Discussing the
FGB-LM Model

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Main structure of the FGB-LM Model

• Its “core” is a state-of-the-art Dynamic Stochastic General Equilibrium (DSGE) model, with many features.

• The “core” imposes results on an econometrically calibrated “satellite” component.

• This top down framework is calibrated to the E3ME forecast (as the baseline).

• One of the benefits of using a GE framework is that it allows for consistent counterfactual experiments.
Policy Analysis with DSGE LM model

- Some **examples** of counterfactual scenarios are:
  1. Technology shocks;
  2. Preference shocks, e.g., inter-temporal discount factor, import and export demand elasticities;
  3. Real and nominal pricing shocks.

- **Specific** examples aimed **towards labour** issues are:
  1. Subsidies that (a) reduce hiring costs (b) wage costs;
  2. Social contribution and other fiscal policy;
  3. Assumptions about the separation rate.

- **Note however** that all the above are **macro-level** examples, because only the “**core**” model can have an affect (i.e., “**satellite**” cannot affect).
An example of a policy simulation:  
Simulate effects of Youth Guarantee in Italy

- Youth Guarantee (YG) program is targeted to member states with more than 25% youth unemployment (ages 15-25).
- Countries include: Ireland, Italy, Latvia, Lithuania, Portugal, Slovakia, and Spain).
- Overall fund in EU is 8 billion Euros.
- The Italian portion of the fund will be 1.5 billion Euros (1 for yr 14/15, 0.5 for yr16/20) + 0.8 billion Italian Gov. finance.
Various scenarios are possible

<table>
<thead>
<tr>
<th>Sc</th>
<th>Hiring subsidy</th>
<th>Wage subsidy</th>
<th>Fiscal financing</th>
<th>Deficit financing</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>Yes 100% YG cost</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>S3</td>
<td>No</td>
<td>Yes 100% YG cost</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>S5</td>
<td>Yes 50% YG cost</td>
<td>Yes 50% YG cost</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
Results suggest that

- S3 is best for short term policy, but worst for long term.
- S1 is least responsive in the short term, but best for long term.

Unemployment response
An interesting usage of the model, with a nice macro policy example of Italy.

Useful for analysis within a **business cycle** framework that shows the **impulse response** of various parameters:

- E.g., employment, hiring, and unemployment.
- The impulse response is the durations of time it takes to converge towards a steady-state.
A few issues for discussion (2/3)

- Short comment about the paper (in its current form):
  1. I’m worried that each scenario uses a different monetary value, which makes comparing scenarios impossible (or misleading). We then cannot say that S1 is better than S2 or S3.
  2. Why do all scenarios go through the same point, i.e., 2015q1? This needs to be checked.

What is the explanation for this?
A few issues for discussion (3/3)

3. As previously mentioned, this GE approach is great for top down simulations within the “core” model, imposing on the “satellite” component.

- However, a bottom up (micro-level) approach from the “satellite” towards the “core”, cannot be assessed using this framework.
- This is highly problematic if an organization such as CEDEFOP wants to pick and support specific “winning” sectors or households. How do we deal with this?

4. I wonder how a skills mismatch model that considers qualification and occupation issues can be implemented using this DSGE framework? This is another practical issue which CEDEFOP cares about?
Skills Mismatch CGE Model

- We need to frame qualifications and occupations within markets (i.e., their supply and demands). Their wages and return to qualification will be their market clearing prices.
- Some policy simulation could ask:
  a) How would increases/decreases in qualification affect occupations within a GE model?
  b) What are the spillovers that these channels have on the economy and vise versa?
  c) How do we considering the linkages between age, qualification and occupation... (explain).
Future work IER/CE are currently doing

- IER has integrated a Skills Mismatch CGE model into the E3ME model (work in progress).
- This model still has issues similar to FGB where the CGE model is the “satellite” model which has no spillovers back up to the “core” E3ME.
- IER is thinking of experimenting with a fully fledge CGE model which would integrate a Skills Mismatch model.
Discussion

- DSGE model is a complex stage-of-the-art model.
- We need to find ways to build this type of GE model which deals with more sector specific or household specific policies.
- We need to build-in a skills mismatch model into GE.

Further Information

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