tasks and carrying more responsibility
- Process and communicate information more effectively
- Produce the new ideas and innovation that sustain growth.

The types of skill that especially contribute to higher labour productivity levels include: enterprise, adaptability and the diffusion of innovation. Improvements to productivity are therefore frequently context-specific, and include local knowledge and know-how that are not easily transferable.

It is important to note that the scope to improve labour productivity varies by industry. For example, the ability to substitute capital for labour depends on the nature of the industry. Service industries, which are strongly labour intensive, are less likely to be able to do this than manufacturing industries. It is therefore generally more difficult to achieve improvements in labour productivity in service industries. This has important implications, as we anticipate that the service sector will be an engine of growth over the next ten years, which implies that achieving significant labour productivity gains across the economy as a whole will be challenging.

It is also important to note that skill formation is only one element of the productivity “mix”. In particular, the OECD (1998) notes that “Enterprise-based training has the greatest impact on performance when undertaken in connection with changes in work organisation, job structure, and, in some instances, technological innovation.”

Types of skill

With regard to skill *levels*, many commentators are questioning whether or not the demand from employers is able to absorb the growing number of higher education graduates entering the labour market and the aspirations of those students. In the US, although degree or vocational equivalent jobs will account for an increasing share of *new* employment opportunities, jobs that require work related training will account for the majority of opportunities when replacement demand and employment growth are taken into account.

In terms of *industries,* our future employment projections suggest that:

- There will be modest growth in some primary industries, manufacturing, utilities and construction

- Growth is driven very much from the service sector, especially through increased tourism and rising consumption of services by households (in spite of modest growth in population).

In terms of the *skill mix*, generic or transferable skills are likely to become increasingly important in the future. This is especially true in a labour market where job tenure is falling and the number of jobs (or careers) an individual may hold in their working life is increasing. However, it is debatable as to the extent to which these are “new” skills, or whether their importance is merely becoming increasingly recognised.

Interpersonal and HR skills, analytical and research, networking and negotiation and computer skills are all likely to play an increasingly prominent role. Many commentators note the increasing importance of personal attributes such as motivation, “soft skills” or “emotional intelligence”. This makes sense in terms of the changing occupational mix towards service related occupations.

Adapting to change

As we have already noted, the labour market is currently very tight in New Zealand, and will continue to be so in the foreseeable future. The skill shortages currently being experienced are therefore likely to persist.

In the medium to long term, our future-focused analysis suggest that there will be an increase in demand for skills in certain industries and more modest growth, or decline, in others. Having said this, history confirms that we cannot necessarily see future trends occurring in a straight line from the present day, and that individuals and firms display adaptive behaviour in responding to the markets in which they operate. Potential problems, such as shortages of people in traditional areas of recruitment, are soluble. This begs the question at the core of this project, about the *what* and the *how* of the solutions.

In occupations where skill shortages exist, a number of strategies can be used to try and address the shortages:

- Focusing training on the areas of most pressing need
- The development of short courses in the skill areas in most demand
- Ensuring that generic skills are developed to allow quicker retraining
- Engendering a training culture in the industry
- Improving labour market information to assist in the matching of demand and supply of skills
- Encouraging internal mobility to help alleviate geographical skills imbalances
- Immigration (as a last resort) to act as a "stop gap" to increase skills.

Overall, it should be noted that anticipating areas of future skill need is a challenging exercise. It is therefore important that the training system is sufficiently flexible to respond to changing demand for skills. It is also important that ITOs understand the dynamics of the labour markets in which they operate, and their role within those labour markets.

Appendix A: Definitions and concepts

What are skills?

When we are talking about "skills" here we are referring to "the ability of an individual to perform a set of tasks and to fulfill the technical requirements of an occupation"[1]. These skills are embodied in *people,* which means that an individual person may hold more skills than are required for a specific job or occupation.

In simple terms, the skill needs of an industry are met by the number of people employed in the industry, and the skills those people hold.

The demand for skilled labour

The demand for skilled labour is a derived demand – it arises from the demand for firms' output and the need for employees to meet that demand.

Changes in the demand for skilled labour are therefore generated at two levels:

- By changes in the volume of demand for firms' output
- By changes in the quantity and/or quality of labour required to produce any given quantity of output. This can result from improvements in *labour productivity* (output per hour worked), changes in product technology, production technology and/or substitution between capital and labour.

The various types of demand for skilled labour can be categorised as:

- Demand brought about by market expansion – based on the demand for the underlying products or services in the industry (*growth* demand)
- Demand arising from people leaving the industry (*replacement* demand), which can be influenced by things like the age profile of the industry
- Demand due to a transformation in the types of skills required by an industry (*occupational shifts* or demand arising from *technological changes*).

[1] New Zealand Standard Classification of Occupations 1999
http://www.stats.govt.nz/NR/rdonlyres/4109C9E6-EECB-4FC3-B48A-A7C8A37E90A7/0/NZSCO991.pdf

Supply of skilled labour

At an aggregate level the *labour supply* volume is affected by demographic trends, such as changes to the number of people entering the workforce and migration trends.

At an individual level, people make labour force participation and career choices based on their personal motivations. They may be influenced by wages, career opportunities, working conditions and lifestyle choices.

In terms of *skills*, the supply of skilled labour is affected by the number of people training and obtaining qualifications. This is influenced by factors such as the length of time it takes for a person to become skilled in the relevant skill set.

Matching process

Over time wages should adjust to assist the matching between the demand for and supply of skilled labour. For example, if there is a lack of skilled labour, then there should be increased competition between firms for the skilled labour, which in turn means that wages are bid up. This increase in wages encourages more people to train and this should in turn help to alleviate the skill shortage.

However, mismatches between the demand for and supply of skilled labour may occur due to factors such as:

- Imperfect information in the labour market
- The long-term nature of occupational choice
- Wage "stickiness" (employers and employees will adjust their expectations about wages slowly in response to market conditions).

An important consideration in terms of the matching process is the *dynamics* of the labour market. There is a continual flow of people moving in and out of the labour market - unemployed people securing work while others lose jobs and become unemployed, and people changing jobs. The matching process is therefore ongoing, and its effectiveness often depends on the availability of accessible information on job opportunities etc.

Skill shortages

The New Zealand DoL (2005) defines mismatches between demand and supply of skills as follows:

- A genuine *skill shortage* occurs when employers have considerable difficulty filling job vacancies simply because there are insufficient job seekers with the required skills

- *Skill gaps* are a similar but milder form of the same problem. Employers are able to find people but they have only some, not all, of the skills required. This means that the employer can still get the job done but not at the level required

- *Recruitment difficulties* are quite different. These occur when there are enough job seekers with the required skills but they are unwilling to take up the work on offer. The job seekers could deem wages to be too low, the working conditions too poor or the industry could have a bad reputation.

Appendix B: Role of ITOs in the labour market

Below the core legislated roles of ITOs and associated possible labour market interventions are identified alongside how NZIER's findings relate to those interventions.

Possible role of ITOs in labour markets

Legislated role	Rationale for intervention by ITOs	Relevance of this report
Setting skill standards	Ensure quality, currency and relevance of training/qualifications for industry	Identify broad trends in skill needs by industry, occupation, type of skill etc
	Facilitate matching process between employers and prospective employees - qualifications act as a screening device for recruitment (signalling skill level)	Identify industries of relative future growth/decline
Monitoring and assessing training	Ensure outcomes achieved from training – maintaining quality and integrity	
Identifying current and future skill needs	Ensure qualifications and training reflect industry's changing needs – they are current, fit for purpose and "future-proofed"	Examine broad labour market and employment trends
		Identify concepts of labour market dynamics
Developing strategic training plans	Identify changes to the training system (including the make-up/volumes of all types of training) required to meet industry needs eg assessment of strategic relevance	Identify industries of relative future growth/decline
		Examine demand for different types of training – context/level
	Identify broader industry skills strategies (ie beyond training) in which ITOs may have a co-ordination role	Examine the role of potential "solutions" eg migration, increasing productivity, wages and working conditions
	Identify groups where training is under-represented - to address equity issues	Identify future demographic trends and demographic characteristics of occupations
Promoting training	Increase the take-up of training, as industry training may be considered to be a "merit good"[1]	Identify population groups within the labour market which are potential sources of future labour eg those with lower labour force participation rates, recent migrants
	Promote benefits of training to employers/ employees who may not be aware of them	
	Promote industry to potential employees which may be done more efficiently by ITOs than individual employers	Understand future labour supply constraints which can be communicated to employers

Notes: (1) A good whose consumption is encouraged because society's optimal level is greater than would be made by individuals

Source: NZIER

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