

## New jobs, old jobs: the evolution of work in New Zealand's cities and towns

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Recent international research has highlighted how the effects of changes in technology and markets vary among different parts of a country. Understanding this regional dimension of economic performance can help explain New Zealand's aggregate productivity performance and how this performance could be improved.

*New jobs, old jobs: the evolution of work in New Zealand's cities and towns* uses Census data from 1976 to illustrate the changing economic geography of New Zealand's cities and regions. This research distinguishes the employment dynamics of New Zealand's large urban areas from those of smaller ones and shows how the transition paths out of manufacturing and into professional services sectors have varied among urban areas. It also shows how the economies of most cities and towns in New Zealand have become less reliant on specialist industries and more like each other, which has implications for regional labour mobility and government policy.

### Why this topic?

Over the last 40 years New Zealanders, along with people in most other developed countries, have experienced big changes in the jobs they do and the places they live and work. These changes include:

- a decline in the number of manufacturing jobs;
- an increase in the quantity and remuneration of information-intensive work, often requiring tertiary education training;
- increased participation of females in the paid workforce;
- the rapid growth of large cities (such as Auckland); and
- internal migration to locations with desirable amenities, especially a favourable climate.

These trends have simultaneously changed the nature of work and the location of workers. Some urban areas have transformed themselves and thrived in the new environment, while others have found the transition difficult. The transition has been accompanied by changes in the relative importance of different skills and talents and the returns to those skills have varied across regions.

### What the international literature tells us

Many aspects of New Zealand's economic experience are similar to those experienced in other countries. There is now a large literature analysing the employment experiences of people in different sectors and different cities in various countries. This literature provides useful context for understanding what has happened in New Zealand.

- **The decline of manufacturing:** manufacturing employment has declined as a share of total employment in most developed countries since the 1950s. This has reflected increases in

efficiency of production, increases in manufactured imports, and the outsourcing of some types of work. Overall, the international literature suggests that it can take a long time for regions to adjust to manufacturing employment losses and that the adjustment may never be full.

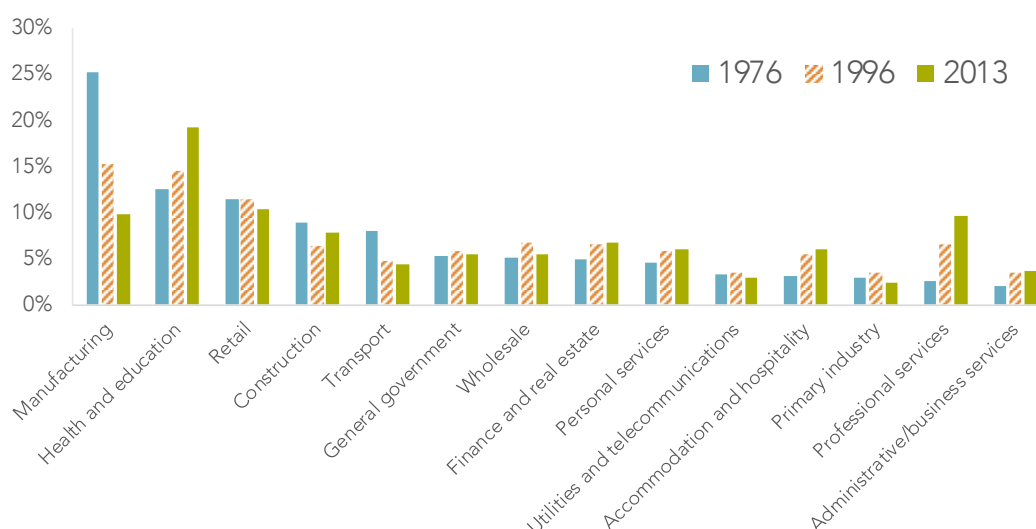
- **The location of new work:** several authors have analysed the evolution of new work in the United States. Significantly, the new jobs developed prior to 1980 employed different types of people and appeared in different locations than those developed after 1980. Prior to 1980 new jobs were located all over the US, but after 1980 they were disproportionately in a few large urban areas that increasingly specialised in knowledge-intensive work, particularly those with large university-educated workforces.
- **Fast-growing and slow-growing locations:** fast growing urban areas do not necessarily specialise in rapidly growing sectors or even offer particularly high wages. Some have expanded because they offer favourable amenities. Urban areas fall into three categories:
  - fast-growing, higher-income locations that are centres for new work and expanding sectors;
  - fast-growing, lower-income locations that have good amenities; and
  - slow-growing locations, including those with static populations.
- **The response to employment shocks:** the way urban areas evolve through time depends on the shocks they receive and the way they respond to them. The susceptibility of an area to shocks and the response, partly depends on its initial industry structure and on the extent of inter-regional migration. If people are quick to move out in response to the decline of a traditional industry, an urban area may have a hard job reinventing itself.

## The New Zealand experience

Between 1976 and 2013, employment in New Zealand’s 30 largest cities and towns increased by 48% or by an average of 1.1% per year. However, the average masks considerable variation (see the appendix). Employment increased by more than 65% in nine urban areas, including Auckland, Hamilton and Tauranga. In contrast, employment increased by less than 15% in eight other urban areas, and decreased by less than 10% in three more. Employment in one urban area, Tokoroa, decreased by nearly half.

Figure 1 shows the share of employment by industry group has changed markedly since 1976.

Figure 1 Employment share by industry in New Zealand, 1976, 1996 and 2013



Source: Authors calculations based on Stats NZ Census data, 1976 – 2013

A dominant feature has been the decline in the fraction of employment in manufacturing from 25% in 1976 to 10% of the workforce in 2013. Employment in primary industries (agriculture and mining) fell from 3% to 2.4% over this period. These declines were offset by a significant expansion in the professional services sector and in the health and education sector, each of which increased by 7% of the workforce over four decades. The accommodation and hospitality sector and the financial service sector also increased significantly. As noted above, similar trends have been seen in most developing countries, with manufacturing employment declining from 32% of the workforce in 1950 to 9% in 2010 in the United States.

## Where have new jobs been located?

The decline of manufacturing and the rise of service sectors has had important regional implications. This is because some of the fastest growing service industries have disproportionately favoured larger urban areas. The effect was most noticeable in the financial services, wholesale, utility, and the professional services sectors, but it also occurred in the transport sector. While workers in large and smaller areas alike suffered job losses as manufacturing declined, reemployment opportunities in new growth industries opened up fastest in large urban areas.

One method of documenting this effect is to compare how much employment changed in each industry-city combination relative to the increase that could have been expected if employment in each industry-city combination had grown at the national rate (adjusted for each city's population growth and the area's under- or over-representation in that industry). If employment in an industry grows much faster than the national rate in an urban area, it shows that the industry has increasingly favoured that area (Figures 2 and 3).

Figure 2 Predicted and actual employment growth in Auckland



Source: Authors calculations based on Stats NZ Census data, 1976 – 2013

Note: Manufacturing industries are split into two groups depending on how widely their output is traded: widely distributed and regionally specialised

Take the wholesale sector as an example. Of the national increase in wholesale sector employment between 1976 and 2013, Auckland could have been expected to get 56% of the increase, based on its population growth and the relative employment growth in other sectors over that period. In reality, Auckland gained 79% of the national increase. This means that wholesale sector employment increased 42% faster in Auckland than could have been expected, as these jobs increasingly shifted to New Zealand's biggest city. In contrast, only 16% of the additional wholesale sector jobs were located in medium sized urban areas rather than the 25% that could be expected from their population increase and the national increase in wholesale sector employment.

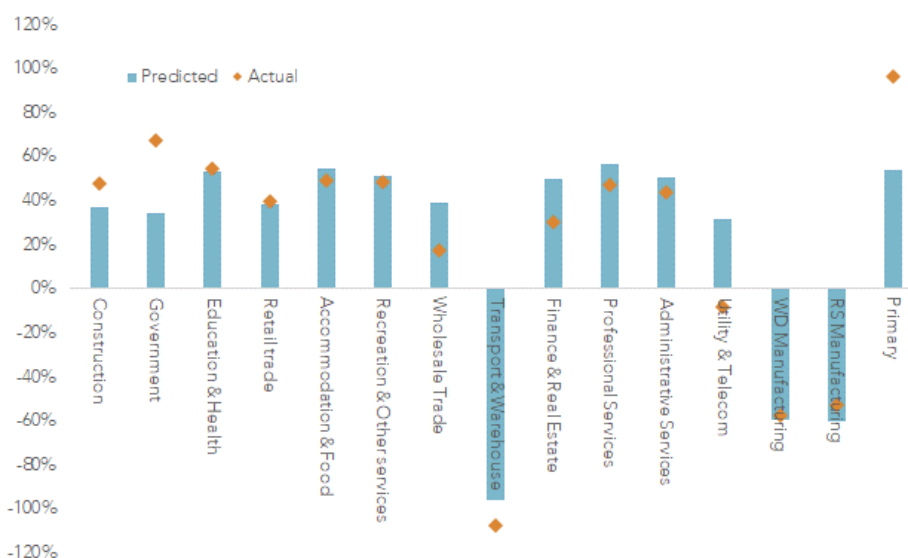
The results of this comparison for Auckland and for all medium sized urban areas across all employment sectors yield three main findings.

First, employment in both Auckland and medium sized urban areas increased by the expected amount in the education and health, retail, accommodation and recreation and personal services sectors. These are sectors where production is necessarily local and because the services are purchased in similar amounts in different places. Nationally, the fraction of employment in these sectors steadily increased from 32% to 42% between 1976 and 2013, and employment in these sectors in each type of urban area increased in proportion to its population growth.

Second, employment in the wholesale, financial services, professional services and utility sectors increased much faster in Auckland than in medium sized urban areas. Between 1976 and 2013, employment in these sectors increased from 16% to 31% of total employment in Auckland but only from 15% to 18% in medium sized areas. The biggest increases in the size of these sectors occurred between 1976 and 1996, but Auckland has continued to increase its relative performance in these sectors since 1996.

Third, manufacturing shrank much faster than could have been expected in Auckland, whereas it shrank less rapidly than expected in medium sized urban areas. Both Auckland and medium sized urban areas experienced a significant absolute decline in manufacturing employment over the period. Auckland's decline in manufacturing jobs occurred despite its rapid increase in population.

**Figure 3** Predicted and actual employment growth in medium urban areas



Source: Authors calculations based on Stats NZ Census data, 1976 – 2013

Note: Medium sized areas: Whangarei, Hamilton, Tauranga, Rotorua, Gisborne, Napier-Hasting, New Plymouth, Wanganui, Palmerston North, Kapiti, Nelson, Blenheim, Dunedin, Invercargill

These trends help to explain the rapid expansion of big cities relative to smaller urban areas. The agglomeration benefits that favour a big-city location appear to be much greater for firms in the wholesale, financial services, and professional services sectors than they are for manufacturing firms. In New Zealand, the rapid expansion of the wholesale, financial services, and professional services sectors, combined with the preference of firms in these sectors to locate in large cities, mean there has been a reallocation of employment away from smaller centres and towards Auckland and to a lesser extent towards Wellington and Christchurch.

While agglomeration benefits may explain the growth of Auckland, they do not explain the different employment growth rates among small and medium sized urban areas. The diversity of employment growth within medium and small sized areas does not seem to reflect their initial industrial structure. Rather, much of the difference in the growth of medium sized areas appears to

stem from the rising importance of consumption amenities, such as a good climate and attractive scenery. In other words, employment grows in some areas because they are nicer places to live.

## How specialised are urban areas?

The economies of most cities and towns became more diversified and more like each other, as manufacturing declined and service sectors expanded. There are only a few examples of urban areas that have become more reliant on specialist industries since 1976. Small and medium sized urban areas with distinctive employment patterns are less common than they were. As migration between areas is easier when all areas have similar jobs, the reducing importance of city-specific industries may have catalysed the shift of jobs from slow-growing areas to climate-favoured fast-growing areas.

## What does this mean for policymakers?

This analysis leads to a number of policy-relevant conclusions. Three stand out.

First, the decline of manufacturing and the increasing importance of several new service industries has tended to favour large cities. There has been a rapid expansion in sectors such as the professional services sector that prefer to be located in big cities, likely because of the greater agglomeration benefits. Previously important industries such as manufacturing benefit less from being located in cities. New Zealand's experience is consistent with overseas trends. These sorts of trends are unlikely to be overcome by regional interventions aimed at encouraging the development of industries in locations where agglomeration benefits do not exist.

Second, the speed at which urban areas recover from negative employment shocks to their specialist industries depends on the type of industry receiving the shock. For instance, it seems to be much more difficult to recover from adverse shocks that hit rural processing industries than shocks that hit other types of manufacturing industries. If the government wishes to help regional economies recovering from employment downturns, it should recognize that the transition path out of some industries is harder than others.

Lastly, the work has focussed attention on the similarities and differences of small and large urban economies. Government programmes aimed at enhancing the way non-tradeable businesses improve their productivity are likely to produce the widest regional benefits, as they have the potential to improve productivity in many sectors everywhere.

The full working paper - *New jobs, old jobs: the evolution of work in New Zealand's cities and towns* - and related research are available at [www.productivity.govt.nz/research](http://www.productivity.govt.nz/research)

## About the New Zealand Productivity Commission

The Commission – an independent Crown Entity – conducts in-depth inquiries on topics selected by the Government, carries out productivity-related research, and promotes understanding of productivity issues.

Contact us at: [info@productivity.govt.nz](mailto:info@productivity.govt.nz)

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## Appendix

### Employment growth in New Zealand's 30 largest cities and towns (ranked by employment growth)

	Employment level 1976	Growth 1976-2013	Employment rank 1976	Employment rank 2013
Tokoroa	7 479	-44%	19	30
Greymouth	4 845	-7%	26	29
Wanganui	15 558	-5%	13	15
Oamaru	5 601	-2%	24	27
Levin	6 768	0%	21	25
Invercargill	22 305	1%	8	11
Masterton	8 352	3%	18	21
Dunedin	48 249	3%	5	7
Timaru	11 721	8%	16	18
Gisborne	11 784	8%	15	17
Hawera	4 590	10%	28	28
Rotorua	18 540	14%	10	12
Whangarei	15 228	20%	14	13
Wellington	155 316	20%	2	2
Palmerston North	28 110	25%	7	8
Napier-Hastings	41 319	26%	6	5
New Plymouth	18 321	34%	11	10
Christchurch	127 896	36%	3	3
Feilding	4 659	37%	27	26
Whakatane	5 274	40%	25	22
Ashburton	6 129	47%	22	20
Blenheim	8 472	65%	17	16
Hamilton	54 516	67%	4	4
Nelson	16 731	69%	12	9
Auckland	326 847	79%	1	1
Taupo	5 634	81%	23	19
Kapiti	7 116	129%	20	14
Rangiora	2 832	147%	29	24
Tauranga	18 630	176%	9	6
Queenstown	1 548	361%	30	23
Total	1 010 370	48%		

Source: Authors calculations based on Stats NZ Census data, 1976 – 2013