Finansdepartementet

Development of a new macroeconomic model for fiscal policy analysis

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Objective

- Develop new model for medium-term fiscal policy analysis
- Aim is to complement existing models in use at the Ministry, with a focus on fiscal policy analysis
- KVARTS will remain the Ministry's primary tool for medium-term forecasting

The Ministry has a suite of different models

- KVARTS: forecasting and policy analysis
- Empirical models for short-term forecasting
- DEMEC: demographics, economy, and public finances
- MSG/SNoW: emissions projections, climate change policy
- MOSART and LOTTE: microsimulation models

→ Existing suite of models works well and has contributed to the Ministry's reputation for high-quality policy analysis

Why develop a new model?

- A model that can be used by a broader range of the economists at the Ministry
- Alternative perspective on fiscal policy
- Capacity building

The model strategy includes broad guidelines for the new model

- The new model should:
  - Include a role for fiscal policy over the business cycle
  - Describe the behavior of agents in a general equilibrium setting, so that both demand and supply effects of fiscal policy, as well as the impact of different sources of financing, are taken into account
  - Include a role for forward-looking expectations
  - Be parameterized on Norwegian data
  - Be relatively easy to interpret in light of economic theory
  - Be limited to what is necessary to analyze the impact of the most important fiscal policy instruments on the economy

Some topics for discussion

- What are the elements of a useful model for fiscal policy analysis
- From DSGE to policy model
- How to model households?

What are the elements of a useful model for fiscal policy analysis?

- KVARTS provides a detailed and national-accounts based description of the entire economy
- Along what dimensions does a model whose primary goal is *fiscal policy analysis* need to provide a realistic depiction of the economy?
- Example:
  - The wage formation process in Norway aims to preserve the competitiveness of the industrial sector. This institutional setup is captured in KVARTS
  - Is a realistic depiction of the labor market necessary in a fiscal policy model where the objective is not to analyze the wage formation process itself?

From DSGE to policy model

- *Theoretical consistency is a useful starting point, but must be weighed against empirical relevance and user friendliness*
- Our approach:
  - Start with microfounded core model
  - Assess what elements of the model are at odds with the data (e.g. investment, rational expectations) or introduce unnecessary complexity
  - Amend the model in a pragmatic manner to address these issues (e.g. Tobin's Q, adaptive expectations)
  - Similar approach followed at the Reserve Bank of New Zealand and in the IMF's FSGM model

How to model households

- How to model households one of key unanswered questions:
  - Ricardian equivalence
  - Effect of a fiscal expansion on private consumption in benchmark New Keynesian model
  - Lack of empirical support for the Euler equation
- Private consumption largest component of GDP and critical for fiscal policy: Reduced form approach not an option
- What kind of heterogeneity matters for macroeconomic outcomes?
- Modelling options:
  - Rule of thumb households
  - Blanchard-Yaari perpetual youth model
  - Diamond OLG model
  - Iacoviello housing collateral constraint
  - Heterogeneous agent model

Thank you