

Structure and evolution of industries in the Waikato Region's economy¹

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Value chain approach is an economic growth framework that offers New Zealand an opportunity to progress as a sustainable, free-market, export-driven competitive economy. The economy has a relatively large per capita GDP with diverse sources of income that spread across its islands and regions. The Waikato region would have a significant role to play in New Zealand's value chain progression. To contribute to knowledge on how well the industries within the economy are placed to leverage value chain progression opportunities, I developed and applied input-output models based on empirical inter-industry transactions over the last 30 years and across industries, to explore the Waikato region as a system of economic industries. The objectives of this study are to

- Estimate the levels of interdependencies between industries within the economy of the Waikato Region as a significant region of New Zealand's economy;
- Identify the evolutions of the regional economy in terms of key industries as the economic structure evolves over the past 3 decades and how that relate to the global value chains and trade agreements and finally
- Identify economic and policy implications of the interdependencies should the demand for and or supply of outputs of the industries change either because of external or internal factors.

Data and methodology

The studies involve exploring the relationship between the industries' outputs and changes in demand for the outputs on one hand. The study also explores the relationship between the industries' outputs and changes in value added.

The data used are amounts of input-output transactions with employment FTEs for 1986/87, 1990/91, 1995/96, 2000/01, 2003/04, 2006/07, 2012/13 and 2019.

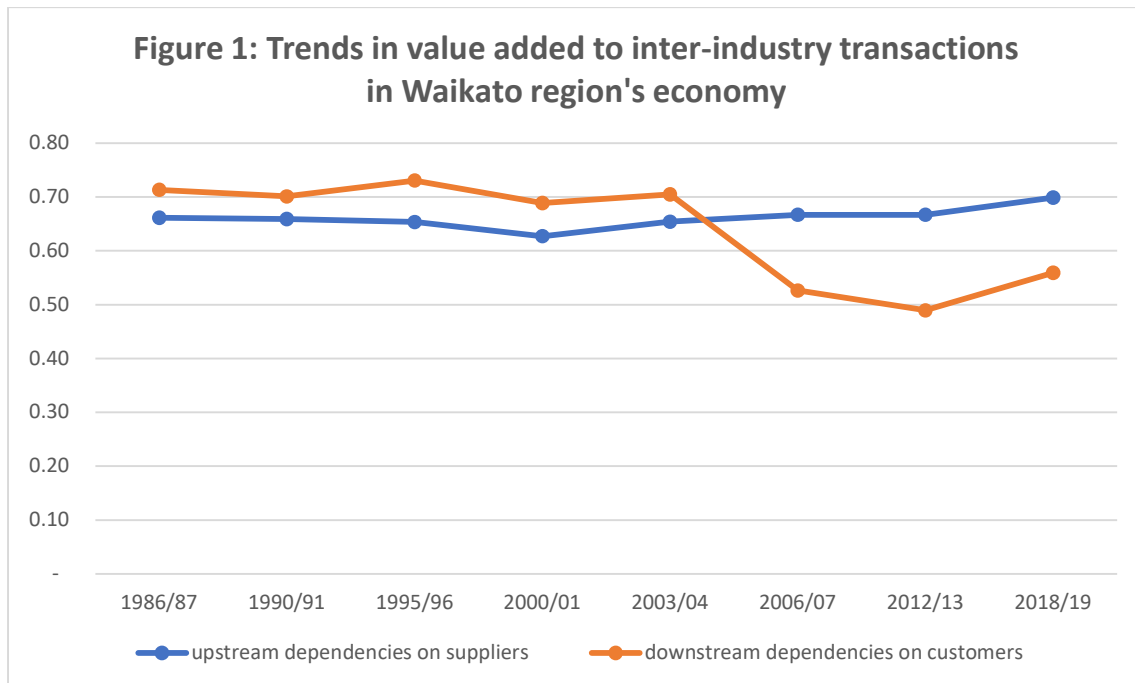
An in-dept input-output analysis of both backward and forward linkages between industries were performed. The indicators of interdependencies based on the estimated multipliers (output, value added, household income and employment) were normalised. So the industries were objectively charactered in terms of their level of dependencies on other industries both for input supply and sales of their products.

This type of analysis can be helpful to explore the concept of value chain and economic structure of a region, nation, etc. (Miller and Blair, 2009; Olubode-Awosola and Paragahawewa, 2013).

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Trends in industry inter-dependencies

Based on the 1986/87 inter-industry transactions, on average, the value addition in business transactions with suppliers was lower than that of business transactions with customers. However, as at 2003/04, that has been reversed. That's an indication of value chain progression (Figure 1).

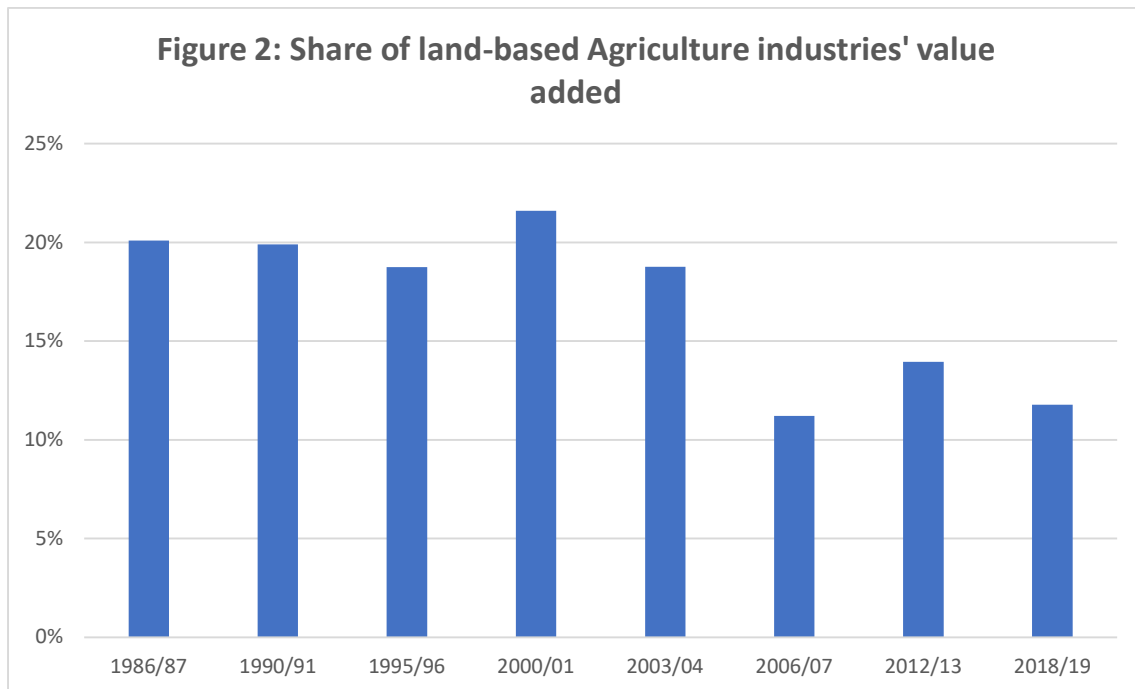


Source: own computation based on data supplied by Butcher Partners Ltd.

Key industries

Over the past 3 decades analysed, and as is expected, land-based agriculture is one of the few industries that consistently have strong both upstream and downstream dependencies to many sectors of the regional economy (Figure 2).

The share of its value added has decreased from about 20% in 1987 to about 12% in 2019. The industries include sectors such as sheep farming, dairy farming, beef farming, mixed farming, horticulture, cropping, fruits growing, agriculture services, hunting, forestry, logging, forestry management, land improvement and fishing



Source: own computation based on data supplied by Butcher Partners Ltd.

Policy implications

These results can help policy decisions on, for example, which industries to promote investment in because of their larger interdependencies, and in which sectors to promote diversification of supply chains.

Keywords: *Value chains, industry interdependencies, input-output analysis, Waikato Region, New Zealand*

References

Miller, R.E. and P.D. Blair, 2009 *Input-Output Analysis: Foundations and Extensions*, Second Edition, Cambridge University Press

Olubode-Awosola, OO and U Paragahawewa (2013) *Economic impact assessments of the environment scenario for the Hinds Catchment water quantity and quality setting process*. Report Prepared for the Environment Canterbury. AgResearch Ltd. Technical Report prepared for Environment Canterbury RE500/2013/052. 25pp.