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Foreword

ANZRSAI 45th Annual Conference 2022

The 2022 ANZRSAI Conference (i.e. Our 45th annual conference) is planned to be held at Charles Sturt University in Wagga Wagga over two days, 1-2 December. It would be a hybrid conference, with opportunities for physical or on-line presentations. Two Best Paper Awards sponsored by the Department of Infrastructure, Transport, Regional Development and Communication will be presented at the conference.

Further information about the conference is available at <https://www.anzrsai.org/conference/>

Common Species are at Risk after East-coast Floods



[Source: JCU's TropWater Centre]

Catastrophic floods earlier this year wiped out one of the largest and most important seagrass meadows in eastern Australia, increasing the risk that dugongs and sea turtles will become stranded, according to researchers.

Scientists from James Cook University monitored the health of seagrass meadows across 2,300 square kilometres of Hervey Bay and the Great Sandy Strait in southern Queensland.

Prof Michael Rasheed, who led the monitoring, said there has been a drastic loss compared with previous extensive mapping of seagrass cover.

“The boat surveys show there’s almost no seagrass visible in the 2m to 17m depth range for much of the deeper meadows, and these sites have previously recorded extensive areas of seagrass,” Prof Michael Rasheed said. “There were some areas of sub-tidal seagrass, but these were confined to the deepest areas in the northern part of the bay.

“The research team also used helicopters to assess more than 1,300 intertidal sites throughout the Great Sandy Straits and while some sites had seagrass the cover was typically less than one percent of the seafloor, offering scant resources for dugong and turtle.”

The decline in seagrass is due to sediment from floodwaters flowing into the ocean and reducing exposure to sunlight and smothering the seagrass. Dugongs and sea turtles rely on seagrass meadows for food.

Dr Chris Cleguer, a dugong expert, said there was concern that dugongs in the area may stop breeding.

“Some will move and some will die,” Dr Cleguer said.

In 1991, the region lost more than 1,000 square kilometres of seagrass after subsequent and severe floods. It led to the highest rate of dugong deaths on record and a 20% decline in dugong calf numbers.



[Source: Jason O’Brien/AAP]

Also, this year’s floods in northern NSW, including Lismore, Grafton, Coraki, Bungawalbin and Woodburn were more devastating. As per a Lismore psychologist Karen Potter, her community had been in a “post-traumatic state” for the past month and the second flood warning had “amplified everything”.

“When people are still in survival mode and don’t have a home to live in or don’t have clothes, you can’t process deeper psychological emotions,” she said.

Potter said many of her clients still weren’t living in their homes or were in bare houses as this round of flood warnings hit northern NSW.

Potter’s own rooms were flooded out a month prior, and with power still uninstalled for many Lismore businesses, she had been providing sessions over Zoom and phone. But there was only so much she could do at this stage.

“When I first went into Lismore and went to see our rooms and went through the town it was overwhelming ... the catastrophic devastation that’s happened,” she said.

The news with some significant data can be explored here at the following links:

<https://www.theguardian.com/environment/2022/may/21/dugongs-and-sea-turtles-at-risk-after-queensland-floods-wipe-out-seagrass-study-shows>

<https://www.theguardian.com/australia-news/2022/mar/29/northern-nsw-floods-2022-lismore-tumbulgum-mullumbimby-evacuate-new-south-wales-flooding-update>

<https://www.theguardian.com/australia-news/2022/mar/04/heartbreaking-australias-east-coast-reels-from-worst-floods-in-living-memory>

How Russia's invasion of Ukraine will impact Australians' wallets

Money knows no emotion and, sometimes, even less morality.

There was a cruel irony at play last week as surging commodity markets propelled Australian shares just as a previously unthinkable horror rained down over a nation helpless to stop the onslaught of its much bigger and more powerful neighbour.

As more than a million mostly women and children fled Ukraine to Poland and other NATO countries while the men stayed behind to fight, the world plunged deeper into a malaise that bore all the hallmarks of a macabre re-run of the events of a century ago.

Eight decades have passed since the last great global conflagration, interspersed with regional and bilateral conflicts of varying scale.

But the hope 30 years ago that the world finally had been brought together by common goals of peace and prosperity now seems to have evaporated.

Peace has been shattered with four great superpowers – America and NATO on one side facing off against Russia and China – dividing the world right down the middle.

Prosperity, meanwhile, for millions will remain an elusive dream as nations fortify themselves and look ever more inwards.

If it wasn't already on the skids, the dream of a single and open global economy is now a smoking ruin. Globalisation, along with its many benefits and significant cost, is officially dead.

The question is, hostilities aside, what does all that mean for us?

Basics like petrol and bread will become more expensive in the short to medium term, at least until trade flows stabilise. It would create hip pocket pain! A few interesting points to consider further:

- Will interest rates soar? Yes, already started soaring!
- War and sanctions could push petrol over \$2 a litre. Yes, we are adopting this, isn't it?
- Australia's mining companies and farmers might benefit from Russian sanctions, but consumers will lose out.
- Uncertainty and fear in the medium as well as long terms.

According to the business editor Ian Verrender, you'll pay whatever you have to for basics like food staples, rent and clothing necessities. But that will leave you short of cash for other things. Maybe you'll delay that new car purchase or the home renos.

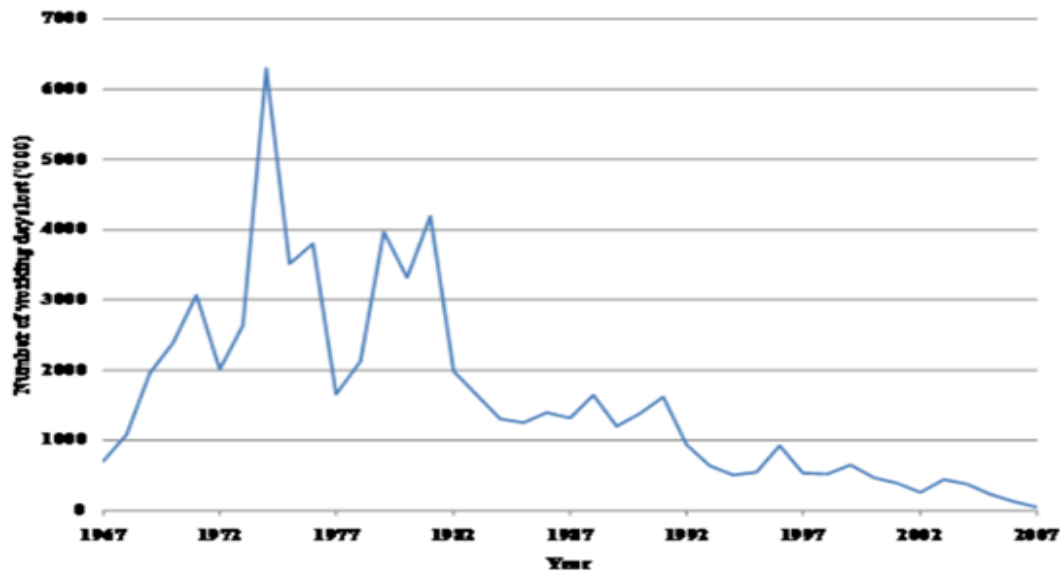
Higher prices driven by supply shocks, such as this, can act like a tax. They take money out of your pocket. And that lower spending power can hurt economic growth.

Those same economists are warning that the higher prices will lead to demands for higher wages. Again, it is a reasonable argument. That's what happened back in the 1970s, the last time inflation spiralled out of control.

But the world has changed since then. Workers no longer have the power they once did.

This graph shows the dramatic drop in strike action, and trade union power, from 1967 to 2007. At its peak in 1974, more than 6 million working days were lost to strikes that year.

Not including the pandemic, when industrial disputes all but disappeared, working days lost since 2007 has averaged around 25,000 a year with a corresponding sharp drop in the number of workers involved.



Working days lost in strikes in Australia from 1947 to 2007. (Source: Australian Parliament House)

Given workers no longer hold the whip when it comes to pay increases, raising interest rates to battle supply shock inflation would only serve to take even more cash out of workers' pockets. And that could put a serious handbrake on growth.

It is the very reason the Reserve Bank governor Philip Lowe has been at pains to point out that the RBA won't be in a hurry to hike rates until wage rises can cover them. Given many Australians are bound by Enterprise Bargaining Agreements and other contract arrangements, it could take quite a while before wages catch up with inflation.

Further information can be found at:

<https://www.abc.net.au/news/2022-03-07/russia-ukraine-invasion-and-how-it-will-impact-your-budget/100887104>

Did Women Decide the Outcome of 2022 Election?

Women were everywhere and nowhere in the 2022 federal election.

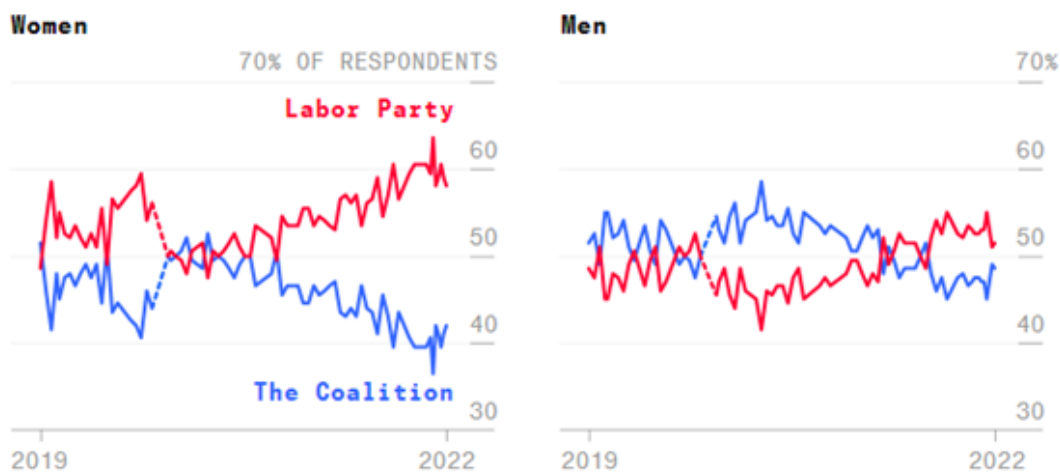
The message from the weekend's vote was that the things that really matter to women and their communities' matter at the ballot box, too. Even if they were not part of the conversations the major parties were having.

We know that women have been trending away from the Liberal Party, for almost 40 years. And we also know polls suggest women care about climate change more than men and of course we know they care about being respected and living in safety.

Women's Vote

From a yawning pay gap to the lack of diversity in boardrooms, little has since improved for women in the decade since Australia's first female prime minister, Julia Gillard, gave a blistering speech against misogyny that echoed across the world. Gender could now be a key factor in upending a government that holds power by just one seat.

Many Australian female voters have changed their minds since the 2019 election. Men, not so much.



Note: Voting intentions are based on two-party preference only, with latest poll conducted in week of April 18-24 Source: Roy Morgan

[Source: <https://www.bloomberg.com/graphics/australia-federal-election-2022-primer/>]

The women's vote is swinging toward Labor after a series of harassment scandals hit the government, ensnaring top ministers.

Many Australian female voters have changed their minds since the 2019 election. Men, not so much.

In a trend that should rattle the Coalition, the decline has been largely and steadily driven by female voters, who could be a decisive force in the vote.

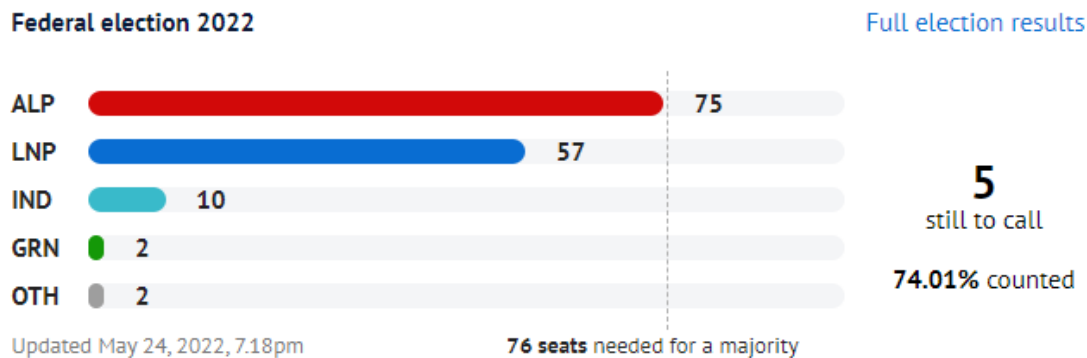
Big wins across the country

The most conspicuous winners on Saturday night were the so-called teal candidates. From Zoe Daniel and Monique Ryan in Melbourne to Zali Stegall, Sophie Scamps, Kylea Tink and Allegra Spender in Sydney and Kate Chaney in Perth, politics-as-usual is being revolutionised by independent women.

Here we have seen a swathe of well-credentialed professional women secure stunning victories in metropolitan seats that have historically provided the Liberal Party with its power base. This is a trend started by former independent Cathy McGowan in 2013 in Indi. McGowan, who has continued to advise the current crop of candidates, wanted local members who actually listened to their constituents.

The teals made gender equality one of their top priorities, also situating it within an interlinked set of policy positions including anti-corruption and climate change. And they have been rewarded with history-making wins. Their impact on Australia's political scene is already seismic and we're barely 24 hours post-election.

Labor says it is making a "record" \$3 billion investment into women's safety. As part of this, it is pledging \$77 million on consent and respectful relationships education. It will also spend \$157 million for more community workers to support women in crisis and put ten days of domestic violence leave into the National Employment Standards.



[Source: <https://www.smh.com.au/politics/federal-election-2022-results>]

Policymakers frequently fail to grasp the depth, complexity, and impact of violence on women and children. There are also clear links between women's safety and economic security, including the need to address income support, homelessness, and housing.

The economic cost of violence against women and children is huge, but the policy debate is constantly framed in terms of money spent. We will need to watch this area closely for signs of real progress and lives being saved and better supported.

Moreover, it is clear from this stunted, combative election campaign that our political system needs greater diversity. Many women are running in this election, but only two in ten of the major party's female candidates are running in winnable seats. Both parties have a very long way to go before their party rooms reflect the gender, class and ethnic diversity of contemporary Australia.

Since 1999, Australia's parliament has become less, not more representative of women: we have plunged from 15th in the world to 57th on this measure. In the early 1990s, both major parties had around 11% female MPs: now, the ALP has 47%; the LNP has just 26%.

The ALP used quotas to achieve this shift of bringing more women in the parliaments though!

Further information interesting reports can be found at the following links:

<https://theconversation.com/hey-guess-what-guys-women-vote-too-and-they-may-decide-the-outcome-of-this-election-182291>

<https://www.abc.net.au/news/2022-05-23/women-stormed-2022-federal-election-what-has-labor-pledged/101091444>

<https://www.smh.com.au/national/win-over-white-collar-women-in-the-cities-win-the-election-20220518-p5amc3.html>

<https://www.bloomberg.com/graphics/australia-federal-election-2022-primer/>

Commentary

From the Regional Australia Institute

Rebalancing of the Nation

The Regional Australia Institute (RAI) is calling for a rebalancing of the nation. Since launching its consultation paper in March, RAI has been engaging broadly across the nation with industry, government and community stakeholders to bring this to life.

According to the CEO of RAI (Liz Ritchie) – “We want a more dispersed population so that our cities become more liveable, while our regions gain the population that many of them need to thrive into the future. We want regional Australia to sustainably achieve its enormous potential in productivity, increasing the prosperity of the nation. And we want regional towns and cities to boast the services and infrastructure that they need to attract new residents, retain locals and ensure that everyone enjoys the quality of life that Australia, the lucky country, can offer to all Australians.”

This is an interesting consultation paper in a different time. Australia is experiencing a dramatic time in its history. The COVID-19 pandemic has impacted our lives and our livelihoods and prompted reflection among many Australians about our values and lifestyles. A shift is occurring, with net migration to regions at its highest level on record as more Australians turn away from city life. The opportunities of a regional lifestyle have been thrown into stark relief as our largest cities frequently shut down due to the pandemic, and as remote working has broadened the horizons of many people. We have an opportunity to seize this unique moment in time, to plan and shape the nation for generations to come.

The paper has stated that for the past 10 years, the Regional Australia Institute (RAI) has been dedicated to providing authoritative and trusted research and policy advice on regional issues. Much of the RAI’s focus has been on pushing the boundaries for regional Australia, testing and modelling to see what can be done better and identifying pathways for maximising potential. Several key themes have emerged from the extensive work that the RAI has undertaken over the past decade:

- Our work investigating population growth and mobility has emphasised the importance of the population narrative, both in attracting workforce and skills to regional Australia and in ensuring that Australia does not become a nation of crowded mega-cities.
- Our creation of the regularly updated Regional Jobs Vacancy Map and monthly Regional Jobs Update continues to highlight the availability and quality of jobs in regional Australia.
- The importance of strengthening liveability has emerged from our work on population, workforce and jobs. This relates to the quality of life in regional Australia, including the availability of housing, services and infrastructure.
- Our work has a strong focus on regional economic growth, equipping regions with the knowledge and tools they need to understand their unique opportunities for growth and how to harness innovation to increase their productivity.
- We have researched issues of disaster recovery and resilience seeking to ensure that regional communities and businesses stay strong in a future impacted by climate change.
- We have emphasised the importance of place-based planning and decision-making, calling for an elevation of regional voices and leadership.

All of our research firmly points to the conclusion that Australia will be a stronger, more prosperous nation if our regions are stronger. It shows the enormous potential for regional Australia to optimise its growth, bringing significant benefits to the entire nation and increasing opportunity for all Australians.

Other work from a range of stakeholders around the country also calls for stronger investment in our regions, better planning, and more place-based, targeted solutions to ensure that our regional communities can thrive into the future. Despite the broad acceptance that more can be done to strengthen regional Australia, there remains no single national framework which draws together the various themes which are all necessary to consider, in order to maximise opportunities and fully unlock the extent of regional Australia's potential.

This is a clear void, one which we want to fill by creating a 10-year National Regionalisation Framework which will ensure that our traditionally metro-centric policy-making and investment does not become entrenched, and which provides a set of critical targets and actions to strengthen regional Australia. Regionalisation will create a more equitable, balanced and prosperous future for all Australians, not just those who live within the city limits.

By creating the Framework, the RAI is seeking to lead a shift in mind-set, one in which there is a strong and targeted focus on regional Australia. We believe that regionalisation will create a lasting legacy, with the potential to shape the nation for future generations.

Key promises in the report:

- ❖ The Framework will serve to define and describe agreed areas of focus which, if implemented, will lead to a stronger regional Australia and a stronger nation.
- ❖ The Framework will be a point of reference on regionalisation for policy makers, industry and community leadership.
- ❖ It can guide governments, industry, business, and community on impactful actions to maximise the economic and social potential of Australia's regions.
- ❖ It will serve as a reference for further planning, policy, investment, and growth.

Detailed information can be found at:

<https://www.regionalaustralia.org.au/common/Uploaded%20files/Files/Regionalisation-Consultation-Paper-DIGITAL.pdf>

Building the Good Life Foundations of Regional Housing

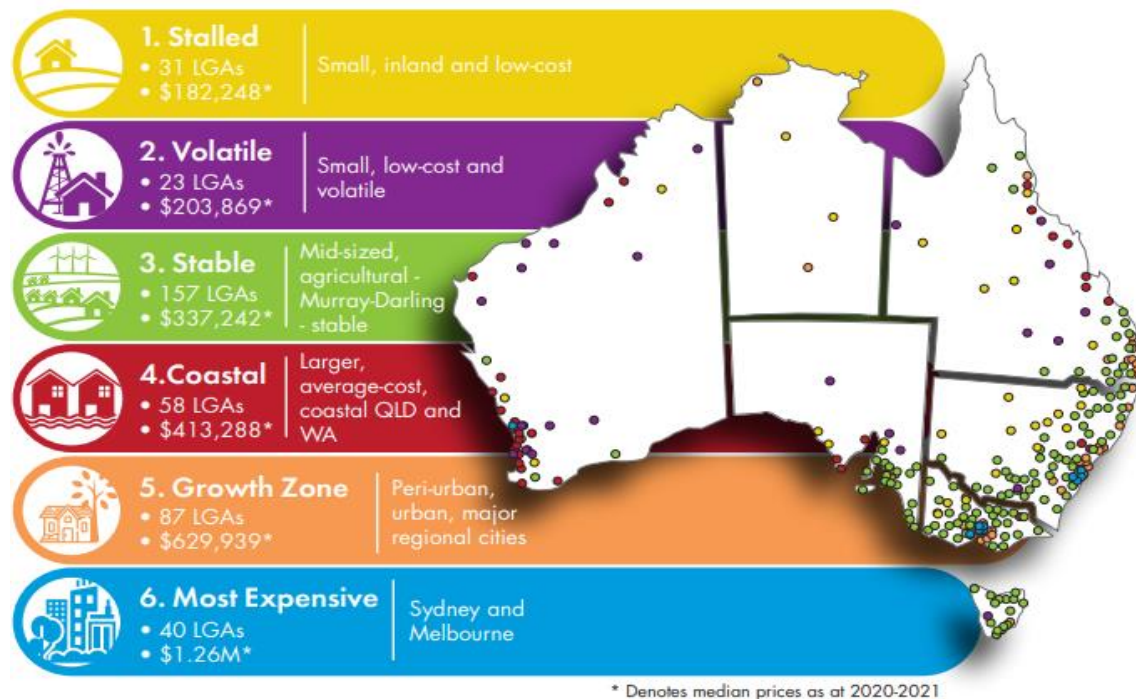
Regional Australia is experiencing a moment in history like no other. In the decade to 2020, its population grew by an average of 76,500 people per annum. A life in the regions is now more attractive than ever before.

However, as millions of Australians either choose to stay in the regions, or make the move, this surge in popularity brings with it growing pains that need to be addressed to accommodate the changing population trajectory in this country.

With more than 84,000 jobs advertised in March 2022 – yet another record broken – regional employers are looking for staff and they need appropriate housing to accommodate them.

This document, *Building the Good Life: Foundations of Regional Housing*, aims to assist policymakers, industry and regional leaders to establish placed-based initiatives rather than take a ‘one-size-fits-all’ approach to address the current pressures being felt in many regions.

This report summarises a multi-stage project undertaken by a team at the University of South Australia for the RAI’s Intergovernmental Shared Inquiry Program in 2021-22 led by Professor Andrew Beer, a leading expert on housing in Australia. Using key statistical data, the analysis found six clusters of housing markets, five of which are predominantly rural and regional markets. The six groupings are:



[Source: <https://www.regionalaustralia.org.au/>]

Further information can be found at the links:

<https://www.regionalaustralia.org.au/libraryviewer?ResourceID=96>

From Brookings

Superstars, rising stars, and the rest: Pandemic trends and shifts in the geography of tech

Mark Muro and Yang You (March 2022)

<https://www.brookings.edu/research/superstars-rising-stars-and-the-rest-pandemic-trends-and-shifts-in-the-geography-of-tech/>

Technology industries hold out the potential for decentralized economic vitality. However, for decades, tech has remained highly concentrated in a short list of coastal “superstar” cities—places such as San Francisco, Seattle, and New York.

More recently, though, the rise of remote work during the COVID-19 pandemic has spawned new hopes for the spread of tech jobs into the U.S. heartland. Given that possibility, this report probes the

latest trends in the geography of tech over the past decade and through the pandemic. Specifically, the analysis examines detailed employment data as well as location-specific job postings to assess local and national hiring trends. Data on firm starts is also examined. Among the findings are:

- **Growth in key tech industries has been rapid and resilient in the last decade, including through the pandemic.** Software publishing and other information services have led the way.
- **The tech sector has until recently been concentrating, not decentralizing.** Prior to the pandemic, tech was adding jobs across much of America, but it wasn't really "spreading out" in terms of more cities increasing their shares of the sector's jobs. Instead, coastal "superstars" like the Bay Area and Seattle predominated.
- **With that said, the pandemic years seem to be distributing somewhat more tech activity into a wider set of places.** This shift does not represent a massive reorientation of tech work into the heartland during the pandemic. However, the data in this report shows that employment growth slowed in some of the biggest tech "superstars" and increased in other midsized and smaller markets, including smaller quality-of-life meccas and college towns.

Significant findings point to continued pandemic-related decentralization. Specifically, the superstar metro areas' share of unique tech sector job postings—which had begun to decline in the pre-pandemic period—has slipped further in the last two years as postings declined from roughly 40% in September 2016 to about 31% in December 2021 (refer to fig. 5.1).

Figure 5.1. Superstar metro areas' share of U.S. tech job postings, Sep 2016 – Dec 2021

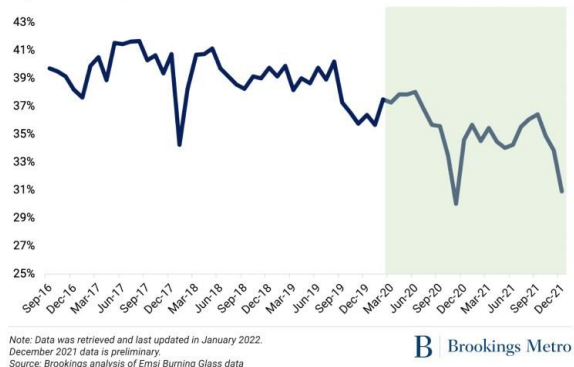


Figure 5.2. Rising star metro areas' share of U.S. tech job postings, Sep 2016 – Dec 2021



[Source: <https://www.brookings.edu/>]

On the other hand, job postings in the rising star cities have increased as a share of U.S. tech postings—from 14.5% in September 2016 to 16% at the end of 2021—hinting at new activity in non-superstar metro areas (refer to fig 5.2). Rising star cities with particularly vibrant growth in hiring ads during the pandemic include Denver and Miami. What's more, other metro area tech ecosystems beyond the superstars and rising stars—including increasingly dynamic centres such as Phoenix and Houston—have seen increases in their shares of the nation's tech sector job openings.

A likely better local strategy for promoting connection will be to focus on the basic block-and-tackling of building out homegrown tech ecosystems that are compelling to firms, entrepreneurs, and workers. This includes the hard work of:

- Building authentic, differentiated tech clusters
- Developing a skilled, abundant, and diverse digital workforce
- Providing excellent broadband connectivity

- Cultivating a vibrant tech community with plentiful networking opportunities and acceleration programs
- Crafting an excellent quality of place, complete with top-notch schools; parks and greenspace; bike lanes; and coworking spaces

It is also important for communities is thinking about how to manage the growth that will follow the arrival of hundreds of relocating tech workers who hail from areas that previously struggled with growth-related quality-of-life issues.

Overall, the pandemic years have raised the promise of tech decentralization through remote work and new siting decisions. However, the continued dominance of tech's long-standing hubs ensures that the "rise of the rest" won't happen easily, or by itself. The nation, states, and regions themselves will need to help it along.

This report's findings have implications for regional development in the US, perhaps could be useful to do similar research in Australia. ANZRSAL may be able to advocate for regional cities developments in this context.

What is happening in Pakistan's continuing crisis?

Madiha Afzal (May 2022)

Even by the standards of Pakistan's perpetually unstable politics, the last ten weeks in the country have been exceptionally turbulent. Pakistan has a new government as of April 11 after Imran Khan was forced out via a vote of no confidence. The weeks leading up to the vote, from the filing of the motion on March 8 to the vote on April 10, were dramatic and full of intrigue. Now, the country is in economic and political crisis. Shahbaz Sharif's new government has been in a state of decision paralysis and is struggling to find its footing, while the ousted prime minister is leading rallies across the country attacking the government's legitimacy and calling for fresh elections. At the same time, Pakistan is also in the grip of an acute climate emergency. It's not only political temperatures that are spiking: an unprecedented heat wave has enveloped Pakistan for weeks.

The Fall of Khan's Government: Crucial to the current crisis is understanding how Khan's government fell. While Khan was Pakistan's first prime minister to be ousted via a no-confidence vote, he joined each of his predecessors as prime minister in not lasting five years — the length of parliament's electoral term — in office. Pakistan's major opposition parties had been clamouring for Khan's exit since he came into office — calling him "selected" by the military as opposed to "elected" — and had formed an alliance, the Pakistan Democratic Movement (PDM), in the fall of 2020 for that purpose. This spring, the opposition gained traction. On the surface, the opposition blamed governance and economic failures under Khan. But the underlying reason their manoeuvres were successful was that Khan had lost the support of Pakistan's military, which helped him rise to power.

Several factors were responsible for the fracture between Khan and the military, who previously had functioned on a much-touted "same page." The biggest was an impasse over the transfer of the director general of the Inter-Services Intelligence (ISI) in October 2021. Khan refused to sign off on the director general's transfer, already approved by the military, for weeks. The then-ISI chief was a Khan loyalist, and speculation was that Khan wanted him to be around for the next election (or perhaps even to appoint him the next army chief).

Once Khan lost the military's support — though the military said it had become neutral — space was allowed to the opposition to make their moves. Two small parties allied with Khan in the ruling coalition switched to the opposition, enough to deprive him of his razor-thin majority in the National Assembly.

Khan hatched a conspiracy theory to blame for his government's collapse — alleging, without evidence, U.S. “regime change” for following an “independent foreign policy,” and claiming “local abettors” were responsible — claims that Pakistan's National Security Committee has rebuffed. But Khan and his allies have also alluded to the military being responsible for his exit — sometimes in veiled language and sometimes pointing fingers more directly at the “neutrals,” as they now refer to the military. In so doing, they are testing the limits of political confrontation with the military, receding only when it pushes back on their claims.

Read the whole article here at: <https://www.brookings.edu/blog/order-from-chaos/2022/05/20/what-is-happening-in-pakistans-continuing-crisis/>

From University of Sydney, the Warren Centre for Advanced Engineering

Digital Energy Systems – Challenges, Opportunities and Technologies

The Warren Centre has recently released a white paper for the communities. A quick summary of this report follows.

Australia is at the forefront of the uptake of distributed energy resources (DER) globally. According to the Australian Energy Market Operator (AEMO), power supply will consist mostly of renewable energy sources by 2040, with more than 20% coming from smallscale DER.

The objective of this white paper is to provide a better understanding of the current digital energy systems landscape as reviewed by leading University of Sydney researchers, industry and business partners including The Warren Centre and Nokia. It assesses the current situation and looks toward the future to identify where and what sort of challenges are likely to arise. It aims is to trigger further collaboration between the research community, industry and government agencies, as Australia seeks to find an effective, integrated solution to the nation's distributed energy resources.

Challenges: The challenge is to harness this intermittent energy. Today home solar owners in Australia are paid about 10 cents/kWh for electricity they export to the grid, but the retailers sell it for 30+ cents. There are two huge opportunities. Firstly, there is the commercial opportunity. The financial gap is huge. Can we manage this exported solar and distribute it to local customers? Who will manage it? What is needed to make this new exchange of electricity work and create a new 2-way market?

Secondly, rooftop solar generates power on demand side of the power meter. The emerging issue is low demand associated with overvoltages and reverse power flows, not peak demand as in conventional grids. However, if these sources of power are controlled, they can actually balance the network. Network companies can only manage the rapid uptake of rooftop solar by curtailing existing rooftop solar generation and preventing new connection, which is against the interest of prosumers.

The current demand response practices, that use flexible loads can shift demand by a few hours to reduce peak demand. However, these shift practices often do not consider the end users' comfort

requirements. Regardless, an increasing number of new rooftop solar installations come with battery storage. Battery storage, coupled with an intelligent energy management system (EMS), can effectively decouple energy and power consumptions, which preserves prosumer prerogative and privacy by allowing them to manage their own energy.

Using demand response for system operation is now possible at a new level. However, achieving the full potential requires aggregating DER into virtual power plants (VPPs). The existing VPPs that directly control individual batteries to achieve demand response allow the VPP operator to improve its position in the wholesale market.

Opportunities: To enable a proper two-sided market where VPPs both trade in the wholesale market and offer network support services, the DER aggregation problem needs to be formulated as an optimisation problem, akin to economic dispatch used in the wholesale market. To solve the problem and address privacy issues, a distributed approach is needed.

The distributed aggregation approach distributes the computation burden among prosumers agents where prosumers solve their own energy management problem and iteratively exchange messages with the aggregator until convergence. While this approach is feasible computationally, it does require a communication network with sufficient latency, reliability and bandwidth.

A framework: Changes are also required in the regulatory framework to support a future two-way market. Network companies do not have a contractual relationship with customers to manage their dispatchable solar electricity. If they were to use prosumer-owned DER for-network support, the regulatory framework would need to shift from the current regulated cost-plus compensation model towards a model that encourages the provision of new products and services. To realise these opportunities, network companies will need to work together with DER aggregators and retailers to facilitate distribution energy markets with full prosumer participation. The newly developed market platforms will enable the monetisation of new products and services across the value chain.

Finally, the report states that an unprecedented opportunity exists for the Australian energy sector to decide on how it will transform to meet the current and future market needs. Change will no doubt be disruptive, but it will occur, as it did with new business models in other industries such as transportation, accommodation, and finance. Change is in fact already occurring in the sector. This paper is a high-level summary of the plans for change. We invite you to join us on this journey for change.

Further details are available at:

<https://www.sydney.edu.au/engineering/industry-and-community/the-warren-centre.html>

From the Gulbali Institute of Agriculture, Water and Environment (CSU)

Charles Sturt launches the Gulbali Institute

The Gulbali Institute of Agriculture, Water and Environment was launched at Charles Sturt in Wagga Wagga, with an emphasis on growing research and embodying the Gulbali namesake of 'to understand country'.

- Charles Sturt has launched the Gulbali Institute of Agriculture, Water and Environment

- The Institute will assist with the University’s goal of growing research by 2030, focusing on climate change, bushfire, biosecurity, water management and more
- The Institute’s name comes from the Wiradjuri phrase ‘Gulbali ngurambang’, which translates as ‘to understand country’

Charles Sturt University has launched the Gulbali Institute of Agriculture, Water and Environment (Gulbali Institute) highlighting a commitment to working with First Nations people in research and education and driving benefits across Australia and globally.

The Institute will generate world-class research to optimise agricultural systems and production, improve the health of freshwater ecosystems and enhance biodiversity conservation.

Charles Sturt Vice-Chancellor Professor Renée Leon said the Gulbali Institute will help the University achieve the research goals it has set as part of the University Strategy 2030.

“The launch of the Gulbali Institute is an important milestone building on our strengths in applied research in agriculture, water and environment,” Professor Leon said.

“Impactful research is one of the cornerstones of the University’s standing as Australia’s leading regional university and we’re focused on delivering outcomes that will foster prosperous regional communities.”

Agriculture, water and environment, in addition to the fields of regional health, and cyber security and data science, has been targeted for strategic investment by the University.

The Institute’s name is derived from the Wiradjuri phrase ‘Gulbali ngurambang’, which translates as ‘to understand country’, reflecting the University’s intent for impactful research to build knowledge and understanding in agriculture, water and environment.

Charles Sturt University Vice-Chancellor’s Chair of Australian-Indigenous Belonging Professor Stan Grant Jnr said the University and First Nations groups and individuals had worked together in naming the Institute.

“In accepting the name ‘Gulbali’ for this Institute, the University is showing its commitment to increasing First Nations access and participation in education and research,” Professor Grant Jnr said.

“It respectfully acknowledges the importance First Nations people place on the understanding of Country and this will be embedded in future research projects and practices.”

Charles Sturt Deputy Vice-Chancellor (Research) Professor Mark Evans said the Institute will build on existing partnerships and complement other major initiatives at Charles Sturt in the Riverina.

“The launch of the Gulbali Institute is a call to action for champions of regional Australia – researchers, students, and collaborators – to co-design research to solve core challenges in areas such as climate change resilience, bushfires, farm productivity, biosecurity, the wine sector and environmental and water management,” Professor Evans said.

Further details are available at: <https://news.csu.edu.au/latest-news/charles-sturt-launches-research-institute-with-focus-on-agriculture,-water-and-environment>

RFQ Carbon Farming Capacity Building Needs

The NSW Treasury Office of Energy and Climate Change is seeking a service provider to assist with undertaking a market scan of: existing attitudes to carbon farming in NSW; opportunities, gaps and future direction/needs of capacity building, learning, training and guidance materials for NSW farmers in relation to carbon farming, land-based carbon abatement and sequestration activities; and if this recognises and supports consideration of carbon farming co-benefits e.g. nature-positive farming, indigenous and cultural outcomes.

This project contributes to the NSW Primary Industries Productivity & Abatement Program - Focus Area 2, Action 5 – Capacity Building. This market scan project is focused solely on the agriculture sector.

Full details of the project requirements are in the attached statement of requirements for a request for quote for research in relation to carbon farming capacity building needs in NSW. This work is for the NSW Government’s Primary Industry Productivity and Abatement Program (PIPAP).

A report has been recently released “Growing NSW’s primary industries and land sector in a low carbon world” by NSW Department of Planning and Environment (March 2022). A quick summary follows.

The NSW Government is leading the way in the race towards net zero emissions. Its Net Zero Plan Stage 1: 2020-2030 (the Plan)¹ sets out the State’s ambitious agenda to reduce emissions by 50% by 2030 on 2005 levels and achieve net zero by 2050. The Primary Industries Productivity and Abatement program (the program) is an integral element of the Plan. It focuses on major opportunities to reduce emissions across the NSW primary industries and land sector.

As the world decarbonises, the primary industries and land sector is facing a unique combination of factors:

- Increasing concern about environmental, social and governance (ESG) performance across the supply chain, by the investment community and from consumers;
- Significant appetite from within the sector to act on climate change and benefit from abatement opportunities; and
- Growing interest from the finance sector to pursue nature-positive, low emissions practices that improve returns and reduce risk.

The sector is well positioned to meet changing market demand and seize the opportunities presented through improved productivity, access to finance and the generation of new revenue streams through carbon markets. At the same time, there is growing recognition of the high rate of depletion of natural capital, and the impact that this will have not just on our natural world, but on our economic future.

The NSW Government will invest \$125 million to support land managers in taking on-ground action, to develop data, metrics and environmental markets, and to help producers meet the growing interests in ESG performance from consumers, the supply chain and the investor community.

This will ensure the sector can thrive in a low carbon world, while also enhancing NSW’s natural capital. The program has 3 focus areas:

- **Developing market and industry foundations** – \$52 million to develop trusted and transparent data, metrics and frameworks to underpin strong market activity;

- **Building critical mass and capacity** – \$72 million to incentivise land managers to take early action on high priority areas and build carbon management and emissions abatement capacity and expertise; and
- **Accelerating finance for natural capital and low carbon farming** – \$1 million to initiate work with the financial sector to help finance nature-positive and low emissions practices by farmers and land managers.

The first focus area lays a strong foundation, providing the evidence for action and investment. The second focus area builds confidence and skills, demonstrating how to take real on-ground action. The third focus area aims to unlock finance, linking strong environmental performance to good economic sense. Together these investments will support farmers and land managers to reduce emissions and access environmental markets while optimising productivity and seizing new market opportunities.

For more information please read at:

https://www.energysaver.nsw.gov.au/sites/default/files/2022-05/Growing_NSWs_primary_industries_and_land_sector_in_a_low_carbon_world_May_2022.pdf

From CEDA

We need more nuance in the migration debate

By Melinda Cilento, the Chief Executive of CEDA (March 2022)

The federal government has deployed more than \$300bn of direct spending on the economy during the pandemic to date, creating huge demand at a time when our population has virtually stood still.

In that situation, the arithmetic of GDP per capita and the success of that stimulus made it inevitable that GDP per capita would rise in the short-term.

The benefit of closed borders for the domestic economy was that Australians redirected part of their regular spend on international tourism back onshore.

Maintaining GDP per capita growth year in and out without migration is not sustainable.

It's not as simple as migrants taking jobs and increasing infrastructure needs.

Migrants bring skills and experience, create demand in our economy and underpin services exports such as international education.

And they add to, not detract from, our fiscal position. According to the 2021 Intergenerational Report, skilled migrants make a positive net contribution to the budget's fiscal position over the long run of around \$318,000.

This reflects the fact that migrants are younger and on average more highly skilled, and therefore help to combat impacts of population ageing.

On the supply side, now more than ever we need the skills and capability migrants bring to our workforce to lift productivity and deliver our investment pipeline.

It is productivity that has been responsible for 80 per cent of the lift in Australian incomes over the last three decades.

Australia needs to lift the depth and calibre of its managers and deploy new technologies such as artificial intelligence right across the economy. This will not be achieved without a strong skilled migration program into the future.

Currently unemployment is low largely because demand and jobs growth are strong. In a recent roundtable with CEDA members, one CEO described demand being “as strong as ever”.

This is reflected in the employment data, which shows around 250,000 additional jobs created since March 2020. It is the demand for labour, underpinned by tremendous economic stimulus, that is a key factor here – not just border closures.

According to the NAB business survey for the December quarter, 85 per cent of businesses reported that labour shortages are holding back output – the highest on record.

CEDA’s own survey of CFOs found that almost 70 per cent of respondents suggested that access to appropriately skilled workers would be important or very important for driving their investment decisions in the next 12 months.

These labour pressures have been experienced across all industries, including health, technology and aged care. Without access to skilled migrants over the last 18 months, there have been delays to projects and investments in Australia.

Importantly, this is not just a story of inward migration. Multinational organisations manage their teams across many borders and the opportunity to work and live-in different locations is very attractive to employees.

After two years of immobility many are hungry to pursue these opportunities and experiences. So much so that one firm reported to me that one in four of its global workforces have indicated a desire to move locations.

Their concern: it is far easier to leave Australia than to get in. CEDA has long pushed for the government to fast-track visas for multinational company transfers to quickly fill our skills gaps. This should be a priority now.

Australia now has the opportunity to reset its long-term migration strategy.

To be successful we need to move beyond simplistic arguments of either a Big Australia or no migration positions and instead accept the need for more nuance in the national debate.

From the Productivity Commission

Not Everyone has a Home that is Safe and Affordable

During the COVID-19 pandemic, we have become more familiar with our homes. They are essential to our lives: where we rest, care for our family, entertain friends and, increasingly, work.

But not everyone has a home that is safe and affordable. According to 2016 Census data, around 8000 people sleep rough, or live-in improvised dwellings or tents. And another 108 000 have no permanent home. Many others face insecurity in the private rental market, struggling to afford the weekly rent.

The Productivity Commission has been asked to review how State, Territory and Australian Governments work together on housing and homelessness issues.

Many people who experience insecure or unaffordable housing will come into contact with government-funded programs. Governments fund various housing and homelessness services, including temporary accommodation and social housing. Other programs aim to make the private rental market more accessible, by providing information, support or financial assistance to tenants.

The Commission is keen to hear from people who have used these services, experienced homelessness, or faced barriers to renting or buying. We are also interested in hearing from organisations that work in the sector.

We have released an issues paper outlining some key questions and issues. We invite you to make a submission or brief comment before the closing date of 18 March 2022. For more information go to the Housing and Homelessness Agreement Review.

Access the full paper here: <https://www.pc.gov.au/inquiries/current/housing-homelessness/issues/housing-homelessness-issues.pdf>

From the Business Insider Australia

Australia has Nearly Eliminated Mass Shootings — Here's What the US can Learn

By Leanna Garfield and Erin Snodgrass (Business Insider)

- Two recent mass shootings in New York and Texas have sparked renewed calls for stricter gun control.
- Australia has witnessed one mass shooting since 1996 — the same year the country passed a sweeping set of gun regulations.
- Researchers say similar policies could work in the US, especially if laws were instituted at the national level.

Australia has had one mass shooting since 1996.

Meanwhile, the United States has already seen more than 200 mass shootings in 2022, according to the Gun Violence Archive.

The latest shooting — where an 18-year-old suspect fatally shot 21 people, including 19 children at Robb Elementary School in Uvalde, Texas — has once again renewed a national debate around stricter gun regulation.

We might look to other countries to see whether tighter gun laws can be successful. That is the case in Australia, where the government passed the National Firearm Agreement (NFA), a sweeping set of gun regulations, in 1996. According to the most recent data available — from 1996 to 2015 — the annual number of gun-related homicides decreased from 516 to 211.

Before 1996, the country had seen 14 mass shootings, but one particularly horrific spree led to gun reform. In April 1996 — in the worst mass murder in Australia's history — gunman Martin Bryant killed 35 people and injured 24 others at a seaside resort in Port Arthur, Tasmania. Twelve days later, the government instituted the NFA, which includes three main provisions: tight control on semi-automatic and fully automatic weapons; a national registry of firearm owners; and a buyback program so that Australians could sell guns back to the government.

While it's difficult to say whether the NFA directly led to the drop in mass shootings and a reduction in gun-related homicides, experts say we can draw some links.

Bipartisan research suggests that Australia's strict gun regulations have led to a big decline in firearm homicides.

One of the more recent studies on the subject is by Elena Andreyeva and Benjamin Ukert, two public health researchers at the University of Pennsylvania. Their 2017 working paper suggests the NFA decreased firearm mortality by 60%, including homicides and suicides. Another one of their peer-reviewed studies, published in 2017, came to a similar conclusion.

"The NFA is unique in that it tackles many different problems at the same time," Ukert told Business Insider.

The newer study compares gun deaths in various Australian states before and after the NFA. It suggests the NFA was more successful in states with higher rates of firearm deaths before gun regulations were instituted.

Andreyeva and Ukert controlled for several variables, including gender, age, economic status, and previous gun laws. Though their study accounts for both firearm homicides and suicides, they did not see a substantial decrease in total suicide rates since the NFA. The regulations may have had a much larger effect on homicides, however. The study estimates that, on average in Australian states, there has been a 96% reduction in murders by guns since the NFA.

Other research has come to similar conclusions. A 2016 paper from the University of Sydney and Macquarie University suggests that Australian gun policies correlated strongly with declines in firearm homicides. They acknowledge that there are other factors at play (including improvements in medical technology and an overall improvement in crime), but also say the NFA was at least partly responsible for the national reduction in firearm deaths.

What the US can learn from Australian gun control?

Andreyeva and Ukert add that, based on their research, the US can learn a few things from Australian gun regulation.

For example, the NFA mandates that Australians must wait 28 days before they can buy a gun, due to rigorous background checks.

"If it's hard to buy guns legally, in crimes driven by passion as opposed to preplanned acts, [the regulation] would have a larger effect," Andreyeva said. "If I want to commit a mass shooting and I come to the store to buy a gun, but I'm told I have to wait 28 days, I might change my mind completely."

Mick Roelandts, firearms reform project manager for the New South Wales Police, looks at a pile of about 4,500 prohibited firearms in Sydney that have been handed in over the past month under the Australian government's buyback scheme, July 28, 1997. David Gray/Reuters

Unlike American gun regulations, the NFA also applies to every Australian state. Prospective gun owners must obtain a permit and license, be at least 18, undergo a firearms safety training, provide a "genuine reason" for buying a gun other than personal protection, and provide documentation about storage arrangements for their weapon.

American gun culture differs from Australian gun culture: That said, there are differences between gun culture in Australia and America, which could make something like the NFA less effective in the US.

Gun control is politically polarizing in the US, and firearms are very accessible. (Currently, the number of registered gun stores outnumber Starbucks and McDonald's locations in many US cities, making firearms a deep-rooted part of American life.)

Gun control is a debate in Australia, but not nearly to the same degree. Since the NFA was passed, both country's two major political parties (the Labor Party and the National Coalition) have expressed support for it, and any changes to the law require a unanimous vote.

The public also readily gave up many their guns after the 1996 shooting. During the NFA's buyback program in 1997, Australians sold 700,000 firearms to the government, reducing the number of civilian guns by approximately 20%. And in September of 2017, the Australian government collected 26,000 more unregistered firearms. Of course, the data does not account for every firearm in the country, like those bought on the black market.

Andreyeva and Ukert believe that the NFA made the black market for guns smaller in Australia, since an ocean surrounds the country and makes it more difficult to import guns illegally. Even if individual US states imposed strict gun control, firearms could still easily flow in from other states or nearby countries.

"The states would probably need to come together, and the regulations would need to be at the federal level," Ukert said.

Further details are available at: <https://jamanetwork.com/journals/jama/fullarticle/2530362>

THE CONVERSATION

'Where have All you Australians Gone?' Australia's Shrinking Role in Cultural Diplomacy

Alison Carroll, University of Melbourne

Almost all governments today support some funding towards promoting their international political and economic agendas through cultural activities overseas: commonly referred to as part of "cultural diplomacy" or "soft power".

Cultural diplomacy is not new. Julius Caesar brought gladiatorial performance to Britain, not so subtly suggesting Rome's power. James Cook presented gifts to the Pacific Island chiefs – albeit insubstantial ones in return for the highly prized objects he received, now in European collections.

The British Council was established in 1934 to stem the force of Soviet cultural diplomatic success. The Japan Foundation was founded in 1972 to create a more sophisticated view of a Japan emerging from the second world war.

We have never had an international cultural agency, and the Federal government avenues we do have for supporting international artistic projects, the Department for Foreign Affairs and Trade (DFAT) and the Australia Council, have shrinking funds.

In the 2000s, I was a member of DFAT's Australia Indonesia Institute. Our small fund supported almost all the official cultural engagement between the two countries, and even it decreased before our eyes. It didn't surprise me when leading curator Jim Supangkat asked me in Jakarta: "Where have all you Australians gone?"

Regionally inactive: In 2021/22, in admittedly difficult COVID times, just one cultural project – the Ubud Writers Festival – was funded through the Australia Indonesia Institute's tiny A\$450,000 allocation for all people-to-people projects between us and our so-important neighbour.

It does not help that the Australia Indonesia Institute, like most of the DFAT bilateral agencies with these precious country colleagues, now has no specialist arts person on its board.

Most Commonwealth government funding and capacity in the area is allocated to individual applicants by the federal arts agency, the Australia Council.

The application forms for funding from DFAT, bilateral agencies like the Indonesia Institute, and the Australia Council are particularly onerous, as is the ensuing reporting of how funds are spent. There are smarter ways all round.

More on this story is available at: <https://theconversation.com/where-have-all-you-australians-gone-australias-shrinking-role-in-cultural-diplomacy-181485>

CONFERENCES and STUDY OPPORTUNITIES

ANZRSAL 2022 Conference

The ANZRSAL 45th Annual Conference will be held in Charles Sturt University, Wagga Wagga Campus. Further details are available at the ANZRSAL website.

2022 RSA Winter Conference

The Regional Studies Association Winter Conference 2022 offers a timely opportunity to discuss and debate important issues, to rethink the key theories, concepts and methods, and to explore futures for regions and cities. The organisers seek papers and special sessions that critically evaluate any aspect of regions in transition, particularly those that:

- Break new ground by identifying new fields of enquiry
- Propose new concepts and methods

- Examine the consequences of and challenges to sustainability transitions (especially on the linkages between the three pillars of sustainability – economic, social and environmental)
- Propose new policy solutions for local and regional policy and planning practitioners
- Collaborative, comparative or interdisciplinary papers are especially welcome
- Session proposals experimenting with new formats for the debate and engagement of the audience are encouraged

Regions in Transition: Balancing Economic, Social and Environmental Sustainability in the Face of Uncertainty

Date & Location: London, UK, 10 Nov 2022 - 11 Nov 2022

More details are at <https://www.regionalstudies.org/events/2022-winter-conference/>

Regional Studies Blog

Professor Paul Dalziel, Executive Officer, ANZRSAI has recommended the Regional Studies Association Blog, which has been running since 2010. Each post is an easy-to-read piece between 500 and 750 words on a topical issue in regional studies.

The link is https://www.regionalstudies.org/category_news/rsa-blog/. A recent contribution that is relevant to ANZRSAI as we plan for the new post-CoVID normal is the following item: [Moving towards a new conference model? The rocky road to virtual conferencing](#), by Daniela Carl and Alex Holmes. Ashleigh Weeden talks about the ‘right to be rural’ during the CoVID epidemic in a contribution entitled [COVID-19 and Cottage Country: Exploring place, power, and policy in the ‘right to be rural’](#).

CURRENT RESEARCH ABSTRACTS

ANZRSAL Abstract Alerts

To contribute to ANZRSAL Abstract Alerts email the editors a title, abstract, and citation.

Joseph Drew:

Joseph.Drew@uts.edu.au

Yogi.Vidyattama

Yogi.Vidyattama@canberra.edu.au

We would like to draw your attention to the abstracts from Australasian Journal of Regional Studies and a YouTube Channel 'Professor Joseph Drew's World of Local Government'

For the latter it can be found in:

<https://www.youtube.com/channel/UCXn5CI2x5h1cgEsaT8nLK9g/videos>

The whole purpose of the channel is to help local government help other people. So, please consider subscribing and sending the link on to colleagues.

In a few weeks' time Prof. Joseph Drew will start uploading videos by some of his colleagues from around the world which will provide people with new global insights into what can be done to make LG even stronger.

Does a local knowledge base in Industry 3.0 foster diversification in Industry 4.0 technologies? Evidence from European regions

Matteo Laffi & Ron Boschma

Abstract: The aim of the paper is to shed light on the role played by regional knowledge bases in Industry 3.0 in fostering new technologies in Industry 4.0 in European regions (NUTS 3) over the period 1991–2015. We find that 4.0 technologies appear to be quite related to 3.0 technologies, with some heterogeneity among different technology fields. The paper investigates the geographical

implications. We find that the probability of developing Industry 4.0 technologies is higher in regions that are specialized in Industry 3.0 technologies. However, other types of knowledge bases also sustain regional diversification in Industry 4.0 technologies.

DOI:

<https://doi.org/10.1111/pirs.12643>

The role of inventors' networks and variety for breakthrough inventions

Niccolò Innocenti, Francesco Capone, Luciana Lazzeretti & Sergio Petralia

Abstract: This paper studies the role of the inventors' networks and the diversity of the local industrial structure for regional innovation, differentiating between regions' production of normal and breakthrough innovations. Our results suggest that, on the one hand, local related variety enhances the overall innovation rate, while unrelated variety supports the rate of breakthrough innovations. On the other hand, we find evidence that inventors' networks are determinant for regions' patenting of normal and breakthrough innovations. To do so we constructed a unique database of Italian patenting activity at the United States Patent and Trademark Office (USPTO) dating back to 1972.

DOI:

<https://doi.org/10.1111/pirs.12644>

New evidence on measuring the geographical concentration of economic activities

Domenica Panzera, Alfredo Cartone & Paolo Postiglione

Abstract: Spatial interactions among regional units may influence the geographical distribution of economic activities. Many traditional measures of geographical concentration fail in capturing this aspect, being insensitive to permutations of the spatial position of regions. This paper proposes an

approach to the measurement of geographical concentration of economic activities that accounts for spatial interactions among regions. The locational Gini is split into spatial and non-spatial components, so that a new interpretation of the index is presented. The measure is applied to evaluate the geographical concentration of different economic sectors for 1,323 NUTS 3 regions in the European Union over the period 2001–2018.

DOI: xxx

<https://doi.org/10.1111/pirs.12644>

Price effects of spatial competition in retail fuel markets: the impact of a new rival nearby

Leonardo C. B. Cardoso, Carlos Frederico A. Uchôa, Williams Huamani, David R. Just & Raúl V. Gomez

Abstract: Our main goal in this paper is to understand the fuel market's spatial price competition. While most of the literature uses the density of gas stations and proximity to rivals as proxies for spatial competition, we measured the marginal increase in spatial competition by the entrance of a new rival nearby. The empirical results indicate that a new firm's entrance reduces prices, and the reduction is more significant the closer the new rival is. A new rival less than 100 meters away is related to a reduction of 2.6% on the typical incumbent firm price. When the new rival is located farther than 250 meters, the incumbent response is lower than 1%. For even greater distances, the effects were significant only when incumbents are unbranded. The extent of spatial competition matters for the outcome; while firms that already faced intense spatial competition are not impacted by having an entrant seller nearby, those facing low spatial competition had a significant price reduction. The pattern, entry of rivals closer matters more, remains when investigating the gasoline price, the

ethanol price, and the gasoline wholesale-retail margins in Brazil.

DOI:

<https://doi.org/10.1111/pirs.12645>

Worker and firm heterogeneity, agglomeration, and wages in Brazil

Diana Silva & Carlos Azzoni

Abstract: This paper analyses the influence of agglomeration and spatial sorting on wages in Brazilian cities. The empirical strategy is based on a two-step estimation. The first step estimates a wage equation with the observed characteristics of workers and firms and location effects. The second step decomposes the location effects into employment density and fixed effects of firm and worker. We estimate an urban wage premium for a developing country with the simultaneous inclusion of worker and firm fixed effects, instrumental variables, and nighttime lights. We find agglomeration effects of 4.3–5.7%, which are larger than those obtained for developed countries.

DOI:

<https://doi.org/10.1111/pirs.12637>

Willingness for different job mobility types and wage expectations: An empirical analysis based on the online resumes

Lanfang Deng, Hongyi Li & Wei Shi

Abstract: In this paper, we study different determinants of the intentions of multi-dimensional job mobility and potential consequences on the expected wage, allowing for multiple types of moves, including location, industry, and occupation, and different combinations of these three dimensions. Our results confirm that the same observable characteristics can lead to different or even completely opposite effects on job mobility intentions. To be specific, on-the-job seekers (compared to unemployed ones) and job seekers with management positions in their

last jobs both have a higher willingness to change job locations, but they are less willing to change industries and occupations. Moreover, our results demonstrate that the relationship between job mobility and wage expectations highly depends on the combinations of different mobility dimensions. Specifically, potential geographic mobility positively impacts wage expectations, with an increase of the expected wage by 6.3%. However, changing industry, occupation, or both results in a lower expected wage by 3.7%, 1.6%, and 11%, respectively. The wage expectation of the “All change” group does not significantly differ from the cohort of non-movers (i.e., “No change”), implying that geographic moves could only partially offset the adverse effects of switching both occupation and industry.

DOI:

<https://doi.org/10.1111/pirs.12636>

An exploratory analysis of the interactions between the determinants of migratory flows

Iuliana Mihai & Isabel Novo-Corti

Abstract: More than often, studies explaining migration causes centre on economic explanations and minimize other factors' explanatory power. This research aims at creating a comprehensive model of migration determinants taking into account four dimensions: economic, social, cultural, and digital. A path model consisting of these dimensions was created and estimated through partial least squares structural equation modelling (PLS-SEM). The PLS-path model was applied to Romanian migration flows to 21 EU member states during 2007–2017. The findings indicate that social and technological developments have significant impacts on migration flows and that digital distance has a full mediation effect on the relationship between cultural distance and migration flows.

DOI:

<https://doi.org/10.1111/pirs.12639>

Does the high-speed rail network improve economic growth?

Jun-Teng Ma, Tie-Ying Liu

Abstract: This paper discusses whether high-speed rail (HSR) construction in China promotes urban economic growth, and it uses social network analysis (SNA) and a panel threshold model. We provide robust evidence that HSR networks have non-linear effects on the urban economy. Urban location and transportation hub status change as the density of HSR networks increases, and from 2008 to 2017, the national average annual growth rate of the weighted degree centrality (WDC) was 44.93%. We find the WDC and betweenness centrality (BC) have positive influences on urban economic growth. However, HSR network expansion reduces the economic benefits of HSR because the marginal contribution of new HSR lines to economic productivity decreases and there is a crowding out effect caused by excessive agglomeration. HSR networks can promote the economy of Western China to a greater extent and can promote the economy more in small cities than in large and medium-sized cities. These findings can help the government rationalize its strategy for designing HSR lines in various regions.

DOI:

<https://doi.org/10.1111/pirs.12641>

An empirical Stock-Flow Consistent regional model of Campania

Rosa Canelli, Riccardo Realfonzo & Francesco Zezza

Abstract: We develop an innovative Stock-Flow Consistent macroeconomic regional model with five sectors, exploiting economic and financial statistics for Campania, covering the period 1995–2018, and propose a methodology to close the financial account of the private sector when financial data are lacking. The model is then used to perform

medium term Economic Policy Scenario Analysis. We find that a debt-funded fiscal expansion has permanent positive effects on growth, with an impact multiplier above one and a medium-run multiplier of 0.71. In the case of a balanced-budget rule the same increase in government spending has still positive effects on growth – with a medium-run multiplier of 0.6 – but adverse ones on the private corporate sector.

DOI:

<https://doi.org/10.1111/pirs.12638>

A comprehensive method for improvement of water quality index (WQI) models for coastal water quality assessment

Md Galal Uddin, Stephen Nash, Azizur Rahman & Agnieszka I. Olbert

Abstract: Here, we present an improved water quality index (WQI) model for assessment of coastal water quality using Cork Harbour, Ireland, as the case study. The model involves the usual four WQI components – selection of water quality indicators for inclusion, sub-indexing of indicator values, sub-index weighting and sub-index aggregation – with improvements to make the approach more objective and data-driven and less susceptible to eclipsing and ambiguity errors. The model uses the machine learning algorithm, XGBoost, to rank and select water quality indicators for inclusion based on relative importance to overall water quality status. Of the ten indicators for which data were available, transparency, dissolved inorganic nitrogen, ammoniacal nitrogen, BOD5, chlorophyll, temperature and orthophosphate were selected for summer, while total organic nitrogen, dissolved inorganic nitrogen, pH, transparency and dissolved oxygen were selected for winter. Linear interpolation functions developed using national recommended guideline values for coastal water quality are used for sub-indexing of water quality indicators and the XGBoost rankings are used in combination with the rank

order centroid weighting method to determine sub-index weight values. Eight sub-index aggregation functions were tested - five from existing WQI models and three proposed by the authors. The computed indices were compared with those obtained using a multiple linear regression (MLR) approach and R2 and RMSE used as indicators of aggregation function performance. The weighted quadratic mean function (R2 = 0.91, RMSE = 4.4 for summer; R2 = 0.97, RMSE = 3.1 for winter) and the unweighted arithmetic mean function (R2 = 0.92, RMSE = 3.2 for summer; R2 = 0.97, RMSE = 3.2 for winter) proposed by the authors were identified as the best functions and showed reduced eclipsing and ambiguity problems compared to the others.

DOI:

<https://doi.org/10.1016/j.watres.2022.118532>

A Moran eigenvector spatial filtering specification of entropy measures

Daniel A. Griffith, Yongwan Chun & Jan Hauke

Abstract: Regional science investigations of geographical disparities in socio-economic development sometimes utilize entropy, which measures a phenomenon's distributional uniformity across geographical space. Entropy also is widely utilized to measure random phenomenon dispersion, and often used to identify the most probable allocation of a phenomenon in space. Its common formulation is with empirical frequencies, following Shannon. Batty introduces spatial entropy assuming equal probability over space. His specification considers probabilities as fundamentally being spatially independent, which does not hold in most empirical geographical analyses. Hence, an entropy measure can be further modified by controlling extra variation caused by spatial autocorrelation. This paper proposes a Moran eigenvector spatial filtering (MESF) entropy specification that accounts for spatial autocorrelation when modelling georeferenced

data. Using eigenvectors from a transformed spatial weights matrix, MESF identifies and isolates spatially autocorrelated components within a georeferenced variable. Coupling it with a non-normal distribution, such as a binomial or beta probability model, which researchers often employ to describe empirical probabilities, expands its utility. The proposed method is examined with an application to regional income inequality in Poland during 2005–2012. This application demonstrates that accounting for spatial autocorrelation further enhances an entropy measure, showing that the MESF specification provides a flexible method for controlling spatial autocorrelation in an entropy formulation.

DOI:

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Regional Studies

Vol. 56, Issue 4, 2022

Going beyond the line of sight: institutional entrepreneurship and system agency in regional path creation

Elvira Uyarra & Kieron Flanagan

Pages 536-547

<https://doi.org/10.1080/00343404.2021.1980522>

Abstract: This paper explores the scope for system-level agency in new path creation. We identify the roles and challenges for state-led path creation and illustrate them through a case study of a novel and ongoing set of institutional entrepreneurship and system-building activities in the Galicia region of Spain, looking at the practices, relational processes, multilevel lobbying and regulatory change associated with an ambitious initiative to grow a new industry around uncrewed aerial vehicles (UAVs) through anchoring knowledge and legitimacy-building.

Reconsidering regional structural conditions for industrial renewal

Simon Baumgartinger-Seiringer, Lea Fuenfschilling, Johan Miörner & Michaela Tripll

Pages 579-591

<https://doi.org/10.1080/00343404.2021.1984419>

Abstract: This article develops a more comprehensive understanding of innovation-based renewal of industries from a structural perspective. Arguably, established perspectives offer rather simplistic views, portraying structures as either enabling or constraining for certain forms of regional industrial change. Inspired by work in organizational institutionalism on ‘institutional infrastructures’, this article focuses on the degree of elaboration and coherence as decisive features of regional structural conditions. Arguably, this conceptual lens allows for a better understanding of the potentials and limitations for industrial change entailed in different structural configurations. Empirically, we investigate renewal processes in traditional automotive regions in Austria and Sweden.

A data-driven global innovation system approach and the rise of China’s artificial intelligence industry

Zhen Yu, Zheng Liang & Lan Xue

Pages 619-629

<https://doi.org/10.1080/00343404.2021.1954610>

Abstract: Building upon the global innovation system (GIS) framework, this paper develops an analytical approach to incorporate data as a foundation-level resource in data-driven innovation systems and to unravel how the interplay of system resources’ spatial characteristics, multi-scalar institutions and actor strategies leads to the emergence of China’s artificial intelligence industry. China’s loose institutional regime significantly facilitates the formation of the market,

legitimacy and data, while entrepreneurs and digital platforms are the key actors coupling system resources to China's innovation system. As data become a critical resource, actors controlling data develop institutional power to shape the formation of the data-driven industry.

The Review of Regional Studies

Vol. 52, Issue 1, 2022

Neighborhood Land Uses as Predictors of the Upward Mobility of Poor Youth

Keith Ihlanfeldt

Pages 20-56

<https://doi.org/10.52324/001c.34681>

Abstract: Land uses within the neighborhood where poor youths reside have important effects on their development and therefore may predict their welfare as adults. Mean household incomes as adults and teenage birth rates of youth growing up in poor households are predicted based upon the land uses within the neighborhood they occupied as teenagers. Controlling for an extensive set of neighborhood socioeconomic and demographic variables, land uses are found to add to our understanding of the characteristics of places with upward mobility. Differences in land use between white and minority youth neighborhoods are also found to explain racial gaps in adult outcomes.

What Landmarks Do Visitors Remember about a Place?

Todd Gabe

Pages 104-126

<https://doi.org/10.52324/001c.35254>

Abstract: This paper examines the features of photographs that affect the memorability of landmarks that tourists walk past while visiting a place. Empirical results, based on surveys of cruise passengers that visited Bar Harbor,

Maine, suggest that a mix of salient images (e.g., the ocean) and unique characteristics of a place (e.g., architectural elements) increase a visitor's likelihood of remembering a landmark. An extension to the analysis shows that survey respondents are unlikely to attribute "fake" landmarks from different places to their day spent in Bar Harbor. The methods from this study can be employed in other places to examine the behavior and perceptions of tourists, and, more generally, photographs can be used to learn about how people interact with the places around them.

Regional Science Policy and Practice

Volume 14, Issue 2 (April 2022)

Does the trade-led growth hypothesis exist for South Asia? A pooled mean group estimation

Md. Saiful Islam

Pages: 244-257

<https://doi.org/10.1111/rsp3.12481>

Abstract: The study investigates the validity of the trade-led growth (TLG) hypothesis for South Asia, with gross fixed capital formation and the labor force as control variables. In the presence of cross-sectional dependency, it applies the cross-sectional dependency test, second-generation panel cointegration test, pooled mean group (PMG) estimation, and Dumitrescu–Hurlin (D-H) panel causality test. The findings demonstrate that the variables have a long-run cointegration. The PMG estimation reveals a positive contribution of trade to economic growth and supports the TLG hypothesis for South Asia. The contribution of capital formation to economic growth is also encouraging; an increase in gross fixed capital formation brings an increase in economic growth. The labor force significantly improves long-run economic growth. The D-H panel causality provides a bidirectional causality between trade and economic growth, and thus validates the TLG hypothesis for South Asia. The findings have

implications for the policymakers to promote trade to gain further from it and accelerate economic growth. Capital formation is also needed to increase the share of high-technology and manufactured exports, employ and absorb the growing labor force, and boost economic growth in the region. South Asia should focus on regional integration and enhance its regional trade among member countries.

Water, Sanitation, and Hygiene (WASH) poverty in India: A district-level geospatial assessment

Pritam Ghosh, Moslem Hossain & Asrafal Alam

Pages 396-416
<https://doi.org/10.1111/rsp3.12468>

Abstract: The assessment of drinking water, sanitation, and hygiene (WASH) poverty among Indian districts is essential to accomplish the UN-Sustainable Development Goal 06, 'Availability and Sustainable Management of Water and Sanitation for all', by 2030. The present study aimed to construct district-level WASH poverty indices combining various indicators of drinking water, sanitation, and hygiene in two ways: ignoring and considering the geographical inequality. The study also focused on outlining the spatial dependence and heterogeneity of drinking water, sanitation, hygiene poverty, and overall level of WASH poverty among Indian districts using Moran's I statistics. The results showed moderate to very high spatial dependence of every dimension of WASH poverty among Indian districts. The study also identified clusters of districts situated over central and eastern Indian states of West Bengal, Bihar, Odisha, Jharkhand, Chhattisgarh, Uttar Pradesh, and Madhya Pradesh, stricken with a higher level of WASH poverty. Alternatively, clusters of districts situated along the western coastal area, Capital City Delhi, and its neighboring states were identified with a relatively lower level of

WASH poverty. The study suggests more government initiatives and investments for improving WASH conditions in central and eastern Indian districts to fulfill SDG 06 and reduce spatial inequality within the country (SDG 10).

Papers in Regional Science

Volume 101, Issue 2 (April 2022)

Cultural cities, urban economic growth, and regional development: The role of creativity and cosmopolitan identity

Silvia Cerisola & Elisa Panzera

Pages 285-302
<https://doi.org/10.1111/pirs.12654>

Abstract: Cultural heritage has been recognized as fundamental for local development. In particular, some recent works have highlighted the role of sophisticated transmission channels of this relationship, that is local creativity and cosmopolitan identity. Following a territorial perspective, the present work aims at combining the two approaches, in the belief that there could be a synergic interplay between creativity and cosmopolitan identity, reinforcing their individual effects. Accordingly, an original conceptual and operational taxonomy characterizing cultural cities is put forward. The contribution of the different identified patterns to urban and regional growth is assessed, as well as their capacity to valorize cultural participation.

The social profitability of rural roads in a small open economy: Do urban agglomeration economies matter?

Clive Bell

Pages 373-397
<https://doi.org/10.1111/pirs.12649>

Abstract: The effects of a rural roads programme depend on labour mobility, how the programme is financed, and agglomeration

economies. If financed by a rural poll tax and cross-price effects and agglomeration economies are sufficiently small, the wage will rise, with some return migration. Taxes on trade act as countervailing distortions, yielding urban households some relief. Rural-urban commuting promotes the exploitation of agglomeration economies; taxes on international trade are then inferior to a poll tax. The change in the value, at producer prices, of the rural sector's net supply vector can be a poor measure of the programme's social profitability.

Australasian Journal of Regional Studies
Vol. 27, No. 3

RURAL LOCAL GOVERNANCE AND HOUSING: LOCAL GOVERNMENT AS FACILITATOR

JOHN MARTIN, ANDREW BEER, ALAN MORRIS, CHRIS PARIS & TREVOR BUDGE

Abstract: Housing affordability is an issue that affects all Australians, including those living in rural communities. Local governments in rural Australia are the most visible level of government for communities, and they are best placed to see first-hand the social and economic pressures that are impacting their communities. In this research, we consider the changing role of non-metropolitan local governments with respect to housing, and what it tells us about the state of Australia's federal system. We examine the findings of a national survey of local government before exploring the challenges of rural local governance and access to affordable housing. We then show how one rural council facilitates a range of activities to address housing challenges, and then compare its actions with those of its neighbours. Overall, we find it is not common for rural local governments to take a proactive approach to affordable housing, and we discuss the ways in which rural councils can take a leadership role in addressing local issues of housing affordability.

THE NEGATIVE EFFECTS OF URBAN AGGLOMERATION ON HOUSING AFFORDABILITY IN AUSTRALIA

AKSHAY VIJ, JEFFERY D. CONNOR & ANDREW BEER

Abstract: This study assesses the impacts of continued population growth in the largest Australian cities on housing affordability. Using data from the Australian census and other complementary sources over the period 2001-16, we estimate a system of seemingly unrelated and spatially lagged regressions to identify the relationship between a city's population size on the one hand, and average wages and housing costs on the other, while controlling for the confounding influence of other geographic, demographic and economic determinants. We find that annual home sales values have risen roughly thirty times faster with population than annual full-time wages across Australia. An increase in the population of an urban area by 100,000 would increase annual full-time wages by roughly \$150 and annual home sales values by roughly \$4,800. Our analysis also finds that real wages have not kept up with the high costs of living in large cities. For example, our model predicts that, *ceteris paribus*, price-to-income ratios (PIRs) in Greater Newcastle could rise from 7.0 to 8.4, if the city grows to the size of Sydney. And PIRs in Sydney themselves could rise from 13.6 to 14.8 by 2056, if the city grows to its expected size of 9.2 million. Relatedly, we find that there are no wage benefits to urban areas situated in close proximity to a large metropolitan centre, but these areas are more likely to have expensive local housing markets due to spatial spillover effects.

AN EMPIRICAL EXAMINATION OF THE DETERMINANTS OF EXPENDITURE DISPERSION IN SOUTH AUSTRALIAN LOCAL GOVERNMENT

CAROLYN-THI THANH DUNG TRAN,
GEMMA PEREZ-LOPEZ & BRIAN
DOLLERY

Abstract: The empirical analysis of the cost structure of local government has traditionally employed population as a proxy for municipal output, despite longstanding reservations as to its suitability, especially in terms of local service provision (Boyne, 1995). Based on alternative proxies for local government output, and employing data drawn from the South Australian local government system over 2015/16, the present paper examines per household expenditure dispersion by comparing estimates based on population size with estimates based on the number of households and businesses. We then consider how exogenous variables affect the per household expenditure structure of local councils in South Australia. Policy recommendations are drawn for improvement in South Australian municipalities.

***COVID-19, THE EFFECT OF
LOCKDOWNS ON RETAIL
EXPENDITURE AND DISPLACEMENT
EFFECTS ON THE REGIONAL
ECONOMY***

DAVID DYASON, PETER FIEGER &
RIAAN ROSSOUW

Abstract: The COVID-19 pandemic is exerting ongoing economic effects on communities locally and globally. Government responses to the ongoing crisis range from mere social distancing recommendations to lockdowns. In New Zealand, a strict lockdown regime was implemented for a 7-week period during which public activity was restricted and shopping limited to the nearest supermarket or pharmacy. During this period, overall retail spending declined substantially. This study employs a multi-region input-output (MRIO) model to investigate the impact of this reduced activity from an urban population on the wider-regional economy. The results reveal that the change in consumer spending and

displacement has spilled over into the adjacent economies resulted in a shift in the regional economic landscape. Moreover, our results suggest that the effects of withheld spending during the lockdown propagate unevenly across retail sectors and beyond administrative boundaries once lockdown is lifted. Although millions of dollars remain unspent, the accelerated pace of consumer spending after lockdown reveals a shift from previous large-scale global shocks.

***GOVERNMENT FUNDED BUSINESS
PROGRAMS: ADVISORY HELP OR
HINDRANCE?***

ALAN LABAS & JERRY COURVISANOS

Abstract: This study seeks, through the perspective of Professional Business Advisors (PBAs), to understand how government business programs help and/or hinder the provision of small business advisory services in a regional (non-metropolitan) Australian setting. An emergent theme identifies such programs as significant conduits for regional business knowledge transmission. However, those programs are also perceived by PBAs, who deliver such programs, as imposing substantial constraints for the provision of such services. The identified constraining factors include issues of PBAs' financial viability, ineligibility of businesses to access such programs, capriciousness of programs, and a clash between technology utilisation and infrastructure reliability in some non-metropolitan regional areas. Regional Australian PBAs service a heterogeneous collection of businesses across large geographic areas. Yet, the potential for PBAs to support the process of knowledge transmission is severely constrained by current government programs aimed at start-up businesses but ignoring organisational growth. Such constraints raise concerns that have regional policy implications.

***ON COMMUNITIES SIZE AND
REMOTENESS: THE ATTRACTIVENESS***

***OF SMALL AND REMOTE
COMMUNITIES IN ICELAND
COMPARED TO THE LARGER AND
MORE CENTRAL ONES***

VIFILL KARLSSON

Abstract: There are quite a few examples in Iceland of people living in isolated and sparsely populated communities, both along the coastline and in inland valleys. Those who live elsewhere, particularly in larger and more successful communities, have sometimes maintained, or at least insinuated, that those people must be trapped in their traditional environment. But can we be sure of this? According to Roback (1982) people's migrations and choices of residence are influenced by amenity value and quality of life. It is a well-known fact that we do not all have the same tastes, needs and wishes. Therefore, the municipalities or individual communities within each country should differ, as Tiebout (1956) argued. Such theories might, for example, indicate that a strong desire or need for close proximity to a varied, wild and untouched natural environment pulls people towards remote and sparsely populated communities and prevents them from moving away. In this article, we investigate the different wishes and priorities of people inhabiting different regions in Iceland, focusing on residential conditions with special emphasis on the difference between inhabitants of remote and sparsely populated regions and those who live on the fringe of the capital area. The analysis is based on data from a survey of more than 6,000 respondents conducted in 2016 and 2017.

ABOUT ANZRSAI

ANZRSAI Council Notes

Council has planned for the 2022 conference in Wagga Wagga at Charles Sturt University and improving access to and ranking of AJRS and the website. Conference participants gain access to support, encouragement, and relevant

experience. AJRS offers an opportunity for publication. Council acknowledges Tony O'Malley's contributions to ANZRSAI and proposes his name as a lifetime member of ANZRSAI.

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