

## **‘The Hire Edge’: University Research Grant Funding and Employment Growth**

### **Introduction**

The relationship between government-funded university research and employment growth is a multifaceted topic that has attracted considerable policy attention. This review synthesises available evidence on how public research grants to universities are associated with local and regional employment outcomes, before turning to the specific Australian policy context.

### **Mechanisms Linking University Research Funding to Regional Employment**

#### *Human Capital Production and Knowledge Spillovers*

A foundational mechanism through which university research funding influences regional employment is the production of human capital and localised knowledge spillovers. Research has demonstrated that generating a higher supply of highly educated workers and greater innovation boosts regional growth where public universities are based, with government-provided research funding identified as a key mechanism. Universities serve as anchors for regional economies not only through direct employment but through the graduates and research outputs they produce, which feed into local labour markets.

#### *Innovation, Commercialisation, and High-Technology Employment*

Government research funding also stimulates regional employment through innovation and its commercialisation. When research funding produces spillover effects that diminish with increasing distance, impediments to economic activity near research universities can limit the external advantages of federal research grants. Additionally, university overhead entitlements from federal grants may be linked to prior employment generation, thereby creating stronger incentives for technology commercialisation. Policies focused on encouraging commercialisation appear more likely to foster economic growth than allocating additional R&D funding to underperforming research initiatives in economically distressed areas.

Evidence on the spatial concentration of entrepreneurship and innovation shows that the ability local universities can stimulate economic growth, with the commercialisation of publicly funded research creating salient local economic benefits. Indeed universities, R&D labs, and start-ups all play important roles in facilitating the link between innovation and regional prosperity. According to OECD data, typical policies involve funding collaborative research, promoting standardised licensing for easier technology transfer, and organising seed funding for university spinoffs.

Finally here, when government research funding is channelled through universities and associated infrastructure, it can interact with private capital to boost high-tech employment growth regionally.

### **Policy Contexts - Global**

Across advanced economies, public funding remains central to university research, but its regional employment effects depend heavily on how funding is allocated, where

research capacity is already concentrated, and whether policy settings support commercialisation, industry engagement, and local absorptive capacity.

In the U.S. context, the federal government plays a major role in funding university research through agencies such as the National Institutes of Health, the National Science Foundation, and the Department of Defense. Researchers have noted that there is often a spatial mismatch between innovation hubs and areas of high joblessness, with federal research funding tending to concentrate in already-prosperous regions. They suggest that policies aimed at reducing local barriers to the commercialisation of research may help spread employment benefits more broadly. Similarly, the Small Business Innovation Research Program, which channels federal R&D funds to small businesses often connected to university research, has been found to improve innovation outcomes, but may be less effective at generating employment in small and nonmetropolitan regions than in large metropolitan counties.

Universities can also contribute to regional employment when they work beyond their core teaching and research missions. Although universities rightly focus on achieving their own institutional goals, they often collaborate with local governments and community organisations to foster regional economic development. State and local technology policies, including grants, research parks, and public venture programs, may therefore help compensate for agglomeration deficits and play a strategic role in regional development.

A broader policy trend has been the growing use of competitive or quasi-market mechanisms to allocate public research funding to universities. The OECD reports that in 2006, the government sector funded directly or indirectly 72% of total academic research across OECD countries through both block grants and competitive research grants. It also identifies a significant trend in the growing use of competitive or quasi-market forces in allocating this funding, both at government and institutional levels. This matters for regional employment because performance-based and competitive funding may reinforce existing concentrations of research capacity, directing resources toward already-strong universities located in economically dynamic regions.

In many higher education systems, this shift has not necessarily meant full privatisation, but rather the introduction of more market-like features into public systems. As the OECD observes, “the trend towards privatisation has occurred mostly by increasing the private-like aspects of the dominant public system through stimulating competition in terms of students and funds”. The Netherlands and New Zealand, for example, have funded much or all of their academic research through Centres of Excellence models. Germany’s federal structure also shapes the relationship between research funding and regional development, with around 90% of public education spending carried out by states and local governments, and each of the 16 federal states responsible for managing and funding higher education institutions.

Regional development policies further influence whether university research funding translates into local employment growth. In Germany and France, regional development funds provide grants, subsidies, and soft loans to underdeveloped areas, with fiscal incentives used to stimulate investment in research and the development highly workers. In the UK, local government funding has also historically been a source of public assistance to industry in underdeveloped regions. Taken together, these examples suggest that university research funding is more likely to support regional employment when it is embedded within broader place-based policy settings, including

commercialisation support, skills development, industry partnerships, and regional investment incentives.

## **Policy Context - Australia**

### *Overview of the Australian Higher Education and Research Funding Landscape*

Australia's higher education system is predominantly publicly funded, with the Australian Government providing the majority of research funding to universities through competitive grants (notably via the Australian Research Council and the National Health and Medical Research Council) and block grants. The relationship between this funding and regional employment outcomes has become an increasingly prominent policy concern, particularly given growing awareness of uneven economic growth across metropolitan and regional Australia.

### *Intergovernmental Funding Allocation*

Australia's approach to allocating funding across regions reflects a needs-based methodology, whereby funding is allocated to regional and local governments according to their internal composition', reflecting both needs and capacities to self-finance. This principle extends to how research and higher education funding interacts with regional development policy.

### *Addressing regional discrepancies*

The spatial mismatch between employment opportunities clustering in central city locations and lower-cost housing gravitating to outer suburban and regional Australia is a recognised challenge. Strategies to address this remain at a relatively early stage of development. University research precincts and innovation districts are being positioned as part of the solution, but the evidence base for whether government research grants to universities in regional areas translate into measurable local employment growth remains underdeveloped compared to the U.S. literature.

The Australian policy framework thus represents an evolving experiment in linking university research funding to place-based employment outcomes, drawing on both competitive grant mechanisms and negotiated intergovernmental deals. The effectiveness of these approaches will depend on sustained funding, institutional capacity, and the ability to retain graduates and commercialise research locally challenges well documented in the broader international policy context.

## **Original research**

### *Empirical contribution and data construction*

To test whether the mechanisms outlined above are visible in Australian regional data, this project assembled a new SA4-level panel linking higher education activity to regional labour market outcomes. University EFTSL records for 2011-2024 were allocated from campus postcodes to SA4 regions using ABS ASGS 2016 geography. Department of Education finance tables for 2015-2023 were harmonised at provider level, including OCR-derived 2015-2017 financial reports, and research grant funding was allocated to SA4s using campus EFTSL shares.

The core labour-market outcome uses ABS Labour Force modelled SA4 estimates, annualised from monthly data in a two-way fixed-effects model, comparing each SA4 to itself over time. Research grant exposure is lagged one year and entered alongside

controls for higher education scale, baseline human capital, unemployment, and labour-force participation.

*Key result*

The strongest positive association identified in the modelling is for research grant exposure specifically. Across all universities, an additional \$100 per resident in lagged allocated education research grant exposure is associated with approximately a 0.53 percentage-point increase in annual SA4 employment growth. The estimate is positive but borderline statistically significant ( $p = 0.051$ ).

When the exposure is restricted to Group of Eight universities, the point estimate is smaller but more precisely estimated: an additional \$100 per resident in lagged Go8 research grant exposure is associated with approximately a 0.38 percentage-point increase in annual SA4 employment growth ( $p < 0.001$ ).

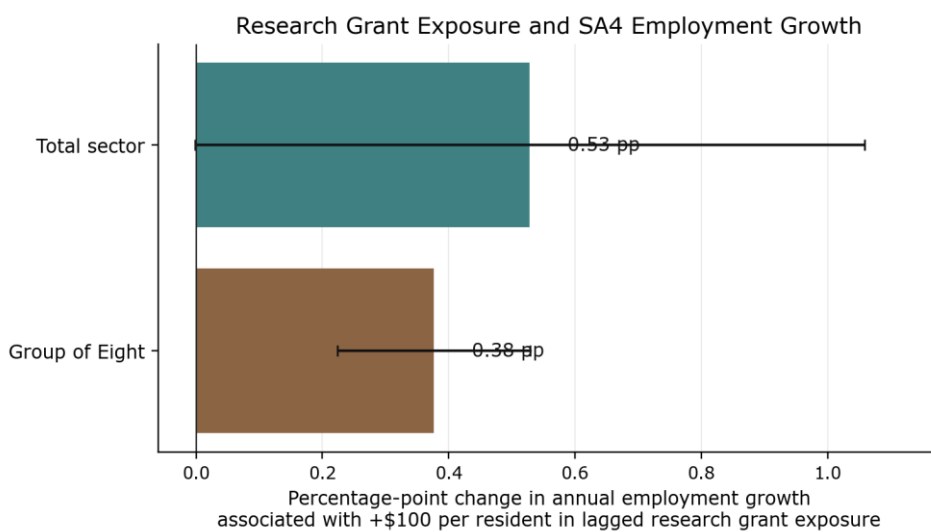


Figure 1. Model-implied employment-growth association of research grant exposure. Bars show the percentage-point change in annual SA4 employment growth associated with an additional \$100 per resident in lagged research grant exposure; error bars show approximate 95% confidence intervals.

*Interpretation*

The current evidence therefore supports a claim that research grant funding is positively associated with subsequent employment growth at the regional level, with the Go8-only estimate smaller in magnitude but clearer statistically.

While this should be interpreted as an association and not definitive proof of causation (e.g. grant funding may be correlated with unobserved regional innovation capacity, industry mix, institutional strategy etc.), the finding is consistent with the mechanism that research-intensive funding may have a positive impact on labour-market outcomes.

## References:

- Amendola, A., Barra, C., & Zotti, R. (2020). Does graduate human capital production increase local economic development about An instrumental variable approach. *Journal of Regional Science*, 60(5), 959–994. <https://doi.org/10.1111/jors.12490>
- Bansak, C., Bender, K. A., & Coon, M. (2021). The Political Economy of Skilled Workers and Innovation. 1–33. [https://doi.org/10.1007/978-3-319-57365-6\\_225-1](https://doi.org/10.1007/978-3-319-57365-6_225-1)
- Chatterji, A., Glaeser, E. L., & Kerr, W. A. (2014). Clusters of Entrepreneurship and Innovation. *Innovation Policy and the Economy*, 14, 129–166. <https://doi.org/10.1086/674023>
- Eberts, R. W., & Erickcek, G. A. (2002). The Role of Partnerships in Economic Development and Labor Markets in the United States. <https://doi.org/10.17848/wp02-75>
- Glaeser, E., & Hausman, N. (2019). The Spatial Mismatch Between Innovation and Joblessness. <https://doi.org/10.3386/w25913>
- Higher Education to 2030, Volume 2, Globalisation. (2009). <https://doi.org/10.1787/9789264075375-en>
- Jenkins, J. C., Leicht, K. T., & Jaynes, A. (2008). Creating High-Technology Growth: High-Tech Employment Growth in U.S. Metropolitan Areas, 1988–1998\*. *Social Science Quarterly*, 89(2), 456–481. <https://doi.org/10.1111/j.1540-6237.2008.00542.x>
- Liu, S. (2021). The Urban–Rural Divide: The Effects of the Small Business Innovation Research Program in Small and Nonmetro Counties. *Economic Development Quarterly*, 36(3), 208–227. <https://doi.org/10.1177/08912424211029709>
- Pill, M., Gurrán, N., Gilbert, C., & Phibbs, P. (2020). Strategic planning, ‘city deals’ and affordable housing. Ahuri Final Report, (331). <https://doi.org/10.18408/ahuri-7320301>