

# The Australia Institute

Research that matters.

**TITLE: Economic models often biased by vested interests**

**AUTHOR: Richard Denniss**

**PUBLICATION: Canberra Times**

**PUBLICATION DATE: 1/08/14**

**LINK:** <http://www.canberratimes.com.au/comment/economic-models-often-biased-by-vested-interests-20140731-zyumj.html#ixzz39UXrjeZy>

Economic modelling is like The Wizard of Oz. Behind a impressive facade of power and omnipotence lies an underwhelming array of bizarre assumptions, confused theory, inadequate data, and a desire to please the customer.

Economic modelling, it seems, is loved by everyone. Lobbyists and industry groups love it as it allows them to dress up their self-interest as national interest. Politicians love modelling as it saves them having to explain how their policies will actually work and why we should support them.

And the media love modelling. Who can go past a headline like "Modelling shows carbon tax to cost 24,000 jobs in mining"? Indeed, the media's love of modelling is the major reason that industry groups and politicians are so keen on it.

So what is an economic "model"? A model, whether of the economy or an aeroplane, is a simplification of reality. A model is typically smaller, simpler, and easier to build than a full scale replica. It sheds light on the main features of the reality that it seeks to represent.

Unlike a model plane, an economic model is not a physical thing. It is a mathematical representation of the linkages between selected parts of the economy. A simple economic model might highlight the impact of changes in economic growth on commonwealth tax revenue. A more complex model might highlight the linkages between economic growth, the unemployment rate, total tax revenue, and government welfare spending.

The two most common forms of economic modelling in Australia are "input-output" models and computable general equilibrium (CGE) models. So called "input-output" models are primarily based on input-output tables created by the Australian Bureau of Statistics (ABS), which document the ways in which the outputs of one industry act as an input for other industries. For example, the output of an iron ore mine is an input into a steel making industry, which in turn is an input into the car making industry, which in turn is an input into the transport industry, which in turn is an input into the café industry.

The ABS input-output tables, rather impressively, allow you to answer questions like: "If the café industry doubled in size, how much more steel would need to be produced?" Under some extremely limited circumstances, input-output tables even allow you to answer questions like: "How many jobs would be created in the mining industry if the car industry increased in size?" The problem is, however, that the lobbying firms spreading the results of their input-output modelling around Canberra have been systematically and deliberately ignoring the caveats that the ABS place on the usefulness of their tables.

Rio Tinto's attempt to win support for their expansion of the Warkworth coal mine in the Hunter Valley provides an extreme example of the misuse of input-output modelling. Using this modelling, they argued that the expansion of a mine in the Hunter Valley would create 44,000 new jobs. The Australia Institute argued in the NSW Land and Environment Court that the real number would be closer to zero. In ruling against the expansion of the mine, the Chief Justice found that the modelling presented by Rio Tinto was "deficient".

Despite the fact that the ABS and Productivity Commission have described such analyses as "biased" and "abused", the proponents of the massive Carmichael coal mine in Queensland have relied on it to suggest that their mine will create 10,000 jobs.

The main reason that input-output modelling is so "biased", "abused", and "deficient", is that it assumes away the existence of any scarce resources. For example, it assumes that there is no shortage of skilled labour, no shortage of key infrastructure, no shortage of land, capital, water or anything else. Given that economics describes itself as "the science of the efficient allocation of scarce resources," ignoring scarcity is a pretty big oversight.

In reality, as opposed to in an input-output model, the expansion of the Warkworth or Carmichael mine draws skilled labour away from other mines and from manufacturing. These mines destroy land that was previously used for agriculture, and drive up the exchange rate, making other exports less competitive.

CGE models attempt to take some of these macroeconomic linkages between sectors into account, but their complexity serves primarily to conceal the key assumptions that drive the results of the model. For example, the models typically assume that when factories close down, employees are easily re-employed. Bizarrely, they also usually assume that there are no economies of scale, which raises the question of why factories would have been built in the first place.

Recent attempts to use CGE modelling to answer the question of whether the renewable energy target (RET) would lead to higher or lower electricity prices provides an example of how significant, and subjective, the process of making assumptions is. Modelling by ACIL Allen suggests the RET will deliver lower electricity prices, while modelling by Deloitte suggests prices will be higher. The only thing that can be said with certainty is that at least one of the modellers is 100 per cent wrong.

Economic modelling can be a useful thought experiment. It can help those who understand the inner workings of the models see patterns and understand inter-relationships more clearly than they otherwise would. But it can also be a complete con. No matter how complicated, confusing or respected an economic model is, citizens, politicians and journalists should never forget the primary rule of modelling - garbage in equals garbage out.

Economic modelling has become a lucrative industry. Big business is willing to pay hundreds of thousands of dollars for modelling results that will show that what is good for their business is, as luck would have it, good for the community as a whole. Community organisations, environment groups and small business, on the other hand, can rarely afford the hefty fees to challenge them.

Any policy process that relies heavily on economic modelling is, almost inevitably, a process which will deliver big benefits for big business. Perhaps that is why so many politicians are so keen on it.