

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

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We've seen a lot of change since 1976...



John Walker wins gold at the Montreal Olympics, 1976 (New Zealand Olympic Committee)

... in 2019



This talk is about other big changes...



Access to the anonymised data used in this study was provided by Statistics New Zealand in accordance with security and confidentiality provisions of the Statistics Act 1975 [and secrecy provisions of the Tax Administration Act 1994].

The findings are not Official Statistics. The results in this paper are the work of the authors, not Statistics NZ nor New Zealand Productivity Commission, and have been confidentialised to protect individuals from identification.

Data

- Historic Census data from 1976 to 2013
- 30 primary and secondary cities
 - Primary cities have at least 30,000 usual residents in 2013
 - Secondary cities have 10,000 – 29,999 usual residents in 2013
- Employment (employees and employers) in 65 industries.
- Manufacturing industries are broadly grouped into two categories
 - Widely-distributed manufacturing
 - Regionally-specialised manufacturing

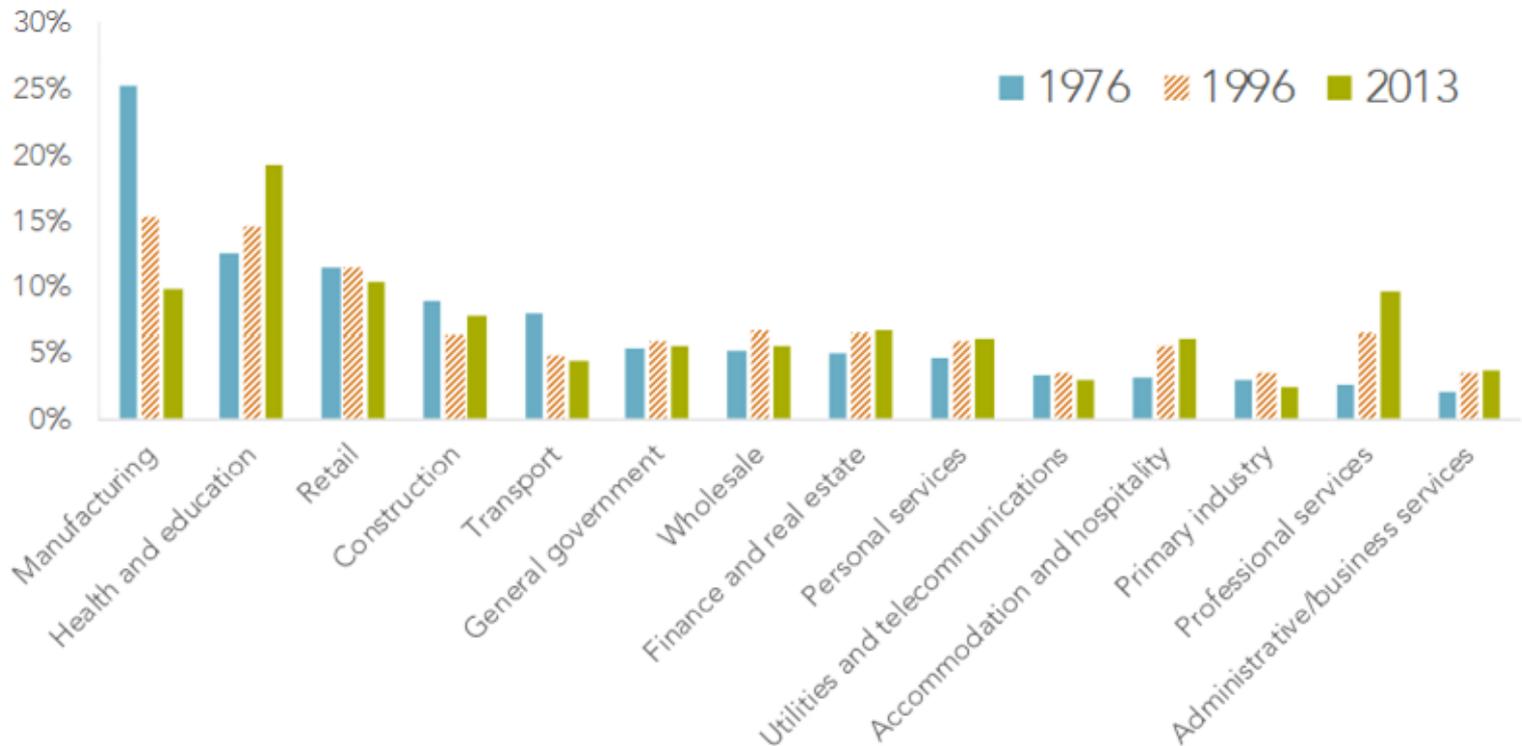
Manufacturing

- Widely-distributed manufacturing
 - Fabricated metal, printing, other, petrochem, electronic, transport and equipment, non-metallic, machinery, clothing, fruit process
- Regionally-specialised manufacturing
 - Textile, food and beverage, primary metal, wood process, meat and fish, dairy process, pulp and paper



The big shift away from manufacturing...

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

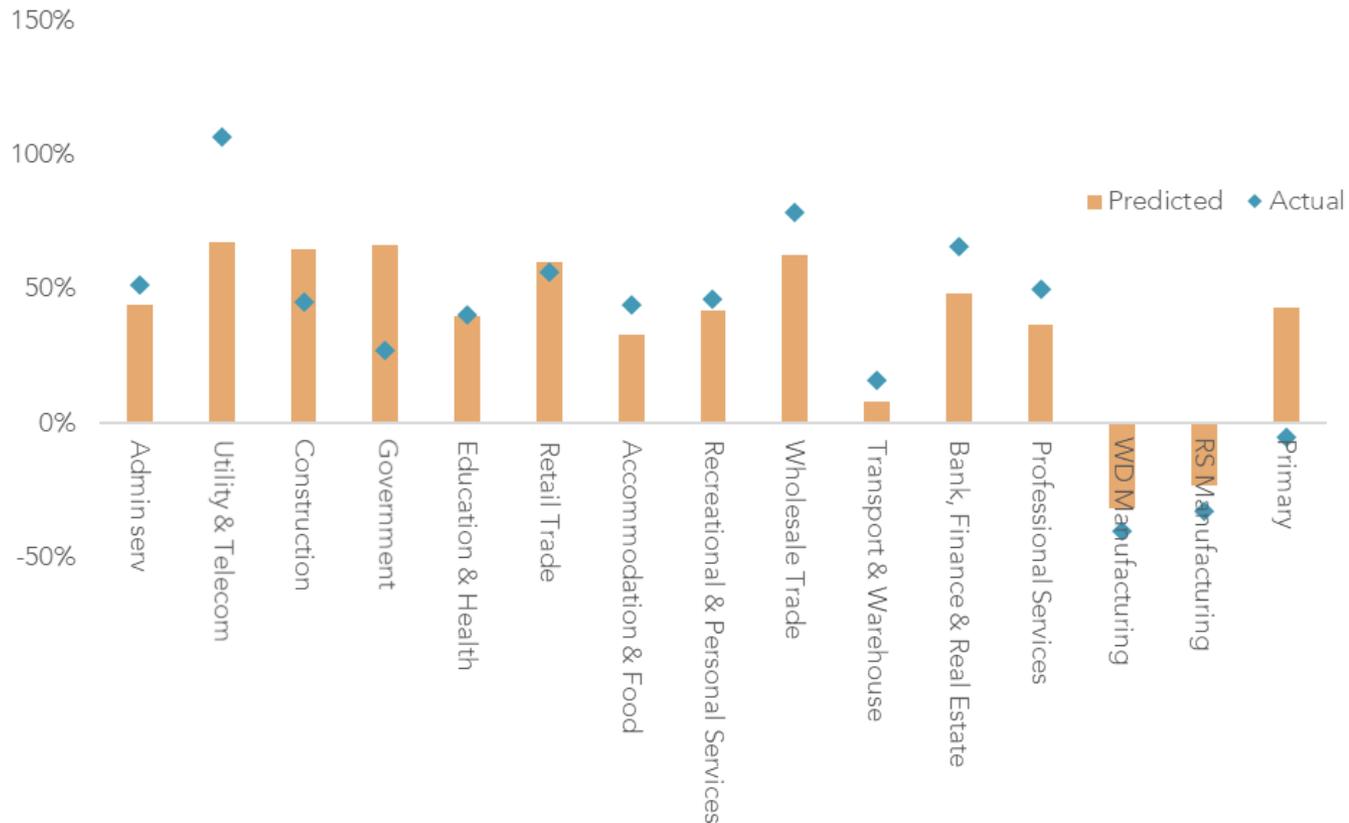


Source: Calculations based on Stats NZ Census data, 1976 – 2013

... and a rise in the financial sector especially in Auckland

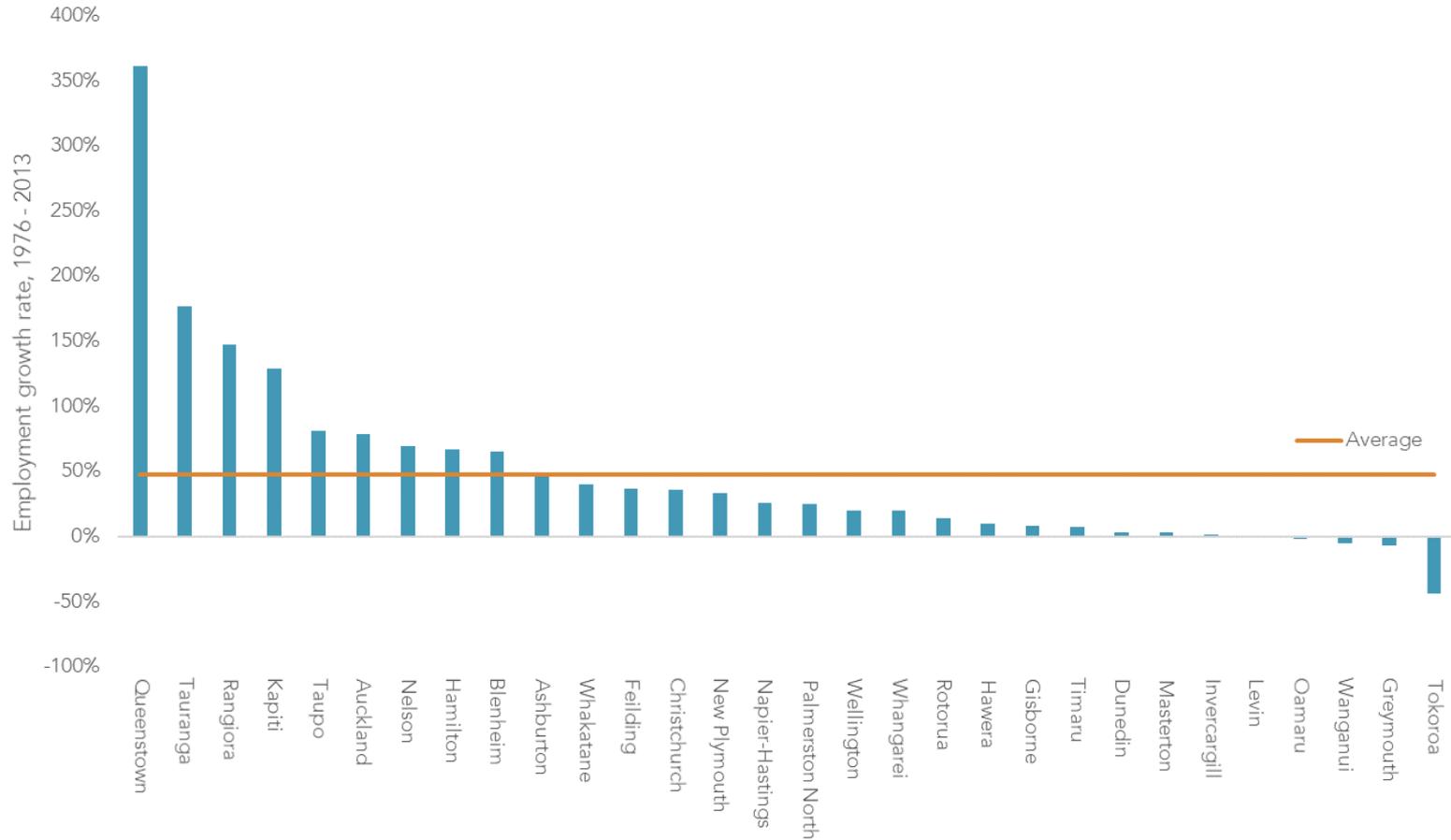


Services employment has seen a disproportionate increase in Auckland



Predictions were calculated based on national industry and city employment growth

Auckland grew but it didn't have the fastest growth rate



Queenstown then...



Queenstown now...



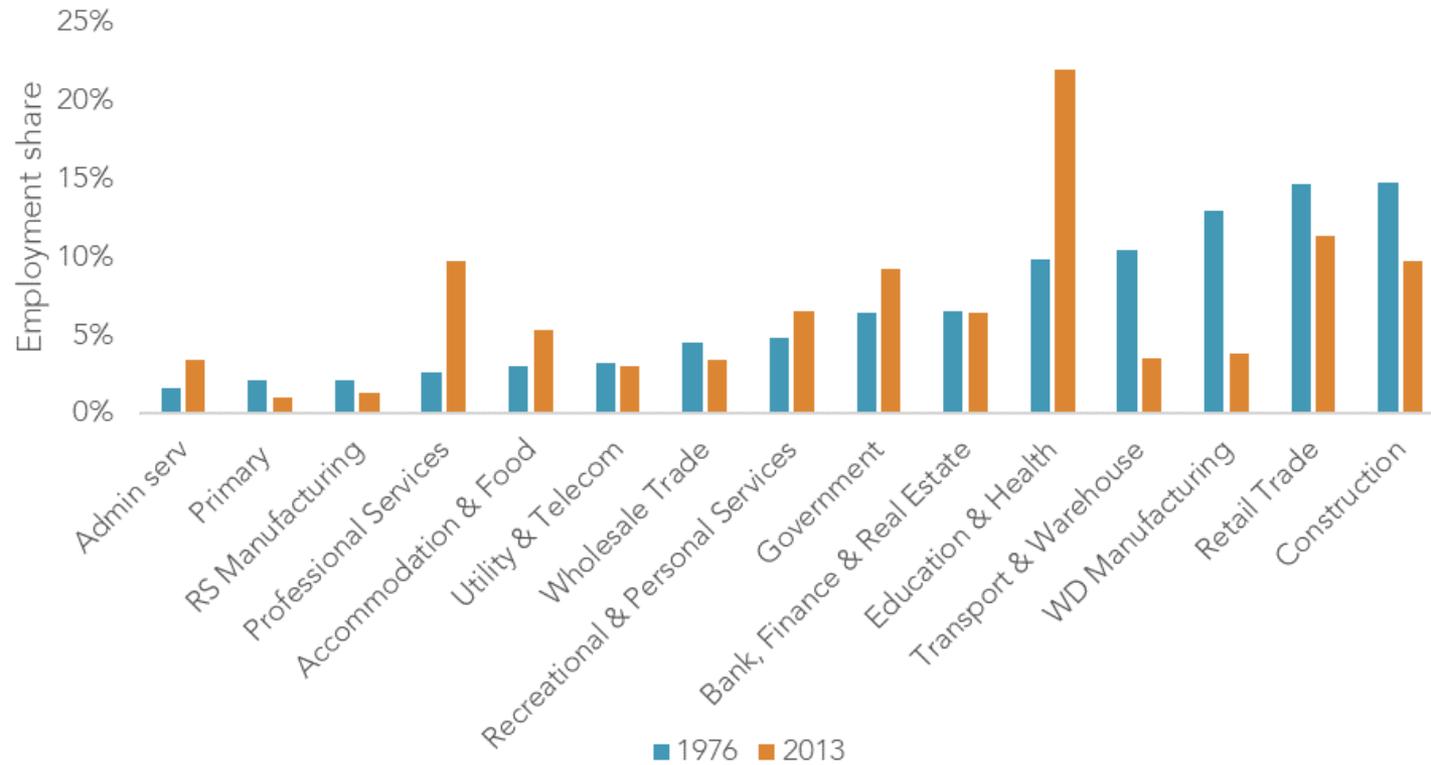
Some places grew because they are nice places to live... like Tauranga



Tauranga now...



Kapiti



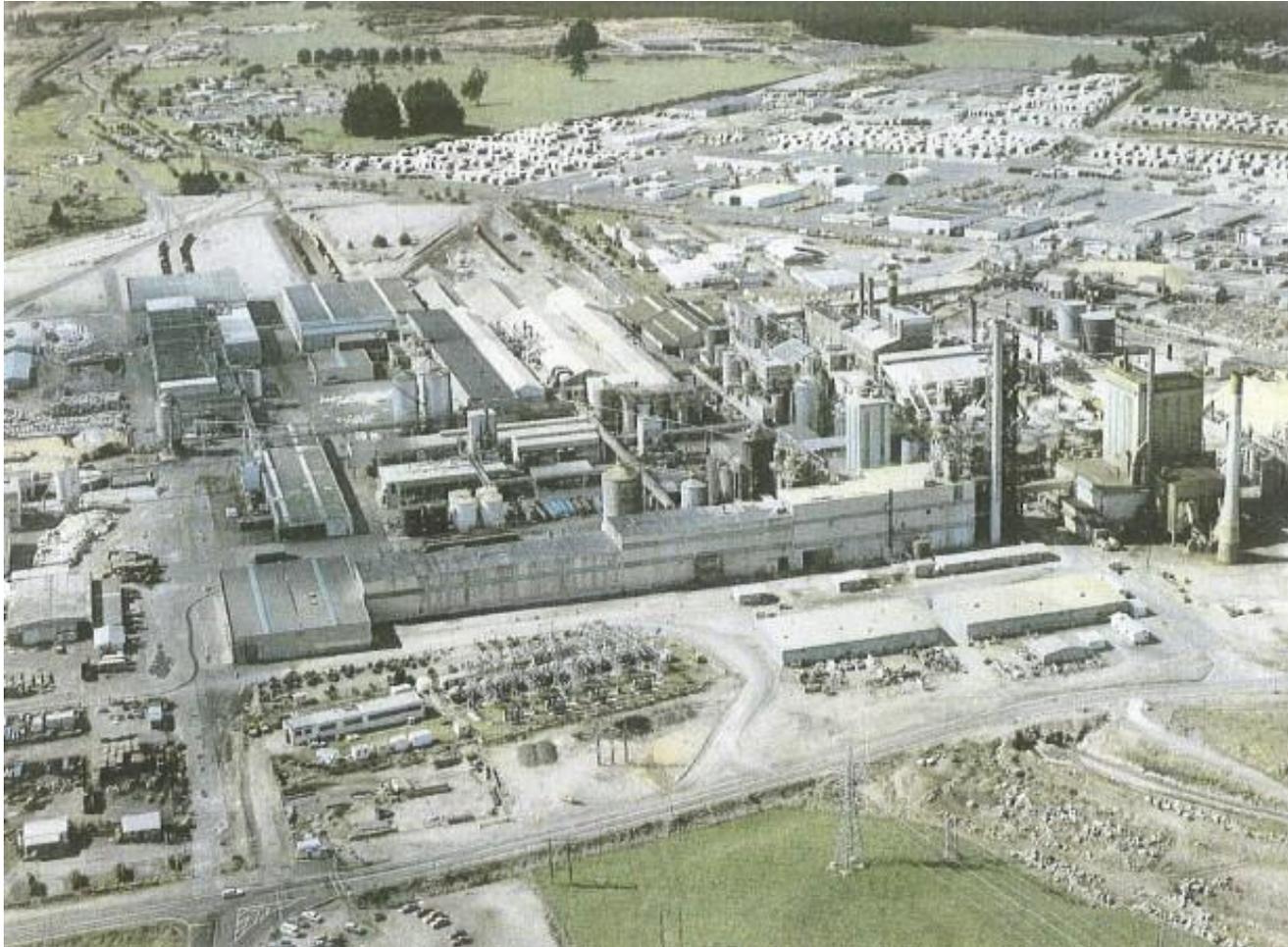
A few places have experienced decreased employment like Wanganui...



Oamaru



Tokoroa then...



Tokoroa now...



Shift-share analysis

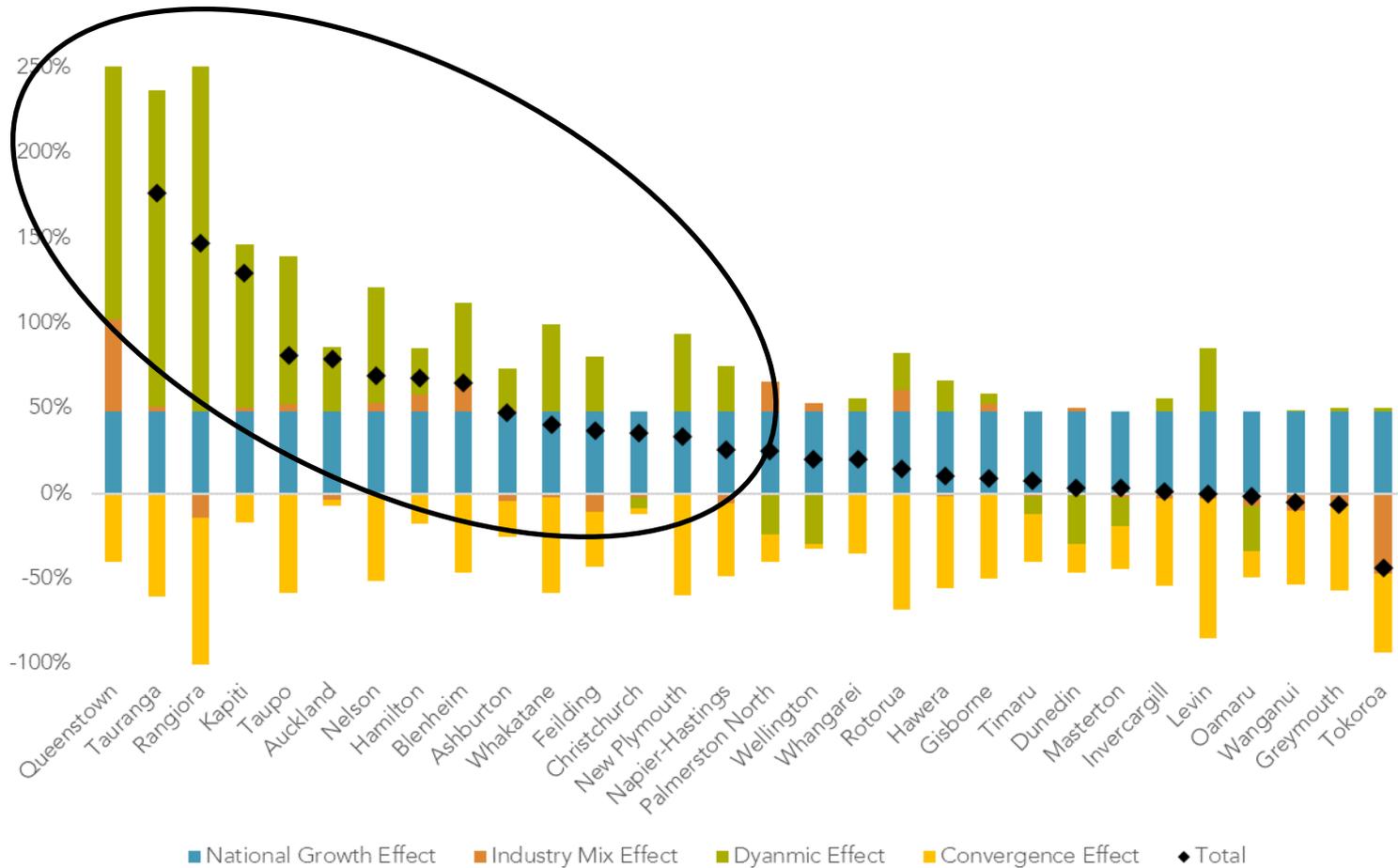
- Local employment growth is decomposed into four

factors
$$g_t^c = \frac{\Delta E_t^c}{E_{t-1}^c} = \frac{\sum_i \Delta E_t^{ic}}{E_{t-1}^c} = \frac{\sum_i NG_t^{ic} + IM_t^{ic} + AL_t^{ic} + DM_t^{ic}}{E_{t-1}^c}$$

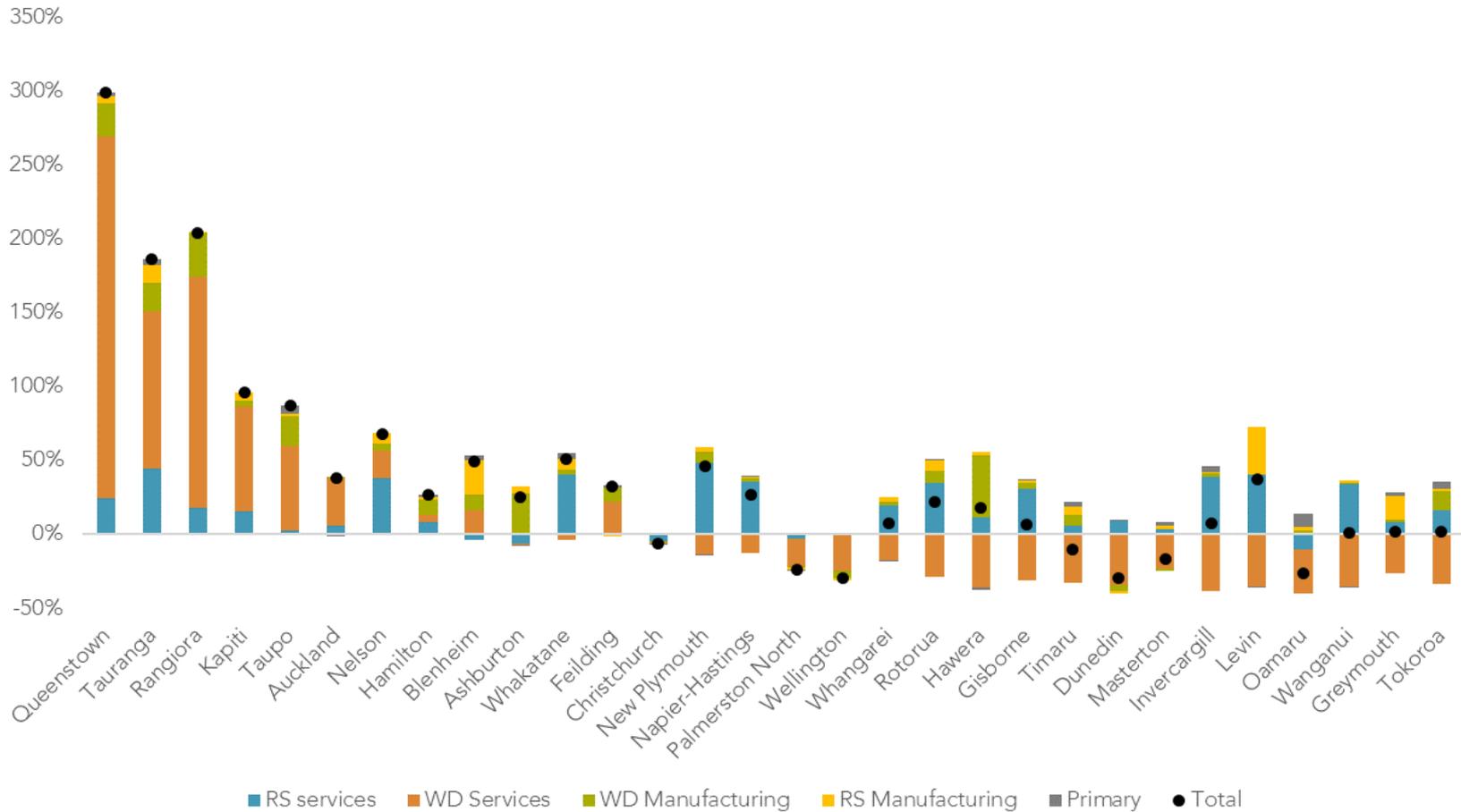
- National growth factor (NG) captures the extent that employment growth in an urban area is due to national industry trends.
- Industry mix factor (IM) captures the effect of local industry structure on city employment growth
- Dynamic employment factor (DM) captures the extent local industry employment growth exceeds average industry growth
- Convergence factor (AL) captures the extent that a local industry mix is diverging or converging to the national average.



Shift-share decomposition, 1976 - 2013

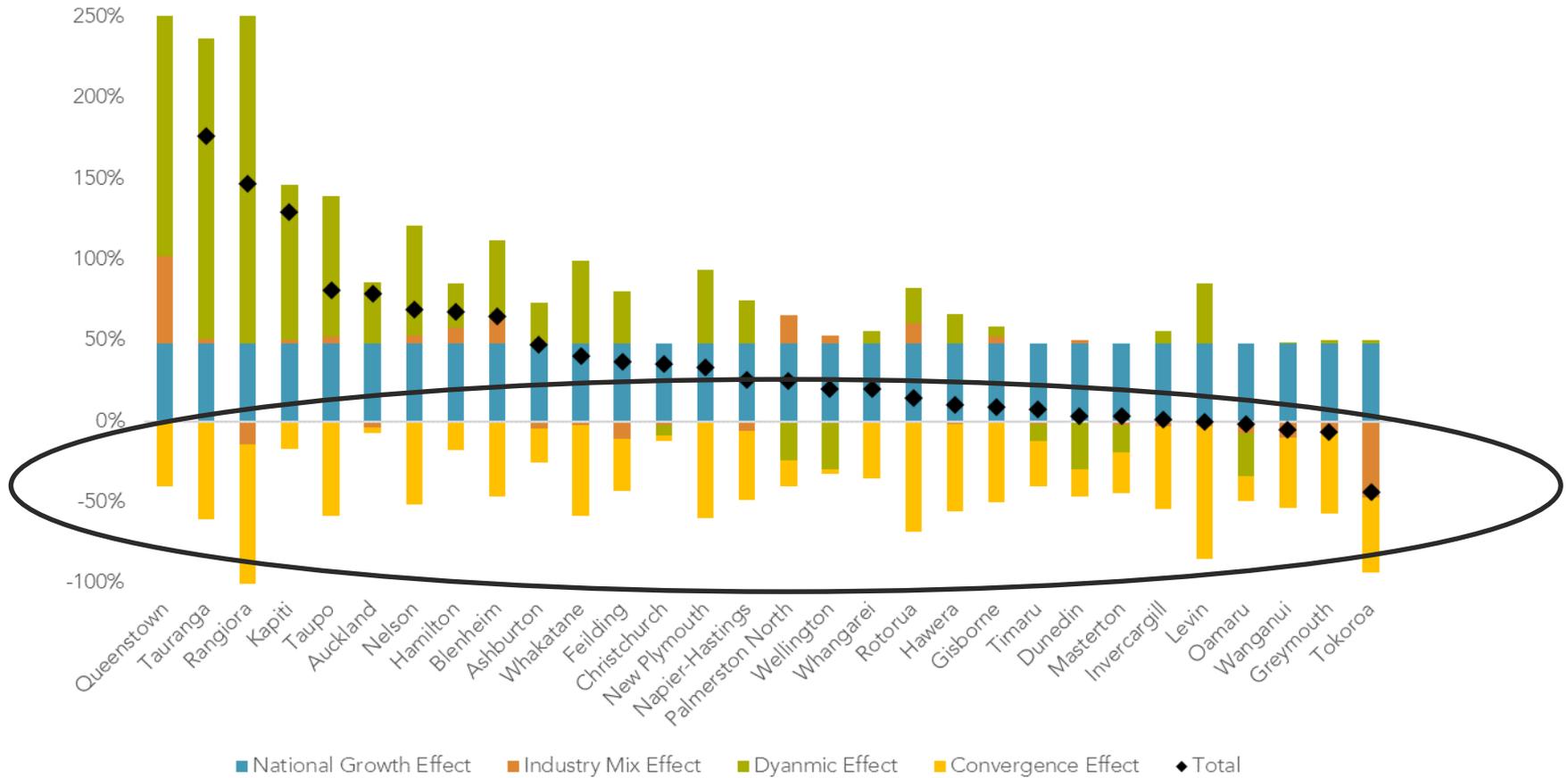


Fast growing cities experienced fast expansion in non-tradable services





Shift-share analysis, 1976 - 2013



Regional specialisation index

$$RSI_c = 1 - \sum_{i=1}^{65} (LS_{c,i} + LS_{c,i-1}) (NS_i - NS_{i-1}) \quad (15)$$

where

$LS_{c,i}$ are = the cumulative employment share of industry i in region k , where the industries for city c are ranked from lowest to highest in terms of their location quotient.

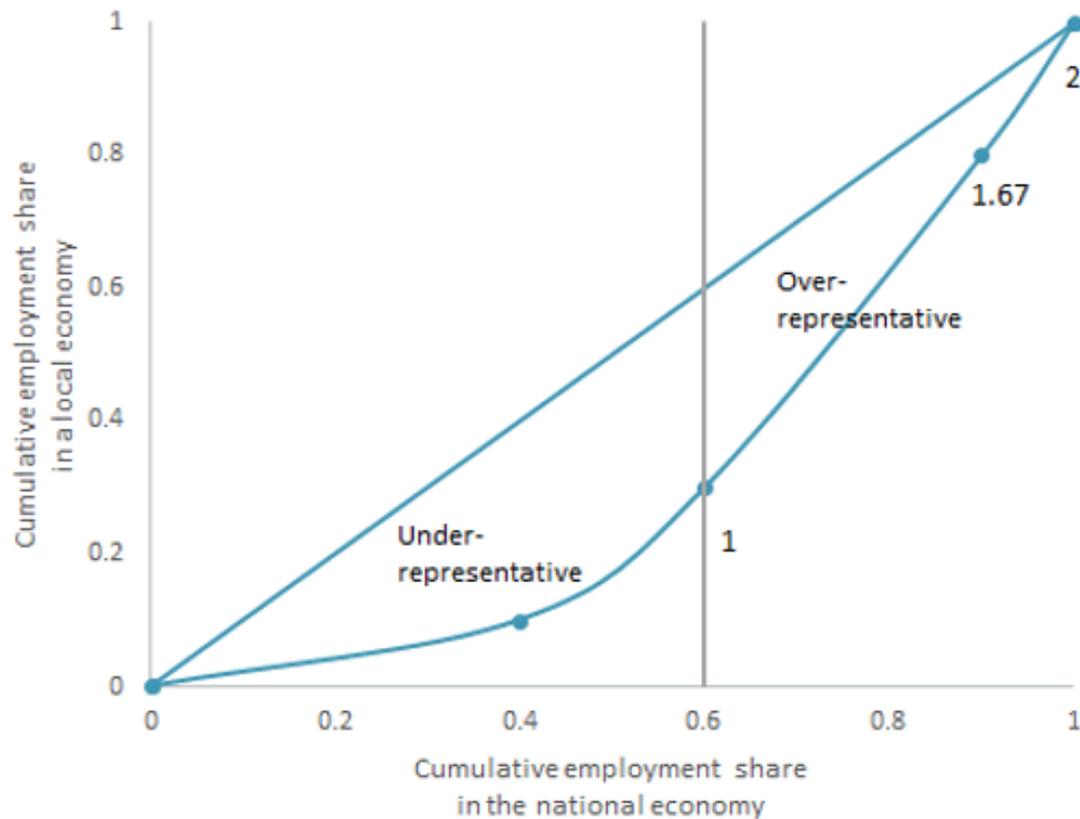
$LS_{c,i-1}$ = the cumulative employment share of industry $i-1$ in region k .

NS_i ranked = the cumulative employment share of industry i in New Zealand, where the industries are ranked in the same order as city c .

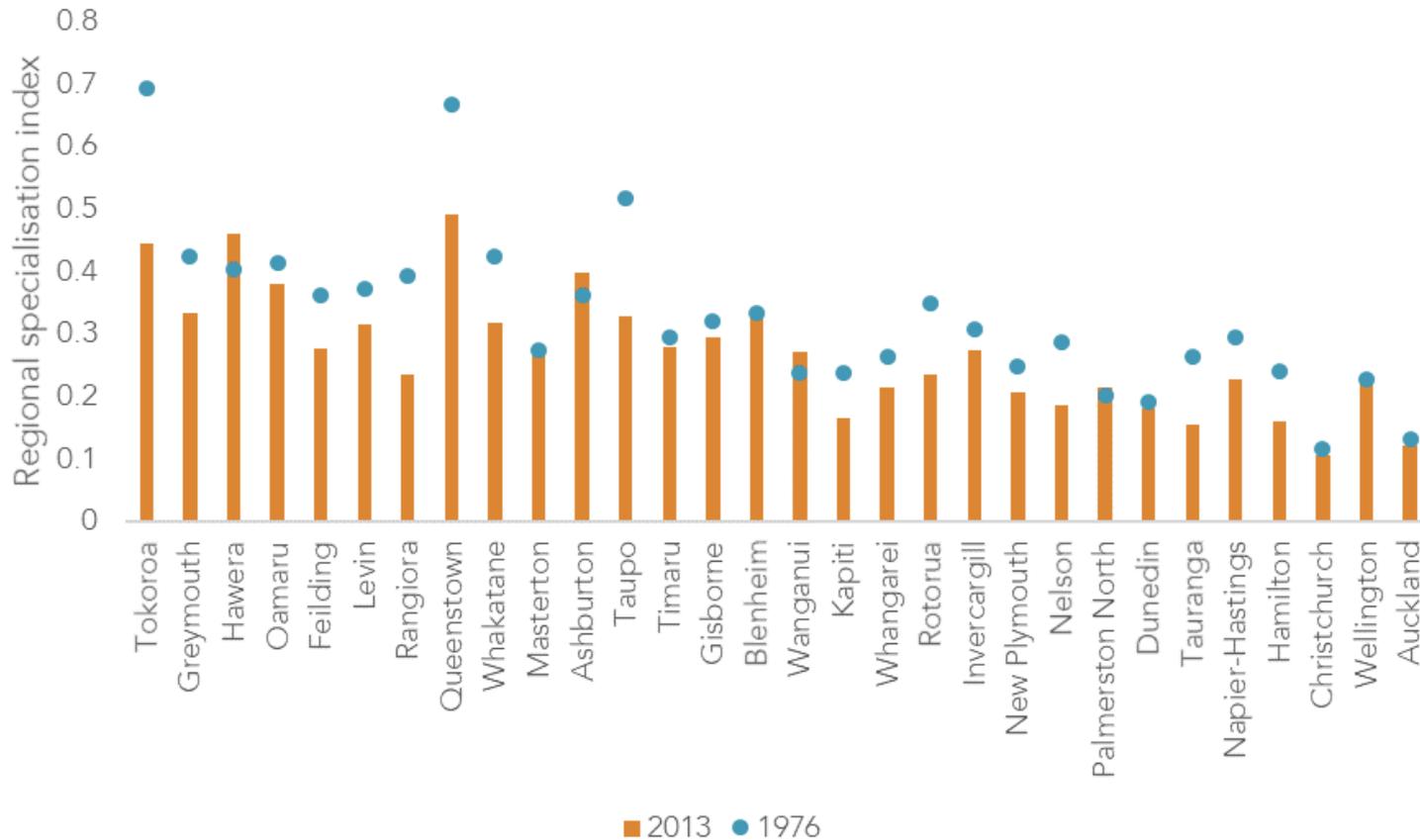
NS_{i-1} = the cumulative employment share of industry $i-1$ in New Zealand.

How the regional specialisation index was calculated

Figure 3-5 The regional specialisation index lorenz curve



Places have become more diversified over time... and more like each other



Some changes haven't been so surprising....

The decline in manufacturing has mirrored the experience of other countries.

Many of the new jobs created over the last four decades have been in service industries where agglomeration effects matter. This has tended to favour large cities, of which ours is Auckland.

But there's been some insights for New Zealand....

People have become attracted to places to live that have good amenities and a good climate. Employment in these places has grown to service the population growth.

Towns that were highly specialised in manufacturing or primary product processing, and that couldn't offer good amenity, have struggled.

And we've raised some interesting questions for further study



Thank you

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