Quantifying the Economic Contribution of Regional South Australia

A report prepared for
Regional Communities Consultative Council
Local Government Association of SA
Regional Development SA

Prepared by
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Executive Summary

Background

This report has been prepared by EconSearch in response to a successful tender submitted to the Project Steering Group. There were four main components to the study:

1. development of a South Australian input-output table and a set of regional tables that, in aggregate, are consistent with the state table;
2. quantification of the economic contribution of regional South Australia;
3. preparation of user friendly spreadsheet-based input-output models for the state and a case study region; and
4. preparation of draft and final reports, including user manuals for the state and regional models.

This report addresses the first two components of the study and was undertaken by Matthew Ferris and Julian Morison (EconSearch Pty Ltd).

The focus of this study is on the non-metropolitan regions of South Australia, i.e. all regions excluding Adelaide. Throughout the report the non-metropolitan regions are referred to as Regional SA.

The purpose of preparing the user friendly spreadsheet-based input-output models was to provide a tool for Regional Development Boards and other organisations with an interest in regional development. The spreadsheet model, Regional Industry Structure and Employment (RISE) Impact Model, provides a database describing regional economic structure and a capacity to undertake regional economic impact analysis.

The input-output tables have been prepared for 2002/03. It is recognised that this is not a ‘typical’ year because of the drought which severely affected agricultural output in most regions in that year. Nevertheless, the input-output tables do provide a baseline against which other regions’ and future years’ data can be compared.

Input-Output Table Generation Process

The model development process in this project entailed using TERM (The Enormous Regional Model), which is a computable general equilibrium (CGE) model of the regional economies of Australia. Given a set of base data (prepared by EconSearch), the TERM model was used to prepare an initial estimate of input-output tables, trade matrices and behavioural equations for each region and the State.

Data

A wide range of sources has been targeted for the collection of data that was either essential for the construction of the tables or added to their overall quality. Base data included, for example, detailed employment data (4 digit ANZSIC\(^1\)), household expenditure (600 items), state account aggregate data and various sets of sector specific data such as the manufacturing census, agricultural census, mining census, fishing industry data and PIRSA Scorecard data (food and minerals).

\(^1\) Australian and New Zealand Standard Industrial Classification
Because it was a broader objective of the project to generate data sets and produce input-output tables for regions as small as individual Local Government Areas, where possible, data have been collected and stored on a Statistical Local Area basis.

**Regions**

The regional boundaries used in this project are defined in the table below.

**Regions of South Australia defined**

<table>
<thead>
<tr>
<th>Region Name</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelaide</td>
<td>Adelaide SD – Onkaparinga Hills SLA</td>
</tr>
<tr>
<td>Outer Adelaide</td>
<td>Outer Adelaide SD + Onkaparinga Hills SLA – Barossa DC – Light DC – Mallala DC</td>
</tr>
<tr>
<td>Barossa</td>
<td>Barossa DC + Light DC + Mallala DC</td>
</tr>
<tr>
<td>Eyre</td>
<td>Eyre SD</td>
</tr>
<tr>
<td>Northern</td>
<td>Northern SD</td>
</tr>
<tr>
<td>Yorke &amp; Lower North</td>
<td>Yorke and Lower North SD</td>
</tr>
<tr>
<td>Murraylands</td>
<td>Murraylands SD</td>
</tr>
<tr>
<td>South East</td>
<td>South East SD</td>
</tr>
</tbody>
</table>

*SD = Statistical Division; SLA = Statistical Local Area; DC = District Council.*

**Sector Definitions**

Three levels of industry classification were used in this project for data collection, input-output table preparation and information summary and presentation. These classification schemes are summarised below:

- **18-sector**: 17 ANZSIC divisions plus Ownership of Dwellings. This aggregation scheme is useful for the presentation of summary data.
- **43 Sector**: Uniform definition of sectors for all regions, designed to include the most significant sectors in the non-metropolitan regions. Note that some sectors in some regions may have no activity and will have zero entries in the input-output tables.
- **110 Sectors**: National input-output table sectors (106) with some disaggregation of primary sectors (including as separate sectors: viticulture, fruit and nuts, vegetables and aquaculture). All data have been collected at this level of disaggregation.

**The Economic Contribution of Regional SA**

A range of indicators are presented of the economic contribution of regional SA (i.e. all regions, excluding Adelaide) to the state's economy.

**Estimates by Sector and Region for Key indicators**

In aggregate, regional South Australia was estimated to have contributed to the state economy in 2002/03:

- 25.4 per cent of the number of full-time equivalent jobs;
- 24.7 per cent of the total value of output;
- 20.6 per cent of total household income;
- 29.9 per cent of other value added;
- 24.8 per cent of gross state product;
• 24.7 per cent of total household expenditure; and
• 27.4 per cent of the state’s total population.

The Regional Contribution across Selected Industry Sectors

• Regional SA accounts for over 99 per cent of employment, output and contribution to gross regional product (GRP) in broadacre agriculture.

• Regional SA accounts for over 85 per cent of employment, output and contribution to GRP in viticulture and horticulture and the Murraylands over 40 per cent of the total.

• Regional SA accounts for over 95 per cent of employment, output and contribution to GRP in fishing and aquaculture and the Eyre region approximately 70 per cent of the total contribution to GRP.

• The Northern region accounts for approximately 50 per cent of employment in mining and energy and 70 per cent of output and contribution to GRP. Regional SA in aggregate accounts for almost 80 per cent of contribution to GRP for these sectors.

• Regional SA accounts for approximately 25 per cent of employment, output and contribution to GRP in manufacturing and approximately 10 per cent of employment, output and contribution to GRP in the finance and insurance sectors.

The Contribution by Industry across Selected Regions

Based on an analysis of the sectoral (industry) contribution (to employment, output and GRP) for Adelaide and the South East:

• The service sectors in Adelaide comprised more than half of all economic activity in the region in 2002/03 (i.e. 57 per cent of employment, 50 per cent of output and 65 per cent of contribution to GRP); and

• The service sectors in the South East comprised approximately one third of economic activity in the region in 2002/03 (i.e. 31 per cent of employment, 28 per cent of output and 36 per cent of contribution to GRP) and the primary industry sectors one quarter of economic activity.

• In both Adelaide and the South East the manufacturing, utilities, construction and trade sectors accounted for approximately 35 to 40 per cent of contribution to GRP.

Gross Regional, State and Domestic Product per Capita

• Gross regional product (GRP) for regional SA, in aggregate, was $12.1 billion, gross state product (GSP) $48.9 billion and gross domestic product (GDP) $753.3 billion in 2002/03.

• The population in regional SA, in aggregate, was 418,951, the population of SA was 1,527,421 and the national population was 19,872,646 in 2002/03.

• The number of households in regional SA, in aggregate, was 165,015, number of households in SA was 617,552 and the number of households nationally was 7,440,408 in 2002/03.
• Regional SA, in aggregate, contributed 24.8 percent of GSP, accounted for 27.4 per cent of the total state population and 26.7 per cent of the total number of households in SA in 2002/03.

• The SA state economy contributed 6.5 per cent of GDP, 7.7 per cent of the national population and 8.3 per cent of households nationally in 2002/03.

• The average gross product per capita in regional SA ($28,957) was 9.5 per cent less than GSP per capita in SA ($32,013) and 23.6 per cent less than GDP per capita ($37,904) in 2002/03.

• The average gross product per household in regional SA ($73,517) was 7.1 per cent less than GSP per household in SA ($79,166) and 27.4 per cent less than GDP per household ($101,238) in 2002/03.

The Key Economic Drivers for Each Region

An analysis of the key economic drivers for each region was based on the premise that economic activity in a state or regional economy is driven by the demand for goods and services from the state or region. This demand can be generated by household expenditure within the region, government expenditure, private and public sector investment and changes in stocks within the region as well as demand from consumers interstate or overseas.

• At the state level, the key drivers\(^2\) of economic activity in 2002/03 in terms of contribution to GSP were ownership of dwellings (9.7 per cent of total GSP), health & community services (8.2 per cent), machinery & equipment (9.0 per cent), public administration & defence (5.5 per cent) and wine & beverages (5.1 per cent). Demand for good and services by tourists contributed 3.0 per cent of total GSP in 2002/03.

• At the state level, the key drivers of economic activity in 2002/03 in terms of employment were health & community services (11.7 per cent of total employment), machinery & equipment (11.1 per cent), retail trade (10.6 per cent), public administration & defence (5.4 per cent) and wine & beverages (5.0 per cent). Demand for good and services by tourists contributed 3.0 per cent of total employment in 2002/03.

• At the regional level, the key drivers of economic activity in 2002/03 in terms of contribution to GSP were:
  - Adelaide (machinery & equipment and health & community services);
  - Outer Adelaide (wine & beverages and residential building construction);
  - Barossa (wine & beverages and tourism);
  - Yorke and Lower North (grains and wine & beverages);
  - Murraylands (wine & beverages and food products);
  - South East (wine & beverages and wood, paper & publishing);
  - Northern (coal, oil & gas and metals & metal products);
  - Eyre (grains and aquaculture);

\(^2\) Ownership of dwellings is a significant contributor to GSP (9.7 per cent) but for the purposes of this study is not considered a key driver.
At the regional level, the key drivers of economic activity in 2002/03 in terms of employment were:

- Adelaide (machinery & equipment and health & community services);
- Outer Adelaide (wine & beverages and retail trade);
- Barossa (wine & beverages and tourism);
- Yorke and Lower North (grains and retail trade);
- Murraylands (wine & beverages and food products);
- South East (wine & beverages and retail trade);
- Northern (metals & metal products and health & community services); and
- Eyre (grains and aquaculture).

At the regional level, tourism was a key driver of economic activity in terms of contribution to GSP in the Yorke and Lower North (5.5 per cent) and Outer Adelaide (4.9 per cent) regions. In terms of employment it was a key driver of economic activity in the Outer Adelaide (8.2 per cent), Barossa (7.0 per cent), Yorke and Lower North (8.3 per cent), Northern (6.8 per cent) and Eyre (7.3 per cent) regions.

Interregional, Interstate and International Exports from South Australia

- Total international commodity and services exports from South Australia increased in value by $4,856 million or 104 per cent from 1993/94 to 2002/03.
- On average, primary industry commodities accounted for 29 per cent of the value of total international commodity and services exports from South Australia over the period 1993/94 to 2002/03.
- Exports of primary industry commodities from South Australia (in aggregate) increased in value by $1,156 million or 83 per cent from 1993/94 to 2002/03. The vast majority of these commodities are produced in South Australia’s regional economies. The key contributors to this growth were:
  - the grains sector ($468 million increase – an industry based predominantly in the Eyre, Yorke and Lower North, South East and Murraylands regions);
  - the aquaculture sector ($256 million increase – predominantly exports of tuna, an industry based in the Eyre region); and
  - the mining sector ($241 million increase - an industry based predominantly in the Northern region).
- Exports of manufactured commodities from South Australia (in aggregate) increased in value by 3,085 million or 154 per cent from 1993/94 to 2002/03. A significant proportion of these commodities, or the raw product from which they are manufactured, are produced in South Australia’s regional economies. The key contributors to this growth were:
  - the wine & beverages sector ($1,248 million increase – an industry based predominantly in regional SA, particularly the Barossa, Murraylands, Southeast and Outer Adelaide regions);
• Exports of services from South Australia (in aggregate) increased in value by $383 million or 53 per cent from 1993/94 to 2002/03. The majority of these services are likely to have been exported from the Adelaide region.

Estimates of the volume of international commodity exports from South Australia for the ten-year period 1993/94 to 2002/03 were difficult to summarise given the different units (e.g. tonnes or litres) used for different commodities within the same sector. Some of the key points to note for sectors in which significant growth in exports occurred are summarised in the dot points below.

• Exports of live cattle (beef and dairy) from SA increased from 3,170 head in 1993/94 to 34,411 head in 2002/03 (985 per cent).
• Aquaculture exports (principally tuna) increased from 998 tonnes in 1993/94 to 8,161 tonnes in 2002/03 (718 per cent).
• Wine and beverage exports increased from 88,621 litres in 1993/94 to 330,686 litres in 2002/03 (273 per cent).

The growth in the value of exports from these sectors was, in all cases, significantly greater than the growth in export volumes implying that there was considerable growth in the unit value of these commodities over the ten-year period (at least in nominal terms).

Regional Labour Market Structure

• The service sectors comprised more than half of all jobs (57 per cent) in the Adelaide region in 2002/03 while the manufacturing, utilities, construction and trade sectors accounted for approximately 43 per cent of jobs in the region. Primary industries accounted for less than 1 per cent of jobs in the Adelaide region.
• In regional SA, the service sectors accounted for approximately one third of all jobs (from 30 per cent in the Barossa to 42 per cent in Northern) while the manufacturing, utilities, construction and trade sectors accounted for between 30 (Eyre) and 50 (Barossa) per cent of jobs in the regions. Primary industries accounted for between 17 (Northern) and 35 (Eyre) per cent of regional jobs.
In general, across all regions and for the state as a whole, the service sectors (particularly education, health and community services, personal services and accommodation, cafes and restaurants) and the retail trade sectors all have relatively large employment multipliers.

Across all regions and for the state as a whole the service sectors also have relatively large contribution to GSP multipliers but, unlike employment multipliers, the contribution to GSP multipliers for retail trade and accommodation, cafes and restaurants are not in the ‘top 10’. The electricity and gas and other construction sectors have a consistently large contribution to GSP multiplier in regional SA.