Challenge/Objectives

- Offshore oil and gas exploration & development has the *potential* to change the economic structure of the Eyre Peninsula and the West Coast.

- But in order to do this we need to understand:
  - The capabilities and limitations of the region.
  - The economic structure of the region
  - Embed that understanding of the region's economy in a structural economic model which links it to the broader SA and National economy.
  - And then think through how an offshore oil or gas development would be likely to be staffed and supported.

Approach taken

- Extensive data analysis on the characteristics, capabilities and limitations of regions' economies

- Regional consultations

- Reviews of the distribution of impacts from other offshore oil and gas regions such as Bass Strait and the North West Shelf

- Analysis and consultations used to determine geographic focus of CGE modelling and to test and adjust where necessary regional flows in the CGE model.

Approach taken

- All complete, published as GABRP Research Report Number 6 earlier in 2016.

- Opportunities to publish results arising from the theme as a whole currently being explored

- modelling. But after the decision by BP to discontinue their exploration these resources were redirected to other themes.

RESEARCH REPORT SERIES

Economic Baseline and Model Report

Project 6.2
Economic Profile of Eyre and Western Region

Report prepared by
The SA Centre for Economic Studies
The University of Adelaide
Victoria University

Authors
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GABRP Research Report Number 6

February 2016

Current baseline

The Eyre Peninsula and West Coast region:

- is large comprising (23.6 % of SA), sparsely populated, with residents concentrated in towns along coastal Eyre Peninsula;
- Whyalla and Port Lincoln, together account for 65 per cent of the region's population;
- Slow population growth, older age profile, aging population, small but increasing indigenous population share;
- unemployment rate of 5.8 per cent below state average;
- key industries include agriculture, fishing, aquaculture mining (iron ore) and tourism, with exports being important for all of these sectors;
- has a GRP of $2.6 billion, accounting for 3 per cent of South Australia's GSP in 2012/13;
- employment is dependent on primary production, i.e., cereal cropping and sheep livestock, mining, construction and tourism;

Current baseline – key challenges

- Education (below average student performance and year 12 completion rates, above average truancy rates)
- Skills shortages (out-migration of Year 12 leavers, professionals, qualified tradespersons leading to some skilled labour being sourced outside the region)
- Infrastructure (construction/upgrades required across the range of local infrastructure including rail network, small regional airports, ports, remote indigenous communities and power generation);
- Indigenous communities (challenges in delivering high quality services, difficulties for indigenous people in engaging in their local economies)
- Councils (nine of the local councils are small creating difficulties in efficiently delivering services and liaising with the private sector and other levels of government. Demand for local services increasing due to mining led population growth);

Experience elsewhere – implications for impact

- FIFO widespread in the offshore oil and gas sector.

- Eyre Peninsula and West Coast do not have existing employment in sector.

- Discussions suggest processing/loading onto tankers most likely to occur offshore.

- So employment impacts more likely to occur in Adelaide (or Perth).

- Interesting geologies located in Commonwealth waters, so any 'royalties' will flow to Commonwealth not State Government.

- Local impact from development likely to be concentrated in support activities.

Economic modelling capability

- Computable General Equilibrium (CGE) models set out to systematically describe the interactions between economic agents (producers, households, investors, importers/ exporters and government) within a region and between regions.

- These interactions are iterative and include margins, and supply of labour and capital, as endogenous to the model

- Dynamic CGE modelling has an additional advantage in that it allows the impacts of a particular scenario to be modelled year by year relative to a reference scenario.
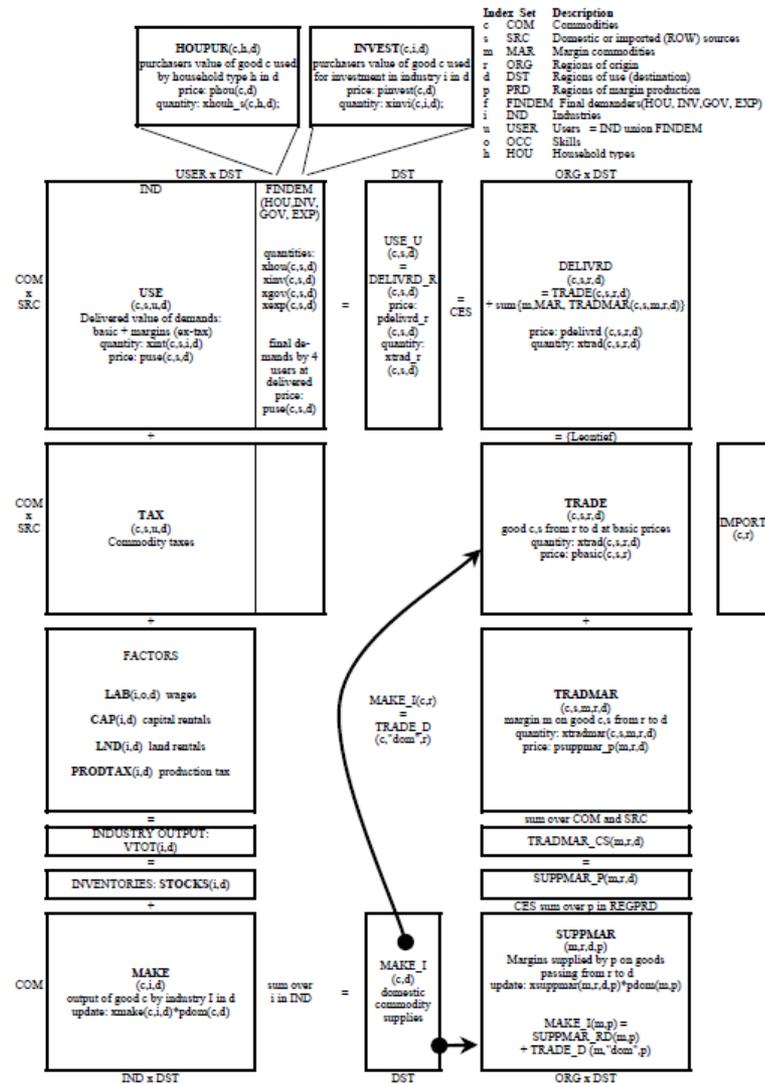
Figure 1: The TERM flows database

Horridge, J.M., (2012) "The TERM model and its data base (external link)", in Wittwer G. (Ed.) *Economic Modelling of Water: The Australian CEG Experience*, Springer, Dordrecht, Netherlands, Chapter 2.
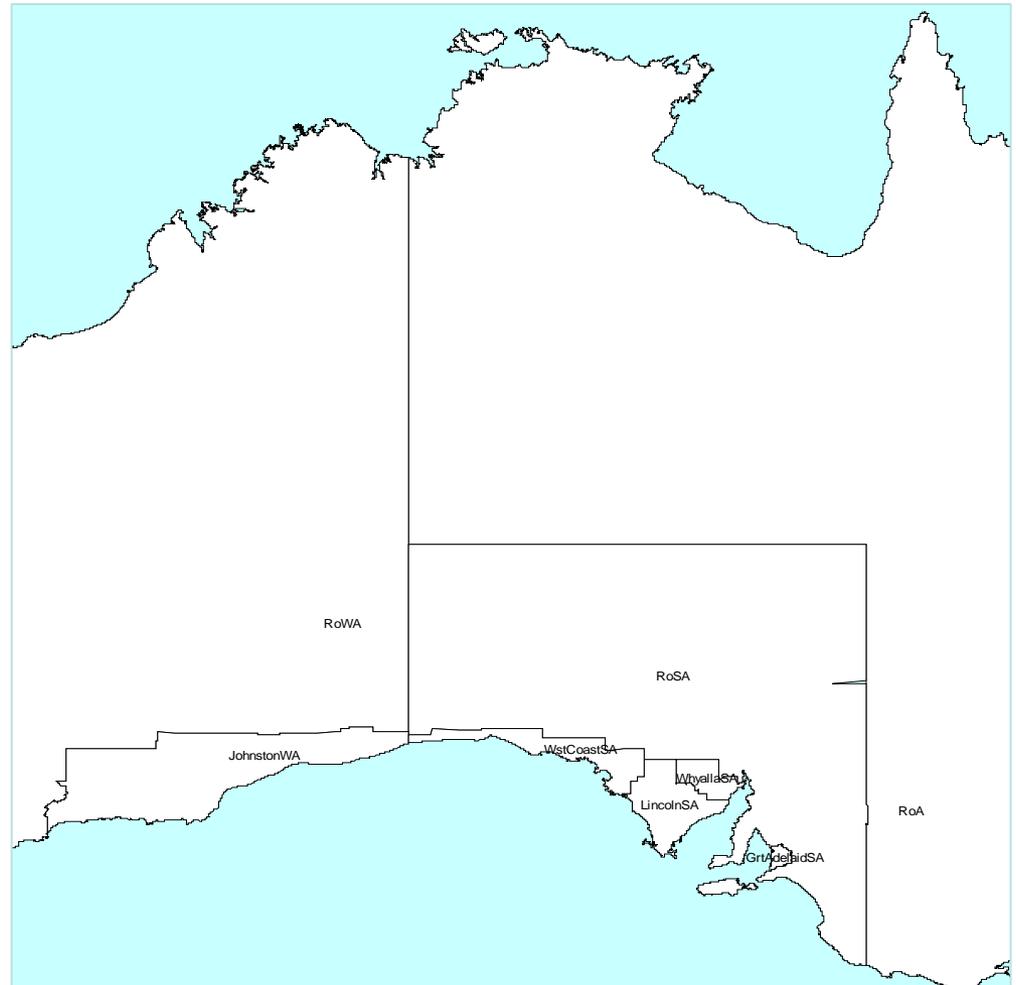
Approach taken to model

- For this project we collaborated with Victoria University which has developed The Enormous Regional Model (TERM).

- TERM is based on the 2009-10 national input-output table updated to 2012-13

- This is a dynamic CGE model that works off a dataset which disaggregates the national economy into 190 industry sectors, and 205 regions.

- But this is computationally challenging, so for this project the model has been aggregated to 23 industry sectors and 9 regions

Approach taken to model

- For any potential use a specific regional aggregation is chosen
- Regional aggregation used in the current study

Approach taken to model

- Industry sectors:
  - Livestock
  - Grains
  - Other Agriculture
  - Fishing and Aquaculture
  - Other Mining
  - Oil
  - Gas
  - Food and beverage products
  - Other Manufacturing
  - Fuel Products Manufacturing
  - Utilities
  - Construction
  - Trade
  - Hotels Cafes and Accommodation
  - Other Transport and Storage
  - Air Transport
  - Rail Transport
  - Communication
  - Business Services
  - Ownership of Dwellings
  - Public Administration and Safety
  - Education
  - Health and Community Services
  - Other Services

Achievements to date

- Good database setting out the economic structure of the region

- Good understanding of existing limitations in region, set out in published report

- Specific aggregation of TERM model developed to reflect local economic structure and likely geography of any impacts.

- Model would allow scenario analysis to be undertaken in future if needed.

The team/who's involved

- Professor Mike Young (University of Adelaide)
- A/Professor Michael O'Neil (University of Adelaide)
- Professor Glyn Wittwer (Victoria University)
- Steve Whetton(University of Adelaide)
- Mark Trevithick (University of Adelaide)