

6 Conclusion and Outlook

The purpose of this document was to give a first overview and exploratory simulations of a newly developed empirical SFC model of the Austrian economy, which is still work in progress. While the projections and mechanics of the model are quite simple and preliminary, it was our goal to show the richness of the underlying data structure (NASA data), and the holistic view of the Austrian economy that can be taken with this model. It was intended to introduce the reader to the principal logic as well as functioning of the model, and then to demonstrate its capabilities by the exploratory scenarios.

In comparison to the model presented in Schmelzer (2015), this model has undergone several improvements:

1. Several asset classes, including a finer depiction of the Austrian financial system
2. A more detailed tax and transfer system
3. Integration of financial accounts, including a first version of portfolio choice and balance sheet extension of agents.

The exploratory scenarios - even though preliminary in nature and not catered to the current political discussions in Austria - show basic mechanisms of how tax and other policy measures transfer to GDP growth and other crucial macroeconomic variables. It was demonstrated how different tax measures or methods of government expenditure have varying effects on decisive economic variables such as GDP, consumption, investment, household income, or operating surplus. We also showed the interaction between changes in tax rates and corresponding adaptations (or the lack of such) of government expenditures, and some of the most important channels how this policy changes transfer to the main variables of our model economy.

For further work, this preliminary model offers a broad base for extension and further improvement, since it already incorporates the full extent of the underlying NASA data structure and is scalable in the sense that this data structure can be transferred to other countries of the European Union. Among these points of improvement, extension and further work are the following:

1. Improved empirical foundations of trends and projections in model parameters, as well as exogenous variables.
2. Behavioural equations closer related to empirical evidence and economic theory.
3. Endogenous prices and returns for different asset classes, based on supply-demand interaction on financial markets.
4. Based on these prices and returns: a truly endogenous portfolio choice, with expectations formation by agents. These expectations not necessarily have to correspond the actual model outcomes in every period due to accounting constraints and behaviour of other agents not foreseen by the individual actors in the economy.
5. With endogenous prices and expectations formation, the dimension to implement endogenous financial cycles (boom-bust dynamics) in such a model is opened.
6. Improvement of the depiction of interest rates: different assets emitted nationally (“home” assets) and by the RoW (“foreign” assets) with different interest rates, and a better disaggregation of interest rate payments for the sub-sectors of financial corporations related

to additional data sources, if available. One further possibility in this field would be to calculate the spread between the return to different assets received by the agents and let their behaviour be influenced by these spreads.

7. Endogenous employment and unemployment, at best related to endogenous business cycles.
8. Include physical capital such as real capital by firms and houses - take data e.g. from firm-level data sets.
9. Add in structure from I/O tables, i.e. a sectoral, detailed production sector with an integrated structure.
10. Apply this framework, once more mature, to other countries of the Eurozone (single country models).
11. Link these single country models via non-financial and financial flows between different countries (an extension only envisaged for the medium to long-term horizon).

As can be inferred from the long list above, this framework has the potential for extensive future work and research, offering a prospect on scientific novelty in several aspects along the way. As regarding the political dimension, the broad view on the economy as an integrated system of flows and stocks presents a viable framework for policy evaluation and recommendations. Endogenous dynamics derived from empirical data help to capture likely developments of recent and long-term economic trends and their effects on overall economic developments. Basing the assumptions on agents' behaviour in these models firmly on empirical evidence and economic theory can help in addressing potential criticism regarding the choice of these assumptions.