Reviewing Treasury's Economic Modelling Capability

In 2016, Treasury conducted two major reviews of its forecasting and modelling practices.

Warren Tease, now Head of the Sydney and Melbourne Offices, was employed to [review](#) Treasury's macroeconomic forecasting capabilities. This was part of an ongoing review of Treasury's forecasting practices. The recommendations of that review are being implemented, including plans to construct a macro econometric model for forecasting and policy simulation.

Treasury is also making a determined effort to build its macroeconomic and modelling capacity recruiting staff with extensive macroeconomic and modelling experience. Following the forecasting review, Chris Murphy was commissioned in mid-2016 to undertake a further comprehensive review of Treasury's modelling capability, including its economic, tax and fiscal modelling.

Treasury also hosted a [conference](#) on Modelling for Public Policy Analysis: Emerging Trends and Future Directions in Sydney earlier this year. The conference was attended by prominent international and Australian experts on economic and fiscal modelling, including from the Congressional Budget Office, the Institute for Fiscal Studies, the Bank of Canada, the Reserve Bank of Australia and NZ Treasury.

This was followed by a semi-annual meeting of Treasury's Expert Panel in Macroeconomic Modelling. Chris Murphy's Review and its findings were considered at both events.

Some consistent themes emerged from this process:

•   The Review was very well received. It provided a rigorous analysis of Treasury's modelling needs and capability;

•   Treasury's modelling program was seen as ambitious but necessary to meet growing demands for policy advice. Implementing the program would require a large commitment of people with different types of modelling skills;

•   The recommendation for Treasury to expand its distributional models of tax and transfer policy to lifecycle analysis was well received;

•   The Review assessed that developing an Overlapping Generations (OLG) Model should be assigned a medium priority at Treasury. Participants considered that the development of an OLG model is important for Treasury. They noted that an OLG model provides insights into the impact of all changes to fiscal policy and that other fiscal agencies rely on them for this purpose;

•   The Review considered linking Treasury's microsimulation models with a Computable General Equilibrium (CGE) model. It noted a range of evidence of the successful linking of such models in various institutions and concluded that linking is preferable to developing a more complex fully-integrated model. One theme that emerged at both the conference and in the expert panel meeting was that models should not be over-complicated. As a result, a number of participants argued that tightly linking different types of models may not be desirable if this adds complexity;

- Some other important themes emerged:

  - There was an emphasis on pragmatism, transparency and simplicity in model design to ensure that models were tractable, accessible to a wider range of staff and easier to communicate to end users. Models should be mainstream rather than at the cutting edge of academic thinking. Importantly, they should also be augmented by judgment;

  - At the Expert Panel meeting, the choice between using a macro econometric model or Dynamic Stochastic General Equilibrium (DSGE) model for forecasting and scenario analysis was open. Some considered that a DSGE model was more appropriate for monetary policy while others considered that their transparency and long-run properties were useful in forecasting over longer horizons at fiscal authorities;

  - Culture is crucial. Models should be widely used, easily accessible and part of the day-to-day work of an organisation. This makes them more credible and reduces key-person risk. Administrative issues such as documentation and maintenance of IT infrastructure are crucial.

Treasury has multi-faceted modelling needs. The Review and Conference have provided a comprehensive framework to prioritise Treasury's modelling program. These will be explored further in coming months.