

Service IQ

SMARTER PEOPLE FOR
SMARTER BUSINESSES

A PROFILE OF THE
**TOURISM
SECTOR**
IN NEW ZEALAND

2014

This report is one of 11 Sector Profile Reports that ServiceIQ has developed about the 11 sectors in our gazetted coverage area. These reports aim to give an overview of each sector with a focus on economic contribution, characteristics of the workforce, skills and training, opportunities and challenges facing the sector and projections of economic contribution and employment over the next five years. They will be used to inform ServiceIQ's industry and sector advisory groups and as an input into ServiceIQ's Service Sector Workforce Development Plan.

The Sector Profile Reports were prepared by Infometrics using data from official sources including the 2006 and 2013 Census, Business Demography, and GDP and modelling based on Infometrics' Regional Industry Occupation Model. These data sources were supplemented with desk research and qualitative information where available.

These reports should be considered alongside other pieces of work including detailed research on an individual sector, government strategies, and in-depth sector knowledge.

ServiceIQ anticipates updating these profiles on an annual basis and would like to include an increasing amount of sector-specific information as we become aware of it and as more is available.

For further information about the Sector Profile Reports, please contact:

Jenny Connor

Industry Skills and Research Manager

ServiceIQ

jenny.connor@ServiceIQ.org.nz

Andrew Whiteford

Senior Analyst

Infometrics

andreww@infometrics.co.nz

Authorship

This report has been prepared by:

Andrew Whiteford (Senior Analyst), Dirk van Seventer (Senior Economist) and Benje Patterson (Economist) of Infometrics.

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Executive summary

Key highlights

Approximately 133,000 people were employed in the tourism sector in 2012. Employment in the sector grew by 1.6% pa over the 10 years to 2012 which is somewhat faster than growth in the national economy (1.3%) The tourism sector performed relatively well during the recession following the Global Financial Crisis. The sector was somewhat insulated from the recession by soaring growth in China and Australia avoiding recession, which helped push up international visitors to New Zealand.

The tourism sector had nearly 22,000 business units in 2013, up from almost 19,000 ten years ago. Business growth was slightly slower than in the national economy.

According to Statistics New Zealand, total gross tourism expenditure reached \$23.4 billion in 2012, while direct value add contributions from the tourism sector to New Zealand's gross domestic product reached \$7.5 billion in 2012. This amounted to 3.8% of national GDP. Over the ten years to 2012 GDP in the tourism sector increased by 2.5% per annum compared with 2.3% in the national economy. In 2012, GDP per FTE in the tourism sector was less than two thirds (66.5%) of the national economy.

Table 1. Summary indicators for tourism sector

		Tourism	New Zealand
Jobs	Number in 2012	132,976	2,199,074
	% growth 2002-2012	1.6%	1.3%
FTEs	Number in 2012	105,661	1,871,104
	% growth 2002-2012	1.6%	1.3%
Businesses	Number in 2013	21,812	507,908
	% growth 2003-2013	1.5%	1.8%
GDP	Number in 2012	7,515	199,966
	% growth 2002-2012	2.5%	2.3%
GDP per FTE	Number in 2012	71,119	106,871
	% growth 2002-2012	0.9%	0.9%

Source: Statistics NZ and Infometrics

Unique characteristics

The tourism sector has a much younger age profile than the national economy. The proportion of tourism workers under 30 years is 32.7% compared with 22.9% in the national economy.

Females accounted for 54.8% of total employment in the tourism sector compared with 47.1% in the national economy.

Asians have a considerably higher representation in the tourism sector than in the national economy. They account for 16.1% of workers in tourism compared with 11.2% in the national economy. Māori and Pasifika have similarly representation in the sector and the economy as a whole.

The tourism sector employs relatively fewer New Zealand born workers compared to the national economy. Overseas born workers accounted for 33.1% of employees in tourism compared with 28.3% in the national economy.

The tourism sector has a large number of part time roles with 29.9% of workers are employed part time. This is much higher than the equivalent rate of 21.1% in the national economy.

Almost half (48.4%) of employees in the tourism sector had no post-school qualifications in 2013. This was a higher proportion than in the national economy (43.4%). The number of workers with a degree or higher increased from 15.6% to 19.5% over the seven year period.

Training

ServiceIQ had 303 tourism sector trainees at some point in 2013, which accounted for 1.0% of all ServiceIQ trainees.

The majority (58.4%) of trainees in the tourism sector are studying towards level 4 qualifications. By contrast, 13.0% of trainees across the whole of ServiceIQ are studying for level 4 qualifications.

Māori comprise 13.2% and Pasifika 4.6% of trainees in the tourism sector.

Sector outlook

The number of people employed in the tourism sector is expected to recover over the five years to 2017 as both domestic and international tourism grow in New Zealand. We forecast total employment in the sector to increase to 144,654 from 132,976 in 2012. The occupations that will experience the highest number of job openings are sales assistants (1,179 per year), chefs (570 per year) and café or restaurant managers (511 per year).

Tourism sector employment in Christchurch will climb rapidly as more accommodation capacity is rebuilt. Other growth in tourism sector employment is initially likely to be concentrated in locations frequented by international visitors on shorter trips, such as Auckland, Rotorua, and Queenstown. Key contributors to these markets include Chinese and Australian visitors who have median stay lengths in New Zealand of four days and seven days respectively.

The type of accommodation favoured by Chinese visitors is hotels, with 81% of Chinese visitors staying in hotels on holidays, compared with 45% of tourists in total. However, new Chinese government regulations banning low-cost package tours are likely to support increased growth in independent Chinese tourists over the coming years, which could boost demand for backpacker/hostel style accommodation.

Rising levels of domestic tourism will initially support moderate growth in employment in the tourism sector in other parts of New Zealand. However, more rapid growth in regional tourism employment levels will not occur until there are sustained signs of a recovery to international visitor number on longer trips with more time to explore the country. Visitors in this category are typically from North America and Europe – for example, the stay length of UK visitors is 20 days, while the typical US visitor stays for 10 days. With international visitor arrivals from the US and parts of Europe showing signs of growth over recent quarters amid stabilising economic activity, we are optimistic that the initial stages of a recovery to longer staying visitors are underway.

1. INTRODUCTION

This report presents a profile of the tourism sector. It describes trends in employment, the basic characteristics of the sector and its employees, and the characteristics of its trainees and learners. It also provides an insight into the future and presents forecasts of employment growth.

Unless otherwise stated this report presents data for calendar years.

Defining the tourism sector

Official employment data sources are typically divided by either industry or occupation, but by themselves, neither is satisfactory for defining the ServiceIQ sectors. For example, if we defined the aviation sector purely in terms of aviation related industries such as air transport services we may not capture pilots who work in the agricultural support services doing aerial spraying. We have consequently used a combination of industries and occupations to define each of the ServiceIQ sectors. Further details of this approach are provided in the appendix.

In this study we have defined the tourism sector as follows:

1. Persons employed in *all occupations* in the industries listed below. We have followed the Tourism Satellite Accounts (TSA) definition of tourism and used the proportions of individual industries used in the TSA. For example, the TSA states that 10.1% of retail activity is ascribed to tourism. We have consequently allocated 10.1% of employment in all retail categories to tourism. In addition to the industries listed below we have allocated 1% of employment in all other industries to tourism, in line with the TSA.

Code	Description	Tourism Satellite Account Proportion
G391100	Car Retailing	10.1%
G391200	Motor Cycle Retailing	10.1%
G391300	Trailer and Other Motor Vehicle Retailing	10.1%
G392100	Motor Vehicle Parts Retailing	10.1%
G392200	Tyre Retailing	10.1%
G400000	Fuel Retailing	10.1%
G411000	Supermarket and Grocery Stores	10.1%
G412100	Fresh Meat, Fish and Poultry Retailing	10.1%
G412200	Fruit and Vegetable Retailing	10.1%
G412300	Liquor Retailing	10.1%
G412900	Other Specialised Food Retailing	10.1%
G421100	Furniture Retailing	10.1%
G421200	Floor Coverings Retailing	10.1%
G421300	Houseware Retailing	10.1%
G421400	Manchester and Other Textile Goods Retailing	10.1%
G422100	Electrical, Electronic and Gas Appliance Retailing	10.1%
G422200	Computer and Computer Peripherals Retailing	10.1%
G422900	Other Electrical and Electronic Goods Retailing	10.1%
G423100	Hardware and Building Supplies Retailing	10.1%
G423200	Garden Supplies Retailing	10.1%
G424100	Sport and Camping Equipment Retailing	10.1%
G424200	Entertainment Media Retailing	10.1%
G424300	Toy and Game Retailing	10.1%
G424400	Newspaper and Book Retailing	10.1%
G424500	Marine Equipment Retailing	10.1%

G425100	Clothing Retailing	10.1%
G425200	Footwear Retailing	10.1%
G425300	Watch and Jewellery Retailing	10.1%
G425900	Other Personal Accessories Retailing	10.1%
G426000	Department Stores	10.1%
G427100	Pharmaceutical, Cosmetic and Toiletry Goods Retailing	10.1%
G427200	Stationery Goods Retailing	10.1%
G427300	Antique and Used Goods Retailing	10.1%
G427400	Flower Retailing	10.1%
G427900	Other Store-Based Retailing n.e.c.	10.1%
G431000	Non Store Retailing	10.1%
G432000	Retail Commission Based Buying and/or Selling	10.1%
H440000	Tourism	67.7%
H451100	Cafes and Restaurants	33.7%
H451200	Takeaway Food Services	33.7%
H451300	Catering Services	33.7%
H452000	Pubs, Taverns and Bars	33.7%
I462100	Interurban and Rural Bus Transport	9.1%
I462200	Urban Bus Transport (Including Tramway)	9.1%
I462300	Taxi and Other Road Transport	9.1%
I472000	Rail Passenger Transport	9.1%
I482000	Water Passenger Transport	9.1%
I490000	Air and Space Transport	89.1%
I501000	Scenic and Sightseeing Transport	100.0%
I502900	Other Transport n.e.c.	23.3%
I521200	Port and Water Transport Terminal Operations	23.3%
I521900	Other Water Transport Support Services	23.3%
I522000	Airport Operations and Other Air Transport Support Services	23.3%
I529900	Other Transport Support Services n.e.c.	23.3%
L661100	Passenger Car Rental and Hiring	22.1%
L661900	Other Motor Vehicle and Transport Equipment Rental and Hiring	22.1%
L662000	Farm Animals and Bloodstock Leasing	22.1%
L663100	Heavy Machinery and Scaffolding Rental and Hiring	22.1%
L663200	Video and Other Electronic Media Rental	22.1%
N722000	Travel Agency and Tour Arrangement Services	23.3%
P801000	Preschool Education	8.3%
P802100	Primary Education	8.3%
P802200	Secondary Education	8.3%
P802300	Combined Primary and Secondary Education	8.3%
P802400	Special School Education	8.3%
P810100	Technical and Vocational Education and Training	8.3%
P810200	Higher Education	8.3%
P821100	Sports and Physical Recreation Instruction	8.3%
R891000	Museum Operation	14.0%
R892100	Zoological and Botanic Gardens Operation	14.0%
R892200	Nature Reserves and Conservation Parks Operation	14.0%
R900100	Performing Arts Operation	14.0%
R900200	Creative Artists, Musicians, Writers and Performers	14.0%
R900300	Performing Arts Venue Operation	14.0%
R911100	Health and Fitness Centres and Gymnasias Operation	14.0%
R911200	Sport and Physical Recreation Clubs and Sports Professionals	14.0%
R911300	Sports and Physical Recreation Venues, Grounds and Facilities Operation	14.0%
R911400	Sport and Physical Recreation Administrative Service	14.0%
R912100	Horse and Dog Racing Administration and Track Operation	14.0%
R912900	Other Horse and Dog Racing Activities	14.0%
R913100	Amusement Parks and Centres Operation	14.0%
R913900	Amusement and Other Recreation Activities n.e.c.	14.0%
R920100	Casino Operation	14.0%
R920200	Lottery Operation	14.0%
R920900	Other Gambling Activities	14.0%

2. Persons employed in *all industries* in the following occupations:

Code	Description
149311	Conference and Event Organiser
451412	Tour Guide
639411	Ticket Seller

Definitions of these occupations and industries are provided in the Appendix.

This definition has been chosen as it is the group of industries and occupations that most closely align with the ServiceIQ gazetted coverage of the tourism sector. The gazetted coverage of the tourism sector includes: “all aspects of visitor services; attractions; adventure providers; tourism guiding and interpretation; event and conference organisers; retailers; regional tourism organisations and promotion boards; visitor information centres; casinos; tourism aspects of rental vehicle operators, railways and ferries; and other tourism related business.”

2. SECTOR PROFILE

Employment trends to 2012

Approximately 133,000 people were employed in the Tourism sector in 2012. Employment in the sector grew by 1.6% pa over the 10 years to 2012 which is somewhat faster than growth in the national economy (1.3%). The tourism sector performed relatively well during the recession following the Global Financial Crisis. The sector was somewhat insulated from the recession by soaring growth in China and Australia avoiding recession, which helped push up international visitors to New Zealand.

An outlook for the tourism sector is provided in the section *Outlook for the tourism sector* on page 17.

Table 2. Total employment in the tourism sector, 2001-2012

Year	Tourism			New Zealand	
	FTEs	Jobs	Change	Jobs	Change
2001	86,565	108,705		1,862,895	
2002	90,246	113,361	4.3%	1,923,798	3.3%
2003	94,156	118,250	4.3%	1,979,437	2.9%
2004	97,402	122,321	3.4%	2,039,390	3.0%
2005	100,787	126,563	3.5%	2,108,155	3.4%
2006	102,603	128,919	1.9%	2,142,486	1.6%
2007	104,677	131,613	2.1%	2,184,802	2.0%
2008	105,755	132,946	1.0%	2,219,403	1.6%
2009	104,488	131,328	-1.2%	2,167,989	-2.3%
2010	104,827	131,826	0.4%	2,160,647	-0.3%
2011	105,610	132,848	0.8%	2,180,241	0.9%
2012	105,661	132,976	0.1%	2,199,074	0.9%
2002-2012			1.6%		1.3%

Source: Statistics NZ and Infometrics

Figure 1. Total employment in the tourism sector, 2001 to 2012



Source: Statistics NZ and Infometrics

Occupations

This section examines the growth in occupations in the tourism sector. By drawing on data from the population census it is possible to split out employment in the sector to approximately 1,000 detailed occupational categories. In this section we report on an aggregation of those categories into eight broad categories as well as the numerically largest detailed occupations.

Table 3 shows employment by broad occupations. Managers and community & personal service workers are the largest occupational categories in the tourism sector followed by professionals. Skill levels in the sector increased over the ten year period to 2002 and 2012 as the employment of managers, professional and technicians and trades workers outstripped growth in lower skilled occupations.

Table 3. Employment by broad occupation¹

Occupation	Employment		Change 2002 - 2012 pa		% of total 2012
	2002	2012	Jobs	%	
Managers	22,133	28,730	660	2.6%	21.6%
Professionals	14,858	20,605	575	3.3%	15.5%
Technicians & Trades Workers	11,794	13,966	217	1.7%	10.5%
Community & Personal Service Workers	20,293	22,682	239	1.1%	17.1%
Clerical & Administrative Workers	9,185	9,720	54	0.6%	7.3%
Sales Workers	16,621	18,125	150	0.9%	13.6%
Machinery Operators & Drivers	4,153	4,395	24	0.6%	3.3%
Labourers	14,326	14,752	43	0.3%	11.1%
Total	113,361	132,976	1,961	1.6%	100.0%

Source: Statistics NZ and Infometrics

Figure 2. Employment by broad occupation, 2002 and 2012



Source: Statistics NZ and Infometrics

¹ This table shows change in employment between 2002 and 2012. Change is measured in per annum terms. The change in number of jobs per annum between 2002 and 2012 is equal to the difference between the value in 2012 and 2002 divided by 10.

Table 4 shows employment in the 20 numerically largest occupations in the tourism sector. The largest occupations are sales assistant (general) and waiter which account for 7.1% and 3.7% of employment in the sector, respectively. Collectively the top 20 occupations account for 43.3% of total employment in the sector. Some education associated occupations appear in the table as education services sold to foreign residents (export education) is captured under the definition of tourism.

Table 4. Employment of top 20 occupations in tourism sector

Occupation	Employment		% of total employment, 2012	Change 2002 - 2012 pa	
	2002	2012		Number	%
Sales Assistant (General)	9,487	10,230	7.1%	74	0.8%
Waiter	4,866	4,786	3.7%	-8	-0.2%
Commercial Cleaner	4,217	3,977	3.2%	-24	-0.6%
Chef	3,884	5,703	2.9%	182	3.9%
Retail Manager (General)	3,764	4,111	2.8%	35	0.9%
Hotel or Motel Manager	3,552	3,681	2.7%	13	0.4%
Kitchenhand	2,974	3,249	2.2%	27	0.9%
Café or Restaurant Manager	2,831	3,551	2.1%	72	2.3%
Primary School Teacher	2,510	3,006	1.9%	50	1.8%
General Clerk	2,124	1,642	1.6%	-48	-2.5%
Bar Attendant	1,952	1,641	1.5%	-31	-1.7%
Conference and Event Organiser	1,936	3,484	1.5%	155	6.1%
Café Worker	1,928	2,033	1.4%	11	0.5%
Secondary School Teacher	1,817	2,715	1.4%	90	4.1%
Tour Guide	1,749	1,813	1.3%	6	0.4%
Hotel Service Manager	1,713	1,930	1.3%	22	1.2%
Sales Representatives nec	1,681	3,161	1.3%	148	6.5%
Cook	1,648	1,504	1.2%	-14	-0.9%
Chief Executive or Managing Director	1,499	1,853	1.1%	35	2.1%
Ticket Seller	1,407	808	1.1%	-60	-5.4%
Top 20 occupations	57,540	64,880	43.3%	734	1.2%

Source: Statistics NZ and Infometrics

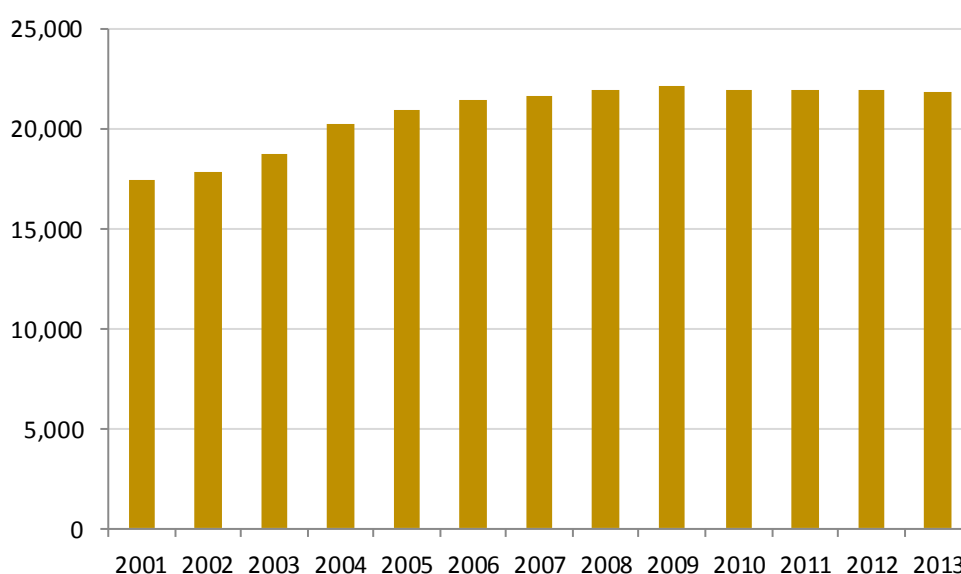
These occupations were the most common based on data reported in the 2013 Census. They may not always align with perceptions of job roles in the sector due to occupations being self-reported, people sometimes having more than one role, and some business units engaging in a wider range of activities than the industry to which it is principally classified.

Business units

There were almost 22,000 business units in the tourism sector in 2013. Figure 2 shows that the number of business units in the tourism sector grew rapidly between 2001 and 2009 and then levelled off and declined slightly since 2009. The number of business units in the tourism sector grew slightly slower (1.5%) over the 10 years to 2013 than in the national economy (1.8%).

During tough economic times there is usually a consolidation of businesses as those struggling get absorbed by stronger businesses. As the economy gains momentum over the next few years we expect new enterprises to emerge in the tourism sector as individuals are prepared to make new investments in an expanding industry.

Figure 3. Number of business units in the tourism sector, 2000-2013



Source: Statistics NZ

Table 5. Number of business units (as at February)

	2003	2013	Change 02-13 pa	
			Number	%
Tourism	18,786	21,812	303	1.5%
New Zealand	426,829	507,908	8,108	1.8%

Source: Statistics NZ

Size of businesses

On average business units in the tourism sector are larger than in the national economy. Approximately 14% of business units in the tourism sector had 10 or more employees in 2013, compared with 8% in the national economy. Large hotels would account for the higher prevalence of large businesses. Small enterprises are nevertheless important with businesses employing fewer than 10 people accounting for more than 2% of employment in the sector.

Table 6. Number of business units by number of employees

	Number		% of total		Employment
	Tourism	New Zealand	Tourism	New Zealand	Tourism
0-5	16,852	442,363	77.3%	87.1%	20,223
6 to 9	1,994	26,403	9.1%	5.2%	13,960
10 to 19	1,701	21,254	7.8%	4.2%	20,415
20 to 49	907	11,832	4.2%	2.3%	22,674
50 to 99	223	3,657	1.0%	0.7%	12,259
100 and Over	134	2,399	0.6%	0.5%	43,445
Total	21,812	507,908	100.0%	100.0%	132,976

Source: Statistics NZ

Geography

Auckland is the region with the highest number of employees, accounting for 34.1% of employment in the tourism sector in 2012. This was followed by Canterbury (13.0%) and Wellington (11.5%). Over the 10 years to 2012 fastest growth was measured in Auckland (2.5%), Otago (1.9%), and Taranaki (1.8%).

Table 7. Number of employees by region

Region	Number		% of total	FTE	Change 2002-2012 pa	
	2002	2012	2012	2012	Number	%
Auckland	35,523	45,393	34.1%	36,068	987	2.5%
Canterbury	16,228	17,237	13.0%	13,696	101	0.6%
Wellington	12,843	15,300	11.5%	12,158	246	1.8%
Waikato	9,444	10,614	8.0%	8,434	117	1.2%
Otago	7,763	9,414	7.1%	7,480	165	1.9%
Bay of Plenty	6,897	7,925	6.0%	6,297	103	1.4%
Manawatu-Wanganui	5,702	5,916	4.4%	4,701	21	0.4%
Gis-Hawke's Bay	4,662	5,069	3.8%	4,028	41	0.8%
Tas-Nel-Marl	4,223	4,831	3.6%	3,839	61	1.4%
Northland	3,521	3,863	2.9%	3,069	34	0.9%
Southland	2,734	3,008	2.3%	2,390	27	1.0%
Taranaki	2,448	2,936	2.2%	2,333	49	1.8%
West Coast	1,372	1,470	1.1%	1,168	10	0.7%
New Zealand	113,361	132,976	100.0%	105,661	1,961	1.6%

Source: Statistics NZ and Infometrics

Economic contribution

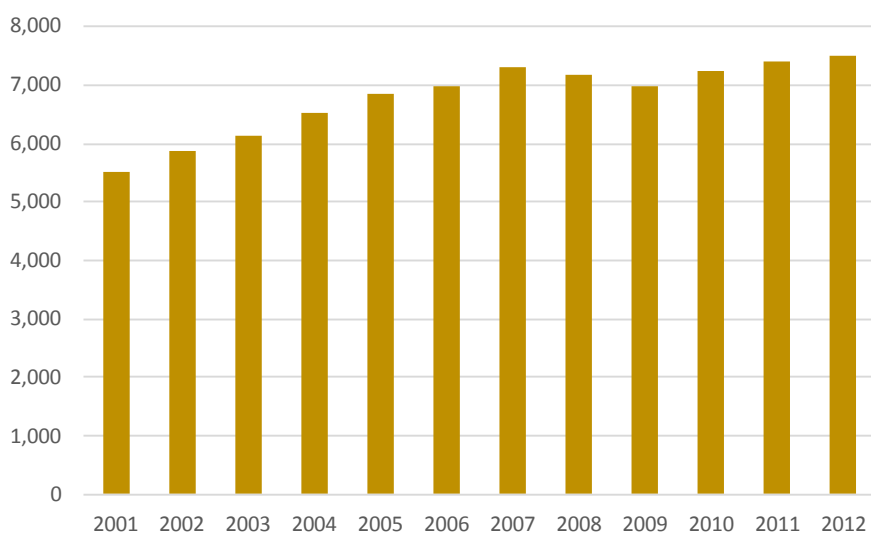
The tourism sector contributed \$7,515 million (\$7, 5 billion) to the New Zealand economy in 2012 (measured in 2010 prices²). This level was 3% higher than the prerecession peak of \$7,298 million in 2007. Over the ten year to 2012 gross domestic product (GDP) in the tourism sector grew by 2.5% per annum compared with 2.3% in the economy as a whole. The sector accounted for 3.8% of national GDP in 2012.

Table 8. Contribution to GDP by the tourism sector (2001-2013)

Year	Tourism		New Zealand	
	\$ million	Change	\$ million	Change
2001	5,524		152,045	
2002	5,866	6.2%	159,473	4.9%
2003	6,133	4.6%	166,488	4.4%
2004	6,533	6.5%	173,781	4.4%
2005	6,840	4.7%	178,428	2.7%
2006	6,983	2.1%	182,439	2.2%
2007	7,298	4.5%	188,639	3.4%
2008	7,189	-1.5%	187,362	-0.7%
2009	6,971	-3.0%	188,588	0.7%
2010	7,228	3.7%	192,015	1.8%
2011	7,391	2.3%	194,322	1.2%
2012	7,515	1.7%	199,966	2.9%
2002-2012		2.5%		2.3%

Source: Statistics NZ and Infometrics

Figure 4. Tourism sector GDP (\$m)



Source: Statistics NZ and Infometrics

² In this profile, we present all GDP estimates in constant 2010 prices. GDP presented in constant prices is sometimes referred to as real GDP. By using constant prices we remove the distractionary effect of inflation. It enables us to meaningfully compare GDP from one year to the next. Our GDP estimates differ from those published by Statistics New Zealand which are at 1995/6 prices.

Other indicators: tourism expenditure and guest nights

Tourism expenditure

Total tourism expenditure (across both domestic and international tourists) increased rapidly between 2000 and 2007, rising from \$15.4 to \$21.5 billion according to the Statistics New Zealand Tourism Satellite Accounts (TSA). Spending by international visitors grew by an average of 5.3%pa over the period, while domestic tourist spending rose by 4.6%pa.

However, from 2008 to 2011 expenditure stagnated, as the domestic recession and Global Financial Crisis weighed on the tourism industry. Growth in domestic visitor spending slowed to an average of 2.3%pa over the four years March 2011, while international visitor spending growth averaged a mere 0.7%pa over the same period. Sluggish growth in international visitor spending occurred because rising levels of spending by Chinese visitors were largely offset by falling numbers of long staying visitors from Europe and the US.

During 2013, international visitor spending recovered moderately (up 2.2% from 2012). Driving this recovery were surging numbers of visitors from China and Australia, coupled with emerging signs of stabilization to visitor spending by tourists from North America and parts of Europe. Improving domestic economic conditions ensured that domestic tourist spending also increased at a moderate rate in 2013 (up 2.4% from its 2012 level). Together domestic and international spending totaled \$23.9 billion in 2013.

Guest nights

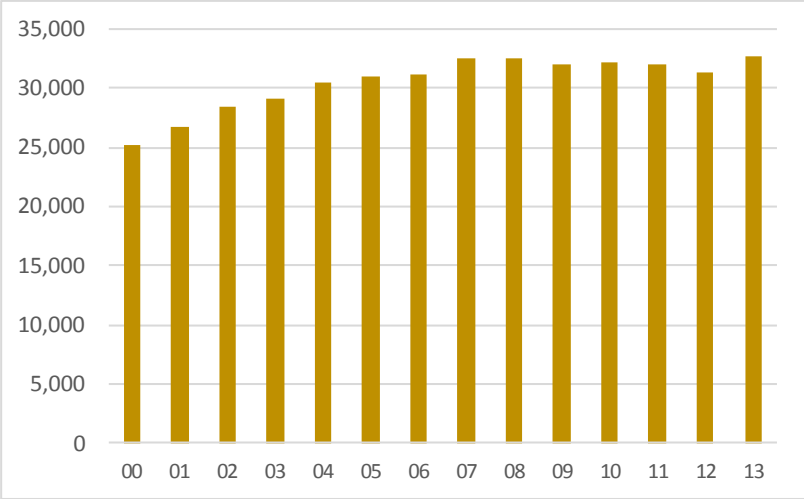
The number of guest nights in commercial accommodation grew rapidly between 2000 and 2007. The number of guest nights increased from about 23.5 million to 32.5 million over the seven year period, an increase of 3.7%pa. This rapid increase coincided with strong economic and personal income growth around the world and in New Zealand.

However, following the onset of the Global Financial Crisis, international guest nights fell between 2008 and 2012 as fewer tourists from North America and Europe visited New Zealand. On the other hand, domestic guest nights remained resilient over the same period, as the recession in the New Zealand economy was not as severe as in other developed nations and some New Zealanders chose to holiday at home rather than head overseas.

Indicators from 2013 suggest that guest nights have begun to recover strongly, with international guest nights rising in line with recovering visitor arrivals from the US, the UK, as well as ongoing growth in arrivals from Australia and China. Guest nights in 2013 rose to above their 2008 peak.

We expect this rise in guest night to continue. Not only is the domestic economy strengthening, which will increase willingness to spend on leisure. But economic conditions in the US and the UK are strengthening, which will push up arrivals from those countries. Arrivals from Continental Europe have also shown signs of improvement as economic conditions in Europe stabilise. Although changes to travel regulations in China have affected growth over recent months by regulating the cut-price tour industry, ultimately the new regulations will lead to increased numbers of Chinese travelling independently – staying longer and seeing more of New Zealand.

Figure 6. Number of guest nights (000s), 2000-2013



Source: Statistics New Zealand

3. INDUSTRY OUTLOOK

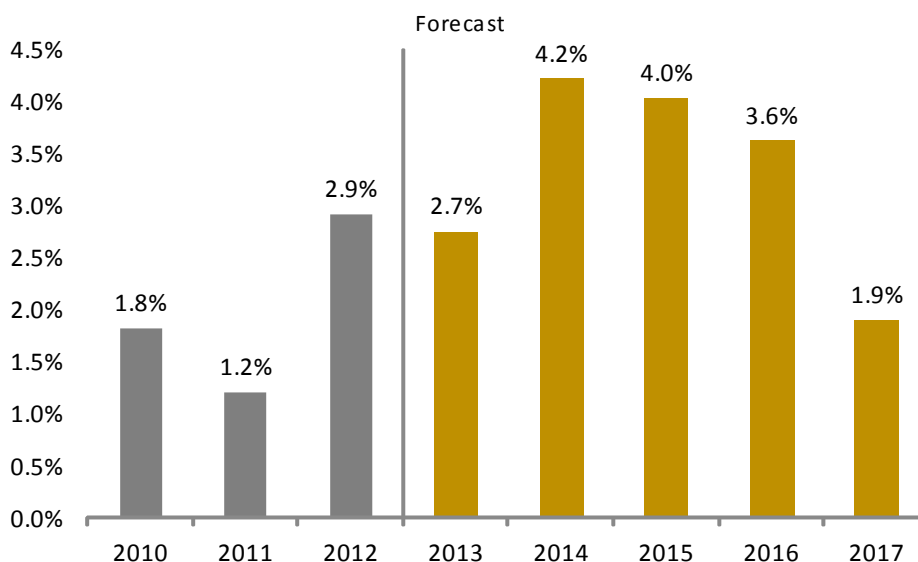
Outlook for the New Zealand economy

Economic growth in New Zealand is forecast to average 4.2% per annum (pa) over the two years to March 2016, as activity is supported by strong export incomes, rising construction activity, and healthy domestic confidence. Chinese and Australian economic growth rates are moderating, but demand for our primary exports will remain strong as household spending continues to grow in China. New Zealand's strong economic performance over the next 2-3 years will be accompanied by:

- higher net migration – climbing above 30,000pa by mid-2014 and remaining over 20,000pa as we head into 2015
- good employment growth, driving the unemployment rate down to 5.0% by the end of 2015
- accelerating wage growth, lifting to 3.5%pa by March 2016
- rising interest rates, with the official cash rate reaching 5.00% by the beginning of 2016
- the return of inflation over 2%pa, due to the strengthening domestic economy, costs associated with the Christchurch rebuild, and a gradual lift in import prices.

Economic growth is forecast to peak at 4.4%pa in March 2015, with growth moderating over the following two years as the stimulus from high export incomes fades, rebuilding activity in Canterbury reaches its peak level, and growth in the housing market and domestic economy slow in response to the rise in interest rates that has taken place.

Figure 5. New Zealand GDP growth forecast to 2017



Source: Statistics NZ and Infometrics

Outlook for the tourism sector

Sector outlook

Employment in the tourism sector is expected to grow strongly over the five years to 2017 as both domestic and international tourism grow in New Zealand. We forecast total employment in the sector to increase to 144,654 from 132,976 in 2012.

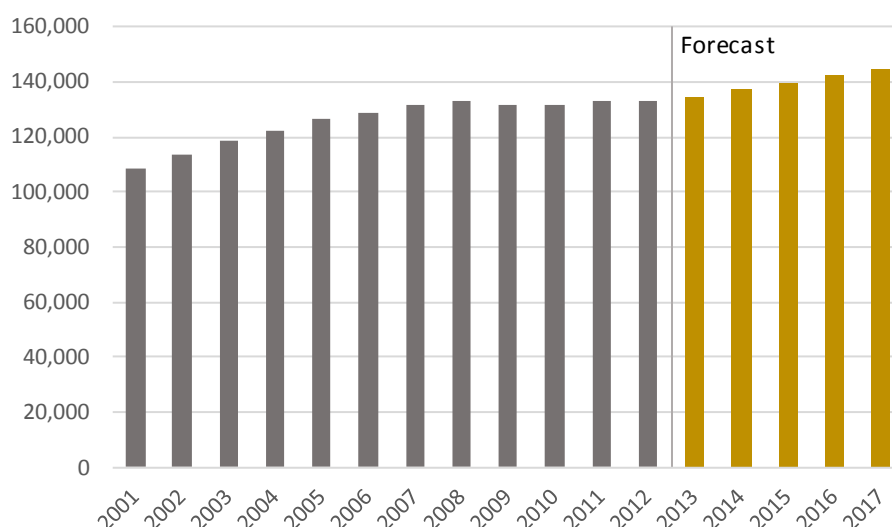
Growth in employment is initially likely to be concentrated in locations frequented by international visitors on shorter trips, such as Auckland, Rotorua, and Queenstown. Tourism sector employment in Christchurch will also climb rapidly as more accommodation capacity is rebuilt. Rising levels of domestic tourism will initially support modest employment growth in the tourism sector in other parts of New Zealand, but more rapid growth in regional tourism employment levels will not occur until there are sustained signs of a recovery to international visitor number on longer trips. With international visitor arrivals from the US and parts of Europe showing signs of growth over recent quarters amid stabilising economic activity, we are optimistic that the initial stages of this recovery are underway.

Table 9. Total employment in the tourism sector, 2012-2017

Year	Tourism	
	Level	Change pa
2012	132,976	0.1%
2013	134,367	1.0%
2014	137,133	2.1%
2015	139,807	1.9%
2016	142,388	1.8%
2017	144,654	1.6%
2012-2017		1.7%

Source: Statistics NZ and Infometrics

Figure 6. Total employment in the tourism sector, 2001-2017



Source: Statistics NZ and Infometrics

Occupation outlook

The tables below show forecast of employment by broad occupation and the 20 numerically largest detailed occupations in the tourism sector. In addition to new positions being created, positions will need filling due to replacement of existing staff as staff enter and leave occupations. The table below shows new jobs opening due to growth in employment, net positions opening due to replacement and total positions opening.

Net replacement demand is a method for estimating job openings by occupation arising from individuals leaving an occupation net of jobs taken by individuals re-entering the occupation. By netting out individuals re-entering an occupation, net replacement rates measures are a subset of more commonly cited labour turnover rates. Net replacement demand is the relevant measure for providing advice on education and training needs. Details about the method used to measure future net replacement demand are provided in the appendix.

Table 10. Forecast of employment by broad occupation, 2012-2017

Occupation	Employment		Change 2012 - 2017 pa		Replacement pa	Total positions
	2012	2017	New jobs	%		
Managers	28,730	31,902	634	2.1%	1,008	1,642
Professionals	20,605	22,571	393	1.8%	681	1,074
Technicians & Trades Workers	13,966	15,743	355	2.4%	202	558
Community & Personal Service Workers	22,682	24,352	334	1.4%	1,069	1,403
Clerical & Administrative Workers	9,720	10,483	153	1.5%	219	371
Sales Workers	18,125	19,246	224	1.2%	1,487	1,712
Machinery Operators & Drivers	4,395	4,637	48	1.1%	142	190
Labourers	14,752	16,013	252	1.7%	678	931
Total	132,976	144,946	2,394	1.7%	5,487	7,881

Source: Statistics NZ and Infometrics

Table 11. Forecast of employment for top 20 occupations.

Occupation	Employment		Change 2012 - 2017 pa		Net replacement pa	Total net positions opening pa
	2012	2017	Jobs	%		
Sales Assistant (General)	9,487	10,901	283	2.8%	896	1,179
Waiter	4,866	5,071	41	0.8%	374	415
Commercial Cleaner	4,217	4,250	7	0.2%	88	94
Chef	3,884	6,703	564	11.5%	6	570
Retail Manager (General)	3,764	4,309	109	2.7%	142	251
Hotel or Motel Manager	3,552	4,125	115	3.0%	200	314
Kitchenhand	2,974	3,517	109	3.4%	352	461
Café or Restaurant Manager	2,831	4,076	249	7.6%	262	511
Primary School Teacher	2,510	2,959	90	3.3%	128	217
General Clerk	2,124	1,429	-139	-7.6%	26	-113
Bar Attendant	1,952	1,630	-64	-3.5%	139	74
Conference and Event Organiser	1,936	3,863	385	14.8%	79	465
Café Worker	1,928	2,132	41	2.0%	130	171
Secondary School Teacher	1,817	2,920	221	10.0%	107	328
Tour Guide	1,749	1,846	19	1.1%	13	32
Hotel Service Manager	1,713	2,145	86	4.6%	67	154
Sales Representatives nec	1,681	3,511	366	15.9%	2	368
Cook	1,648	1,605	-9	-0.5%	35	27
Chief Executive or Managing Director	1,499	1,979	96	5.7%	41	137
Ticket Seller	1,407	713	-139	-12.7%	29	-110

Source: Statistics NZ and Infometrics

The occupations with the largest number of positions opening over the five years to 2017 are sales assistant (general) (1179 per year), chef (570 per year), and cafe or restaurant manager (511 per year).

4. OPPORTUNITIES AND CHALLENGES

Issues facing the whole sector

This section provides a short overview of opportunities and challenges in the sector over the next few years with a particular focus on workforce development and skills. For more in depth analysis on the Tourism sector over the next ten years please also refer to Tourism Industry Association New Zealand's *Tourism 2025* framework.

Overview of outlook and background

The tourism sector stands to benefit over the coming decade both from further increases to domestic tourism spending, as well as recovering guest nights by international visitors. However, given the evolving nature of travel patterns, particularly as a result of the changing composition of overseas visitors, challenges lie ahead for tourism providers in certain parts of the country. Further challenges revolve around recent changes to Chinese travel regulations, the living wage debate, and adapting to changes in bookings channels.

The composition of where tourists are coming from has changed significantly over the past decade. Visitors from places such as China and Australia have surged, while arrivals from traditionally important markets such as the UK (and other parts of Europe) and the US have fallen. Visitors from these major markets stay for vastly different periods of time on average and visit different parts of the country. The median length of stay for Australians (7 days) and Chinese (4 days) is far less than for visitors from the UK (20 days) and the US (9 days). The increasing prevalence of these shorter-staying visitors has left the typical foreign tourist to New Zealand with less time to stay in more remote parts of the country. As a result, foreign tourists have become more concentrated on certain regions, like Auckland and Queenstown.

Returns from international visitors to slowly recover

When looking to the future of their industry, those exposed to the tourism industry need to bear in mind that the decline in arrivals from longer-staying nations is due to a prolonged trough in developed nations' economic cycles, while the lift in arrivals from Australia and China is more of a permanent structural shift. The risks and opportunities posed by these two factors for the sector throughout New Zealand are quite distinct and planning must take account of these differences.

Visitor numbers from longer-staying nations will eventually recover – even if this recovery takes a number of years. At least in the meantime, those tourism establishments who have weathered the storm to date are leaner and more efficient than they were before the downturn and will be well poised to capture any pick-up.

Domestic tourism to continue rising

At the same time, stakeholders in the tourism sector must not ignore the important role which domestic visitors play in nurturing tourism in regional New Zealand. With recent economic indicators continuing to point towards a broad-based pick up in the local economy, New Zealander's willingness to spend on discretionary items such as travel will grow significantly over the coming years. Although some of this additional travel will be to overseas destinations, tourism providers throughout New Zealand still stand well poised to capture some of this uplift. Businesses will also become more willing to spend on staff travel for events such as client visits and conferences over the coming years.

Issues facing parts of the sector

Changing Chinese travel regulations an opportunity

Recent policy changes in China, which have outlawed the practice of selling low-cost shopping holidays, are an opportunity for the travel sector in New Zealand. The banning of these types of whistle-stop tours is likely to mean that future growth in Chinese visitor numbers will be driven by visitors coming on longer holidays who see more of the country. However, in order to successfully capture this increased custom, some tourism operators will have to tailor their experience to meet different cultural and linguistic requirements.

Adapting to new booking channels

Travellers are increasingly turning to the internet to make bookings across a wide variety of travel types. The lure of more affordable prices is a key motivator in this decision and the proliferation of comparator websites with ratings of various options has helped assist travellers in coming to well-researched decisions. Furthermore, the widespread use of tablets and smartphones has made independent bookings on the go increasingly easy.

A key challenge for the tourism sector over the coming years will be to ensure that it continues to keep pace with an increasing share of online travel sales. Operators who offer convenient web-based booking facilities and smart phone apps, with reliable back office support, will be well poised to capture some of this growth in online sales. Supporting these services will be increasing numbers of IT professionals, management and marketing staff.

Living wage debate to challenge the sector

Another challenge for the sector will be responding to the living wage debate which is seeking to raise wages to about \$18.80 per hour. A living wage compares to the minimum wage of \$14.25 per hour applicable from 1 April 2014. Although a living wage may appear good for workers at face value, if it became mandatory the policy could cause some businesses to reduce staffing levels to reduce the effect on input costs.

It is unlikely that living wages will become mandatory, but the creation of an accreditation scheme by non-governmental organisations for living wage employers is a potential scenario. Inclusion in such a scheme would be voluntary, but adoption of the practice could lead to product differentiation by some tourism firms looking to target consumers seeking ethically aware choices. Furthermore, firms who provide to local and central government are at risk of changes to procurement policies that favour awarding contracts to living wage employers.

5. DEMOGRAPHICS

This chapter describes the demographic characteristics of employees in the tourism sector. It draws heavily on the 2006 and 2013 population census.

Age

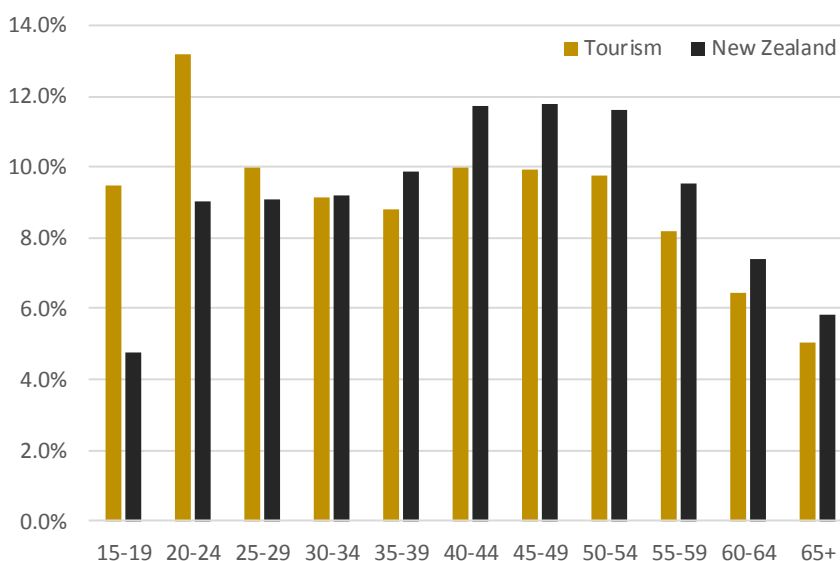
The tourism sector has a much younger age profile than the national economy. The proportion of tourism workers under 30 years is 32.7% compared with 22.9% in the national economy. The number of relatively low-skilled, part time jobs in the tourism sector is attractive to young workers who are able to fit their jobs around study. The proportion of older workers in the tourism sector is commensurately lower than in the national economy.

Table 12. Employment by 5-year age group in the tourism sector

Age Group	Employment		% of Total		NZ % of Total
	2006	2013	2006	2013	2013
15-19	15,970	12,541	12.7%	9.5%	4.8%
20-24	16,107	17,380	12.8%	13.2%	9.1%
25-29	12,146	13,146	9.7%	10.0%	9.1%
30-34	12,249	12,049	9.8%	9.1%	9.2%
35-39	12,472	11,631	9.9%	8.8%	9.9%
40-44	13,388	13,181	10.7%	10.0%	11.7%
45-49	12,872	13,088	10.3%	9.9%	11.8%
50-54	11,221	12,875	8.9%	9.8%	11.6%
55-59	9,797	10,812	7.8%	8.2%	9.5%
60-64	5,774	8,511	4.6%	6.5%	7.4%
65+	3,586	6,626	2.9%	5.0%	5.9%
Total	125,581	131,841	100.0%	100.0%	100.0%

Source: Statistics NZ and Infometrics

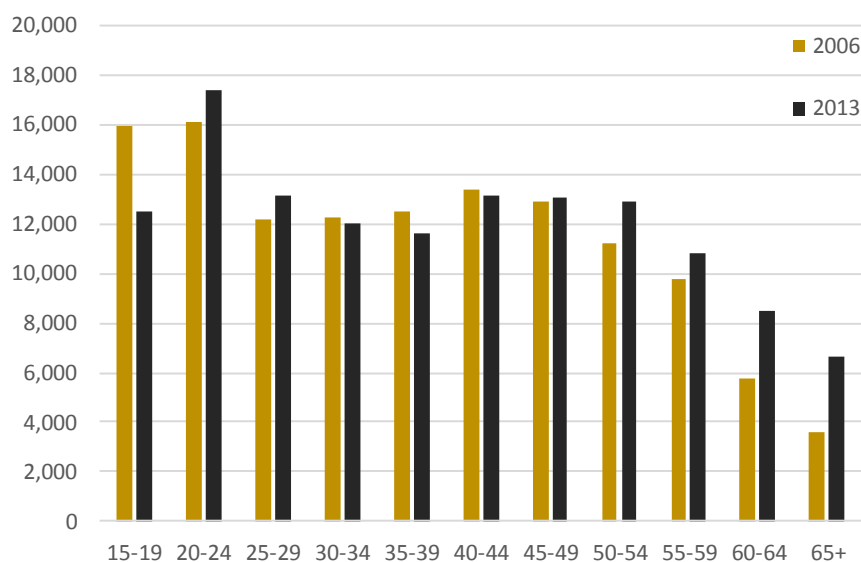
Figure 7. Proportion of total employment by 5-year age group,



Source: Statistics NZ and Infometrics

The next graph shows that older workers (50+) have increased as a share of total tourism employment between 2006 and 2013. This suggests that older workers held onto their jobs longer and took later retirement. Over the seven year period there was also a sharp decline in the number of very young (15-19) workers which indicates that the sector took in fewer young recruits during the harder economic years between the censuses.

Figure 8. Employment by 5-year age group in the tourism sector



Source: Statistics NZ and Infometrics

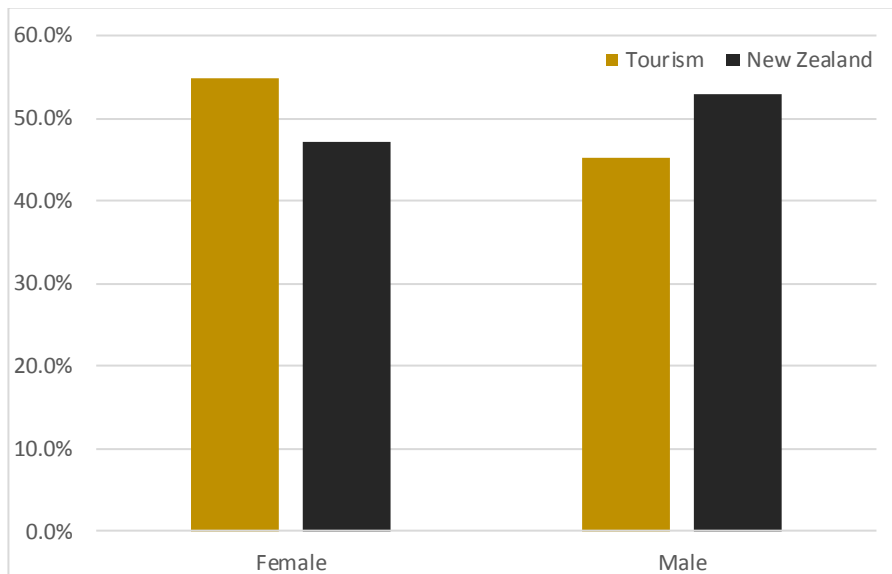
Gender

There were more female than male workers in the tourism sector in 2013. Females accounted for 54.8% of total employment compared with 47.1% in the national economy. The share of female workers decreased from 56.0% to 54.8% between March 2006 and March 2013. This may be related to the different experience between females and males during the recession following the Global Financial Crisis. Males were more adversely affected in the wider economy due to job losses in industries in which males are concentrated such as construction and manufacturing. The relative increase in availability of males may have increased the relative number of males to females applying for jobs in the tourism sector.

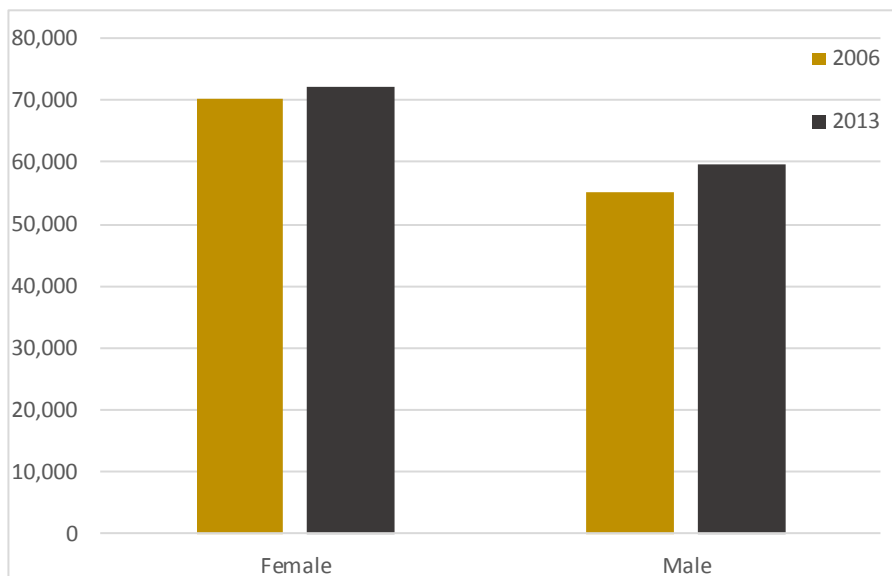
Table 13. Employment by gender in the tourism sector

Gender	Employment		% of Total		NZ% of Total
	2006	2013	2006	2013	2013
Female	70,316	72,300	56.0%	54.8%	47.1%
Male	55,265	59,543	44.0%	45.2%	52.9%
Total	125,581	131,844	100.0%	100.0%	100.0%

Source: Statistics NZ and Infometrics

Figure 9. Proportion of total employment by gender, 2013

Source: Statistics NZ and Infometrics

Figure 10. Employment by gender, 2006 and 2013

Source: Statistics NZ and Infometrics

Highest qualification

Almost half (48.4%) of employees in the tourism sector had no post-school qualifications in 2013. This was a higher proportion than in the national economy (43.4%).

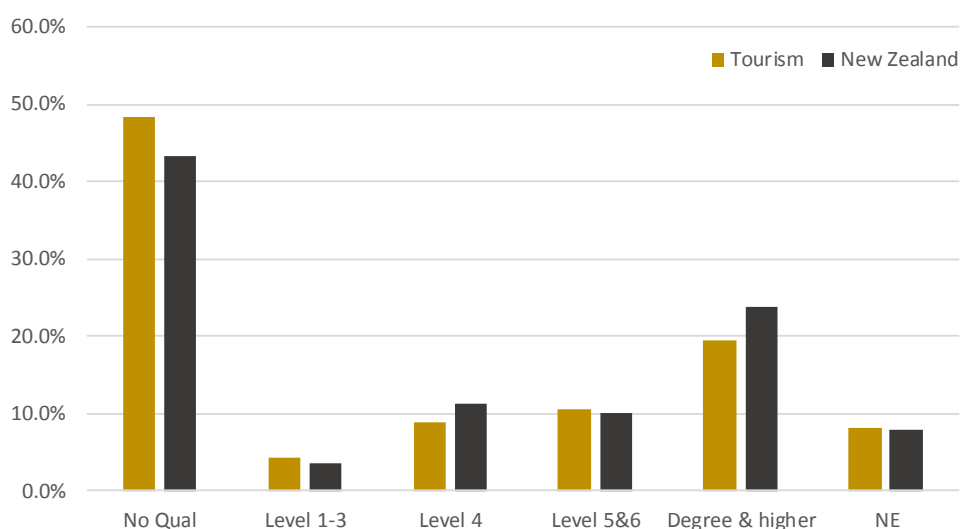
Average training levels increased between 2006 and 2013 with the number of workers without a qualification falling from 56.2% to 48.4%. At the other end of the spectrum the number of workers with a degree or higher increased from 15.6% to 19.5% over the seven year period. This may be a consequence of young graduates not being able to find suitable employment in their chosen fields and being required to accept lower skilled work in the tourism industry.

Table 14. Employment by highest qualification in the tourism sector

Highest qualification	Employment		% of Total		NZ% of Total
	2006	2013	2006	2013	2013
No Post-school Qualification	70,586	63,827	56.2%	48.4%	43.4%
Level 1, 2 or 3 Certificate	7,498	5,773	6.0%	4.4%	3.5%
Level 4 Certificate	11,472	11,721	9.1%	8.9%	11.2%
Level 5 and 6 diploma	12,438	14,014	9.9%	10.6%	10.0%
Degrees, level 7 quals and higher	19,645	25,763	15.6%	19.5%	23.9%
Not Elsewhere Included	3,943	10,746	3.1%	8.2%	7.9%
Total	125,581	131,844	100.0%	100.0%	100.0%

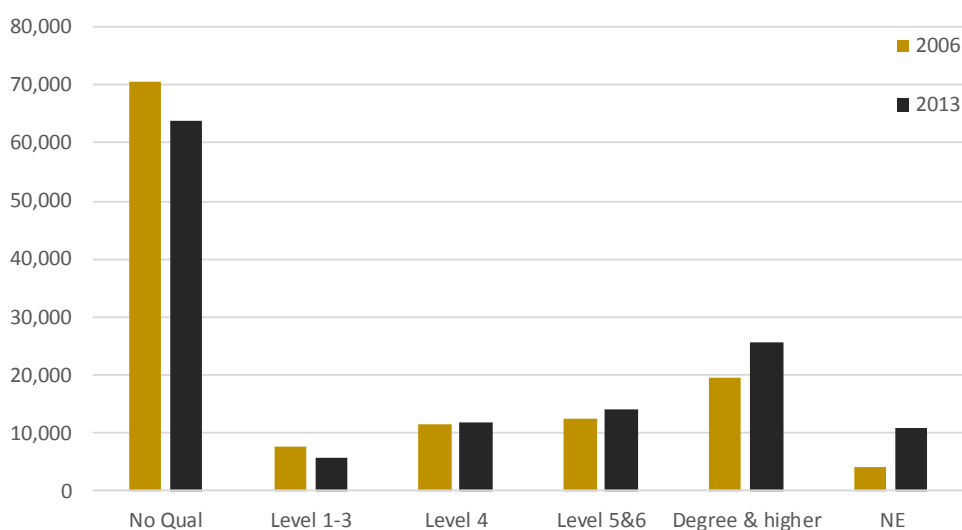
Source: Statistics NZ and Infometrics

Figure 11. Employment by highest qualification, 2013



Source: Statistics NZ and Infometrics

Figure 12. Employment by highest qualification in the tourism sector



Source: Statistics NZ and Infometrics

Ethnicity

The majority (72.7%) of employees in the tourism sector in 2013 were of European ethnicity. This was up from 68.2% in 2006. Asians have a considerably higher representation in the tourism sector than in the national economy. They account for 16.3% of workers in tourism compared with 11.1% in the national economy. Their share was up from 12.2% in 2006. Māori accounted for 10.9% of employees in 2013, similar to 11.2% in 2006 while Pasifika accounted for 4.9%, compared to 4.8% in 2006.

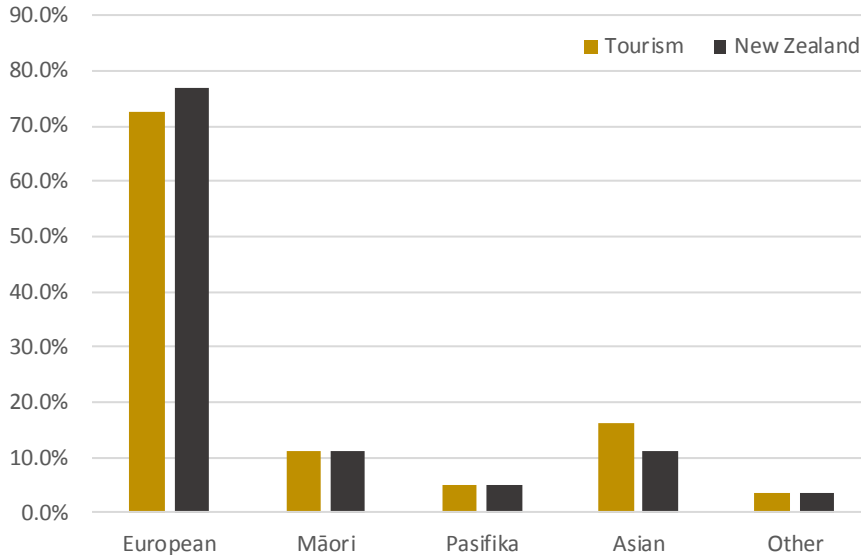
The decrease in employment of workers in the 'Other' category would have been influenced by the substantial decrease in the number of individuals who identified themselves as 'New Zealanders' in the 2013 census compared with the 2006 census.

Table 15. Employment by ethnicity, 2006 and 2013

Ethnic	Employment		% of Total		NZ% of Total
	2006	2013	2006	2013	2013
European	85,622	95,838	68.2%	72.7%	77.0%
Māori	14,033	14,425	11.2%	10.9%	11.2%
Pasifika	5,981	6,520	4.8%	4.9%	5.0%
Asian	15,287	21,546	12.2%	16.3%	11.1%
Other	16,816	4,502	13.4%	3.4%	3.4%
Total	125,581	131,844	109.7%	108.3%	107.6%

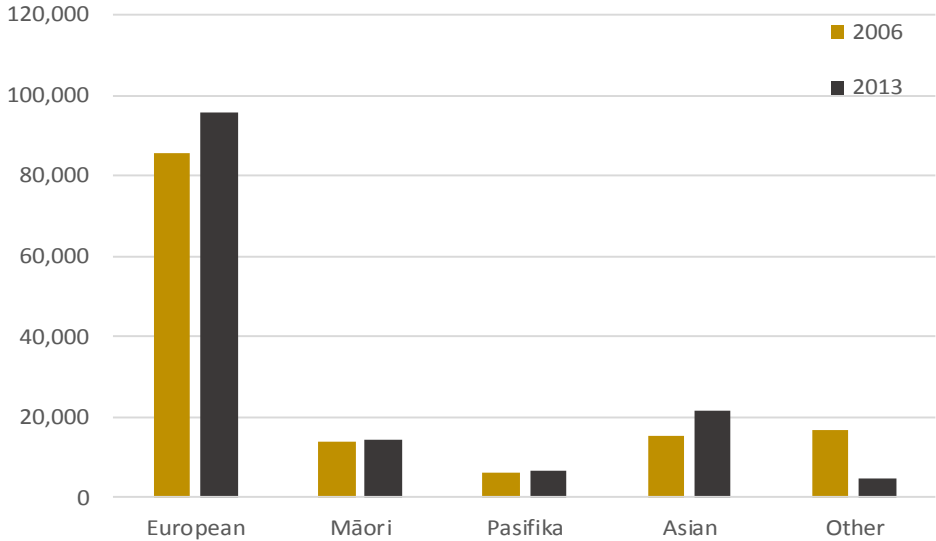
Source: Statistics NZ and Infometrics

Figure 13. Employment by ethnicity, tourism sector and New Zealand, 2013



Source: Statistics NZ and Infometrics

Figure 14. Employment by ethnicity, 2006 and 2013



Source: Statistics NZ and Infometrics

Country of birth

In 2013, New Zealand-born workers accounted for 66.9% of the workforce in the tourism sector. This is 5.2% less than in 2006. The share of workers born in Asia increased by 3.5% to 13.4% over the same period while the share of workers born in Europe increased by 0.7% to 9.2%.

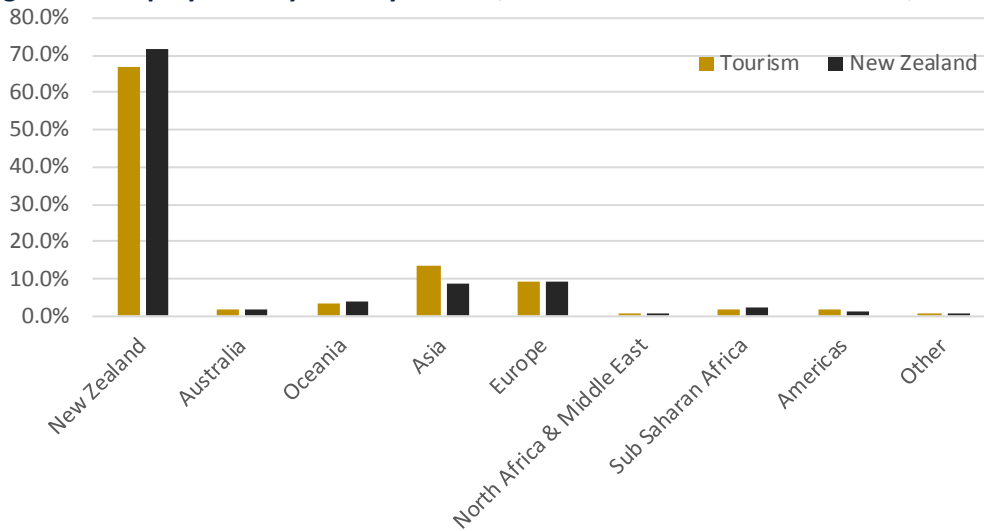
The tourism sector employed relatively fewer New Zealand born workers compared to all industries in 2013. These workers comprised 71.7% of all workers in all industries while they represented 66.9% in the tourism sector. There are relatively more workers born in Asia working in the tourism sector than in all industries.

Table 16. Employment by country of birth, 2006 and 2013

Country of Birth	Employment		% of Total		NZ% of Total
	2006	2013	2006	2013	2013
New Zealand	90,481	88,159	72.1%	66.9%	71.7%
Australia	2,574	2,346	2.0%	1.8%	1.6%
Oceania	4,080	4,760	3.2%	3.6%	3.8%
Asia	12,525	17,723	10.0%	13.4%	8.6%
Europe	10,704	12,138	8.5%	9.2%	9.4%
North Africa & Middle East	588	650	0.5%	0.5%	0.4%
Sub Saharan Africa	2,044	2,677	1.6%	2.0%	2.3%
Americas	1,594	2,220	1.3%	1.7%	1.3%
Other	991	1,170	0.8%	0.9%	0.9%
Total	125,581	131,844	100.0%	100.0%	100.0%

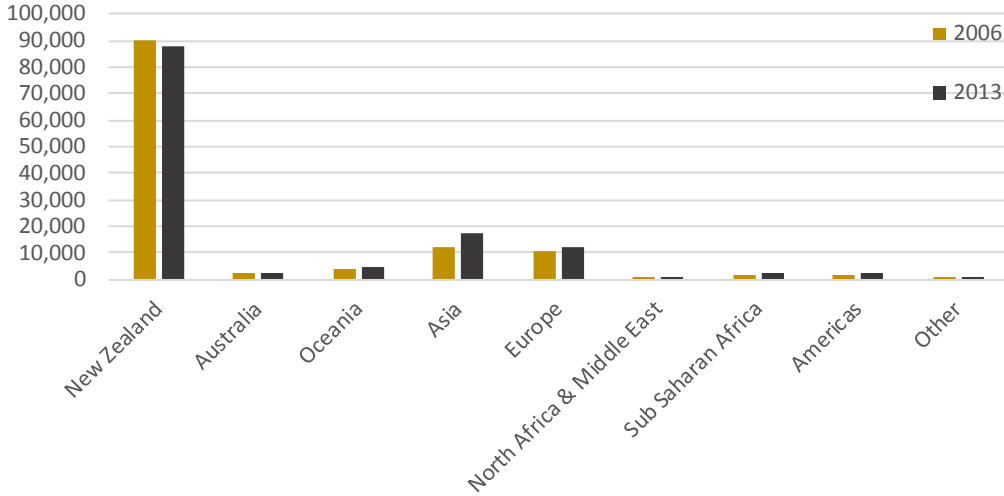
Source: Statistics NZ and Infometrics

Figure 15. Employment by country of birth, tourism sector and New Zealand, 2013



Source: Statistics NZ and Infometrics

Figure 16. Employment by country of birth in the tourism sector, 2006 and 2013



Source: Statistics NZ and Infometrics

Hours worked

Those working 40-49 hours per week account for the highest share (35.0%) of employees in the tourism sector in 2013. This share has increased since 2006 by 2.0%. Workers doing less than 30 hours represent 29.9% of the sector which rose from 29.1% in 2006. The share of very high hours worked (50 and more) decreased from 19.6% in 2006 to 16.9% in 2013.

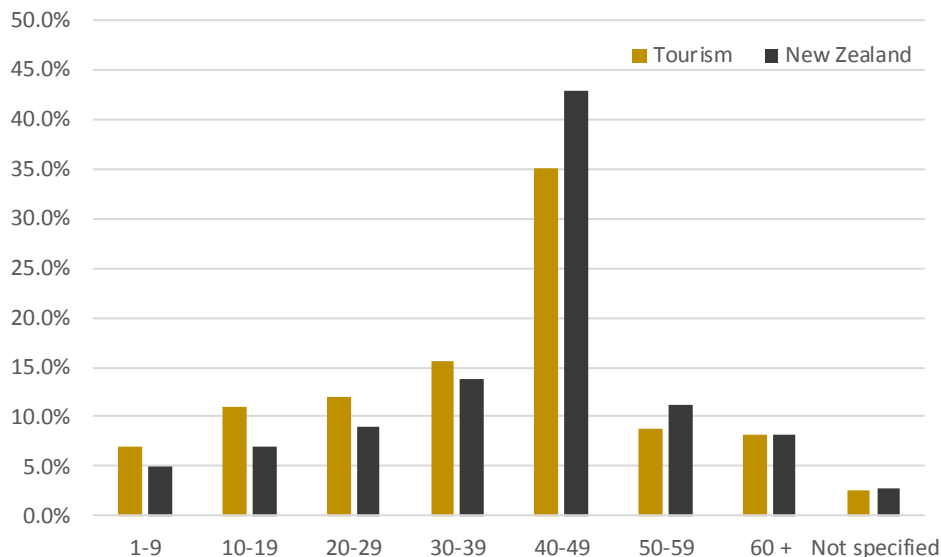
Table 17. Employment by hours worked, 2006 and 2013

Hours Worked	Employment		% of Total		NZ% of Total
	2006	2013	2006	2013	2013
1-9	8,111	9,187	6.5%	7.0%	5.0%
10-19	14,639	14,451	11.7%	11.0%	7.0%
20-29	13,823	15,765	11.0%	12.0%	9.1%
30-39	16,489	20,484	13.1%	15.5%	13.8%
40-49	41,518	46,207	33.1%	35.0%	43.0%
50-59	12,232	11,593	9.7%	8.8%	11.1%
60 +	12,322	10,712	9.8%	8.1%	8.2%
Not specified	6,446	3,445	5.1%	2.6%	2.8%
Total	125,580	131,844	100.0%	100.0%	100.0%

Source: Statistics NZ and Infometrics

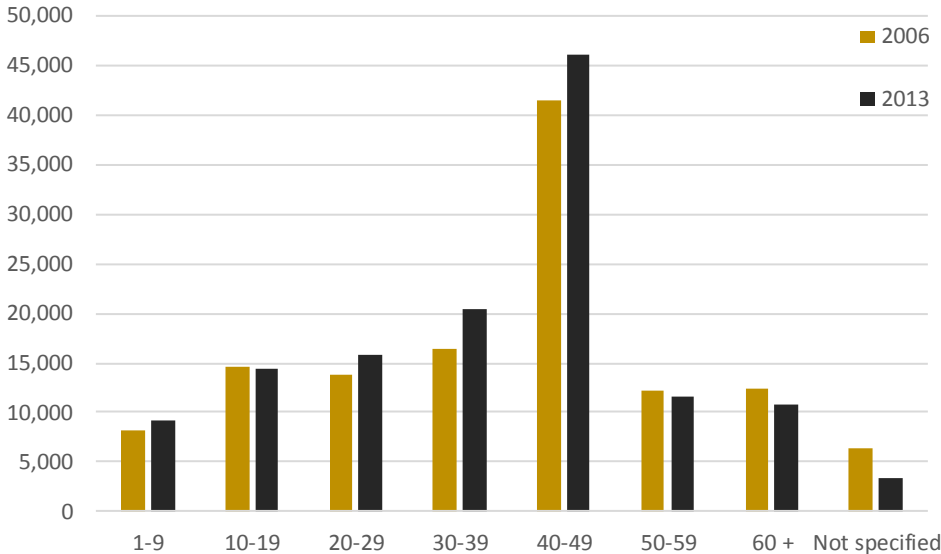
The tourism sector employed more part-time (less than 30 hours) workers in 2013 than in all industries. Part-time workers accounted for 29.9% compared with 21.1% in all industries. The share of very high hours worked (more than 50) is 16.9% which is 2.4% lower in the tourism sector compared to all industries.

Figure 17. Employment by number of hours worked, tourism sector and New Zealand, 2013



Source: Statistics NZ and Infometrics

Figure 18. Employment by number of hours worked per week, 2006 and 2013



Source: Statistics NZ and Infometrics

6. TRAINING

This chapter describes the characteristics of individuals being trained by ServiceIQ in 2013. The data includes all individuals who were registered at some point during 2013. The last section in the chapter describes enrolments and completions in provider-based qualifications of relevance to the tourism sector.

Tourism sector trainees accounted for 1.0% of total ServiceIQ trainees.

Age

Table 18. Number of trainees by 5-year age group

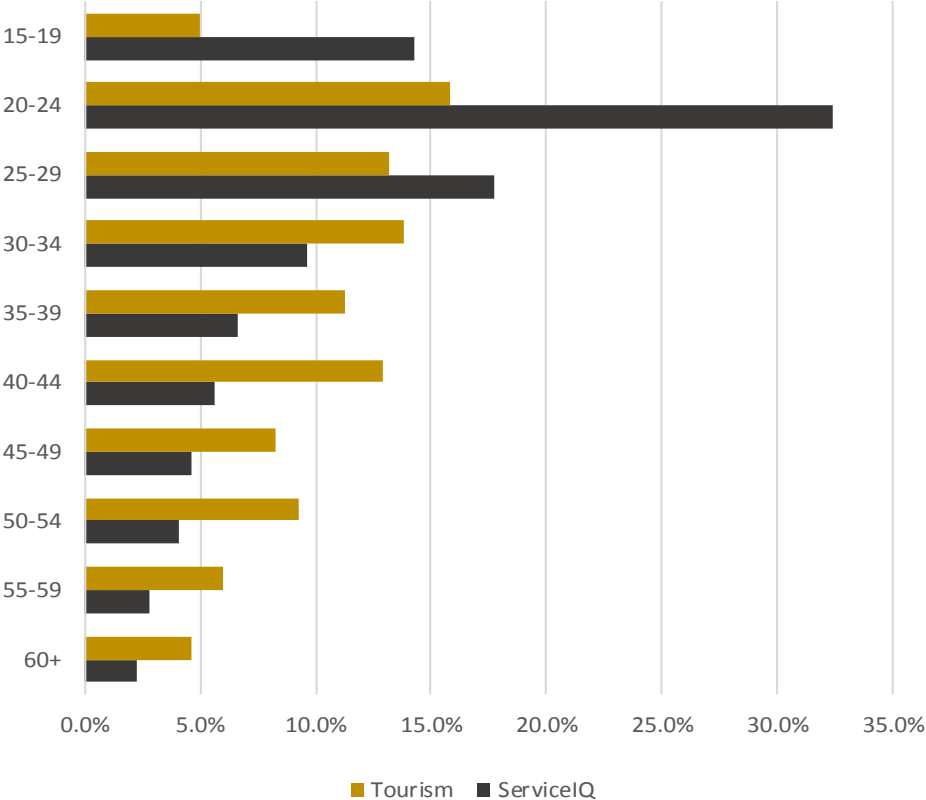
Age group	Number of trainees		% of total		Employment
	Tourism	ServiceIQ	Tourism	ServiceIQ	Tourism
15-19	15	3,091	5.0%	14.3%	9.5%
20-24	48	6,997	15.8%	32.4%	13.2%
25-29	40	3,827	13.2%	17.7%	10.0%
30-34	42	2,084	13.9%	9.7%	9.1%
35-39	34	1,425	11.2%	6.6%	8.8%
40-44	39	1,214	12.9%	5.6%	10.0%
45-49	25	993	8.3%	4.6%	9.9%
50-54	28	873	9.2%	4.0%	9.8%
55-59	18	606	5.9%	2.8%	8.2%
60+	14	479	4.6%	2.2%	11.5%
Total	303	21,589	100.0%	100.0%	100.0%

Source: ServiceIQ

With an average age of 35 years, trainees in the tourism sector are on average older than in the ServiceIQ sector as a whole. The average age of all trainees in the ServiceIQ sector is 27. Approximately 79.2% of tourism trainees are 25 years and over, compared with 53.3% in the ServiceIQ sector as a whole.

For workers under the age of 30, there are no significant differences between the age profile of tourism sector trainees and the persons employed in the sector. For those in the 30-45 year age group there is a relatively higher proportion of workers in training than in employment. For workers over the age of 45, the opposite is true.

Figure 19. Proportion of trainees by 5-year age group



Source: ServiceIQ

Gender

Females account for a higher proportion of trainees in the tourism sector than males. Approximately 71.3% of tourism sector trainees are female, compared with 53.5% in the ServiceIQ sector as a whole.

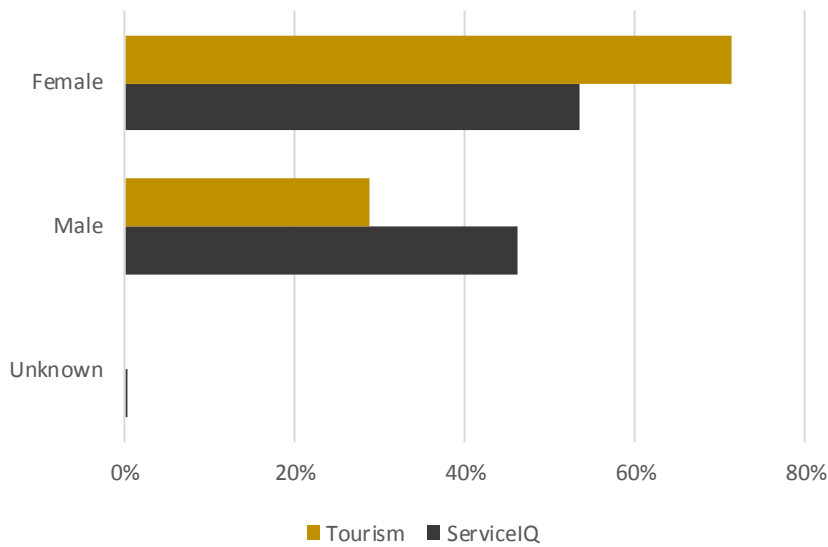
The gender profile of trainees in the tourism sector is quite different to the employment profile with females accounting for 71.3% of trainees and only 54.8% of employees.

Table 19. Number of trainees by gender

Gender	Number of trainees		% of total		Employment
	Tourism	ServiceIQ	Tourism	ServiceIQ	Tourism
Female	216	11,560	71.3%	53.5%	54.8%
Male	87	9,984	28.7%	46.2%	45.2%
Unknown	0	45	0.0%	0.2%	
Total	303	21,589	100%	100%	100%

Source: ServiceIQ

Figure 20. Proportion of trainees by gender



Source: ServiceIQ

Ethnicity

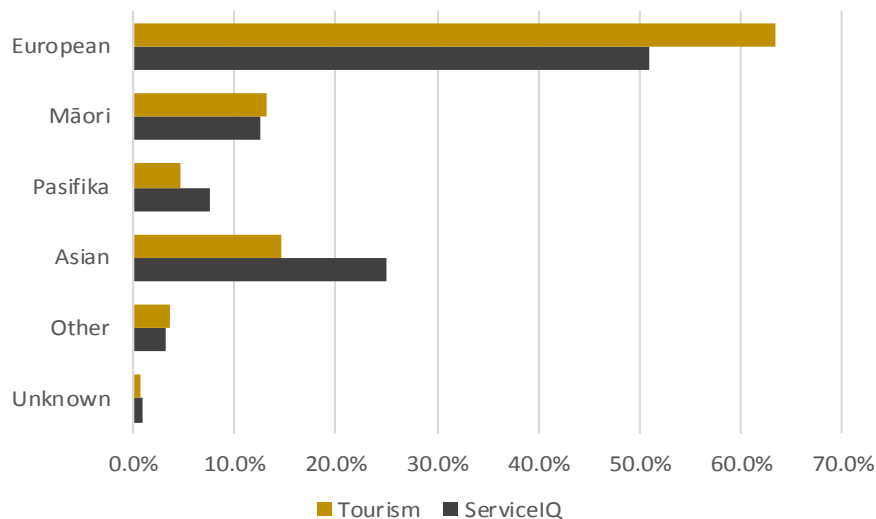
European is the largest ethnic group among trainees in the tourism sector, accounting for 63.4% of trainees. This is a higher percentage than in ServiceIQ as a whole, in which they account for 50.9% of trainees. Within the tourism sector the Asian group accounts for 14.5% of trainees and Māori, 13.2%.

Table 20. Number of trainees by ethnicity

Ethnicity	Number of trainees		% of total	
	Tourism	ServiceIQ	Tourism	ServiceIQ
European	192	10,991	63.4%	50.9%
Māori	40	2,716	13.2%	12.6%
Pasifika	14	1,629	4.6%	7.5%
Asian	44	5,381	14.5%	24.9%
Other	11	687	3.6%	3.2%
Unknown	2	185	0.7%	0.9%
Total	303	21,589	100.0%	100.0%

Source: ServiceIQ

Figure 21. Proportion of trainees by ethnicity



Source: ServiceIQ

Level of study

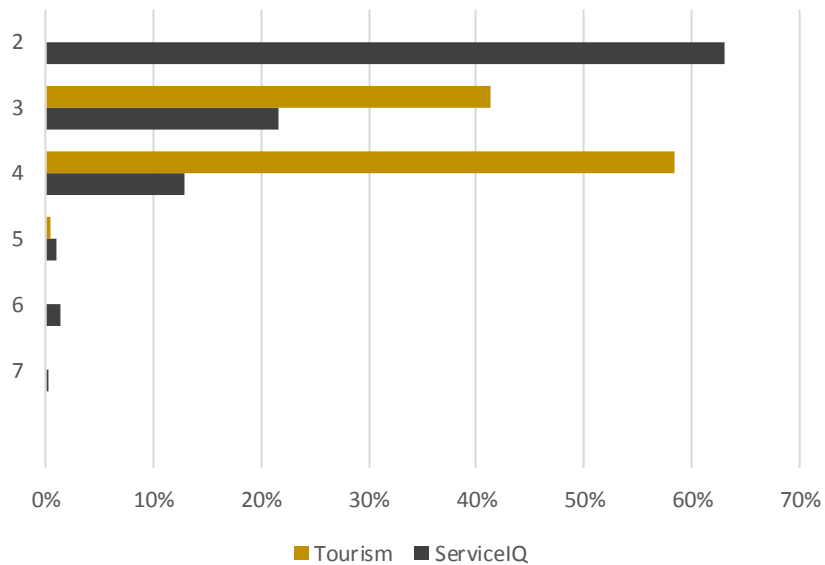
The majority (58.4%) of trainees in the tourism sector are studying towards level 4 qualifications. By contrast, 13.0% of trainees across the whole of ServiceIQ are studying for level 4 qualifications. One of Government's Better Public Service targets is to get 55 percent of 25-34 year olds with level 4 qualifications and above by 2017.

Table 21. Number of trainees by level of study

Level	Number of trainees		% of total	
	Tourism	ServiceIQ	Tourism	ServiceIQ
2	0	13,615	0.0%	63.1%
3	125	4,669	41.3%	21.6%
4	177	2,796	58.4%	13.0%
5	1	194	0.3%	0.9%
6	0	285	0.0%	1.3%
7	0	30	0.0%	0.1%
Total	303	21,589	100.0%	100.0%

Source: ServiceIQ

Figure 22. Proportion of trainees by level of study



Source: ServiceIQ

Region

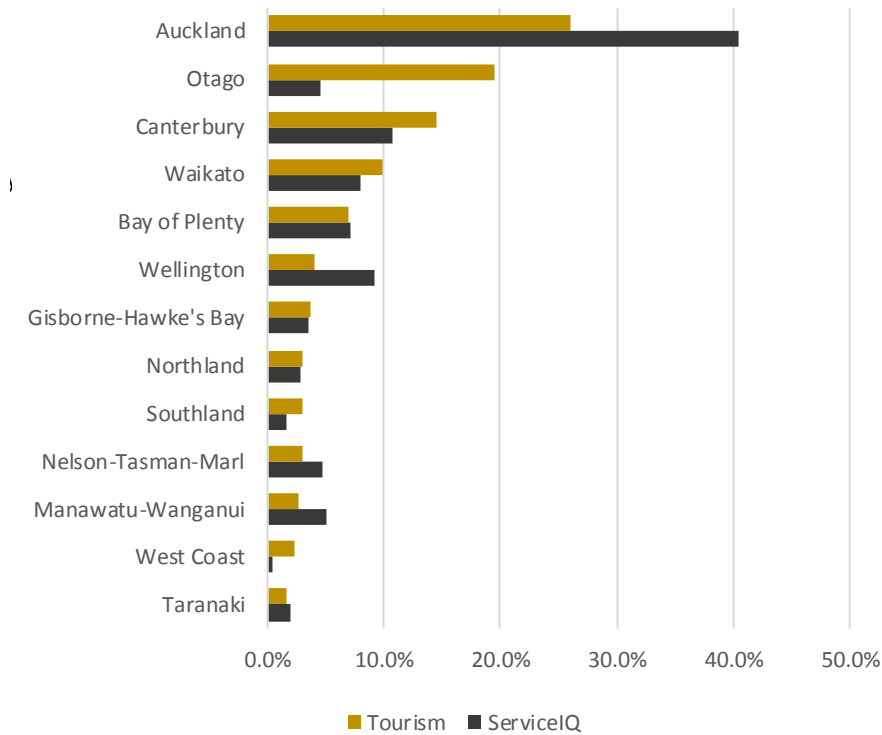
The majority of training occurs in the major population centres. A high proportion of tourism sector trainees are located in Auckland (26.1%) which compares with 40.5% for all ServiceIQ trainees. The next highest concentrations are in Otago (19.5%) and Canterbury (14.5%) respectively.

Trainees are highly overrepresented in Otago and Southland relative to employment in these regions. Almost 17% of all trainees are located in these regions compared with 9% of tourism sector employment. Wellington and Canterbury have low training rates relative to employment.

Table 22. Number of trainees by region

Region	Number of trainees		% of total		Employment
	Tourism	ServiceIQ	Tourism	ServiceIQ	Tourism
Northland	9	628	3.0%	2.9%	2.9%
Auckland	79	8,748	26.1%	40.5%	34.1%
Waikato	30	1,719	9.9%	8.0%	8.0%
Bay of Plenty	21	1,548	6.9%	7.2%	6.0%
Gisborne-Hawke's Bay	11	743	3.6%	3.4%	3.8%
Taranaki	5	415	1.7%	1.9%	2.2%
Manawatu-Wanganui	8	1,077	2.6%	5.0%	4.4%
Wellington	12	1,990	4.0%	9.2%	11.5%
West Coast	7	104	2.3%	0.5%	1.1%
Canterbury	44	2,306	14.5%	10.7%	13.0%
Otago	59	963	19.5%	4.5%	7.1%
Southland	9	341	3.0%	1.6%	2.3%
Nelson-Tasman-Marl	9	1,007	3.0%	4.7%	3.6%
Total	303	21,589	100%	100%	100%

Source: ServiceIQ

Figure 23. Proportion of trainees by region

Source: ServiceIQ

Domain

Domain is the lowest order of classification within the NZ Qualifications Framework and represents a cohesive cluster of similar unit standards.

The highest proportion of the tourism sector's trainees is studying for qualifications in the sales domain (61%). The next highest concentrations are in the business (19%) and casino security (13%) domains.

Table 23. Number of trainees by domain

Domain	Number of trainees	% of total
Sales	184	60.7%
Business	57	18.8%
Casino Security	38	12.5%
Tourism Conventions and Incentives	12	4.0%
Museum Practice	5	1.7%
Servicing	5	1.7%
Non-Funded	1	0.3%
Tourism	1	0.3%
Total	303	100.0%

Source: ServiceIQ

Provider-based training

This section shows enrolments and completions in provider-based qualifications of relevance to the tourism sector. It includes all fields of studies of relevance to the tourism sector. This means that some fields may be of relevance to other ServiceIQ sectors and are included in the statistics provided for those sectors.

Fields of study included in the above statistics are:

- Tourism Management
- Tourism Studies

Table 24 shows that the number of learners enrolled for provider-based qualifications considerably outnumbers those enrolled in ServiceIQ qualifications for tourism.

Table 24. Enrolments and completions in provider based training, 2012

Qualification	Enrolments	Completions
Certificates 1-3	5,100	1,980
Certificates 4	2,520	1,750
Diplomas	1,020	310
Bachelors degrees and higher	1,740	270

Source: Ministry of Education

7. APPENDIX A. METHODOLOGY

Definitions of key occupations

Occupations

Code	Description	Detailed Description
149311	Conference and Event Organiser	Organises and coordinates services for conferences, events, functions, banquets and seminars.
451412	Tour Guide	Escorts visitors on sightseeing, educational and other tours, and describes and explains points of interest.
639411	Ticket Seller	Sells tickets and makes reservations for services such as travel and admission to sporting and entertainment venues. May take tickets, issue boarding passes, and assist in the use of self-check systems. May work in a call centre.

Measuring employment in the tourism sector

Infometrics uses a time series of industry-occupation employment matrices for New Zealand in order to define and measure total employment in the ServiceIQ sectors. Table 25 shows a hypothetical industry-occupation employment matrix. A total of 216 people are employed in this hypothetical economy. The matrix divides those people across four industries and five occupations. For example 59 people are employed in Industry 1 and 6 of those 59 people are employed in occupation A.

Table 25. Hypothetical industry-occupation employment matrix

	Industry 1	Industry 2	Industry 3	Industry 4	Total
Occupation A	6	12	16	10	44
Occupation B	13	14	6	3	36
Occupation C	19	5	17	2	43
Occupation D	5	2	12	10	29
Occupation E	16	17	19	12	64
Total	59	50	70	37	216

In the above example we have defined a hypothetical ITO sector (the shaded cells) as consisting of Industry 2 and Occupations C and D. Total employment in the sector is calculated as $50+43+29=122$. Total employment in each of the ServiceIQ sectors is calculated using actual industry-occupation matrices for New Zealand.

Infometrics has compiled a time series (2000-2013) of industry-occupation matrices for the New Zealand economy using 490 industries (level 5 industries of the ANZSIC06 industrial classification) and 1000 occupations (level 5 of the ANZSCO occupational classification) which were used for the estimation of employment in the ServiceIQ sectors.

The following data sources were used to construct the matrices:

- Infometrics Industry Occupation Model. This model provides a quarterly time series of total employment in 500 industries by region and territorial authority.

The model provides more comprehensive, up-to-date and statistically robust estimates of employment than other data sources such as Business Demography. The model draws heavily on LEED quarterly data series which is the most robust source of industry employment data. The quarterly LEED series only measures employees. To account for self-employed the quarterly LEED series is adjusted upwards using industry specific self-employment rates from the annual LEED series.

- Population census 1996, 2001, 2006, 2013. These censuses provide a time series of changes in the occupational composition of employment in each industry over time as well as a benchmark of total employment in each occupation in the census years.
- Various industry studies conducted by Infometrics. New information obtained in industry studies regarding the occupational composition of employment in industries and how that changed over time is incorporated into our industry-occupation matrices.

Measuring demographic characteristics of sectors

Employment in the tourism sector is defined in terms of both industry and occupations using an industry-occupation employment matrix. After defining the sector on the matrix we sum employment across all occupations in each industry to arrive at employment by 500 industries. We can measure the demographic characteristics of employees in these industries using data from the 2006 and 2013 population census and aggregate across industries to arrive at estimate for the sector as a whole.

Methodology for estimating net demand replacement

The cohort-component method developed by Shah and Burke³ has been used to estimate net replacement rates. The cohort-component method uses estimates of employment by occupation and age category at two different points in time, to establish the inflows and the outflows in each occupation in each age-cohort. Shah and Burke used annual data, however due to the lack of annual data for New Zealand, data from the 2001 and 2006 Census was used in this study, together with national level forecasts from the Department of Labour.

The net flow from an occupation was estimated as the sum of the change in the size of each age cohorts between 2001 and 2006. If the size of the cohort decreased then there has been an outflow, whereas if the cohort increased the net outflow is equal to zero. This is true if the number of people employed in an occupation is expanding. However, if employment is decreasing then the net outflow is equal to sum of outflows less the size of the employment decline. Total net outflow from an occupation is estimated by summing the net outflow from each age cohort. The five year net demand replacement rate is estimated by dividing the total net outflow by employment in the occupation in 2001. This rate is converted to an annual rate.

³ Shah C and Burke G. 2001. 'Occupational replacement demand in Australia'. *International Journal of Manpower*, Vol. 22, No. 7, pp. 648-663. Centre for the Economics of Education and Training, Monash University.

The above method provides historical estimates of net replacement demand rates for each occupation over the period 2001 to 2006. In order to estimate the total number of job openings in future we have drawn on trends in national level forecasts estimated by the Department of Labour.

Infometrics Regional Industry Employment Model

This study draws heavily on the Infometrics Regional Industry Occupation Model (RIOM) which provides more robust and up-to-date information than Business Demography statistics, the source used by many economic analysts for estimates of industry and regional employment. The RIOM is built on quarterly and annual LEED data extracted by special request from Statistics New Zealand at the territorial authority level. Quarterly LEED provides the number of employees in each industry for each quarter. Annual LEED provides the number of self-employed in each industry which are quarterised and added to the number of employees to arrive at total employment. The occupational dimension is added to the model using industry-occupation employment share matrices developed from successive population censuses.

The model estimates employment in recent quarters for which LEED is not available by using time series analysis. The model draws on the relationships between industry performance at the territorial authority level and national level and recent trends in industry performance.

The RIOM provides estimates of the number of people employed in 480 industries in each region and territorial authority for each quarter since March 1999.

Data from the RIOM has the following advantages over data from Business Demography.

- The RIOM includes self-employment whereas it is excluded from Business Demography. The exclusion of self-employment leads to a significant undercount of employment in certain industries such as agriculture and construction. Infometrics utilises annual LEED to provide estimates of self-employment by industry.
- The RIOM is benchmarked on industry employment totals from LEED, which is statistically more robust than Business Demography. LEED is designed to measure employment whereas Business Demography is designed to measure the number of establishments etc. and only measures employment as a spin off.
- The RIOM measures employment in each quarter of the year whereas Business Demography provides only a single snapshot (February) each year. Providing only a single snapshot is inadequate for industries such as horticulture and hospitality which are highly seasonal.

Output and employment forecasts by industry

The Infometrics Industry Model produces forecasts of output and employment for 54 industries using a mix of principle component and regression techniques to link macroeconomic key indicators (e.g., inflation, interest rates, unemployment, the exchange rate, business profitability etc.) to prospects for each industry. A key aspect of this approach is that it produces an outlook for an industry that takes into account the recent performance of that industry, the impact of key influences on business performance in that industry, and is also constrained to ensure that the sum of production in all industries equals our forecasts of overall economic activity.

That is, an industry can only grow faster than overall economic growth if past industrial performance and business conditions indicate that it will increase its share of national output.

The main applications of principle component or factor analytic techniques are: (1) to reduce the number of variables and (2) to detect structure in the relationships between variables, that is to classify variables. Therefore, factor analysis is applied as a data reduction or structure detection method.

In the current context, principle component analysis is used to separate a panel of data into its principal cross-sectional components and their associated time domain components. For example, one might have a panel of quarterly industrial production data that has been converted into measures of each industry's share of GDP, i.e the share for the i -th industry in quarter t can be presented as:

$$q_{i,t} = \frac{Q_{i,t}}{\sum Q_{i,t}}$$

Thus, one can forecast industrial production ($Q_{i,t}$) by applying forecasts of industrial shares ($q_{i,t}$) to forecasts of total GDP ($\sum Q_{i,t}$). The question then becomes one of forecasting the $q_{i,t}$'s. Principle component approaches are about reducing the scope of the forecast problem from forecasting, say, 20 inter-dependent $q_{i,t}$'s to one of diagnosing the interrelationship between each of the $q_{i,t}$'s and forecasting three or four independent time components.

Without going into the detailed mathematics, the aim of the approach is to use Eigen Values and Eigen Vectors to decompose the matrix of $q_{i,t}$'s into i independent (orthogonal) cross-sectional (1×1) factor vectors ($\phi_i(q)$) each with an associated ($1 \times T$) time-varying parameter-vector $\{\beta_{t,j}\}$. If $f_t(q)$ is the original ($1 \times T$) matrix of data, one can reproduce the matrix by simple matrix multiplication:

$$f_t(q) = \mu(q) + \sum \beta_{t,i} \phi_i(q)$$

The critical issues here are that each of the factor vectors $\phi_i(q)$ are orthogonal and that one can often explain most of the variation in the matrix with a small subset of the factor vectors, eg greater than 90% of the variation might be explained by 3-4 of the factor vectors. This means that once we have undertaken the principle component analysis we can obtain reasonable forecasts by concentrating on just the 3-4 key factors and conducting independent forecasts of their associated time-varying parameter-vectors $\{\beta_{t,j}\}$.



ServiceIQ

Level 14
Plimmer Towers
2-6 Gilmer Terrace
Wellington 6011

E: intel@ServiceIQ.org.nz
T: 0800 863 693
W: ServiceIQ.org.nz



Infometrics

Level 20
Plimmer Towers
2-6 Gilmer Terrace
Wellington 6011

E: economics@infometrics.co.nz
T: (04) 473 0630
W: infometrics.co.nz