

## **Input-Output Analysis for Business Planning: A Case Study of the University of Sydney**

Topic: Enterprise input-output approach, environmental issues and policy making II

Author: Manfred Lenzen

Co-Authors: Stefan Wisniowski, Tess Howes, Joy Murray, Chris Dey, Linda Schofield, Geoff Barton, Don Taylor, Charlie Benrimoj, Bob Kotic

We present a multi-region input-output (MRIO) model functioning as an enterprise IO model, where the University of Sydney is embedded in the Australian economy. This model forms the centrepiece of a new data-driven framework for strategic forecasting and planning of the university's financial operations. It incorporates both Leontief's well-known demand-pull, as well as Ghosh's supply-push exercise. It is therefore able to estimate the immediate financial implications for the university, and the economy-wide flow-on effects, for example as a result of changes in demand for courses by students, or as a result of changes in the supply of labour such as wage increases. We report on recent scenario studies on the financial performance of the teaching and research functions of the university, and the lessons learned for management practice. Our work breaks new grounds in a number of ways. According to our knowledge, our enterprise model:

- o is the largest so far in terms of its number of sectors,
- o is the first subjected to the Ghosh supply-push calculus,
- o is the first to investigate system closure, and
- o is the first to feature an application of Structural Path Analysis.

Thus, the novelty of this work lies not so much in the techniques used, but in their application to a very large enterprise input-output model. In particular our work shows how demand-pull and supply-push exercises, as well as closed-system model results can be interpreted and used for internal decision-making.