

## Appendix F Understanding New Zealand's service industries

This appendix examines some of the distinctive features of the industries that make up the services sector. It is a supplement to the Commission's final report *Boosting productivity in the services sector*.

**Table F.1 Service industries**

| Distributive industries           | Information industries                          | Person-centred industries      | Health and education industries   |
|-----------------------------------|---|--------------------------------|-----------------------------------|
| Wholesale trade                   | Information media and telecommunication         | Accommodation and food         | Education and training            |
| Retail trade                      | Finance and insurance                           | Rental, hiring and real estate | Health care and social assistance |
| Transport, postal and warehousing | Professional, scientific and technical services | Administration and support     |                                   |
|                                   |   | Arts and recreation            |                                   |
|                                   |   | Other services                 |                                   |

A wide range of factors could influence productivity performance of each industry. This appendix provides an overview of each service industry, focussing on four themes.

### Competition and domestic tradability

As a general rule, competition creates incentives for firms to innovate and provide the best possible value for consumers (Chapter 2). Competition is an essential part of creative destruction, where poorly performing firms exit the market as a result of an inability to keep up with more productive firms (Syverson, 2010). However there are trade-offs between competition and scale. On one hand, firms with a large market share may exert a certain degree of dominance meaning they face lower levels of competition, but on the other, larger firms are more able to generate economies of scale and scope which can bring improvements to the services they deliver.

Linked to the issue of competition is tradability, which is used in this appendix to refer generally to the ability of businesses to deliver services over distance. Where a service can be traded over distance, it limits the ability of a single business to dominate a specific local market. Where services can be traded internationally it opens the domestic market to competition from abroad, as well as allowing local firms to increase their scale by exporting services to much larger overseas markets.

### Regulation

There is a case for regulation of service industries where market failures lead to inefficient levels, or quality, of supply (and where the benefits of regulation outweigh the costs). Such cases include natural monopolies, externalities and lack of information. Regulation may, however, constrain innovation, competition or adaptation to changing circumstances.

Service industries are subject to both industry-specific regulation and non-targeted regulation. Industry-specific regulations shape particular industries or sub-industries, for example legal advice, health care or telecommunications. Non-targeted regulation, such as consumer protection policy, applies to firms across a range of industries. Self-regulation is also common among service industries. Under self-regulation, groups of suppliers agree to a set of rules or principles about how they will operate, how they respond to issues such as complaints from consumers, and how they deal with non-compliant suppliers.

## Employment, wages and skills

Human inputs are an important driver of performance in service industries. Factors such as employees' qualifications and worker turnover can have important effects on firms' productivity performance.

## ICT and innovation

Adoption of product or process innovations and effective use of ICT can generate significant productivity gains (chapter 8 and 9). Some of the recent technological changes in each industry are examined, along with data relating to investment in research and development and whether firms are using the best available technology.

## Data presentation

Summary data for each of these themes (except for regulation, for which comparable indicators are not readily available) for the major service industries is presented in a 'wagon-wheel' chart. These charts show the position of each industry for a set of indicators relative to the average of the sector (excluding the industries that are primarily comprised of non-market provision).<sup>1</sup> Box F.1 provides a summary of the indicators and data sources.

Some of the information presented in these charts is based on Statistics New Zealand surveys. Further information about survey techniques is contained on the Statistics New Zealand website. Three indicators (domestic tradability, entry and exit and price-cost margin) were derived using the prototype Longitudinal Business Database (LBD) component of the Integrated Data Infrastructure (IDI) managed by Statistics New Zealand.<sup>2</sup>

Most of the information presented in this appendix is not disaggregated below the industry level, meaning that many findings are by necessity generalised. Within each industry there is wide variation in the types of businesses and the types of services that they deliver, which can be hidden by the average.

### Box F.1 Summary indicators for service industries

#### Competition and domestic tradability<sup>3</sup>

- Domestic tradability – the extent to which industries' output is traded within New Zealand from one geographic region to another (Productivity Commission calculations using LBD data). Industries with low tradability tend to be geographically dispersed due to the need for a physical presence where consumers are located, while industries with higher tradability tend to be more concentrated.
- Import penetration – the value of imported goods and services within an industry as a proportion of the gross value of locally produced goods and services (Productivity Commission calculations using Statistics New Zealand input-output tables). Fewer imports in the local market is a sign that local producers are exposed to little competition from overseas firms.
- Entry and exit – a combination of the average annual rate of firm entry and exit within the industry between 2000 and 2010 (Productivity Commission calculations using LBD data). The rates are adjusted for firm size (based on the number of employees). Low rates of entry can signify that there are barriers to the entry of new firms that would be a source of competition for incumbent firms.

<sup>1</sup> A different method of calculation was used in the "heat map" showing the relative intensity of competition in New Zealand industries in Chapter 5 (Figure 5.7). That figure was based on a linear scaling of four competition indicators relative to the minimum and maximum industry levels across all market-provided industries (including those outside the services sector).

<sup>2</sup> Where the source of statistics is the Longitudinal Business Database, these are not official statistics; they have been created for research purposes from the Integrated Data Infrastructure (IDI), managed by Statistics NZ. The opinions, findings, recommendations, and conclusions expressed in this report are those of the Productivity Commission, not Statistics New Zealand.

Access to the anonymised data used in this appendix was provided by Statistics New Zealand in accordance with security and confidentiality provisions of the Statistics Act 1975. Only people authorised by the Statistics Act 1975 are allowed to see data about a particular person, household, business, or organisation and the results in this report have been confidentialised to protect these groups from identification.

Careful consideration has been given to the privacy, security, and confidentiality issues associated with using administrative and survey data in the IDI. Further detail can be found in the Privacy Impact Assessment for the Integrated Data Infrastructure, available from [www.stats.govt.nz](http://www.stats.govt.nz).

<sup>3</sup> For more detailed information on competition and tradability measures see chapter 5.

Low rates of exit can be a sign that competition is not sufficiently intense to force the least productive firms from the industry.

- Price-cost margin – the extent to which firms prices exceed their marginal costs (including the cost of providing a normal rate of return on capital). The larger the price-cost margin, the weaker generally is the competition. In this analysis, the price-cost margins have been inverted so that higher results indicate stronger competition. The indicator was calculated using LBD data.

#### Employment

- Wages – the median hourly wage (New Zealand Income Survey, Statistics New Zealand, 2012a).
- Formal qualifications – the proportion of employees in the industry with a degree or higher qualification (census data, Statistics New Zealand, 2006).
- Employee turnover – a measure of workforce stability calculated by dividing the average of job starts and terminations, by the total number of positions within an industry (LEED database, Statistics New Zealand, 2012b).

#### Industry structure

- Output used by other industries – shows the proportion of the output from the industry that is used by other domestic industries calculated using Statistics New Zealand input output tables, year ended March 2007 (Statistics New Zealand, 2007).
- Firm size – the proportion of employment in firms with more than 100 employees (Statistics New Zealand, Business Demography Statistics, 2013a).
- Exports – the share of outputs that are directly exported (Statistics New Zealand, input output tables, year ended March 2007).
- Foreign ownership – the share of employment in firms where foreign ownership is 50% or greater (Statistics New Zealand, Business Demography Statistics, 2013a).

#### ICT and innovation

- Up to date technology – the proportion of firms that reported their core equipment was fully up-to-date compared with the best available technology (Business Operations Survey, Statistics New Zealand, 2012c).
- Undertaking R&D – the proportion of firms that reported they had undertaken research and development (R&D) during 2012 (Business Operations Survey, Statistics New Zealand, 2012c).
- Technological change – the proportion of firms who reported that the degree of technological change between 2011 and 2012 in their business was either major or complete (Business Operations Survey, Statistics New Zealand, 2012c).

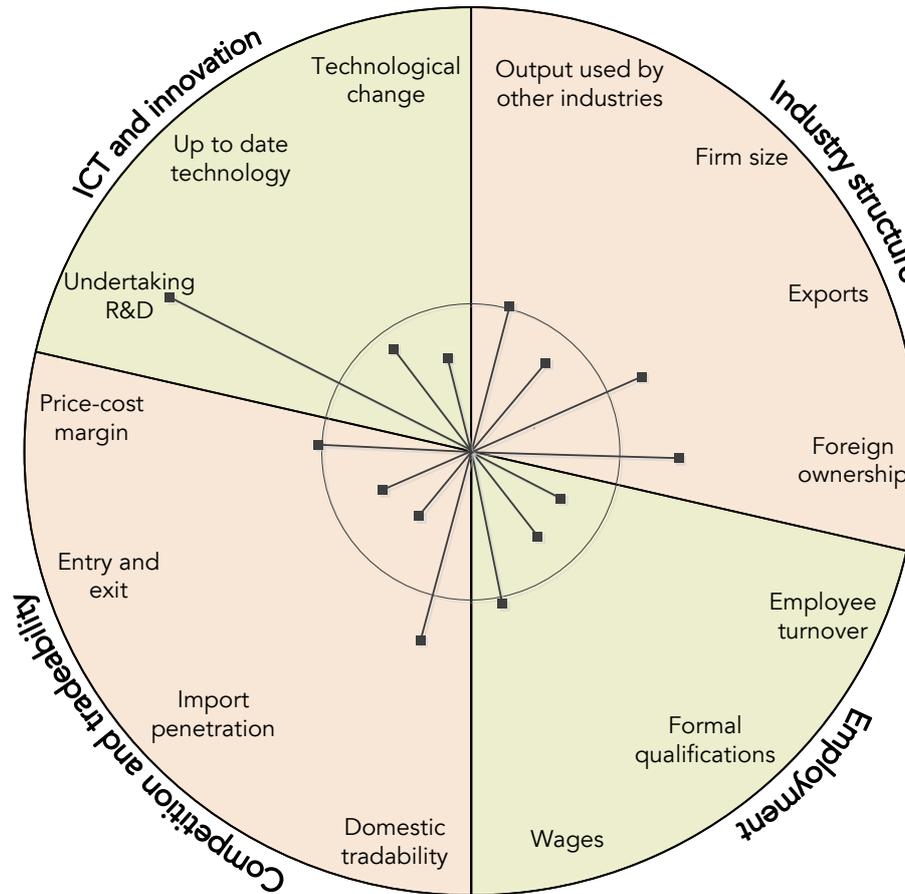
## F.1 Distributive industries

### Wholesale trade

The wholesale industry comprises businesses that purchase and on-sell goods to other businesses. Wholesalers' main service is acting as an intermediary between producers and other businesses such as retailers. This intermediation reduces transaction, search and transport costs for producers and customers. Wholesalers' premises, often warehouses, offices or large storage facilities, usually do not display goods and are not designed to attract walk-in customers (ABS & SNZ, 2006). Wholesalers may also provide other services such as product assembly, packaging, sales and marketing, customer support, market research, product information, credit and financing and technical support.

The largest wholesaling sub-industry by output is machinery and equipment (30%), followed by other goods and commission-based wholesaling (28%); basic materials (21%); grocery, liquor and tobacco product (16%); and motor vehicle and motor vehicle parts (5%). Employment shares are very similar to output shares.

Figure F.1 Wholesale trade summary indicators



*Notes:*

1. The circle in this figure represents the average for each indicator across all service industries (excluding health and education). The lines for each indicator are calculated as a ratio of the mean. This approach applies for all of the figures in this appendix. Box F.1 contains further information about the indicators.

### Competition and domestic tradability

Relative to other service industries, the wholesale trade industry has mixed results across competition and tradability indicators.

While wholesale trade has a relatively low level of import penetration, the industry is increasingly subject to indirect competition from online businesses. Wholesale trade websites are now making it easier for small and medium-sized enterprises to contact manufacturers directly, thus reducing the need for an intermediary (Kask, Kiernan & Friedman, 2002). Wholesale businesses are also subject to competitive pressure from international firms with a presence in New Zealand. There has been a slight increase in the presence of wholesale businesses with a high share of overseas equity (50% or more) since 2000.

The diffusion of technological innovations such as Universal Product Code symbols has enabled greater economies of scale in the wholesale industry. In the United States, these technological innovations have enabled wholesalers to manage larger and more diverse inventories and to service larger and more geographically expansive customer bases (Kask, Kiernan & Friedman, 2002). In New Zealand there has also been some consolidation among wholesale firms. The employment share for firms with less than ten employees declined between 2000 and 2012. Over the same period, employment in firms with fifty or more employees increased from 43% to 48% (Statistics New Zealand, 2013a).

## Regulation

The wholesale trade industry is not subject to industry-specific regulations; however, the industry is affected by generic regulations, such as labour laws (including occupational health and safety regulations) and urban planning regulations. Some wholesalers are also impacted by import and export regulations such as the 10% tariff that applies to the import of various textiles, clothing and footwear. Wholesale is also heavily influenced by the productivity of the transport industry, meaning that government policy relating to transport and infrastructure will often have a flow-on effect to the wholesale industry.

## Employment, wages and skills

Skills levels (as measured by formal qualification levels) are relatively low in the wholesale industry, with most employees holding a secondary school qualification as their highest qualification. Despite relatively low formal skill levels, wages (\$22.92 per hour) are 10% higher than the average for all market-based service industries (Statistics New Zealand, 2012a).

## ICT and innovation

Internationally, wholesalers have invested heavily in ICTs and other technology. For example, during the 1990s the Australian wholesale industry made significant investments in technologies to reduce or eliminate labour-intensive tasks, such as barcoding, scanning and automated stocktakes. The industry also introduced technology that enables 'just in time' ordering and delivery, such as automatically triggered inventory replacement systems and 'cross-docking', where goods pass through a distribution centre as opposed to being stored in one (Johnston et al., 2000). During this period, the wholesale industry was a "stand-out performer" in terms of productivity growth in Australia (Banks, 2002, p. 7).

New Zealand's wholesale trade industry is also one of the more intensive users of ICT relative to other industries (Warmke et al., 2010). Interestingly, the wholesale industry was the highest ranking service industry for the proportion of businesses that invested in R&D. Average expenditure on R&D was also high compared with other service industries. Despite their relatively high rate of R&D, wholesalers' self-reported rating against best commonly available technology was low compared with other service industries.

## Overall picture

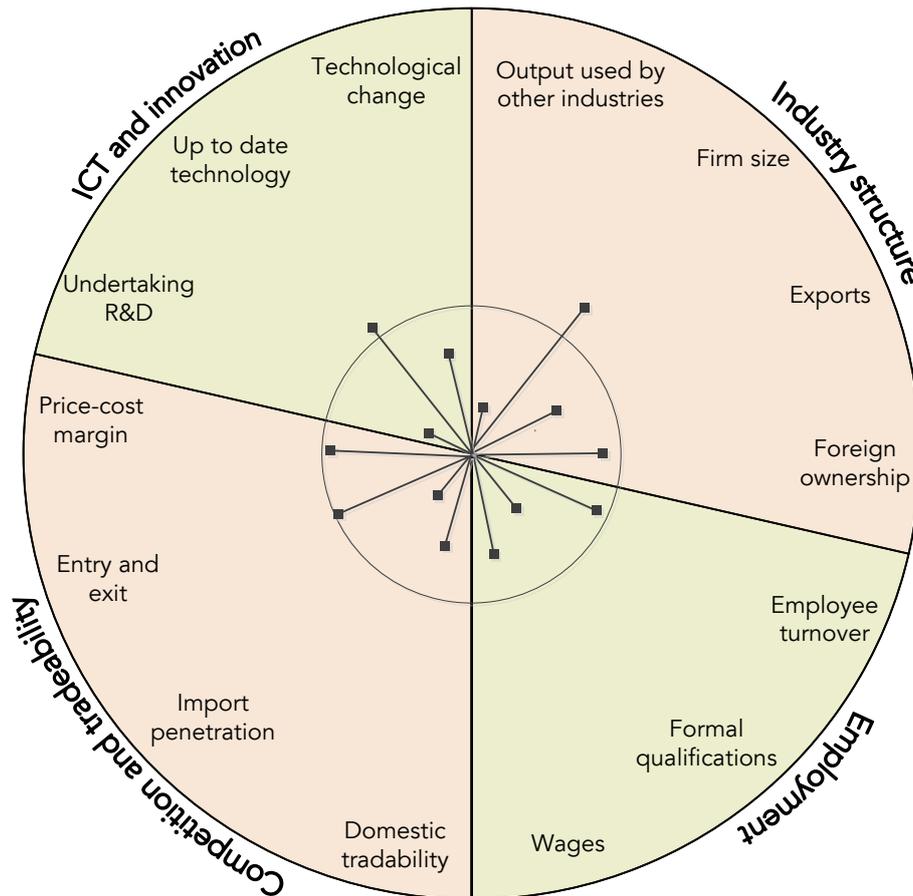
The wholesale industry is primarily involved in the provision of services to support goods transactions. There is little in the way of industry-specific regulation and the industry is undergoing a period of slight consolidation and has a relatively high level of research and development. But the productivity performance of the industry has been relatively poor. A comparatively low rate of productivity growth has resulted in a persistent productivity gap relative to wholesale trade in Australia and the United Kingdom (chapter 3).

## Retail trade

The retail industry comprises businesses that purchase and on-sell goods to the public, including on a commission basis and via the internet. The primary role of retailers is to facilitate goods transactions, by acting as intermediaries between manufacturers or wholesalers and consumers. Retailers often provide additional services such as marketing, advertising, and financial and after-sale services. Retailers typically trade from shops; however under the industry classifications, not all businesses that operate from shops are retailers, for example, travel agents and hairdressers.

The retail industry is a significant component of the New Zealand economy and is the largest employer within the services sector. Its two largest sub-industries by output are supermarkets and grocery stores, and furniture, electrical and hardware stores.

Figure F.2 Retail trade summary indicators



### Competition and domestic tradability

Aggregate indicators show that price-cost margin and the rate of firm entry and exit in the retail industry is similar to that of the market-provided services sector as a whole. Import penetration and domestic tradability are relatively low.

New technology has facilitated increased competition in some parts of the retail industry. Traditional retailers are facing pressure from growing online sales, which accounted for around 6% of retail sales in 2012 and grew by 19% from 2011 (PWC & Frost & Sullivan, 2012). Online retail facilitates direct competition from international retailers and also encourages domestic competition through greater price comparison and product knowledge. Online retail also lowers entry barriers for new businesses because it is more straightforward and less costly than bricks and mortar retail (Australian Productivity Commission, 2011).

The level of competitive pressure generated by online retailing depends on the nature of the goods sold. Online retail is strongest amongst goods that are smaller, lighter and non-perishable: books, electrical items and clothing are the most popular online purchases (PWC & Frost & Sullivan, 2012). Many other goods, such as petrol, are by necessity sold and collected at the same location. Overall, despite the growing presence of online retail, tradability in the retail industry remains relatively low (Figure F.2).

The entry of international retailers is another variable that impacts competition. International firms often have advantages in management expertise, technology, access to low cost supply chains and technical knowledge (Higón et al., 2009). These attributes are associated with higher productivity in those firms and can increase competitive pressure on domestic retailers. While some international retailers such as Bunnings and JB Hi-Fi have entered the New Zealand market in the last decade, the share of employment in firms with a large proportion of overseas equity (greater than 50%) decreased slightly between 2000 and 2012.

### Regulation

The retail industry is subject to several targeted regulations such as restrictions on the sale of liquor, and food-safety and labelling legislation. In addition, a number of generic regulations have a particular impact on the retail industry, such as trading-hours and labour regulations (New Zealand Manufacturers and

Exporters Association, sub. 6). New Zealand shops are generally able to open 24 hours, seven days a week; trading restrictions only apply to three and a half days of the year. Despite the limited restrictions on trading, the inability to trade on Easter Sunday has frustrated New Zealand retailers, and certain exemptions to this rule have been a source of confusion (New Zealand Retailers Association, 2011).

The industry is also heavily influenced by consumer law, which involves a framework of statutes and regulations that deal with the purchase and supply of services and goods, and is primarily directed at addressing the risk of unfair supplier behaviour. Consumer laws can boost productivity by helping to provide an environment where "effective competition is stimulated by empowered consumers and responsive suppliers that trade fairly" (Australia Productivity Commission, 2008, p. 4). When consumers are confident that their rights as a consumer are protected, they are also more willing to purchase services without the need to negotiate tailored protections (Ministry of Consumer Affairs, 2010).

Large retailers and general merchandise retailers have expressed concern that certain planning laws are a barrier to the establishment of new retail businesses (New Zealand Retailers Association, 2011). Restricted access to land can cause retailers to operate at a size below their efficient scale (Griffith & Harmgart, 2005) or prevent new stores from opening. For instance in 2008, the Environment Court ruled that IKEA could not be a tenant at a retail development in Auckland due to concerns its presence would cause traffic congestion (*Redwood Group Limited v Auckland City Council*, 2008).

### **Employment, wages and skills**

Among the retail sub-industries, there were a variety of employment movements between 2000 and 2012. The motor vehicle and parts and the fuel sub-industries experienced average annual falls in employment of 1% and 3% respectively. In contrast, employment in the electrical and electronic goods; hardware, building and garden supplies; and the clothing, footwear and personal accessories sub-industries all grew at an average rate of about 3% each year.

The retail industry is characterised by small businesses with most retailers employing five or fewer staff. However, the share of employment in business with more than 100 employees has grown from 46% to 53% since 2000, indicating some increase in the industry's scale. The ratio of retail outlets to enterprises (an enterprise can operate a number of outlets) also increased, indicating growth in the share of chain stores.

Skill levels for all occupations in the retail industry are below the New Zealand average, with the exception of 'sales and/or marketing managers' (DoL, 2009a). Median hourly earnings in the retail and accommodation and food service industries combined are the lowest of all New Zealand industries. The retail industry has a high proportion of part-time employees and a relatively high proportion of workers are under the age of 25, suggesting that retail is an important source of part-time work for students.

### **ICT and innovation**

Studies of the US retail industry have shown a significant relationship between ICT investment and productivity growth at the firm level. Effective ICT investment has also been identified as contributor to the superior productivity performance of the US retail industry relative to the UK (Foster, Haltiwanger & Krizan, 2005).

ICT can boost retail productivity by providing retailers with better information about customers, generating faster information flows between business units, and by matching inventories more closely to consumer demands (McGuckin, Spiegelman & van Ark, 2005). ICT can also improve productivity by reducing labour input, for example, by using barcode technology instead of manual pricing (Higón et al., 2009; Johnston et al., 2000). Other important ICTs include the analysis of sales information and computerised stock management systems that automatically replenish inventories. Many of these technologies were adopted by larger retailers in the late 1980s and spread to smaller retailers in the 1990s (Johnston et al., 2000).

It is likely that the small scale of many of New Zealand's retail firms is acting as a barrier to ICT investment. Retailers in larger countries are able to spread the high fixed costs of ICT investment across a greater number of stores. However, for some ICTs, the cost barriers for small firms are lower. For example, Telecom (sub. 15, p. 2) notes that "the availability of standardised cloud services and smart mobile devices reduces the technical and cost barriers for small to medium businesses to adopt ICT in their business".

### Overall picture

The retail industry exhibits many of the negative features that have traditionally been attributed to the services sector. Productivity levels and growth are low, as are average wages and skill levels. The productivity challenges within the retail sector are not likely to have simple solutions. Retail services are generally still produced and consumed at the same location (requiring a face-to-face interaction), despite increasing volumes of online sales. Given New Zealand’s small and dispersed population, local production and consumption limits the scope for retailers to benefit from economies of scale and can also dampen competition. Future productivity growth in the retail industry may come through greater innovation, better use of ICT and increased competitive pressure from both domestic and foreign online retailers.

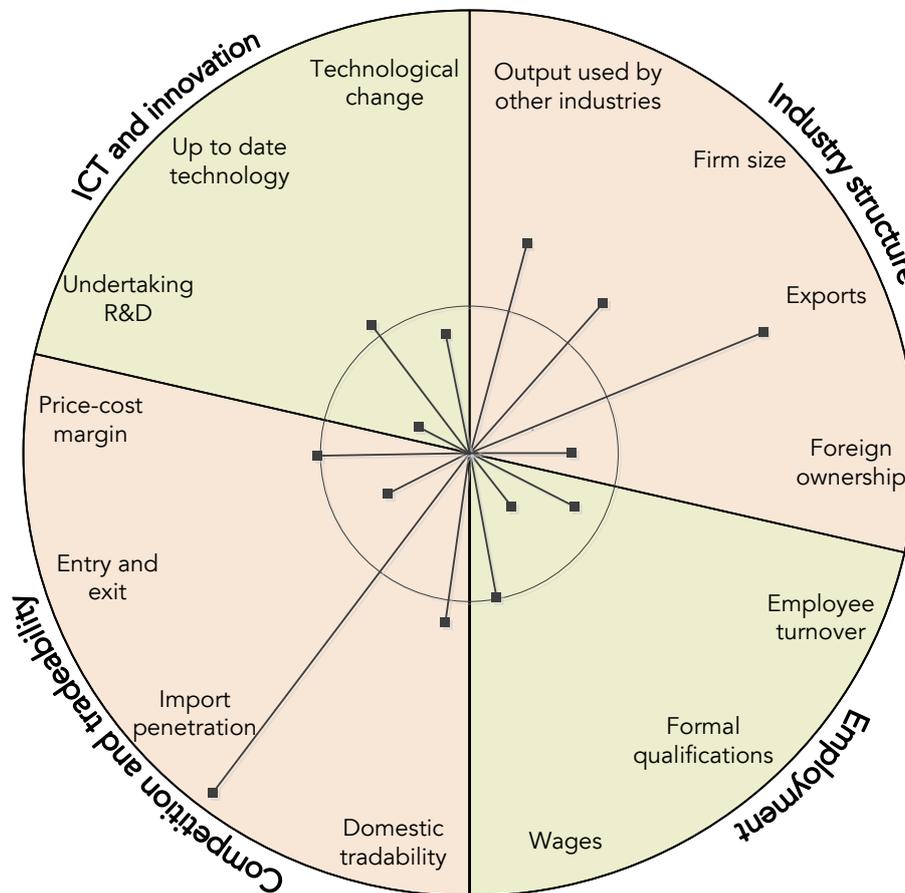
### Transport, postal and warehousing services

The transport, postal and warehousing (TPW) industry makes up 4.5% of New Zealand’s GDP and employment. The industry is primarily comprised of businesses that provide transport of passengers or freight by road, rail, water or air. It includes businesses that provide support services for the transportation of passengers and freight such as stevedoring services, airport operations and customs services. Businesses that provide postal services, sightseeing transport and the storage and warehousing of goods are also included in the TPW industry. Road transport and transport support services are the largest sub-industries accounting for 34% and 31% of output.

The TPW industry was a star-performer in terms of productivity growth during the 1990s when multi-factor productivity increased at an average rate of 5.5% per year. However productivity growth slowed significantly in the late 1990s, and has since been more typical of the rest of the economy.

The performance of the industry has a direct impact on the daily life of most New Zealanders and the operation of other industries in the New Zealand economy. In particular, businesses need to be able to transport goods to domestic and international markets efficiently. The Ministry of Transport forecast that demand for freight will double over the next three decades (Ministry of Transport, 2011).

Figure F.3 Transport, postal and warehousing summary indicators



## Competition and domestic tradability

Domestic tradability and price-cost margin for the TPW industry is marginally above the services-sector average. TPW had a significantly higher level of import penetration than any other service industry. The industry is also a significant exporter, which in part reflects New Zealand's small size and large tourism sector. The sub-industries with the greatest focus on exporting are air transport (driven primarily by international air travel) and 'other transport', which includes a range of tourism-orientated transport such as sightseeing flights and fishing charters.

While the industry-wide figures are not indicative of significant competition problems, there are sub-industries where competition is limited. In some cases this is a consequence of New Zealand's small population size, meaning that natural monopolies exist for ports and airports. The Productivity Commission's inquiry into international freight and transport services (2012) also identified issues such as limited competition in the provision of stevedoring services and impediments to competition caused by regulatory and other government interventions, such as the exemption of liner shipping carriers from some domestic competition laws.

The industry has a relatively high share of employment in firms with more than 100 employees. However, in contrast to the other distributive service industries (retail and wholesale), the employment share of large firms declined marginally since 2000.

## Regulation

Up until the mid-1980s, the TPW industry was subject to heavy government regulation, and government departments were directly involved in the provision of transport services. As part of a broad reform agenda from the mid-1980s to early 1990s, the industry underwent major regulatory reform that resulted in significant privatisation and increases in competition (NZ PC, 2012). During this period of regulatory reform, the industry experienced strong labour and multi-factor productivity growth. However, since the late 1990s, there has been little regulatory reform and productivity growth in the industry has plateaued.

The Commission's inquiry into international freight and transport services (2012) identified a number of industry-specific regulatory issues that may be affecting productivity growth:

- Liner shipping carriers are exempt from some domestic competition laws.
- In the road transport sub-sector, the uptake of high-productivity motor vehicles (trucks that exceed standard length and mass limits) is constrained by the current road user charge system, which discourages councils from making the necessary road improvements that these vehicles require.
- New Zealand participates in a number of multi- and bi-lateral air services agreements that cover matters such as the routes that may be flown, the capacity that airlines can offer, how many airlines operate, and how prices may be regulated.

In addition, the transport industry is heavily impacted by government decisions regarding key infrastructure projects such as roads, ports, airports and rail. Central and local government also has significant ownership within the TPW industry – primarily ports and airports. Central government has a 73% share in Air New Zealand (as at May 2013) and also operates three state-owned enterprises: New Zealand Post, New Zealand Railways Corporation (KiwiRail), and Airways Corporation of New Zealand (which provides New Zealand's air navigation services, such as air traffic control).

Compared with transport and postal sub-industries, warehousing services are relatively unaffected by government regulation.

## Employment, wages and skills

Average earnings in the TPW industry are marginally below the average for all industries. Employment in the TPW industry was static between 2000 and 2012. The only service industry with a lower employment growth rate (in this case negative) during this period was the information, media and telecommunications industry. The primary area of employment reduction in the industry came from the postal and courier sub-

industry. There were also less pronounced employment falls in the rail and water transport sub-industries. Employment in the other TPW sub-industries grew at a rate typical of the services sector as a whole.

The qualification requirements for different occupations within the TPW industry are diverse. They range from highly trained occupations such as commercial airline pilots and air traffic controllers, to occupations that require little in the way of formal qualifications, such as taxi drivers and furniture movers. Skill levels are relatively low across the industry as a whole, with around two thirds of employees having either no formal qualifications or a high school-level qualification.

### **ICT and innovation**

Many of the productivity-enhancing technologies that have influenced the retail and wholesale industries such as barcoding, scanning and cross-docking have also been applied in the TPW industry. Adoption of ICTs has enabled greater coordination between different parts of the transport industry and enabled stock to be managed, tracked and traced worldwide (Ballis, 2008). Further changes in logistics technology are anticipated in the future, driven by trends such as environmental concerns, pressure for more rapid and flexible delivery and new communications technologies (NZ PC, 2012).

The industry's self-reported rating against best commonly available technology is about average for service industries. The TPW industry has a relatively low proportion of firms that invest in R&D, but the average amount invested by those that do invest is relatively high (compared with other service industries where a small proportion of firms conduct R&D).

### **Overall picture**

The TPW industry plays a significant role in the New Zealand economy, primarily by facilitating the movement of goods and people both nationally and internationally. Following a period of strong growth during the 1990s, the productivity performance of the industry has been on par with the rest of the services sector. Unlike the other distributive industries, the TPW industry has become somewhat more fragmented since 2000. Investment in logistics technology and other productivity-enhancing equipment is likely to be important in the coming years given the strong forecast demand for freight services.

## **F.2 Information industries**

### **Information media and telecommunications**

The information media and telecommunications (IMT) industry is comprised of businesses involved in the creation and transmission of information products. It also includes businesses that provide services to support these processes and the operation of infrastructure to enable transmission and storage of information products such as data or movies.

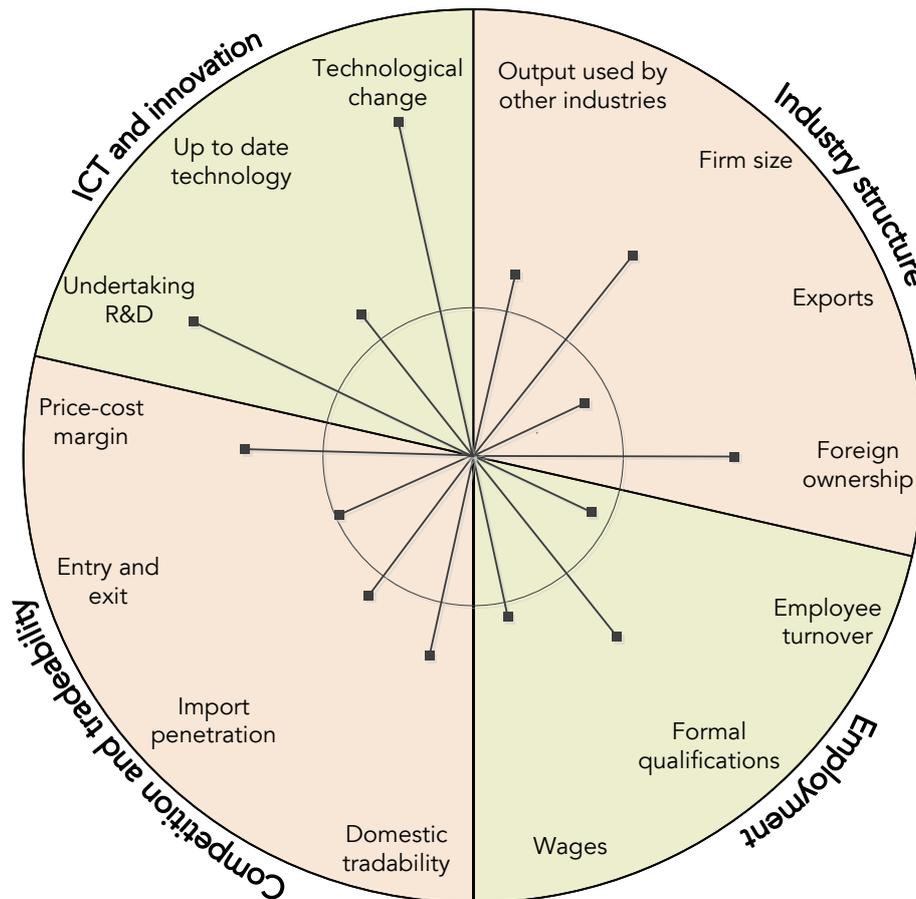
Telecommunications services is the largest sub-industry, accounting for 37% of employment. Other major sub-industries are publishing; broadcasting; motion pictures and sound recording; and internet service providers (including web search portals, and data processing services).

The telecommunications sub-industry generated over \$5 billion in revenue and undertook investment totalling \$1.3 billion in 2012 (Commerce Commission, 2013). The industry has significant potential to support and enhance other service industries, particularly where services are not location-sensitive and are information heavy. Telecom (sub. 14) notes that ICT uptake varies significantly between businesses. It considers that most benefit would likely come from greater adoption of mobile and ICT services by small to medium sized businesses, given that large businesses are already making significant ICT investments. Telecommunications also play an important role in the country's wider social well-being by enabling New Zealanders to connect with their families, communities, schools, hospitals, and social networks.

A relatively small share of the IMT industry's outputs are exported (8%); however, telecommunications technologies are extremely important in facilitating cross-border trade in services. For example, Vodafone (sub. 8) note that global connectivity has enabled the New Zealand owned businesses Mi5 and iDefigo to provide a video surveillance service to a global market: "Customers of the Mi5/iDefigo service can access

and use their cloud based surveillance service anywhere leveraging the capabilities of public mobile networks around the world" (sub. 8, p. 6).

Figure F.4 Information media and telecommunications summary indicators



### Competition and domestic tradability

The industry is primarily involved in dealing with intangibles – these can be transmitted with increasing ease meaning that many parts of the industry are subject to competition from overseas. For example, an online news story written in the United Kingdom is just as accessible to a New Zealand reader as locally written news. The industry also includes the provision and operation of tangible infrastructure that enables the transmission and storage of information (eg, fibre networks), which is location-dependent and subject to somewhat less competition.

Relative to average of market-provided services, the IMT industry rates reasonably highly on most aggregate measures of competition. New technologies are also presenting opportunities to increase competition. For example, a shift from telephone-based technology to new broadband and wireless based technologies and a trend towards solely using cell phones, have increased competition for traditional land-line provision.

The number of competitors in the telecommunications and internet services sub-industries remains limited for the following reasons (Commerce Commission, 2009):

- Establishment of telecommunications networks requires a high level of irreversible initial investment, such as digging trenches to lay fixed cables.
- Network effects – in order to effectively compete in the telecommunications market, operators need to be interconnected with existing networks (few people would have signed up to the 2Degrees Mobile network if they were unable to contact people on the Vodafone or Telecom networks).

- Economies of scale and scope are particularly prevalent in the sub-industry, which can create a tendency for a small number of large firms to dominate. The industry has a high proportion of firms employing more than 100 staff.

## Regulation

Up until 2001, New Zealand's approach to telecommunications regulation differed from many other countries as the sub-industry was only subject to general competition law. In 2001, the Government introduced industry-specific regulation, the Telecommunications Act 2001. In December 2006, the Government amended the Act to provide a broader set of regulatory tools and greater scope for the Commerce Commission to be proactive to achieve the statutory purposes of the Act (Commerce Commission, 2009). The Ultrafast Broadband initiative has also resulted in significant changes to the telecommunications and internet services sub-industry, including the structural separation of Telecom's retail business from the business (Chorus) that owns and operates network fibre and copper.

In 2007, the Telecommunications Dispute Resolution scheme (TDR) was established as an independent self-regulatory body to help consumers with complaints about their telecommunications company. The TDR established the Customer Complaints Code, and TDR members (major telecommunications companies) are bound by the TDR's decisions. The scheme's purpose also includes educating its members and improving their internal practices regarding complaints resolution.

The publishing and broadcasting sub-industries also have industry-specific regulation. Individuals or entities that publish material in New Zealand are subject to basic legal constraints designed to prevent them from impinging on the interests of citizens such as their reputation, privacy and personal safety. In recognition of the role that the media plays as a conduit of information, news media have additional rights and responsibilities, such as an exclusive right to communicate electronically from courts. In addition, the news media are specifically exempt from the information privacy principles in the Privacy Act 1993, and certain provisions of the Electoral Act 1993, the Human Rights Act 1993 and the Fair Trading Act 1986 (New Zealand Law Commission, 2013).

The current regulatory system was developed when the public was largely dependent on mainstream broadcast and print media. The Law Commission (2013) recommends that the current framework of platform-specific regulators be updated and replaced with a single independent standards body with jurisdiction over all news media broadcasters, newspapers, and online providers.

Motion picture and sound recording activities have been influenced by production grants provided by the New Zealand Screen Production Grant, which provides a grant equivalent to 20% of New Zealand production expenditure for eligible international productions (New Zealand Film Commission, 2014). A 2006 evaluation of the grant's predecessor (the Large Budget Screen Production Grant) showed a net economic impact ranging from a gain of \$33 million to a \$38 million loss (Cabinet Economic Development Committee, 2006). However, the evaluation notes that some dynamic gains associated with the grant were not captured in the analysis, such as reputational effects for New Zealand and the value of spillovers, such as additional infrastructure and industry development.

## Employment, wages and skills

The IMT industry has relatively high wages. Employees tend to work full-time, have a relatively low rate of turnover and are relatively young compared to other service industries. The IMT workforce is also highly educated, with over 30% of employees having a bachelor's degree or higher qualification.

Total employment in the industry declined between 2000 and 2012. This decline was driven primarily by significant reduction in the numbers employed in the printing sub-industry. This is likely to be a reflection of new technologies and an increasing number of online publications.

## ICT and innovation

The IMT industry is characterised by technological progress and uptake of new technologies. A high proportion of firms invest in research and development, and the average amount spent by firms on research and development is high relative to other service industries. As such, regulatory certainty and incentives to invest and innovate are particularly important (Commerce Commission, 2009).

Innovation and the adoption of new technology are particularly important in the film industry. For example, Weta Digital has built a reputation as a world leader in digital and visual effects (MED, 2012). Likewise, new distribution approaches, such as YouTube channels, are changing the way that media, film and broadcasting industries are reaching their audiences.

### Overall picture

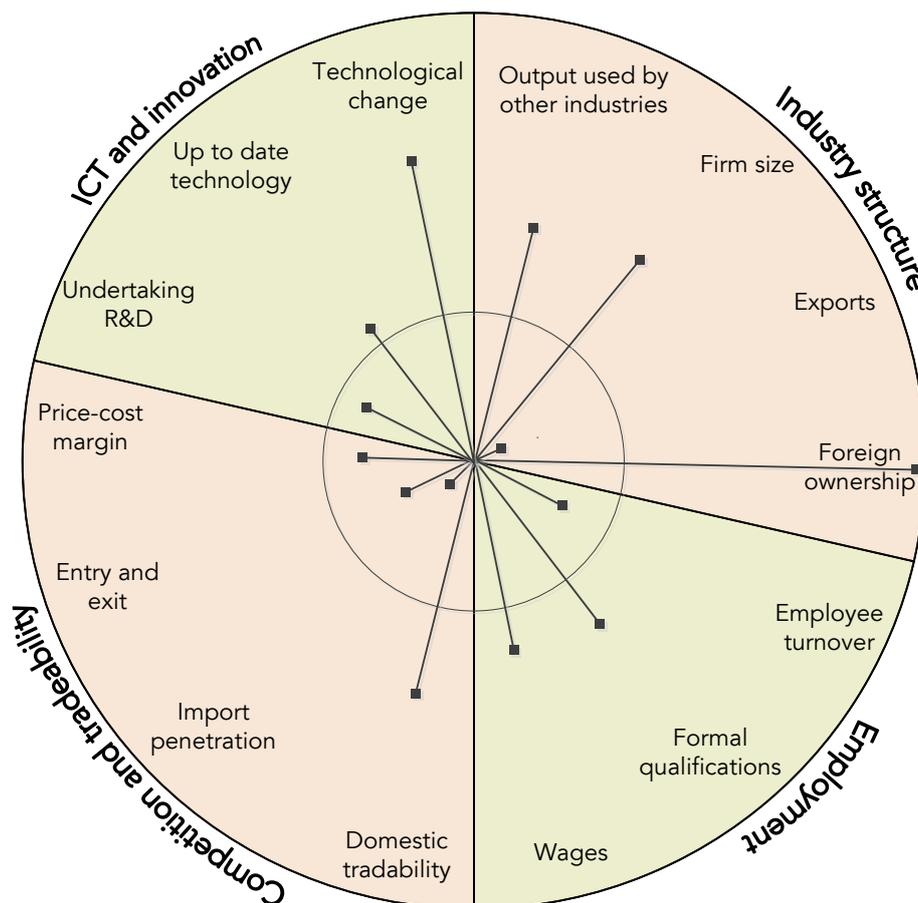
Effective delivery of up-to-date telecommunications technology is a vital enabler of productivity and innovation in other industries. Technological change in the industry is rapid, and businesses tend to invest heavily in infrastructure and research and innovation. The industry is subject to a number of targeted regulations and is also significantly impacted by government policies such as the recent investment in ultra-fast broadband.

### Financial and insurance services

The finance and insurance industry comprises businesses that mainly facilitate borrowing, lending and the management of risk.

The banking sub-industry is the largest component of the finance and insurance industry by employment size. Its main task is to effectively manage a portfolio of savings and lending. In doing so, banks act as an intermediary between savers and borrowers. Its role includes payment services, for example through internet banking and EFTPOS.

Figure F.5 Finance and insurance summary indicators



Other important services provided by the finance and insurance industry are:

- managing investment funds, for example, KiwiSaver funds. These firms intermediate between savers and users of capital, by matching the investment (risk-return) preferences of savers to the best investment opportunities available;
- insuring against risks – including risks to property, life, health, business risk (eg, professional indemnity insurance), and also financial risk (eg, mortgage protection insurance);

- providing financial advice and broking services (as in the case of share brokers, insurance brokers and financial advisors).

These financial services are closely related, and the major firms often provide most or all services as part of a single customer relationship. There is a spectrum of firms in terms of size and scope though, with many small providers of insurance broking and/or financial advisory services.

Financial service providers have an investment evaluation role. This role arises from one party to a financial contract being less able to assess the risks involved than the other. Financial firms mainly add value by narrowing the information discrepancies in investment and hence enabling financial exchanges that might otherwise not occur. Accordingly, they play a pivotal and pervasive role in the economy.

### **Competition and domestic tradability**

In the late 1980s, the New Zealand banking system was opened up to greater competition. Prior to this, banking had essentially been confined to four trading banks, the trustee savings banks and the government-owned Post Office Savings Bank. There were also a sizeable number of 'non-bank' financial institutions, such as merchant banks, finance companies and building societies. The opening-up of the banking sub-industry saw a number of non-bank institutions acquire full banking status, as well as new entrants from abroad. However, over the past decade or two, the sub-industry has reconsolidated to the extent that the assets of the four largest banks currently account for nearly 90% of total banking assets, with the largest bank accounting for 32% (Jang & Kataoka, 2013). Other 'non-bank' financial institutions today have a correspondingly lower presence – many have been subsumed into the today's four main banks and, more recently, numerous finance companies have failed.

The banking sub-industry also faces competition from the securities market (corporates raising funds directly from investors) and from foreign banks lending to New Zealand borrowers directly from abroad (albeit often through syndicated facilities led by a New Zealand bank).

An important factor influencing competition in the banking sub-industry is a tendency for customers to avoid changing their bank (Haldane, 2010). This 'stickiness' is generally attributed to banking being relationship-based and to the costs involved in changing banking facilities.

On the other hand, the barriers to entering the New Zealand banking sector are not insurmountable, with a number of new entrants in recent years. Some of these entrants were previously 'non-banks' (eg, the Co-operative Bank and Southland Building Society), while others (eg, Bank of Baroda and KiwiBank) are new to the New Zealand market.

Around 100 firms provide insurance in New Zealand (RBNZ, 2012), although the six largest firms account for a large share of the market. Recent steps to strengthen the prudential regulation of insurance companies have resulted in some rationalisation and further consolidation among smaller participants is anticipated (RBNZ, 2012).

The advisory/broker sub-industry of the finance and insurance industry comprises a large number of small operators (1-5 person firms), as well as the larger institutions that typically bundle advisory services into their overall product offering. Recent regulatory measures aimed at lifting professional standards are expected to result in some consolidation within the sector, although should still leave a large number of small independent operators.

A feature of the New Zealand finance and insurance industry is the significant presence of foreign-owned firms. Across the industry as a whole, two thirds of employees work for firms with at least 50% overseas equity. As at March 2013, 94% of the New Zealand banking sub-industry was under foreign ownership (RBNZ, 2013). Conversely, New Zealand firms export very few financial services. While some institutions established presences abroad in the 1980s (eg, BNZ, NZI Corporation, the National Bank), none of these remain. Indirectly, however, a significant share of the output of the sector (21%) is ultimately exported when taking into account the contribution of the industry to other industries' exports.

## Regulation

In addition to general business regulation (company law, competition law and labour law etc), the finance and insurance industry is subject to significant industry-specific regulation. Deposit takers and insurers are subject to prudential regulation (directed to maintaining the financial soundness of those firms); investment managers are subject to market conduct regulation (concerned mainly with appropriate disclosure of potential risks and rewards); and financial advisors are subject to minimum requirements relating to professional standards (competence and conflicts of interest).

These regulatory requirements seek to lessen the information asymmetry problem, between the investing/saving public and the financial firms they have a risk exposure to. Financial regulation also recognises that the failure of financial service firms, given their pivotal and pervasive role in the economy, can result in large costs being borne beyond the parties directly involved.

The internationalisation of finance has seen an increasing amount of the design of financial regulation taking place at the international level (eg, by the Basel Committee on Banking Supervision, the International Association of Insurance Supervisors and the International Organisation of Securities Commissions). International regulatory standards increasingly are becoming the benchmark against which national financial systems are assessed. These tendencies have been reinforced by the global financial crisis (GFC).

The GFC has also brought a much stronger focus to regulatory requirements to lessen 'systemic risk' and costs to taxpayers, reflected in both higher prudential standards, and efforts to improve failure resolution arrangements (eg, the Reserve Bank of New Zealand's open bank resolution mechanism). The latter regulations will also be competition-enhancing to the extent that they address effectively the 'too big to fail' problem, which has created a market bias in favour of larger institutions.

Regulatory measures are also emerging that seek to provide stronger protection of national interests such as ring-fencing entities within international groups on the basis of national borders. These regulations arose out of the GFC, where the failure of financial firms that operated across national borders resulted in conflicting national interests. New Zealand has adopted elements of this approach, specifically through restrictions on the outsourcing/offshoring of certain functions by 'systemically important' banks. These restrictions may inhibit competition if firms below the 'systemically important' size threshold decide to cap their growth in the New Zealand market to avoid the restrictions.

## Employment, wages and skills

The sector employs a little over 57 000 people (3% of New Zealand's labour force). Like the information, media and telecommunications industry, a typical finance and insurance employee is highly skilled (28% of employees hold a bachelors or postgraduate qualification) and relatively well paid (median hourly earnings are 35% higher than the economy-wide average). The industry has the lowest rate of employee turnover of all service industries and also the lowest proportion of people who work part-time. Over three quarters of the industry's employment is in a small number of firms with greater than 100 employees. 10% work for a large number of very small (1-10 person) firms.

## ICT and innovation

Finance and insurance, as essentially an information processing and storage industry, is highly ICT intensive. Unsurprisingly, a relatively high share of businesses reported that there were significant technological changes within the industry over the past two years.

One example of innovation in the banking sub-industry is the widespread adoption of self-service technologies such as internet banking and ATMs, which have been made possible by ICT advances (Castro, Atkinson & Ezell, 2010). Financial services are also increasingly seeking to make use of cloud computing technology (Deloitte, n.d.).

Other ICT advances in this industry have also been associated with innovation in risk management (statistical model-based risk management techniques), product design (synthetic/derivative products) and product delivery (internet and mobile phone banking). Some of these innovations have proved more robust than others; for example, electronic banking has become firmly established, whereas some approaches to statistical modelling of risk have been found wanting.

### Overall picture

The finance and insurance industry plays a significant role in the economy, in its own right and, more importantly, through its role as an enabler of economic exchange (of goods, services and capital) between consumers and businesses and business-to-business. A number of industry-specific regulations are in place to mitigate risks that stem from information asymmetries between consumers and providers of financial services. Financial regulation also recognises that the failure of financial service firms, given their pivotal and pervasive role in the economy, can result in large costs being borne beyond the parties directly involved.

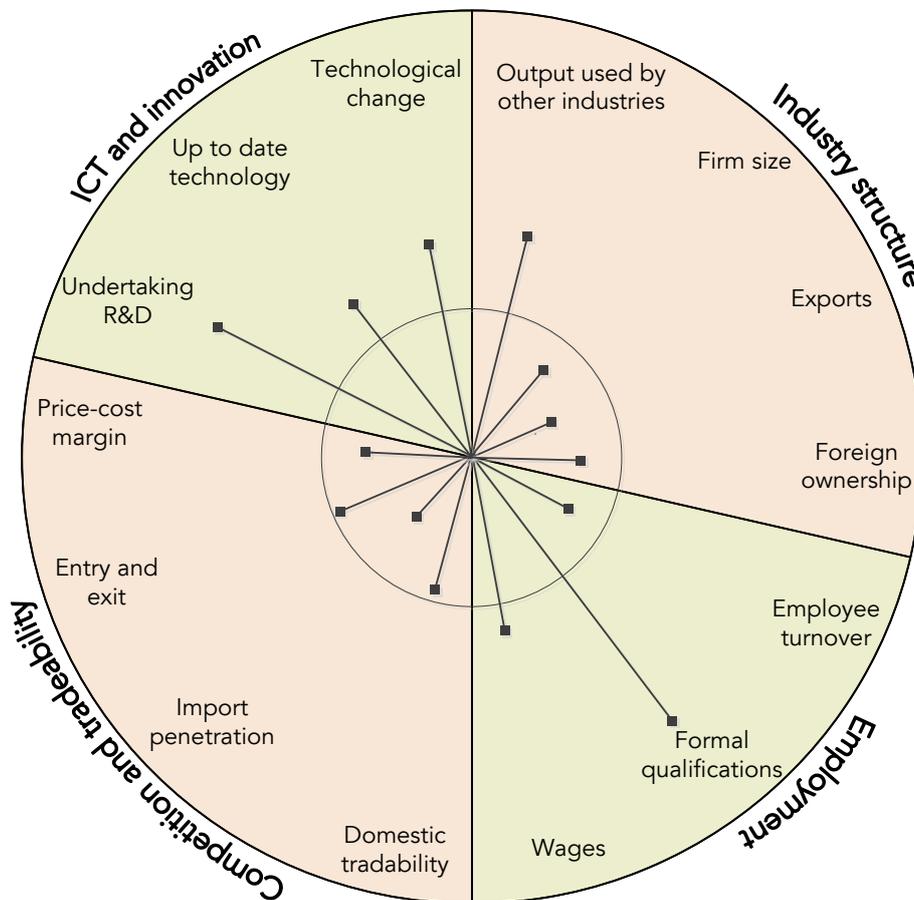
The finance and insurance industry exports very little in its own right, but does indirectly by way of intermediate inputs to exporting firms. One fifth of the industry’s output is ultimately embedded in exports of other firms, while a high share of the industry’s outputs are an input to the activity of other firms. The financial services industry is subject to some ‘natural’ barriers to entry and over the past two decades, the market structure has become more concentrated.

### Professional, scientific and technical services

The professional, scientific and technical services industry includes providers of scientific research, architectural, engineering, computer systems design, legal, accountancy, advertising, market research, veterinary science and management consulting services.

Professional service providers typically require technical expertise given the complexity of the tasks involved. This complexity can make it difficult for consumers of professional services to assess the quality of the service on offer. Poor quality service may have severe consequences; for example, the work of engineers and scientists and accountants and lawyers can substantially impact public health and safety and their clients’ financial circumstances respectively. Hence, professional services tend to be subject to a layer of regulation over and above that applicable to some other industries.

Figure F.6 Professional scientific and technical services summary indicators



## Competition and domestic tradability

The professional, scientific and technical services industry comprises a large number of enterprises, ranging in size from national firms with several hundred employees, to owner-operator firms. About a third of the industry's employees work for firms with over 100 employees. There is also a preponderance of smaller professional practices in the industry; 18% of firms have 1-5 employees, which is high relative to the services sector as a whole, and significantly higher than other information-based industries.

In terms of competition, the industry is segmented; for example, large national firms typically do not operate in the same client market as sole practitioners. At the 'top end' of the market (in terms of size), the professions typically comprise a 'big 4 or 5' national firms, and a similar number of 'next tier' national firms, making for a market structure conducive to reasonable levels of competition. Operating alongside these first and second tiers is a large number of locally-based firms. Veterinary services also tend to be locally based.

Despite many professional services being internationally tradable, exports from, and import penetration into the professional, scientific and technical services industry are low.

## Regulation

Providers of most professional services are subject to professional membership/licensing requirements prescribed by statute, and obligations to maintain prescribed levels of professional standards. These kinds of regulation apply to practitioners of law, accounting, engineering, architecture and veterinary science, but not to providers of IT, management consulting, or market research services.

Professional requirements are intended to provide clients with a level of confidence about the quality of the service on offer. They encourage the uptake of services that users might otherwise avoid due to a lack of knowledge about what they are purchasing. However, these benefits need to be balanced against the costs of these requirements. For example, professional membership obligations can inhibit competition by acting as a barrier to entry and can also inhibit innovation and opportunities for increased consumer involvement or semi-professional practice (Potts, 2009).

Professional membership requirements vary in their scope and approach. For example, the Lawyers and Conveyancers Act 1986 requires anyone who represents themselves as a lawyer or provides certain prescribed legal services, to hold a practising certificate from the New Zealand Law Society. Similar requirements apply to those practising as, or representing themselves as, a veterinarian in New Zealand. The New Zealand Institute of Chartered Accountants (NZICA) Act 1996 is less restrictive, in that it proscribes anyone who is not a member of NZICA from representing themselves as a 'chartered accountant', but does not restrict non-members from providing accounting services or representing themselves as an 'accountant'. Similarly, the 2002 Chartered Professional Engineers of New Zealand Act requires engineers to be registered in order provide certain engineering services; for example, when engineering work involves health and safety issues. Other engineering services can be provided without registration.

Mutual recognition of occupational licensing has emerged as an important mechanism to reduce regulatory impediments to international trade in services. Mutual recognition means that registration in an occupation in one jurisdiction is sufficient grounds for registration in another jurisdiction (Australian and New Zealand Productivity Commissions, 2012). Mutual recognition of occupational licensing assists New Zealand firms who are exporting professional or other 'licensed' services into international markets, by ensuring that they can compete on a level playing field with both domestic operators and other international firms. It also facilitates the exposure of domestic labour markets to competition from other jurisdictions. While the existing mutual recognition agreement with Australia is relatively comprehensive, there is scope to seek further agreements with additional trade partners.<sup>4</sup>

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<sup>4</sup> For example, registered veterinarians in Australia can apply for a licence in New Zealand under the Trans-Tasman Mutual Recognition Agreement. The entry barriers for applicants from other countries are higher and involve sitting and passing the New Zealand National Veterinary Examination (although exceptions are granted to applicants with degrees from certain recognised institutions).

## Employment, wages and skills

The industry employs nearly 130,000 people, or 6.6% of total employment, and contributes nearly 8% of GDP. The share of employees with a bachelors qualification or higher (44%) is the second highest of any service industry. The median hourly earnings in the industry are 20% above the economy-wide average.<sup>5</sup>

The industry grew faster than the economy over the past decade (3.1% vs. 2.6% per annum respectively). This growth coincided with above average growth in employment, particularly in computer system design and related services, where the number of employees doubled between 2000 and 2012.

Inquiry participants suggested that New Zealand suffers from a shortage of computing and other ICT skills and that this has a negative impact on the productivity in other service industries. Chapter 10 examines the supply and demand of ICT skills in New Zealand and proposes approaches to improving the supply of skills.

## ICT and innovation

Provision of professional, scientific and technical services is information intensive, so the industry is a high user of ICT. ICT usage includes accessing, manipulating and storing the information needed as inputs to service provision (eg, electronic access to continuously updated statutes and the use of modern accounting software) and increasingly electronic – and remote – delivery of professional services. A relatively high proportion of firms in the industry invested in research and development in 2012, and the median amount invested was the highest of any service industry.

## Overall picture

The professional, scientific and technical services industry is a large industry with important interactions with other industries and exporters. Trade presents a significant opportunity for businesses in this industry to overcome the barriers presented by New Zealand's small and internationally isolated market. Mutual recognition of occupational licensing regimes is common on a trans-Tasman basis, and extending these practices to further countries may assist in increasing imports and exports of professional services, which currently remain at low levels.

Professional service providers typically require technical expertise given the complexity of the tasks involved. This complexity can make it difficult for consumers of professional services to assess the quality of the service on offer. Hence, professional services tend to be subject industry-specific regulations (particularly occupational licensing) that are intended to provide clients with a level of confidence about the quality of the service on offer.

## F.3 Person-centred industries

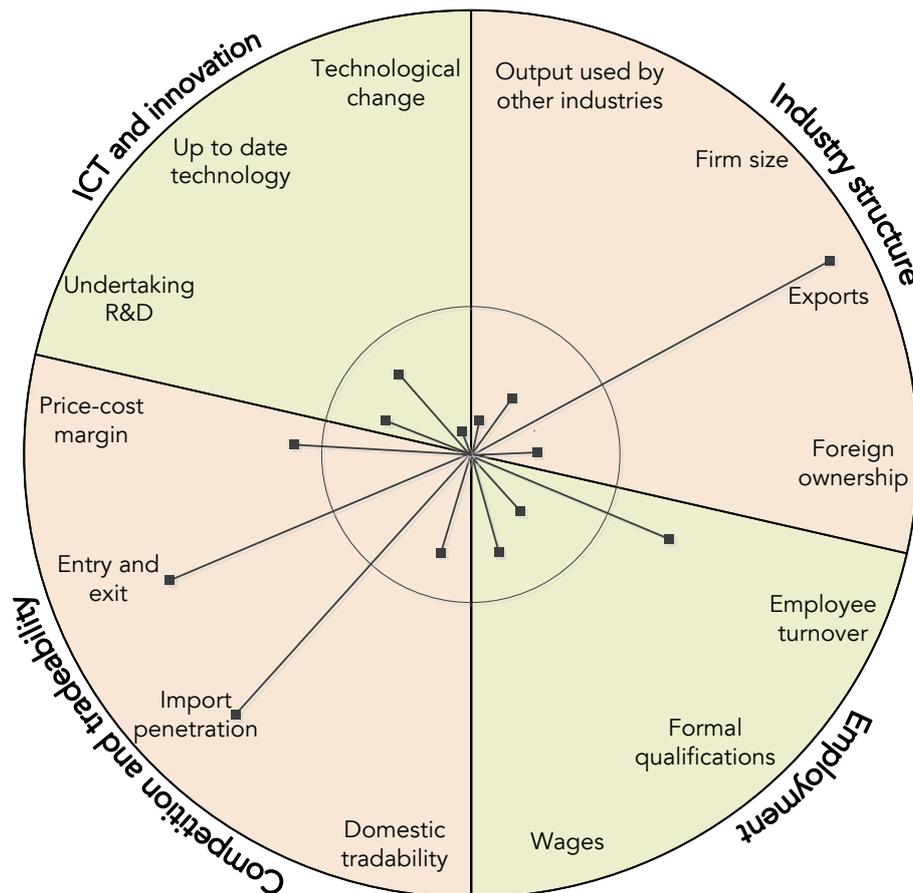
### Accommodation and food services

The accommodation and food services industry is made up of businesses providing short-term accommodation for visitors (hotels, motels etc.) and providing meals, snacks, and beverages for consumption by customers both on-site (eg restaurants) and off-site (eg takeaway meals). Firms selling food and drinks for consumption entirely off-site (such as liquor stores) are included in the retail trade industry.

The output of the accommodation and food industry is relatively small (3% of the total economy), however, its share of employment is significantly larger at 6.7%. A relatively high proportion of the industry's output is exported as much of its business is generated from tourism. Conversely, a low proportion of the industry's output is used as an input by other industries, indicating that most accommodation and food customers are private individuals rather than businesses.

<sup>5</sup> Statistics New Zealand data groups the wages for professional scientific and technical services together with administration and support services.

Figure F.7 Accommodation and food summary indicators



### Competition and domestic tradability

Employment in the accommodation and food services industry is spread fairly evenly relative to the population across the country, with the exception of higher concentrations in tourist hotspots such as Queenstown and Kaikoura. Industries that are geographically dispersed are generally less able to take advantage of productivity improvements through agglomeration, specialisation and scale. The lack of scale in the accommodation and food industry is illustrated by the fact that the industry has a relatively small share of employment in firms with more than 100 employees.

Although domestic tradability in the industry is low, accommodation and food services ranks highly for other indicators of competition.

### Regulation

Two areas of regulation that directly impact on the food and beverage sub-industry are currently undergoing change:

- In December 2012, the Sale and Supply of Alcohol Act was passed into law, replacing the 1989 Sale of Liquor Act. The new legislation gives local authorities greater control regarding certain aspects of liquor licensing, such as opening hours for licensed premises (eg bars), controlling the location of licensed premises and setting re-entry restrictions for bars in the early hours of the morning (NZ PC, 2013a).
- A proposed Food Bill, to replace the 1981 Food Act, is currently before Parliament. The Food Bill takes a risk-based approach to food safety. It is designed to be 'enabling' for small traders and provides tools to manage food safety risks (MPI, 2013). The Act will impact many businesses in the accommodation and food industry; for example, it requires restaurants to maintain a written Food Control Plan and to undertake annual checks to ensure that the plan is being followed.

Accommodation and food services businesses are also impacted by generic regulations, particularly trading and labour regulations. Industry representatives have voiced concerns about the Holidays Act 2003, given that much of the industry regularly operate outside of traditional business hours, including on public

holidays (Hospitality New Zealand, 2009). Some cafes and restaurants have tried to offset the costs associated with the Holidays Act (primarily the requirement to pay staff time and a half plus a day in lieu on public holidays) by using a public holiday surcharge. The Tourism Industry Association has endorsed the recently passed 'Mondayisation' amendment bill (that will 'Mondayise' Waitangi Day and Anzac Day when they fall on a weekend) on the grounds that it will boost domestic tourism during the resulting long weekends, particularly for accommodation businesses (Tourism Industry Association, 2012).

The government provides support to the industry through Tourism New Zealand. Tourism New Zealand was established in 1991 and markets New Zealand as an international visitor destination, for example, through the '100% Pure' campaign. There are a number of regulations that are targeted toward the tourism industry – these regulations affect businesses across a range of industries that provide tourism services. For example *The Health and Safety in Employment (Adventure Activities) Regulations 2011* were introduced with the aim of improving safety among adventure tourism operators, most of which are classified within the Arts and Recreation industry.

### **Employment, wages and skills**

Employment growth in the industry has been comparable to that of the services sector as a whole over the past decade. Factors influencing employment growth in the industry include international economic conditions, along with the discretionary income of New Zealand residents, and the spending of international visitors (DoL, 2009b).

Median earnings in the accommodation and food industry (combined with retail trade) are the lowest of any service industry. Qualification levels in the industry are also low, with the majority of employees having a secondary school qualification or no formal qualification. Like the retail industry, the food and accommodation industry has a very high proportion of part-time and younger employees.

The accommodation and food industry has the second highest rate of employee turnover of all service industries, which has been identified as a major impediment to productivity (New Zealand Tourism Research Institute, 2007). While a moderate degree of employee turnover can have a number of benefits, for example, enabling career progression and better job and employee matching (Ilmakunnas et al., 2005), it also entails a number of costs including pre-departure productivity loss; a learning curve for new employees; and disruption to other teams within a business (Sheehan, 2001).

### **ICT and innovation**

The accommodation and food industry is increasingly using ICT. Larger firms have tended to lead the way in terms of investments, with technology then spreading to smaller operations (Milne et al., 2004). ICTs provide a range of opportunities for productivity growth. For the accommodation sub-industry, ICT has enabled web-based bookings, quicker responses to inquiries and the collection of information about visitors prior to their arrival. In the food and beverage sub-industries, ICTs are particularly important for streamlining ordering and point of sale processes through the use of technologies such as wireless personal digital assistants and text message ordering (New Zealand Tourism Research Institute, 2007).

A number of barriers to greater uptake of technology in the industry have been identified. Investment can be commercially unviable if firms lack sufficient skills to effectively make use of the technology. Given the high rate of worker turnover in the industry and relatively low skill levels, the introduction of new technology can require additional training, which smaller firms struggle to provide. Like many New Zealand industries, the accommodation and food industry is dominated by small firms and relatively few chains. Telecom (sub. 15) note that smaller businesses often lack the technical focus or scale to readily adopt ICT based solutions. A number of businesses in this industry are also located in remote areas, which means the availability of nearby suppliers and face-to-face support is limited (Milne et al., 2004).

### **Overall picture**

The accommodation and food services industry shares many of the same characteristics as the retail trade industry: low productivity levels and growth, low average wages and low skill levels. The industry is geographically dispersed and dominated by small businesses; however, there is little evidence to suggest that this has resulted in low competition within the industry. There is a range of regulatory issues that

impact on the industry with labour regulations often the most significant. The most promising prospects in terms of productivity growth appear to be through increased economies of scale, greater innovation and use of ICT, and additional competitive pressure from the entry of foreign businesses.

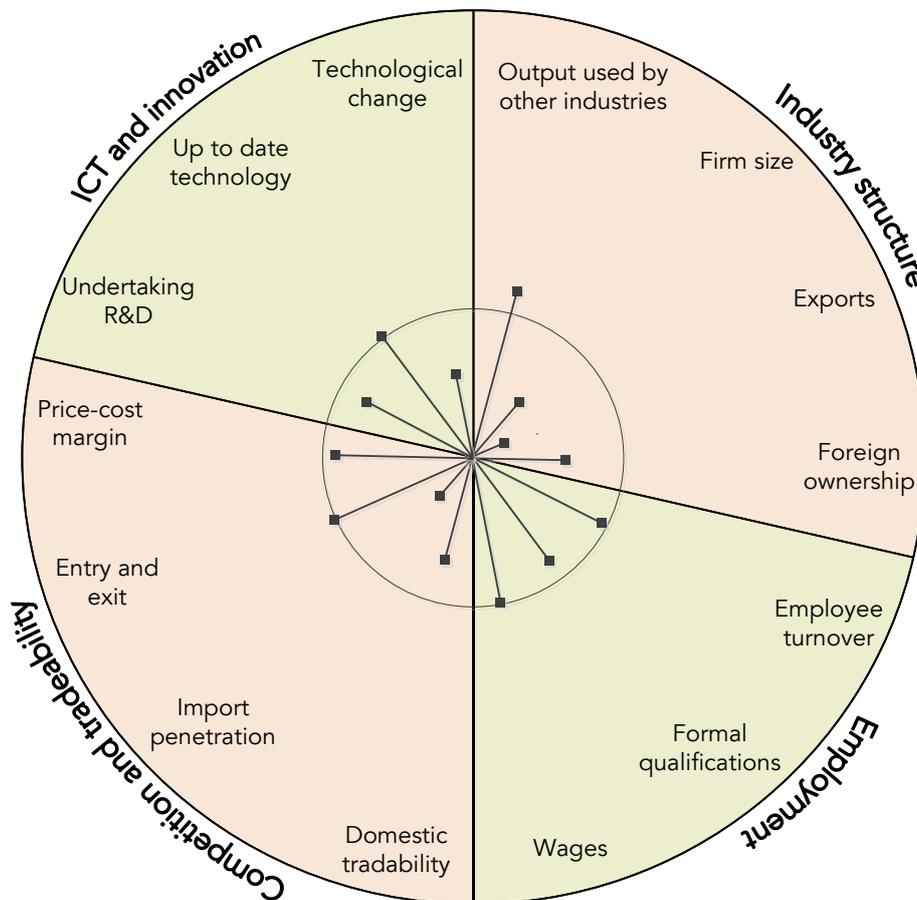
### Rental, hiring and real estate services

The rental, hiring and real estate services industry comprises businesses that rent or hire assets and provide related services. The industry also includes firms that provide real estate services such as selling, renting or buying real estate for others, and appraising real estate. The largest sub-industries are real estate, property management, and rental and hiring services. Most rental and hiring firms provide tangible goods such as rental cars or machinery hire, but the industry also includes businesses that lease intangible assets, such as patents or trademarks.

Given that real estate and property management services account for a large share of this industry, property market fluctuations can have a significant bearing on the industry. New Zealand's property market has historically been cyclical with an upward trend; however, the market experienced a pronounced house price boom between 2000 and 2007 (NZ PC, 2012a).

Rental hiring and real estate services are an important input into other industries, for example, commercial property management and agricultural equipment hire. In contrast, the industry is a low contributor (both directly and in-directly) to exports. The quality and effectiveness of real estate services matters greatly given that buying or selling a house is the most significant financial transaction that most people will ever undertake. The growing number of households in rental accommodation means that residential property management services are an increasingly important part of the economy. The proportion of the population living in private rental accommodation increased from 19.2% in 1995 to 29.5% in 2010.

Figure F.8 Rental hiring and real estate summary indicators



#### Competition and domestic tradability

The rental, hiring and real estate industry includes enterprises ranging from large national firms with several hundred employees, to sole practitioner firms. Small businesses serving a local market tend to dominate,

with relatively low rates of domestic tradability and 60% of workers employed in firms with fewer than 20 staff. The split of firm sizes in the industry has remained relatively unchanged since 2000.

Recent media reports have suggested that competition among real estate agents is fierce, to the point that it is actually detrimental to the service that they offer:

Just shy of two thirds of the working time of real estate agents (64%) is spent prospecting for new work. The productive time spent on behalf of their clients in facilitating the sale of a house represents less than 25% of their working week. Yet their income from vendors supports their full working week. (Helm, 2013)

The private rental market is very much the domain of small-scale investors – most investors will own one or two houses, and around three quarters of landlords manage their property themselves rather than employing professional property management services (NZ PC, 2012a).

Although some hiring businesses operate nation-wide, most tend to be smaller and cater to a specific local market, much like the retail sector.

New Zealand's rental, hiring and real estate firms export only a very small proportion of their output. Similarly, the industry is subject to limited competition by way of imports from overseas firms. While some firms in the industry have a high share of overseas equity, relative to the rest of the services sector the rental hiring and real estate industry is predominantly owned domestically.

## **Regulation**

Most renting and hiring firms are subject to a range of non-specific regulations. Generally speaking, these firms are most impacted by the same types of regulations as the retail sector, such as labour regulations and trading restrictions.

The Real Estate Agents Act 2008 is the main piece of regulation that affects the real estate sub-industry. The Act (which replaced the 1976 Real Estate Agents Act) is designed to 'promote and protect the interests of consumers' (s3). Major changes brought about by the 2008 Act include individual licensing arrangements that require anyone who is carrying out real estate agency work to be licensed (whereas firms could previously apply for certificates on behalf of the salespersons who worked for them), and the establishment of an independent Real Estate Agents Authority, which has responsibility for licensing, complaints and disciplinary action, industry standards, and providing information for consumers (Ministry of Justice, n.d.).

Residential property managers operate within the context of the Residential Tenancies Act 1986. The Act was amended in 2009 to provide greater clarity and balance around the rights and obligations of both tenants and landlords and to update issues such as letting fees and boarding houses (Social Services Committee, 2009). Commercial leases are governed by the Property Law Act 2007. Property managers are also subject to regulations regarding the upkeep of properties through the Building Act and Code, the Health Act, and Housing Improvement Regulations (NZ PC, 2012a).

## **Employment, wages and skills**

Earnings in the industry are in line with the average for the services sector as a whole. Employment in the rental and hiring sub-industry grew by around 2% per year between 2000 and 2012. The number employed in the real estate and property management sub-industry has also grown since 2000, driven largely by an increasing number of sole proprietors.

The average education level of those employed in the industry is marginally lower than the services sector as a whole. The most common qualification is a secondary school level qualification. Employee turnover in the industry is relatively high, which may be partially explained by volatility in the property market.

## **ICT and innovation**

ICT is having a significant impact on property management and real estate. For example, online listings have significantly improved the quality of the industry's services. A prospective buyer or tenant can now easily browse through multiple online listings on agency websites or on websites with listings from multiple firms, such as Trade Me or Open2View. Online listings have reduced search and transaction costs, as well as

improved competition through increased transparency. There is also some anecdotal evidence that online listings has increased competitive pressure on real estate agents, as it has become easier for property owners to market and sell their real estate independently.

Hiring firms have also benefited from innovations such as online bookings, pre-registration of information, and customer loyalty programmes.

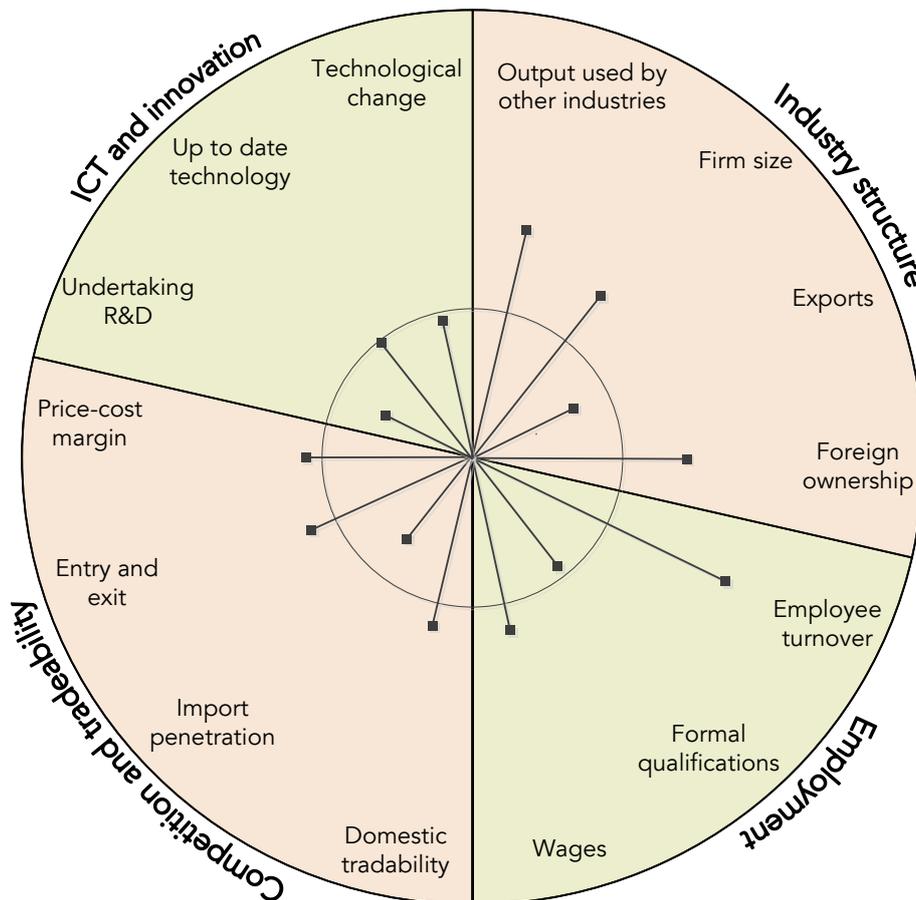
### Overall picture

The rental, real estate, and hiring industry plays an important role in the New Zealand. New Zealand's stock of residential housing alone is valued at \$625 billion and is the largest component of the wealth of New Zealanders. Hence, the sale of property and its management are of central importance to the economy. The industry is subject to a number of targeted regulations. Rental and hiring firms make up a small share of the industry, and tend to have similar characteristics to the retail trade industry.

### Administrative and support services

Businesses in the administrative and support services industry primarily provide routine support activities for the day-to-day operations of other businesses or organisations. Common support services include office administration; recruitment; document preparation; and arranging travel. Firms offering services such as building cleaning, pest control and gardening are also included.

Figure F.9 Administration and support summary indicators



### Competition and domestic tradability

Traditionally, administration and support services usually required a physical presence and face-to-face interactions. However, with improvements in ICT, some aspects of the industry are now able to be delivered from a distance, for example, document management, recruitment screening, and arranging travel. Other services provided by the industry are dominated by local providers, for example, building cleaning and pest control.

Despite an above-average level of domestic tradability, import penetration into the administration and support industry is relatively low. However foreign-owned firms do have a strong presence with a third of employees in the industry are employed in firms with greater than 50% overseas equity. The industry also has a relatively high proportion of large firms. About 60% of employment is in firms with greater than 100 employees.

## Regulation

There are no apparent industry-specific regulatory barriers to productivity in the administration and support services industry.

Although there are no government licensing regimes within the industry, a self-regulatory system is in place for travel agents. The Travel Agents Association of New Zealand was founded in 1962 and has a Code of Ethics and Practice and works to ensure members have adequately trained staff.

## Employment, wages and skills

Statistics New Zealand groups wage data for the administration and support services with professional, scientific and technical services; the combined industry median wage is 20% higher than the economy-wide average. Wages for those employed in administration and support services, however, are likely to be lower than indicated by the combined data, given that a relatively small proportion of employees (18%) hold a bachelor's degree or higher (compared with 44% for professional, scientific and technical services).

Since 2000, employment in the industry has grown at a higher rate than the services sector as a whole, driven primarily by strong growth in the administration services sub-industry. Workers in the industry are younger on average than other service industries.

One potential problem for the industry is that its turnover of employees is the highest for service industries. This high rate of turnover may be partially due to some firms hiring fixed contract staff to fill administrative roles. While using fixed contract staff can be an effective way to manage workload fluctuations, high turnover, as noted earlier, can be a barrier to productivity.

## ICT and innovation

Advances in ICT are increasingly enabling administration and support services to be supplied from a distance or outsourced. This trend is occurring domestically and internationally (Baily & Lawrence, 2004), particularly for lower-skilled administrative and support tasks. Outsourcing can deliver significant financial savings in non-core tasks, while freeing management resources to focus on the firm's core competencies (Holweg and Pil, 2012; Hilmer & Quinn, 1994). An example is the outsourcing of call centres to foreign countries, a practice that is common among telecommunications firms. Where used effectively, outsourcing has the potential for immediate productivity gains. However, the New Zealand Council of Trade Unions (sub. 12, p. 8) notes that while outsourcing may provide short term cost advantages, in the longer run it may discourage capital investment and skill development and create insecurity for employees, who then have less incentive and resources to increase their skill levels.

## Overall picture

Administrative and support services is a small industry, but has an important impact on the productivity of firms in other parts of the economy, for example through indirect influences on management capability and firms' ability to reorganise. The industry is slightly above the services sector average for competition indicators, and slightly below for innovation indicators. The two areas that stand out as potential barriers to productivity growth in the industry are the relatively low qualification levels of employees and a very high rate of employee turnover.

## Arts and recreation

Arts and recreation is the smallest service industry in terms of output. Around 60% of the industry's employment is in sports and physical recreation activities, which includes the operation of sporting facilities, provision of services that aid participation in sporting or recreational activities, and coaching and sports professionals. Other firms in this industry fall into the following categories:

- preservation and exhibition of objects and sites of historical, cultural or educational interest (for example operating a museum);
- artistic activities such as the production of original music or live performances; and
- gambling activities (eg, casino operation).

The industry is relatively detached from the rest of the economy, with a very small share of its output used by other industries. However, some research suggests that this industry has scope to indirectly enhance labour productivity throughout the economy, for example through the health benefits from increased physical activity.<sup>6</sup> One report estimated a benefit of \$281 million to the New Zealand economy through sport and recreation through increased labour productivity alone (the total cost-benefit assessment of sport and recreation to the New Zealand economy was estimated to be a benefit of \$1,038 million in 2011 ) (SPARC, 2011).

About 8% of the industry's output is exported. The industry provides a number of recreational services that are popular with international tourists to New Zealand, such as white water rafting and bungee jumping, and some New Zealand sporting and cultural performances are held overseas.

While some firms within this industry have a strong commercial focus, such as casinos, non-market provision accounts for 28% of the industry's output. For example, local government spending on new sport and recreation facilities amounted to \$345 million in 2008/09 (SPARC, 2011).

## Other services

The ANZSIC06 classification includes a residual category called 'other services', which includes a broad range of service occupations that fall outside other industry classifications. Around two thirds of the industry's employees provide:

- personal care services, such as hair, beauty, diet and weight management services;
- funeral and cemetery services;
- religious services, including promotion, administration and the operation of religious facilities ; and
- professional and labour association and other interest group services.

The remaining third of employees provide selected maintenance and repair services.

This industry contains a number of small and medium sized enterprises, which are likely to benefit from improvements in economy-wide regulation (such as labour regulations).

## F.4 Health and education

As discussed in Chapter 1, the terms of reference explicitly limit the scope of this inquiry to "market-provided services" and exclude "services provided directly by the public sector". Three service industries have a relatively high level of non-market provision:

- Healthcare and social assistance
- Education and training
- Public administration and safety

The market-provided parts of the education and training and health care and social assistance industries (13% and 43% of the education and health industries' output respectively) are technically in scope, but they are difficult to isolate and examine (Box F.2). The Commission acknowledges that these industries provide

<sup>6</sup> Research in Australia has found that the overall average labour productivity loss caused by physical inactivity corresponds to a direct loss of 1.8 working days per worker per year for an average Australian worker (Medibank, 2008).

important services to the economy – a point that was noted in a number of submissions (eg, subs. 3, 4, 5, 6, and 9).

High levels of non-market provision mean that the public administration and safety industry is out of scope.

#### Box F.2 Measuring productivity in the health and education industries

Statistics New Zealand (2013b) provides productivity statistics for the education and training, and health care and social assistance industries as a whole. The productivity data cannot be broken down into market and non-market services, at present, due to the level at which the data for outputs, inputs, and weightings were collected. The productivity for the industries as a whole may be considerably different to the productivity of the market services in these industries. The Commission is unable to assess the productivity performance (levels and growth rates) of the market-provided parts of these industries given the limited data.

Statistics New Zealand data shows that the health and education industries had productivity growth below the average for the market service industries between 1996 and 2011. The education and industry experienced a fall in labour productivity of 1.4% per annum on average, while the health care and social assistance industry had low growth of 1.1%. In both industries, the main influence on their change in labour productivity came from changes in MFP rather than capital deepening, which reflects the relatively small proportion of capital in their production processes.

There are other performance indicators for these industries that may be at odds with the productivity measures. These include effective outcomes and value for money. Differences between the productivity measures and other indicators may occur if the productivity statistics do not fully account for quality change. For instance, a measure of the effectiveness of the industry – the proportion of students achieving National Certificate of Educational Achievement (NCEA) qualifications at all levels – increased by approximately 2% per annum between 2004 and 2011, while productivity in the in the education and training industry declined.

*Source:* Productivity Commission; Statistics New Zealand (2013b)

## Healthcare and social assistance

The healthcare and social assistance industry is the largest employer in the services sector and accounts for 7% of GDP. The industry provides human health care and social assistance. Key service providers in this industry are hospitals, medical centres, residential care homes and childcare centres.

Effective healthcare and social assistance services are a critical component of any well-functioning economy. There are a number of links between the health of the population and productivity. The most simple is that healthier people are able to work harder and think more clearly (Weil, 2007). Improvements in the health of the population can also indirectly impact on productivity. For example, living longer increases the incentive to invest in education, given that the return on investment is spread over a longer working life and healthier students tend to receive a better education if other factors are held equal (Weil, 2007). In addition, gaps in the provision of health and social services may increase the time and energy commitments of carers such as family members, which can limit their ability to undertake other more productive tasks (New Zealand Home Health Association, sub. 4).

There is a diverse range of jobs in the healthcare and social assistance industry, from highly skilled, high-wage medical specialists, to roles that require limited study such as home carers and are often worked on a part-time basis. The industry's workforce is relatively old, with 37% of employees aged over 50, compared with 25% for the remaining service industries.

Non-market provision accounts for 57% of the output of the health and social assistance industry. In some areas, the split between market and non-market provision is relatively clear; for example, adult dentistry is largely market provided, while a range of immunisations for children are entirely government funded. However, in many cases the lines between market and non-market provision are blurry. For example, a

government funded operation in a privately owned and operated hospital would be considered as market provision as the operation was sold to the government at economically significant prices (Chapter 1). The New Zealand Home Health Association (sub. 4, p. 2) notes "that 67% of health services are provided by agencies outside of government (including private and not for profit agencies)". While this industry is primarily funded by government, the competition for this funding is robust, meaning the environment closely resembles a private market (sub. 4).

## Education and training

Education and training is a large industry and plays a key role in economy-wide productivity performance (Kidd, 2008). The industry accounts for 5% of GDP and 9% of employment. While national skill levels can be supplemented to an extent through skilled immigration, the services sector and wider economy are heavily dependent on the education system to produce an appropriate number of graduates in different subject areas with different levels of skills.

Over the past three decades, there has been a rapid increase in the overall level of education in the industry's workforce. In fact, New Zealand's level of participation in tertiary education and level of educational attainment are in the top 25% of countries in the OECD. Despite performing well in aggregate, educational achievement is poorly distributed across the New Zealand population with a relatively long tail of low educational attainment. A large proportion of the population is still leaving secondary school without any formal qualifications (MacCormick, 2008). In addition, private returns from undertaking tertiary education in New Zealand rate poorly compared with other OECD countries (OECD, 2012).

While the majority of education and training is not provided by the market (87%), there are some important areas of market provision. Most important is the provision of education for full fee-paying international students (export education). Export of education services were estimated to have generated around \$2.2 billion of foreign exchange in 2008. About \$600 million of this came from tuition fees, while other expenditure – primarily living costs – accounted for the remainder (Education New Zealand & Ministry of Education, 2008).

Export education can generate a range of wider benefits. International students generate spillover effects such as knowledge transfer among students and increased rates of skilled migration (around 30% of international students will transition either to work or permanent residence in New Zealand). Export education also has positive spillovers for the tourism industry, with survey results indicating that each international student leads to approximately 11 visitor nights in New Zealand by friends or family (Education New Zealand & Ministry of Education, 2008). International students have typically comprised between 10% and 15% of tertiary enrolments over the past ten years, which increases the overall scale economies of domestic education providers.

Most export education is consumed by international students who visit New Zealand (consumption abroad), but around 3000 international students are enrolled with New Zealand providers in their own country. About half of the latter are taught extramurally, while the remaining half are enrolled with New Zealand providers who have established an overseas commercial presence. New Zealand also exports other education services such as teacher training, curriculum development, and consulting and advisory services (Education New Zealand & Ministry of Education, 2008).

## Public administration and safety

Public administration and safety is primarily comprised of services provided by central and local government. Services include defence, enforcement of regulations (such as licensing and permit issuance), and public order and safety services (such as firefighting). The majority (95%) of this industry is government owned and not provided by the market. The main exceptions are some businesses in the public order and safety sub-industry, such as private alarm monitoring firms and private security guard services.

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