

Fiscal Policy in the Bundestag: Textual Analysis and Macroeconomic Effects

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Replication Package for Baseline VAR

- (1) All results are estimated using the BEAR Toolbox Version 5.0 for Matlab. The latest version of the toolbox is available here:

<https://www.ecb.europa.eu/press/research-publications/working-papers/html/bear-toolbox.en.html>

- (2) **data.xlsx** contains all quarterly time series for the estimation.

- (3) **baseline_VAR.m** runs the baseline VAR model.

- (4) The following screenshots document the main specification. All other models could be estimated by replacing the variables as explained in the paper:

The screenshot shows the 'SPECIFICATION' tab of the BEAR toolbox. The 'Bayesian VAR' model is selected. The 'Data Frequency' is set to 'Quarterly'. The 'Estimation Start date' is '1970q1' and the 'Estimation End date' is '2021q3'. The 'Enter the list of endogenous variables' field contains 'exp_OECD gdp_OECD cons_OECD senti'. The 'Enter the list of exogenous variables' field contains 'covid trend'. The 'Lags' are set to 8. The 'Include constant' checkbox is checked. The 'Output in excel' and 'Produce figures' checkboxes are checked. The 'Set results file' field contains 'test'. The 'Bayesian VAR Priors' dropdown is set to 'NormalWishart'. The 'OLS', 'FAVAR', and 'Mixed Frequency' checkboxes are unchecked. The 'Hyperparameters' section shows 'Autoregressive coefficient' at 0.8, 'Overall tightness' at 0.2, 'Cross-variable weighting' at 0.5, 'Lag decay' at 0.8, 'Exogenous variables' set to 'Excel', 'Block exogeneity shrinkage' at 0, 'Sum of coefficients tightness' at 0, 'Dummy initial observation tightness' at 0, and 'Long-run prior tightness' at 0. The 'Iterations' section shows 'Total number of iterations' at 1e+04 and 'Number of burn-in iterations' at 2000. The 'Options' section shows 'Grid search (on excel)' as 'No', 'Block exogeneity (on excel)' as 'No', 'Dummy observation extensions' as 'No', 'Sum of coefficients' as 'No', 'Dummy initial observations' as 'No', and 'Long-run priors' as 'No'.

The screenshot shows the 'APPLICATIONS' tab of the BEAR toolbox. The 'FAVAR' model is selected. The 'Application options' section shows 'Impulse response functions' as 'No', 'Unconditional forecasts' as 'No', 'Forecast error variance' as 'No', 'Historical decompositions' as 'No', and 'Conditional forecasts' as 'No'. The 'Types of conditional forecasts' section shows 'Standard (all shocks)' as selected, 'Tilting (median)' as 'No', 'Standard (shock specific)' as 'No', and 'Tilting (interval)' as 'No'. The 'Estimation options' section shows 'Forecast evaluations' as 'No', 'Forecast step ahead evaluations' at 1, 'Rolling Window (0 for full sample)' at 0, and 'Evaluation Size' at 0.5. The 'Period options' section shows 'IRF periods' at 20, 'Forecasts: Start date' as '2019q1', 'Forecasts: End date' as '2021q4', 'Forecasts after last sample period' as 'No', and 'Credibility Intervals' at 0.68. The 'Structural identifications' section shows 'None' as selected, 'Choleski' as 'No', 'Triangular' as 'No', 'Sign restrictions' as 'No', 'Proxy SVAR' as 'No', and 'Sign and proxy' as 'No'. The 'Proxy SVAR options' section shows 'Instrument' as 'sent_opp', 'Instrument: Start date' as '2019q1', 'Instrument: End date' as '2021q4', 'Flat reduced form prior' as 'No', 'High relevance prior' as 'No', 'Correl Shock' as 'No', and 'Correl Instrument' as 'No'.

- (5) **baseline_plot_of_IRFs** plots the baseline impulse response functions from Figure (10) of the paper. This could be adjusted to plot the IRFs of the extended models.