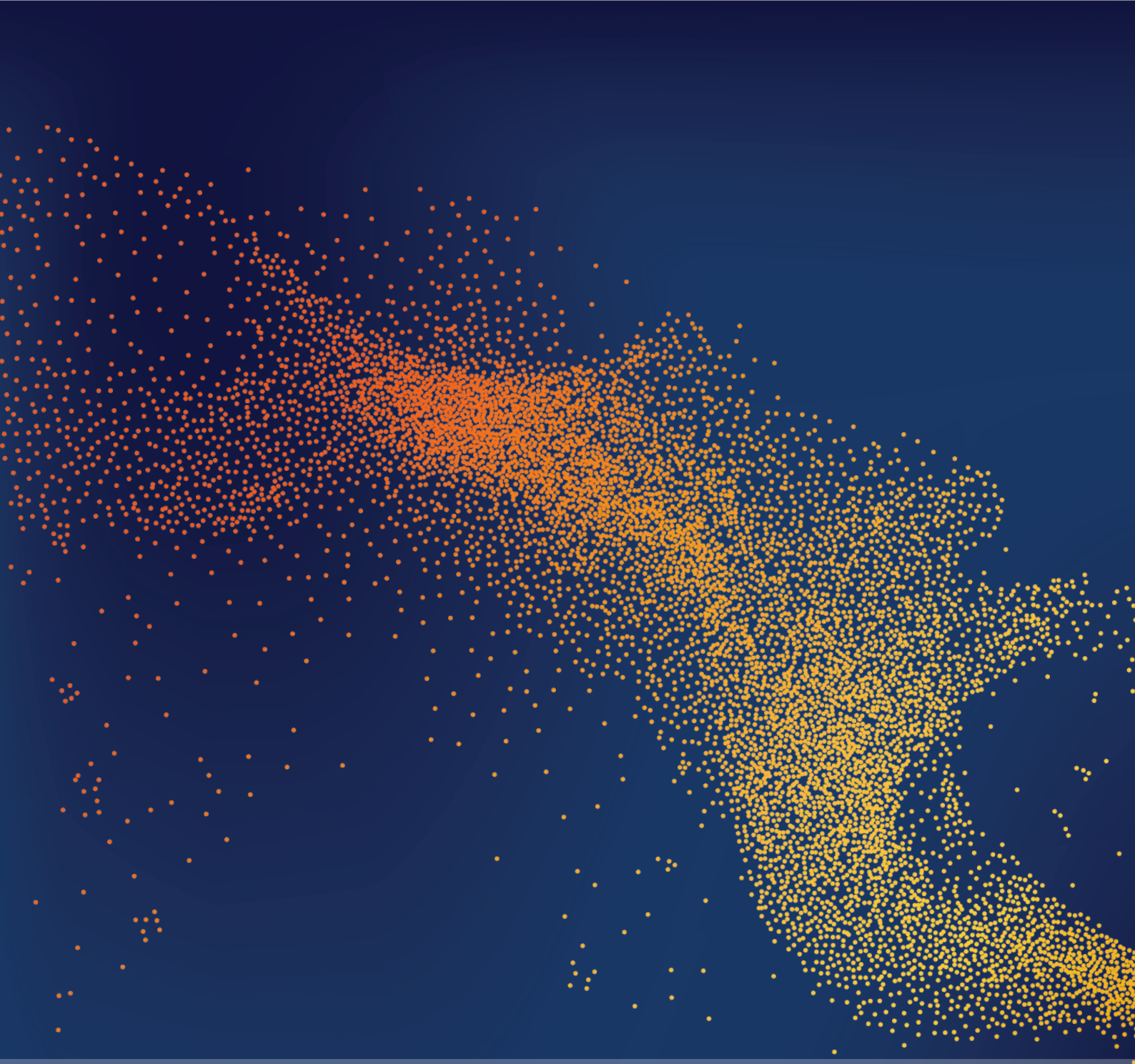

The economic impact of the Regional Universities Network

Regional Universities Network

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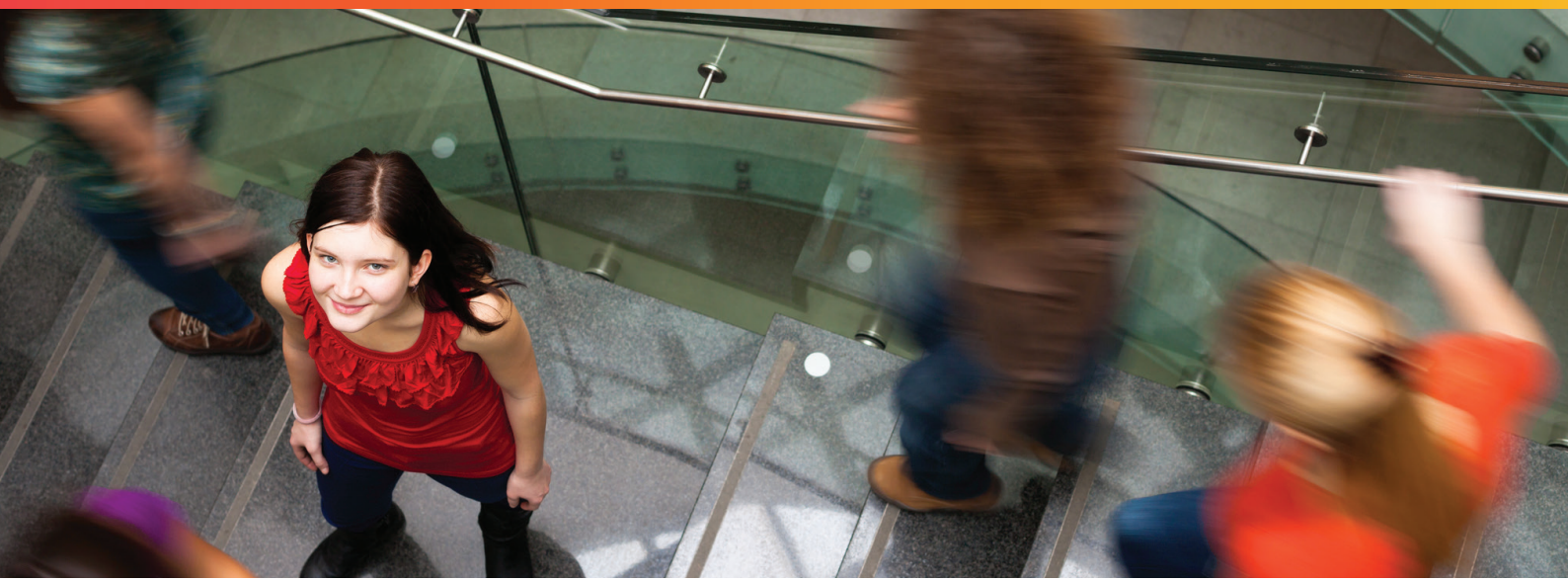


Summary

The Regional Universities Network (RUN) engaged Nous and the Centre of Policy Studies (CoPS) to undertake an economic impact study to quantify the impact of RUN member universities on their regional economies. Results have been produced using CoPS' multiregional Computable General Equilibrium model of the Australian economy. This is an internationally recognised model, used by Australian federal and state government departments, private firms and universities globally. This method was selected for its ability to take into account the realistic dynamics of regional economies. This report presents a summary of the findings of this study.

This study found that the RUN universities deliver an additional $1.7b in their regional economies. This contribution is driven through three effects:

1. Jobs and productivity contribute to the supply of labour and growth for their regions – and regional Australia in general. Around 7 out of 10 RUN graduates will go on to work in a regional area.
2. Student and university spending drives significant demand for goods and services in the regional areas of RUN university campuses. RUN students spend approximately $480m in their campus regions and RUN universities spend $1.59b.
3. RUN university research drives innovation and productivity in aligned industries across Australia. RUN universities have had sustained growth in higher degree research income and research publications and RUN research and academic time has a direct value of $179m.

There are further social and economic contributions made by the presence RUN universities in their regional areas that are difficult to quantify and have not been included in this model, such as improved social mobility and cohesion in the regions.

The base year for this study is 2015, determined by data availability, economic contribution in the current year would be higher.

RUN universities contribute an additional **$1.7b** to Australia's economy

7 out of 10 RUN graduates will go on to work in a regional area

Findings

RUN universities contribute $1.7 billion to real GDP in their regions

This study finds RUN universities contribute $1.7 billion to real GDP in their regions. Real GDP, sometimes called 'value added', is a measure of the total value of goods and services produced in the economy, adjusted for price changes. Table 1 summarises RUN universities' aggregate impact on the Australian economy.

RUN universities increase real public and private consumption in their regions. Real public consumption measures total government expenditure on goods and services. RUN universities increase real public consumption by almost $500 million. Real private consumption measures total expenditure on goods and services by all consumers. RUN universities increased real private consumption by approximately $1.27 billion.

RUN universities also encourage private investment in their regions. RUN universities lifted private investment in their regions by approximately $409 million.

Table 1
RUN universities' impact on regional macroeconomic variables (modelled through removal of university from region)

Macroeconomic Variable	Impact
Real GDP	$1.7 billion
Real private consumption	$1.27 billion
Real public consumption	$496 million
Real private investment	$409 million
Capital stocks	$402 million

The overall contribution to GDP is driven by three main effects: jobs and productivity, spending and knowledge effects of RUN universities

RUN universities affect jobs and productivity, spending, and research and innovation in their regions. Table 2 below provides an overview of these effects.

Skilled graduates supply labour and growth

RUN universities produce graduates for jobs in their region. These jobs contribute to the supply of labour and growth for their regions – and regional Australia in general. Around 7 out of 10 RUN graduates will go on to work in a regional area [1]. The number and volume of these graduates is an input into the CGE model.

Demand is driven by direct expenditure

RUN universities generate value through their direct expenditure, totalling $1.59 billion. This university expenditure plays an important role supporting employment and jobs in local campus regions. Furthermore, the students that RUN universities attract spend in their local economies. RUN university students spent $480 million in their local regions. On average, this equates to approximately $7,100 per student (EFTSL) of expenditure that is directly attributable to the presence of RUN universities.

Knowledge and research increase industry productivity

By generating new ideas and technologies, university research increases industry productivity across the economy. Accordingly, RUN universities play an important role improving the productivity of Australian industries. In the model, the contribution RUN universities make to industrial productivity is referred to as the impact of knowledge capital. It can best be thought of as the way in which research builds the stock of knowledge, ideas and technologies in the economy, which in turn benefits industries. This is a significant driver of the GDP contribution in the model: RUN research and academic time has a direct value of $179m [2].

[1] Source: Graduate Outcome Survey, 2016, supplied by RUN. Note: a) Regional Australia is classified as all areas outside the ABS' Greater Capital City Statistical Areas; b) only students whose location of workplace was recorded were included in the analysis (n=24,288 for RUN and n=322,400 ex-RUN).
[2] Department of Education, 2016, Higher Education Research Data Collection and ABS (2014) biennial data for research income used to calculate time spent at research activity by academics.

Table 2
The three effects RUN universities have on their regions

Effect	Activity	Explanation
SUPPLY 	Jobs in regional areas Increase productivity of trained graduates	RUN universities grow Australia's regional workforce and increase its productivity. This is measured by the proportion of RUN graduates employed in regional areas and the subsequent impact on real wages.
DEMAND 	Student spending in the regions University expenditure in the regions	RUN universities grow Australia's economy directly by driving demand in its regions. This is measured through increases in: private consumption; government consumption; international and interstate exports.
KNOWLEDGE CAPITAL 	Innovations produced through research New techniques for industry	RUN universities contribute to industry through research and knowledge capital. Increases to knowledge capital are measured by the value of research income and time spent on research.

Method

RUN universities bring higher education and research to Australia's regional areas

Established in October 2011, the Regional Universities Network (RUN) is a network of six universities based in regional Australia. Its members are: CQUniversity (CQU); Southern Cross University (SCU); Federation University Australia (FedUni); the University of New England (UNE); the University of Southern Queensland (USQ) and University of the Sunshine Coast (USC). RUN universities operate in over 60 locations, and have a total revenue exceeding $1.7b, and have over 6,000 FTE of staff.

Individually, RUN universities play an important role delivering higher education to around 115,000 higher education students each year – about 9% of all university students nationally[3] . Two of RUN's members, CQU and FedUni are dual sector providers, but this study has only focussed on the contribution of higher education. In doing so, member universities contribute to the economic, social and cultural prosperity of regional Australia. RUN universities not only produce, attract and retain a broad range of skilled professionals in regional areas, but also conduct research and train over 2,600 higher degree by research candidates each year.

Collectively, the members of the RUN collaborate to pursue the following objectives:

1. To provide policy advice to government, particularly with regard to tertiary education and regional development.
2. To strengthen and promote the contributions of regional universities to regional and national development.
3. To build institutional capacity and sustainability through the sharing of best practice in educational delivery, training, research and organisational management, particularly with reference to regional contexts.

This study robustly quantifies the economic contribution RUN universities make through education and research in regional Australia

The RUN engaged Nous to undertake an economic impact study to quantify the impact of RUN universities on their regional economies. We have worked with the Centre of Policy Studies (CoPS) at Victoria University to model the economic impact of the RUN universities' nominated regional campuses.

The modelling has been undertaken using CoPS' multiregional Computable General Equilibrium (CGE) model of the Australian economy, VU-TERM. The economic impact is modelled by estimating what would happen to the regional economy in the long-run if RUN campuses were removed from their local regions. By modelling the impacts of the resulting reallocation of resources, the model produces accurate and appropriately conservative results.

[3] Source: Base from Universities Australia, Key Facts & Figures, 1.3 million students nationally.

We model RUN's economic contribution through spending, jobs and research in each region and simulating a "what-if" case for closing each campus

To quantify the economic contribution of RUN universities' regional campuses to their local economies, this study simulates a hypothetical scenario: the closure of each RUN university campus. That is, what would happen if there were no RUN campuses in their regions as at 2015-16. By doing this, the model is able to identify the long-run effects of RUN university campuses on the macroeconomic variables in their regions. It models the dynamic impacts of the reallocation of resources, to produce accurate and conservative results. Table 3 below outlines the three stages involved in the modelling process. Figure 1 highlights the effects of closing RUN university campuses on the Australian economy that have been considered in the model

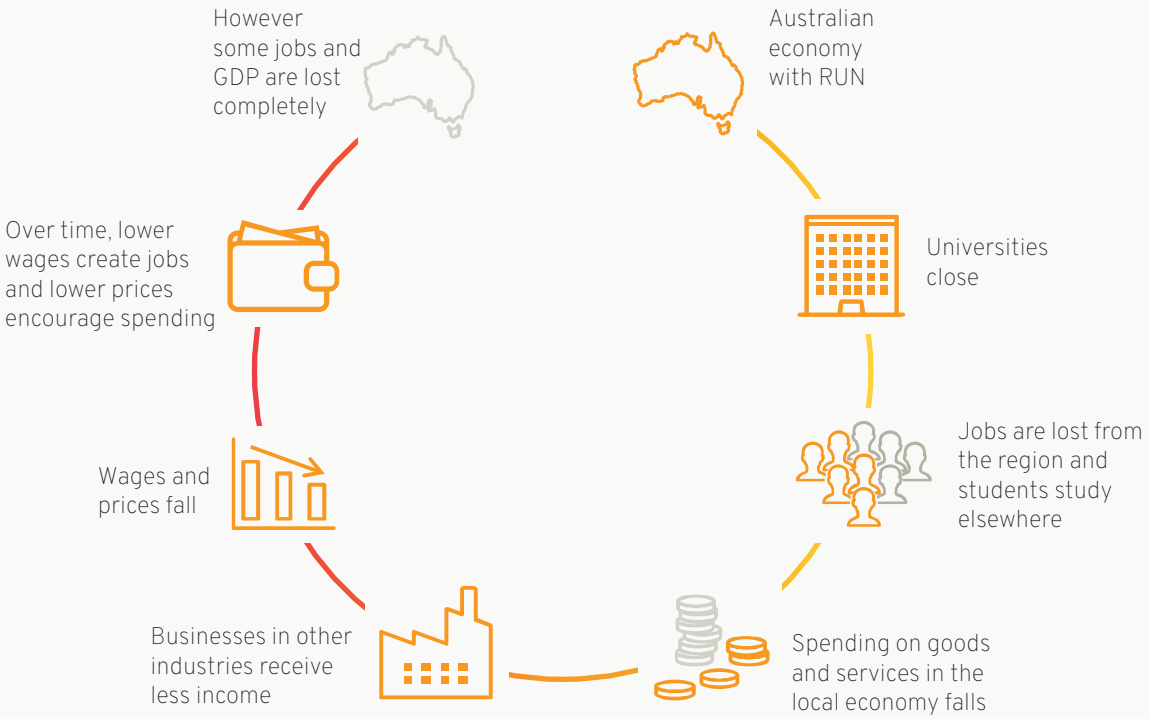
Table 3
Three stages of modelling the economic impact of RUN member universities

Specify
We calculate inputs across supply (jobs), demand (spending on goods and services) and knowledge capital (research). In doing this, we identify trends and facts about the current performance of RUN member universities.

CGE Model
We model the 'shock' of removing university campuses, region by region, using the Computable General Equilibrium model.

Results
We output the long-run effects of RUN member university campuses on the macroeconomic variables – real GDP, jobs, wages, investment, consumption, disposable income and capital stocks - in their regions.

Figure 1
The effects of closing RUN member university campuses on the Australian economy that have been considered in the model



We focus on economic contributions from RUN's nominated regional campuses

This report focuses on the economic contributions made by the RUN campuses nominated in Table 4 to regional Australia. Economic impact has been modelled at the Australian Bureau of Statistics Statistical Area 3 (SA3) level which contains the campus. This level is selected as a standard for modelling. Altogether, the campuses nominated account for the majority of student enrolments, and RUN member university expenditure. Nevertheless, a significant proportion of activity occurs at RUN universities' metropolitan campuses, which have been excluded from the study.

FedUni's Ballarat campus operates as a dual sector institute. It offers both vocational education and training through a TAFE operation and higher education (university). This model excludes students in the TAFE operation. It models only the contributions from the higher education component, and therefore is not modelling the whole economic impact of the Ballarat campus.

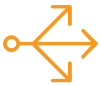
Table 2
Campuses nominated for inclusion in the economic impact study

University	Campuses nominated	Campuses not nominated
Central Queensland University	• Rockhampton • Mackay • Gladstone • Bundaberg • Emerald • Townsville • Cairns • Noosa	• Brisbane, Sydney, Melbourne, Adelaide, Perth • Study hubs and centres: Yeppoon, Biloela, Cooma, Busselton, Geraldton, Karratha and Broome
Federation University	• Ballarat • Churchill • Horsham	• Berwick, Brisbane, Sydney and Melbourne • Study hubs and centres: Kuala Lumpur
Southern Cross University	• Lismore • Gold Coast • Coffs Harbour	• Study hubs and centres: Grafton, Byron Bay, Sydney, Melbourne and Perth
University of New England	• Armidale	• Study hubs and centres: Tamworth, Taree, Coonabarabran, Narrabri, Moree, Inverell, Tenterfield, Glen Innes, Gunnedah, Guyra, Cooma and Future Campus Parramatta
University of Southern Queensland	• Toowoomba • Springfield /Ipswich	• Study hubs and centres: Sydney and Stanthorpe
University of the Sunshine Coast	• Sippy Downs • Gympie • Fraser Coast	• Birtinya, Caboolture, South Bank • Study hubs and centres: Fraser Island, Noosa, North Lakes, Sydney and Melbourne

A CGE model was selected as fit for purpose for this study

The economic analysis for this study has been undertaken using the The Enormous Regional Model (TERM) model – a framework for computable general equilibrium (CGE) modelling of multiple regions within a single country, which treats each region as a separate economy. There are key differences between CGE models and Input-Output models which are often used, that mean the results of each method are different. Table 5 explains the key differences between the two methods.

Table 4
Comparison of CGE and I-O studies

	CGE study	I-O study
	When a RUN university is assumed to no longer exist, the model takes into account how prices adjust and how resources (including labour) would at least in part be reallocated to other parts of the economy.	A static study I-O studies assume that more or less every dollar of expenditure and every person employed would not otherwise be employed, if not for the RUN university
	Assumes that assets will be put to an alternative, less productive uses in the absence of a RUN university.	Assume that assets will be lost completely if a RUN university did not exist.
	Treats regions as part of the larger Australian economy, such that the removal of a RUN university would lead to a negative impact on the regions but a (small) positive impact on the rest of Australia. This is because resources and labour leave the regions and get redeployed elsewhere in Australia.	Treats each region as being in isolation. The removal of a RUN university leads to a negative impact on the regions, but also a negative impact on the rest of Australia. The impact on the rest of Australia should be used with caution as it necessarily entails the double-counting of economic benefits.
	Takes into account how the presence of the RUN university might result in an intermediate or indirect impact on other industries.	Present the totality of the intermediate or indirect impacts on other industries as being attributable to the presence of a RUN university.
	The CGE approach provides a definitive estimation of the economic impact on RUN universities, by taking into account how the regional and national economies would readjust to a new equilibrium and by showing the true economic impact as a result.	An I-O study would tend to over-state the impact of RUN universities by not taking into account how prices would adjust and resources and labour would be reallocated in the absence of a RUN university.

Glossary

Terms	Abbreviation
Computable General Equilibrium	CGE
Regional Universities Network	RUN
Full-time equivalent	FTE
Vocational Education and Training	VET
Central Queensland University	CQU
The University of New England	UNE
Southern Cross University	SCU
The University of Southern Queensland	USQ
Federation University	FedUni
University of the Sunshine Coast	USC
Centre of Policy Studies, Victoria University	CoPS
Gross Domestic Product	GDP