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The economic dynamics and population change of Australia's regional cities

From the AHURI Inquiry: Inquiry into population growth in Australia's smaller cities

Authored by

Tiebei Li, RMIT University

Todd Denham, RMIT University

Jago Dodson, RMIT University

Akshay Vij, University of South Australia

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The economic dynamics and population change of Australia's regional cities—Executive Summary

Authors

Tiebei Li, RMIT University
Todd Denham, RMIT University
Jago Dodson, RMIT University
Akshay Vij, University of South Australia

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Executive summary

Key points

- This analysis is based on data from the 2011 and 2016 censuses, and does not take into account the redistributions and changes that may have occurred with COVID-19. This report can be seen as providing a baseline for subsequent analysis of the changes that have occurred and continue to occur, identifying the trends and conditions across regional Australia's urban centres prior to 2020.
- Populations in regional urban centres are growing overall—however, this growth is differentiated.
- Regional urban centre population growth is associated with proximity to major cities, and to coastal locations.
- Regional urban centre population decline is associated with remoteness and exposure to the resource economy.
- Capital cities are the main source of migration to regional urban centres, principally coastal and satellite centres with regional-to-regional-centre migration highly self-contained. International migration follows similar distribution.
- Commuting between regional centres and proximate capital cities increased over 2011–2016, indicating increased peri-metropolitan dependency on metropolitan interactions.
- Employment growth is associated with population growth, particularly for the larger metropolitan satellite and coastal regional cities—however, this is also associated with lower wage growth due to the employment mix.

- **Health, community service, construction, hospitality and accommodation increased their share of regional employment.**
- **Industries associated with agglomeration economies are concentrating in fewer urban centres, while those associated with population services are becoming more dispersed.**
- **National economic growth factors appear to exert greater influence on employment growth in regional urban centres, while industry factors exert very limited influence. Regional effects exert greater influence than industry effects, although these are unevenly distributed.**
- **In 135 of 198 cases, a regional urban centre exhibits employment growth along with its surrounding functional economic region. For 33 regional urban centres there is positive divergence, while for 25 there is negative divergence. Four regional urban centres are declining within a declining functional economic region.**
- **Factors associated with stronger employment growth include employment factors, industry factors (especially those dependent on population growth), while income growth was less associated with employment growth.**
- **Population change exerted a strong influence on employment growth, as did human capital factors.**
- **Housing market (i.e. price) growth is strongly associated with population growth, while locational factors exhibited low associations.**
- **Cluster analysis identified nine distinctive regional urban centre groups: metro-satellites; large regional cities; medium growth cities; regional service centres; ageing population centres; agricultural centres; mining centres; industrial centres, and northern Queensland centres.**
- **Policy development should consider the following:**
 - Policy and planning measures to address the phenomenon of growth in metropolitan satellite regional urban centres, and the need to ensure coherent population, housing and employment distribution and linkages.
 - Coordinated economic and social development approaches to emerging low-income service economies in coastal regional urban centres.

- Long-term transition planning to address resource-dependent regional urban centres facing cyclical economic changes based on the labour intensity of construction relative to ongoing economic activity.
- Opportunities and mechanisms to leverage high-wage economic development from existing regional city industry clusters.
- Opportunities and mechanisms for regional spatial coordination of fiscal policy to optimise development of high-wage employment in suitable regional urban centres.

The study

Purpose

The contribution of regional urban centres to Australia's economic and population growth has been a topic of growing policy interest in the past two decades, as a result of rapid growth in the major cities and concerns for parts of regional Australia that have experienced population decline. Associated with these trends is the distribution of economic activity and employment—particularly as traditional regional strengths such as agriculture, manufacturing and mining have declined as sources of employment in recent decades. Over the same period, metropolitan areas have prospered because of concentrations of high-skill, high-wage knowledge work, indicating diverging regional fortunes as a result of wider economic trends.

The purpose of this research is to investigate patterns and dynamics of population, migration and economic change in Australian regional urban centres 2011–2016. The research is principally an empirically focused investigation identifying patterns and dynamic processes of regional change using advanced spatial analytical techniques, but provides an information base that will support future policy development efforts.

Inquiry

This research is part of a wider AHURI *Inquiry into population growth in Australia's smaller cities*. The Inquiry asks two overarching questions:

- First, what is the capacity of Australia's smaller cities to assist in managing national population growth, including international and national migration?
- Second, which policy instruments and programs are most likely to redirect population movements to these locations?

Study

This research investigates two overarching questions related to the Inquiry:

- How can we differentiate Australia's regional urban centres according to economic profile, population trajectory, industry structure and geography?
- What are the current mobility and settlement patterns of migrants, including those arriving from other parts of Australia and from other nations, across these smaller cities?

Three further research questions are posed by this project:

1. How can a typology of smaller cities assist to understand their role in regional, state and national economies?
2. How are Australia's regional urban centres differentiated in terms of economic profile, population trajectory and industry structure?
3. What demographic, economic and spatial factors are associated with economic and population growth, and what attributes are associated with better economic performance of regional urban centres?

Approach and methods

For Research question 1: the project undertakes longitudinal measures of social, demographic and industry change in regional cities 2011–2016 using Australian Bureau of Statistics (ABS) census data. Next, flow analysis and mapping of migration is applied to identify key migration patterns. Migration flows are used to construct migration regions via modularity analysis. Similar techniques are used to identify journey to work flows from which functional economic regions are constructed. Shift share of employment change and location quotient analysis of employment is used to understand economic change and industry structure.

For Research question 2, to understand how Australia's regional urban centres are differentiated the project applies hierarchical cluster and discriminant analysis to construct a typology of regional urban centres. This is based on a combination of economic, demographic and geographic factors. These are compiled into summary data and descriptive explanations.

For Research question 3: the study applies structural equation modelling (SEM) to identify the relationships between economic, social and demographic factors affecting population change and economic growth in regional urban centres.

Key findings

Differentiating Australia's regional urban centres

Australia's regional urban centres are heterogeneous in terms of size, location within the Australian continent and settlement structures, level of employment, industrial mix and degree of interaction with regional, metropolitan, national and international economic processes and dynamics.

In 2016, there were 198 Australian regional urban centres that had populations greater than 5,000 residents. Most are experiencing population growth. However this growth is differentiated across a range of factors, including:

- the existing size of the centre
- location relative to the coast
- location relative to an existing major capital city.

A small number of regional urban centres are experiencing population decline. These centres are largely associated with the resource economy. They are typically positioned in remote locations in Australia.

Migration

Migration is a major factor in population change within regional urban centres. Migration patterns are clearly structured at the regional scale, with distinct geographies of intra-regional movement that include discernible levels of self-containment. There is a sizeable phenomenon of major city to regional urban centre migration, especially in the south-east of Australia. Beyond the major metropolitan zones, there are larger internally connected migration regions, which often involving movement between adjacent regional urban centres. Some regional urban centres lose and receive populations across long distances. For example, the Northern Territory (NT) operates as a single migration region, partly because of its relatively small population and large scale—although the volumes of movement are relatively small.

International migration is a notable—although lesser—component of migration to and from most regional urban centres. The majority of international migrants to regional cities gravitate to the larger centres, particularly those centres that are proximate to the major cities, which reflects existing population concentrations and employment opportunities. Inland and remote regional urban centres attract relatively fewer international migrants, partly because of their less-diverse industry mix, smaller range of services, and distance from major population centres.

Differentiating regional urban centres

This research undertook a cluster analysis to differentiate Australian regional urban centres in terms of demographic, geographic and economic factors. The cluster analysis identified nine discernible clusters:

1. Metro-satellite centres—distinguished by metropolitan proximity and commuting links.
2. Large regional cities: Geelong, Wollongong, Newcastle, Sunshine Coast and Gold Coast.
3. Medium growth centres associated with lifestyle employment and retired residents.
4. Regional service centres—the largest group serving local regions.
5. Aging population centres—concentrated in northern NSW and Tasmania.
6. Agricultural centres—associated with agricultural activity, but with some resource activity.
7. Mining centres—associated with resource activity, but with some agricultural activity.
8. Industrial centres—associated with agricultural production, but often experiencing declining employment.
9. Northern Queensland centres—dependent on government employment, principally the military.

Economic performance of regional centres

This research investigated regional economic performance within a comprehensive analysis of regional growth via structural equation modelling (SEM). The model focussed on variables across four categories:

- economy and industry
- society and demography
- housing and infrastructure
- geography and transport connectivity.

The model found that employment factors were weakly correlated with employment growth, with local participation in the workforce the strongest indicator. Employment growth was associated with lifestyle and construction jobs, and self-employment. Government and resource-dependent centres experienced employment decline overall. Industry specialisation is linked to weaker economic performance, perhaps due to reduced sectoral diversity in relation to exogenous shocks. Incomes and employment growth were negatively correlated—which means that employment growth in fast-growing population centres tended to be in low-wage service sectors.

Overall, population change tended to have the strongest correlation with employment growth. However, if this population change included a strong retirement component then employment growth would be subdued. House price growth was positively associated with employment growth—although this likely reflects population effects, which means that accompanying employment growth may be low-wage. This is problematic from an affordability perspective if house prices inflate, yet wages stagnate.

Geography is a modest influence on employment growth in regional centres. Regional urban centres that are close to other centres or capitals—or near the coast—tend to have stronger employment growth than those in more remote locations.

Policy development options

The study findings offer at least three key insights for policy development:

- Regional employment growth is most strongly associated with population growth.
- Mining and agriculture are sectors of both opportunity and vulnerability for regional urban centres.
- Any policy seeking to actively distribute population more broadly across the Australian settlement system will need to consider the employment mix—particularly ongoing high-value jobs.

Regional employment growth

Regional employment growth is most strongly associated with population growth, particularly in coastal lifestyle and amenity locations. However, this employment growth tends to be in the low-wage sectors that serve these growing populations, as found by Baum, O'Connor et al. (2010).

Without higher-wage employment following population or growing from lower-wage employment, such centres face potential long-term economic weaknesses and limits to higher paid employment opportunity for their residents. This has implications for the achievement of the high-skill migrant components of *Planning for Australia's Future Population* (PM&C 2019).

For example, regional centres may miss out on attracting or generating:

- higher-waged financial services
- professional services
- information communications technology (ICT) employment
- scientific services.

These services are considered the basis for high productivity in advanced urban economies and tend to be prominent in major metropolitan agglomerations.

Devising policy strategies that can broaden and deepen economic activity in fast-growing but low-waged regional centres is important to their longer-term economic and social resilience. Such strategies could include leveraging instances where clusters of higher-skill and higher-wage employment currently exist, such as around regional university campuses or research facilities, in conjunction with the student scholarships component of *Planning for Australia's Future Population* (PM&C 2021). However, this issue requires further investigation.

Mining and agriculture: opportunity and vulnerability

Mining and agriculture remain sectors of both opportunity and vulnerability for regional urban centres. While the mining boom of the late 2000s boosted employment in some regional urban centres, much of this was cyclical employment in the mining sector—and as construction completed, population declined with employment in some centres.

Comparable patterns may be found in agriculture, where mechanisation and digitisation pose questions about future potential for employment growth and, in turn, for population growth. Similar questions may be posed in relation to infrastructure projects used as regional stimulus.

At the time of writing the Commonwealth had announced a \$660m gas electricity generation plant to be built in Kurri Kurri, NSW, which it claims would create 660 jobs during construction. The Kurri Kurri plant may generate employment stimulus, but it may also cause longer-term problems because of the longevity of the effect and the extent that it exacerbates resource-sector cyclicity in Kurri Kurri and its functional economic region. Thus the use and legacy of major construction projects as regional economic stimulus deserves further research and policy consideration.

Active population distribution

A further overall observation of the project is that any policy seeking to actively distribute population more broadly across the Australian settlement system will need to consider the employment mix, particularly ongoing high-value jobs. There may be scope for strengthening spatial fiscal policy in the absence of market-led growth in higher-skill, higher-wage employment in regional centres.

Australia has not pursued spatial industry policy for some decades, although the proposed Kurri Kurri gas plant could be considered a signal of a re-emergence of such direct interventionist thinking—regardless of how questionable the project might be from either a market or environmental point of view. Spending at such scale could include mechanisms to establish sustainable higher-value employment in regional centres and attract high-skilled working populations to work in them, rather than just focussing on short-term construction jobs. But policy should consider whether there is value in moving beyond short-term construction infrastructure stimulus and towards longer-term strategic framing of regional planning and fiscal policy. This could be addressed via the Regional Deals proposed in *Planning for Australia's Future Population* (PM&C 2019).

While the research does not specifically investigate the impact of current policy debates about building fast rail links between major metropolitan areas and proximate regional cities, the research findings do have implications for such policies. For example, *Planning for Australia's Future Population* (PM&C 2019) specifically focusses on rail and road infrastructure upgrades to connect regional cities as a key measure to decentralise population.

Attempts to shift population to regional centres are potentially fraught unless they are accompanied by wider economic development interventions to ensure high-skill higher-wage activity in the destination regions. This suggests that regional fast rail schemes need to expand their scope of intent to encompass a wider frame that involves a broader and longer-term policy agenda. It also suggests that there is an avoidable naivete to policy development that is based solely on singular instruments such as a rail infrastructure upgrade without wider interventions. In this context the Regional Deals anticipated by *Planning for Australia's Future Population* (PM&C 2019) will need to give clear consideration to interventions that can generate and sustain high-wage, high-skill employment beyond simple infrastructure upgrades.

In the absence of market-led, high-wage employment growth in fast-growing regional centres, an active regional fiscal policy could be designed. This might seek to encourage higher-skill regional employment to concentrate around selected regional urban centres to stimulate critical mass and initiate or amplify higher-value-add agglomeration economies.

However, this would require coordination of public-sector activities across multiple portfolios. For example, in addition to the student scholarships for regional tertiary educational institutions anticipated by *Planning for Australia's Future Population* (PM&C 2019), national research expenditure—or at least a share of it—could be earmarked to be spent at one of the 13 Australian universities located in regional urban centres, or at one of the many regional campuses of metropolitan universities. Federal research block grant funding is worth approximately \$1bn per year, and is designed in a way that favours metropolitan universities, but there is no reason this could not be specified to be spent all or in part at regional universities. Research employment is by definition high-skill. Coordination of research expenditure with spending in other policy domains, such as hospitals, energy and infrastructure might further leverage the value of both Commonwealth and state spending. There may be potential to coordinate with clean energy and climate-related financing initiatives. However, this raises questions of policy mechanisms.

National spatial planning has been discussed occasionally in policy conversations since the 1970s, and moves in 2019 to establish a national population plan have echoes of past efforts—even if they are superficial and lack fiscal weight. But if jobs are to accompany people in regional centres in the absence of market-led, high-skill employment growth, fiscal policy may need to be reconsidered as a supporting mechanism, which in turn requires a long-term coordinated plan and a degree of spatial focussing to be effective. Regional Deals as envisaged under *Planning for Australia's Future Population* (PM&C 2019) could be a mechanism for such spatial coordination.

In turn, this might require innovation in the public sector to address the evidence of employment growth predominantly in low-paid and low-productivity employment in regional urban centres. More research would be needed to investigate this dimension of policy development, which is beyond the bounds of this current study.



Australian Housing and Urban Research Institute

Level 12, 460 Bourke Street

Melbourne VIC 3000

Australia


+61 3 9660 2300

information@ahuri.edu.au

ahuri.edu.au

 twitter.com/AHURI_Research

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 Australian Housing and Urban Research Institute