Norwegian Ministry
of Finance

A model for fiscal policy analysis in Norway

Progress update

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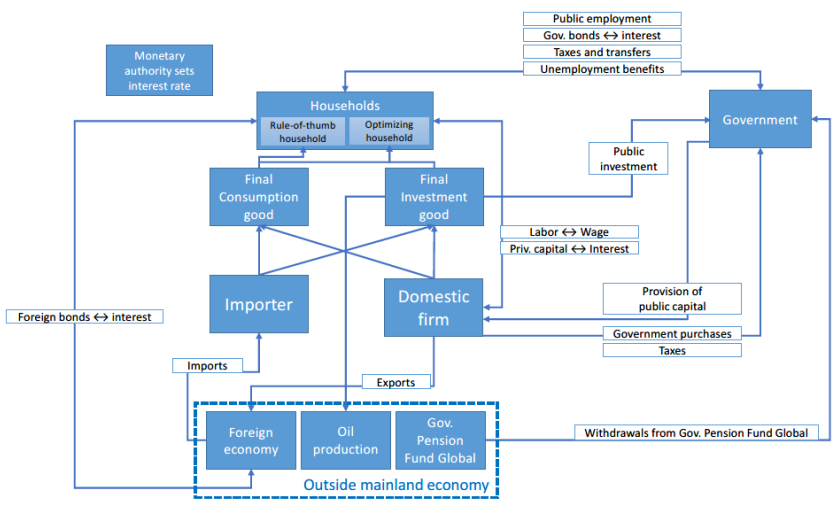
Progress update

- Modelling:
  - Completed a ”baseline” model for fiscal policy analysis calibrated to Norwegian data
  - Good progress towards incorporation of non-tradable sector
  - Started process of estimating the model
  - Ongoing projects relating to expectations formation, trends
- Outreach:
  - Presentation of baseline model at Ministry of Finance, SSB, and Norges Bank
  - Working paper documenting baseline model circulated to MMU and will be published on Ministry’s external website

Characteristics of the baseline model

- Standard small open economy DSGE model
- Rule of thumb households
- Fiscal block:
  - Taxes on personal income (ordinary income, social security, bracket tax), corporate (social security, profits), and indirect taxes (VAT, customs duties)
  - Government consumption, investment, and transfers
  - Public employment
  - Exogenous oil fund withdrawals
- Labor force participation
- Unemployment
- Semi-structural foreign sector

A snapshot of the baseline model economy



What are we currently able to do with the model?

- Stochastic simulations to analyze a variety of domestic and international shocks
- Deterministic simulations to analyze permanent shifts in fiscal policy under a variety of financing assumptions
- Analyze a package of policy measures
- Effects of preannouncing policy measures
- Effects of monetary accommodation
- Analysis of fiscal multipliers

Calibration of baseline model

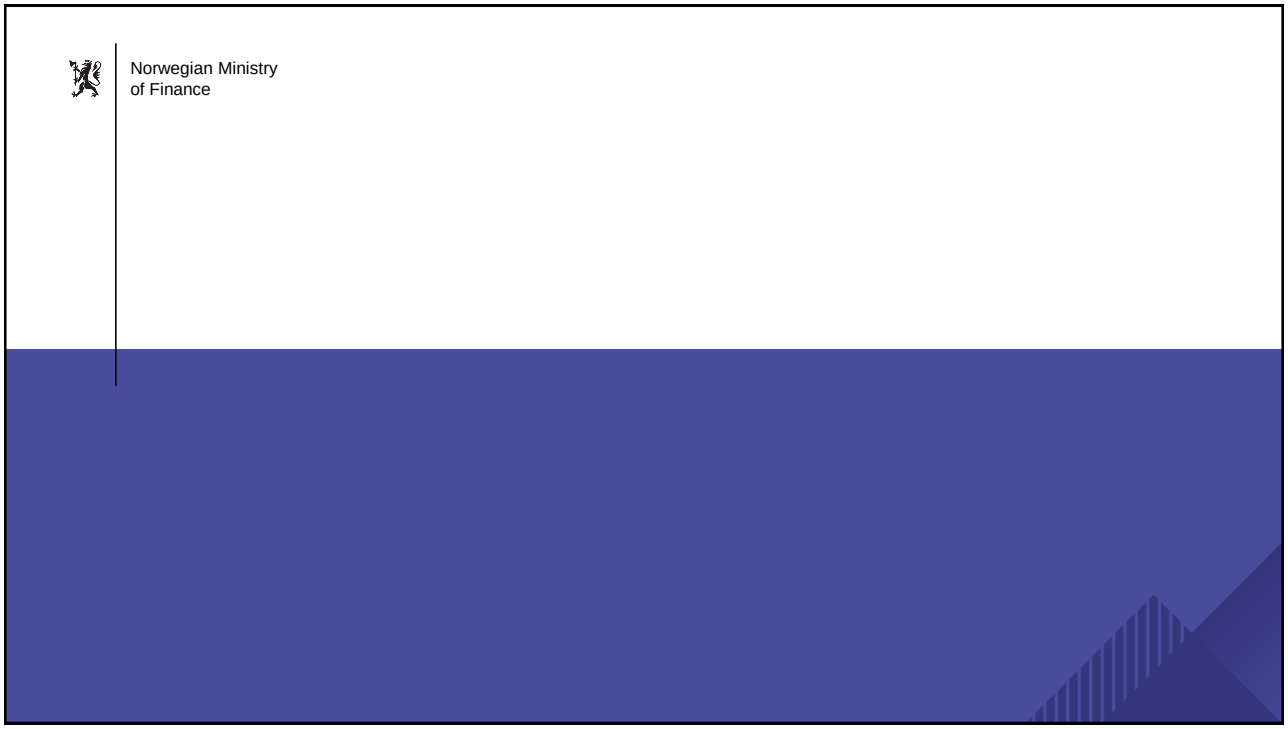
- Calibration of steady-state to match long-run moments in data
- Calibration of dynamic parameters to match simulations of monetary policy shock and productivity shock in NEMO
  - Impulse responses broadly in line but NEMO has more persistence
- Comparison of permanent shifts in fiscal policy with KVARTS
  - Qualitatively similar for most variables but KVARTS has significantly more persistence (being looked at in SSB)
  - Significant difference in response of wages between models

Some thoughts on the way forward

- Introducing the Scandinavian model of inflation formation (hovedkursteorien) into the model likely to qualitatively change the results
  - Current thinking: wages set by a union that seeks to preserve profitability of the tradable sector
- Changes to the household sector will focus on the transmission and propagation of shocks through household balance sheets
  - Introduce housing and collateral constraints
- The estimation methodology will use outside information to overcome challenges in identifying the fiscal transmission mechanism
  - System priors
  - Possibilities include information on fiscal multipliers from KVARTS
- It would be useful if the model were able to characterize the trade-offs in using more/less oil money
  - Important that the mechanisms are perceived as credible
  - Current thinking in presentation by Ivan Frankovic to follow

Increasing focus must be put on a strategy for integrating the model in the work of the Ministry

- Experience from other countries illustrates importance of not underestimating this part of the project
- What can we learn from the other institutions (e.g. Norges Bank with NEMO, SSB with SNoW, the DREAM group in Denmark, and Konjunkturinstitutet in Sweden)?
- Potential elements of a strategy:
  - Make sure that the model has a role in the Ministry's work processes
  - Early engagement with a receiving team of model operators
  - Embed model developers in operational units in Ministry of Finance
  - User friendly front-end
  - Training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