



Economic Impact Assessment

of the creation and retention of rural jobs

January 2019

Confidential

Prepared for: Rural Councils Victoria
Prepared by: Crowe Horwath

Contents

1. Background.....	1
2. Key Findings for Economic Impact of Each Area.....	2
3. Elements of Economic Impact	3
3.1 Methodology	3
3.2 Worker Productivity Factor	3
3.3 Categorisation of Local Government Areas	3
3.4 Economic Impact Assessment	4
4. Other Economic Drivers.....	5
5. Economic Influences.....	6
5.1 Available Labour Force and Employment	6
5.2 Local multiplier effect.....	6
5.3 Population growth.....	7
5.4 Liveability.....	7
5.5 Social Capital.....	8
5.6 Education and training.....	9
6. Future Considerations.....	10
7. Data Collection	11
8. Disclaimer.....	12
Appendix 1 – Liveability Index	13

1. Background

Rural Councils Victoria (RCV) has engaged Crowe Horwath to undertake an economic impact assessment of the creation and retention of rural jobs.

RCV is an organisation representing Victoria's rural councils, supporting and promoting sustainable, liveable, prosperous rural communities. RCV was established in 2005 to coordinate the network of 38 rural councils across Victoria to better understand, articulate and address the issues affecting them. In 2006, State Government funding was provided for the first time to provide support and assistance in communicating rural issues to government departments and determine priority projects. In 2009, the 38 councils agreed to contribute to sustaining the network through an annual membership contribution.

Victoria's rural councils account for 79 per cent of Victoria's land area. Collectively the members make up 15% of Victoria's population and generate \$66.3 billion in economic value. RCV delivers under three workstreams:

- Governance, networking and communication – assisting the rural councils sector to be united and organised, and to strengthen the network through RCV governance, communications, member engagement, events and capacity building;
- Sustainable rural councils – assisting rural councils to build capacity and improve performance and efficiency through shared service delivery, resource sharing, collaboration, improved asset and financial management and service delivery to communities; and
- Sustainable rural communities – assisting rural councils to influence population attraction and retention, stimulate local and regional economic development and improve liveability.

This project was initiated to gain a better understanding of the economic impacts of job creation and job loss, analysing the correlations seen in rural towns compared with regional cities. We have undertaken our analysis based on a desktop review and in some instances on a sample basis.

Crowe Horwath has conducted research into various economic factors, primarily employment rates, Gross Regional Product, population, average incomes, distance to regional cities, levels of consumer spending, average worker productivity data, health outcomes, economic growth, available capital and the local multiplier effect to identify our key findings.

Our analysis compared the impacts of job creation and job loss on the local community in the following five scenarios:

1. A rural town with a population up to 1000 people
2. A rural town with a population between 1001 and 5000 people
3. A rural town with a population of more than 5001 people
4. A regional city with a population of 50,000
5. A regional city with a population of 100,000

2. Key Findings for Economic Impact of Each Area

An average factor for worker productivity was calculated and used to understand and quantify the economic impact for each job created and each job lost for the five identified local community sizes.

The key findings were that smaller towns have significantly greater economic impact for jobs created and lost when compared with larger towns or regional cities.

On average, the economic impact for towns under 1,000 people is:

- 31.72 times greater than regional cities of 100,000 people, for each job created or lost;
- 12.82 times greater than regional cities of 50,000 people, for each job created or lost;
- 3.82 times greater than towns of 5,001 to 50,000 people, for each job created or lost; and
- 2.49 times greater than towns of 1,000 to 5,000 people, for each job created or lost.

On average, the economic impact for towns 1,000 to 5,000 people is:

- 12.75 times greater than regional cities of 100,000 people, for each job created or lost;
- 5.15 times greater than regional cities of 50,000 people, for each job created or lost; and
- 1.54 times greater than towns of 5,001 to 50,000 people, for each job created or lost.

On average, the economic impact for towns 5,001 to 50,000 people is:

- 8.29 times greater than regional cities of 100,000 people, for each job created or lost; and
- 3.35 times greater than regional cities of 50,000 people, for each job created or lost.

On average, the economic impact for regional cities of 50,000 people is 2.47 times greater than regional cities of 100,000 people, for each job created or lost.

These findings are consistent with other research undertaken in the engagement. The higher economic impact for jobs created and lost in smaller town can be attributed to:

- liveability index (refer section 5) and social capital are higher in smaller towns as there is considered to be a lot higher levels of safety, trust, connection and collaboration; and
- small towns being dominated by agriculture which can have high levels of export and the agriculture industry has a high level of worker efficiency.

3. Elements of Economic Impact

3.1 Methodology

In quantifying the economic impact for the creation of one job and also for the loss of one job on local communities in the five scenarios the following methodology was used:

1. Determine a worker productivity factor for each local government area in rural and regional Victoria, excluding inner and outer metro areas of Melbourne;
2. Categorising all local government areas for rural and regional Victoria into each of the five scenarios as detailed above; and
3. Determine the economic impact assessment for each category.

3.2 Worker Productivity Factor

Worker productivity is a measure of labour efficiency and is an indicator of economic growth, competitiveness and living standards with an area or an industry. It is an indication of personal capacities of workers or the intensity of their efforts, it also measures how effectively labour inputs are combined with other factors of production and used in the production process. The ratio between the output measure and the labour input depends to a large degree on the presence and/or use of other inputs (e.g. capital, technology, organisational and efficiency change, economies of scale).

The total dollar amount of gross regional product (GRP) for an area or region **divided by** total average number of persons employed over the four quarters of the financial year for that area or region **equates to** the average dollar amount of worker productivity for that area. For example, the Moira local government area produced a Gross GDP of \$1.826m in the 2018 FY and total jobs for that area total 12,635. Therefore, the worker productivity for the Moira local government area is \$144,520 per worker.

In our analysis and for quantifying economic impact for the creation of one job and also for the loss of one job on local communities, we have determined an average worker productivity factor for each local government area (LGA) to understand relativities between areas. This factor is calculated as worker productivity divided by GRP for each LGA.

3.3 Categorisation of Local Government Areas

All LGAs for rural and regional Victoria were classified into the following categories:

- Rural towns with a population less than 1,000 people;
- Rural towns with a population between 1,001 and 5,000 people;
- Rural towns with a population of 5,001 to 50,000 people;
- Regional cities with a population of 50,000 to 100,000 people; and
- Regional cities with a population of 100,000+ people.

For this classification, the average population of towns in the LGA was determined and allocated to the following bands:

- LGAs with an average population of less than 1,000 per rural town = Towns less than 1,000 people;
- LGAs with an average population of between 1,000 and 5,000 per rural town = Towns 1,000 to 5,000 people;
- LGAs with an average population of between 5,000 and 50,000 per rural town = Towns 5,001 to 50,000 people;
- LGAs with a regional city of population equal to or greater than 50,000 people = Regional city with 50,000 people; and
- LGAs with a regional city of population equal to or greater than 100,000 people = Regional city with 100,000 people.

Note, where a LGA had average town size for a band classification but included towns that totalled 50% or more in population for the next size band classification, the higher band was used.

3.4 Economic Impact Assessment

The summary of these calculations and classifications is detailed in the following table:

Local Government Area (Victoria) Classification	Population Size (2017)	Gross GRP (2018)	Local Jobs	Average Worker Productivity	Factor for Worker Productivity
Regional city with 100,000 people	245,751	\$12,339,000,000	115,380	\$106,942	0.0009%
Regional city with 50,000 people	285,114	\$14,446,000,000	140,491	\$103,283	0.0021%
Towns 5,001 to 50,000 people	525,923	\$25,774,000,000	233,337	\$108,976	0.0072%
Towns 1,000 to 5,000 people	413,108	\$19,745,000,000	162,556	\$121,252	0.0111%
Towns under 1,000 people	82,257	\$4,339,000,000	35,731	\$119,278	0.0275%
Total Rural & Regional	1,552,153	\$76,643,000,000	687,495	\$111,946	0.0074%
Total Victorian State	6,321,648	\$411,501,000,000	3,245,922	\$118,351	0.0023%

The factor for worker productivity is the comparative measure of worker productivity between different size communities, used to understand the economic impact between areas of one job created and one job lost.

4. Other Economic Drivers

There were a number of observations made on the key influencers of economic performance. Under the scope of this engagement these economic indicators were not quantified. Key observations included:

- LGAs that have a higher social economic index score ('SEIFA') have higher worker productivity and stronger economic performance;
- Education levels have a strong correlation to average incomes, single parent status, % of houses rented and unemployment. As these are all high drivers of economic performance, these factors influence the economic performance of an area. There is a strong evidence for investing in skill development and training in all LGAs; and
- Towns that have higher population growth have a closer proximity to larger regional centres.

5. Economic Influences

The main influences on economic development include:

- Available labour force and employment;
- Population growth;
- Education and training;
- Social capital and liveability;
- Local multiplier effects;
- Infrastructure and services; and
- Technological advancement.

5.1 Available Labour Force and Employment

There are a number of economic impacts that arise from changes in employment including the levels of consumer spending, health outcomes, economic growth, available capital and the local multiplier effect.

Employment and unemployment are the driving forces behind economic growth and stagnation. On a national scale, unemployment rates affect consumer confidence in a variety of ways, including the desire to make purchases.

Earning steady pay checks allows employees to pay down existing debts and improve their financial health. When this happens, financial institutions in an area might react to the increase in employment levels with a willingness to lend more money to consumers and businesses in that area. With capital flowing more easily, employees might be able to make larger purchases, which can further improve economic conditions in the area and increase work for additional companies. This creates a self-sustaining cycle beginning with the decision to hire more employees.

5.2 Local multiplier effect

The local multiplier effect (sometimes called the local premium) is the additional economic benefit contributed to an area from money spent in the local economy. For each dollar spent the benefit is greater than one dollar. The rationale in a local context is that the recipient of the dollar spends a proportion and saves a proportion and the recipient of that proportion goes on to do the same and so on. The multiplier effect is greater when the recipient at each stage spends a higher proportion and is reduced when the recipient spends a lower proportion. Additionally, spending on goods and services outside of the geographical location of the economy in consideration (i.e. importing) also impacts the multiplier effect as it operates as a leak on the recycling of money.

This concept is universal. It applies regardless of the geographical area identified for economic analysis. Therefore, assessment of the effect can be on a national, state, city or rural economy basis. It comes down to identifying an area and identifying the expenditure, the flow of cash in/out of the economic zone and the inhabitants' propensity to save.

In this analysis we have not quantified the local multiplier effect.

5.3 Population growth

Population growth accounted for 58% of global GDP growth and the remaining 42% comes from rising per capita incomes from 2000 to 2012 (McKinsey, Urban World: Meeting the demographic challenge). Due to 42% of GDP growth coming from per capita incomes, McKinsey report there is a strong argument that more should be spent on:

- Upskilling the labour force to increase per capita incomes;
- Supporting businesses to retain staff; and
- Innovation.

To sustain economic prosperity in the face of changing demographics, the aging population and lower fertility rates, a higher focus needs to be placed on people and raising productivity. The changing landscape includes globalisation of businesses and automation, which has seen many businesses close in regional Victoria such as the automotive industry.

Our research review correlations between population growth and economic performance for:

- rural towns with a population up to 1000 people;
- rural towns with a population between 1001 and 5000 people;
- rural towns with a population of more than 5001 people;
- regional cities with a population of 50,000; and
- regional cities with a population of 100,000.

5.4 Liveability

The term liveability describes how a city, town or region is rated on a combination of factors that contribute to a person's overall quality of life and wellbeing. The factors that may make up liveability include such things as crime rates, pollution, good physical and mental health, opportunities for recreation and the environment etc.

According to IPSOS, a global market research firm, there are significant flow on effects from people in a city, town or region achieving high liveability including higher productivity and increased prosperity for local industries.

IPSOS' 2017 annual study of community values and liveability rated the top five attributes that make somewhere a good place to live as follows:

- Feeling safe – 74%
- Affordable housing – 56%
- High quality health services – 47%
- Access to the natural environment – 42%

- Reliable and efficient public transport – 36%.

Key statistics from their life in Australia indices were as follows (with 100 being the best score):

- Life in Australia Index – 62.7
- Life in VIC Index - 62.8
- Life in Melbourne Index – 62.4
- Life in Regional Victoria Index – 65.1
- Life in NSW Index – 60.6
- Life in QLD Index – 64.2
- Life in WA Index – 63.1
- Life in SA Index – 63.7
- Life in TAS Index – 67.7
- Life in ACT Index – 69.6
- Life in NT Index – 58

Rural towns generally will rate higher on the liveability index as a result of feeling safe when compared to metropolitan or larger regional areas. This higher rating results in higher productivity and economic impact.

5.5 Social Capital

There is increasing literature and research that cities, regions and towns that have higher social capital are generally better off and perform better economically and that social capital is the driving force behind long term economic development.

A town, region or city that has high social capital will have high levels of trust, connection, collaboration, co-operation and co-ordination. These strong relationships foster and promote productivity, entrepreneurship, innovation and ideas, sustainability, knowledge and opportunities (*Andrew Woodhouse - Social capital and economic development in regional Australia*).

In our research we looked at correlations between:

- SEIFA scores;
- Unemployment rates;
- 2016 Census data for participants who rent;
- 2016 Census data for participants who are single parent families; and
- 2016 Census data for participants on average earnings.

This data was compared to worker productivity for local government areas.

SEIFA is a group of four indexes which are used to rank areas broadly by their level of advantage or disadvantage. It consists of four measures:

- Index of relative social economic advantage-disadvantage;
- Index of relative socio-economic disadvantage;
- Index of education and occupation; and

- Index of economic resources.

5.6 Education and training

Training and education is an essential component for the continued progression of individuals and business and to ensure prosperity for all and growth in the economy.

Generally, rural and regional towns have higher levels of low-skilled workers i.e. skill that is less complex and requires less formal education. There are two important factors that make it harder for rural workers than for urban workers to adjust to job loss. Firstly, the local economy in rural communities often depends on one or two industries rather than a diverse set of industries that characterise urban economies. Rural workers who lose their jobs have few, if any other local job prospects. This causes high levels of family distress and community decline. Secondly, even when there are other employment opportunities in rural communities, they often require retraining and skill upgrades and the training and education infrastructure is not as well-developed as in urban parts of the country. Therefore, the productivity costs and economic costs are high.

In our research we looked at correlations between 2016 Census data for towns in a local government area and the percentage of participants who had a degree or higher in education and compared to worker productivity for local government areas.

6. Future Considerations

The research undertaken identified industries that have the most opportunity to contribute to future prosperity for rural and regional Victoria. These sit at the intersection of global opportunity and national economic advantage. Approximately 67% of the value of Australia's exports comes from regional, rural and remote areas.

Our research included learnings from New Zealand (NZ) and its economic factors:

- Global opportunity considers the projected global economic growth across the industries over the period 2017 to 2037;
- Top 3 fastest global growth sectors are Tourism +3.88%, Agribusiness +3.83%, Health 3.78%;
- Understanding the comparative advantages, a country holds is crucial to identifying its growth opportunities;
- Top 3 areas of comparative advantage for NZ are Agribusiness, Tourism, Food processing;
- Whilst global or domestic opportunity and structural advantages are necessary, they are not sufficient. To ensure success, NZ built on its areas of advantage to maintain and improve performance relative to global competitors. This perspective can be applied to Australia's rural areas which predominantly run Agriculture based businesses.

This research is also supported by McKinsey Report, *Compete to Prosper: Improving Australia's global competitiveness 2014*, which states that Mining, Agriculture and Education are Australia's highest performing industries. As Australian products are highly sought after if we continue to invest in Agriculture by upskilling operators, investing in technology and increasing scale, Australia can continue to prosper.

Agri-businesses and products is a great opportunity for rural and regional Victoria, there is opportunities to improve sustainability, social outcomes and improved economic performance. NZ has demonstrated that putting Agri-business at the centre, increases economic performance and prosperity.

7. Data Collection

The analysis in this report is based on information collated from:

- National Economic Indicators for Local Government Areas 2016/2017, Victoria, and the population experts;
- 2016 Census Statistics from the Australian Bureau of Statistics; and
- 2011 Census Statistics from the Australian Bureau of Statistics.

In addition to the above data, independent research was undertaken including:

- Compete to Prosper, Improving Australia's Global Competitiveness, McKinsey, 2014
- Urban World: Meeting the Demographic Challenge, McKinsey 2016
- Social capital and economic development in regional Australia, Andrew Woodhouse, Elsevier 2005
- <https://blog.id.com.au/2018/population/demographic-trends/new-insights-to-social-disadvantage-new-seifa-data-released/>
- <https://scholars.unh.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1005&context=carsey>
- https://en.wikipedia.org/wiki/Local_multiplier_effect: Local Multiplier Effect
- <http://content.time.com/time/business/article/0,8599,1903632,00.html> : Buying Local: How It Boosts the Economy
- Rural Councils Victoria Platform 2019, Rural Councils Victoria, 2019
- <https://www.oecd.org/tad/agricultural-policies/43244973.pdf>
- <https://www.abc.net.au/news/2014-11-19/long-the-unfulfilled-promise-of-australian-agriculture/5903074>
- <http://reports.envcomm.act.gov.au/actsoe2015/the-report/9-what-does-the-changing-environment-mean/9-2-livability/index.html>
- <http://ruralhealth.org.au/book/economic-contribution-regional-rural-and-remote-australia>: Economic contribution of regional, rural and remote Australia, 2019.

8. Disclaimer

On the basis of information provided by our client, we have compiled this analysis.

Our procedures use accounting expertise to collect, classify and summarise the financial information contained in the analysis. Our procedures do not include verification or validation procedures. No audit or review has been performed and accordingly no assurance is expressed.

To the extent permitted by law, we do not accept liability for any loss or damage which any person may suffer arising from any negligence on our part. No person should rely on this analysis without having an audit or review conducted.

The analysis was prepared for the benefit of our client and the purpose identified above. We do not accept responsibility to any other person for the contents of the analysis.

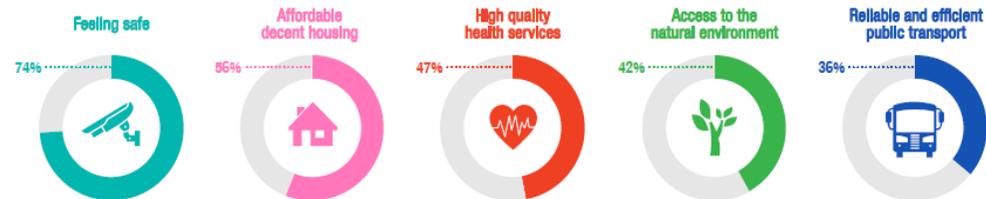


Crowe Horwath (Aust) Pty Ltd
491 Smollett St
Albury NSW 2640

Appendix 1 – Liveability Index

In November 2017 we asked 10,188 Australians to select the top five attributes that they believe make somewhere a good place to live. We also asked them to rate how well their state and local area performed against all 16 liveability attributes. A summary of the most important attributes can be found below. An overview as to how Australians rated their states' performance against all attributes can be found overleaf. If you would like to know more about Life in Australia or Ipsos Public Affairs, please contact Daniel Evans or Mark Davis.

The top five attributes that make somewhere a good place to live



State performance for the top five attributes that make somewhere a good place to live



IPSOS livability Index

Contact Us

Crowe Horwath (Aust) Pty Ltd

ABN 84 006 466 351

Member Crowe Horwath International

491 Smollett Street

Albury NSW 2640

PO Box 500

Albury NSW 2640

Australia

Tel 02 6021 1111

Fax 02 6041 1892

www.crowehorwath.com.au

Disclaimer

Crowe Horwath (Aust) Pty Ltd is a member of Crowe Horwath International, a Swiss verein. Each member of Crowe Horwath is a separate and independent legal entity. Liability limited by a scheme approved under Professional Standards Legislation other than for the acts or omissions of financial services licensees.