Replication package for "Perceptions about Monetary Policy"
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This replication package contains the data and code used to produce all tables and figures in the paper "Perceptions about Monetary Policy" by Bauer, Pflueger, and Sunderam, published in the *Quarterly Journal of Economics*.

Data and intermediate output

<u>Data files, subfolder `data`:</u>

File	**Description**
`bcff_raw_May23.RData*`	Raw data for individual BCFF forecasts
`bc_May23.RData` `bc_May23.dta`	Cleaned BCFF forecasts with output gap projections (R and Stata formats). *These files are produced by `R/process_bluechip.R`*
`CPIAUCSL.csv`	CPI from FRED
`alfred/GDPC1.txt`	Real-time GDP from ALFRED
`alfred/GDPC1_UNITS.txt`	Units of real-time GDP
`alfred/GDPPOT.txt`	Real-time CBO projections of potential GDP
`alfred/GDPPOT_UNITS.txt`	Units of potential GDP projections
`FEDFUNDS.csv`	Monthly fed funds rate from FRED
`output_gap.csv`	Output gap from FRED
`UNRATE.csv`	Unemployment rate from FRED
`feds200628.csv`	Yields from Gürkaynak, Sack, Wright (2007)
`feds200805.csv`	TIPS yields from Gürkaynak, Sack, Wright (2010)
`USRECM.csv`	NBER recession dummy from FRED
`VIXCLS_monthly.csv`	monthly VIX from FRED (starts in 1990)
`VXOCLS_monthly.csv`	monthly VXO from FRED (1986-2021)
`fomc_bauer_swanson.xlsx`	monetary policy surprises from Bauer and Swanson (2023)
`ff_futures_updated.xlsx*`	fed funds futures rates from Bloomberg
`macro_news_updated.xlsx*`	macro data surprises from MMS/Bloomberg
`vwretd_daily.dta*`	CRSP value-weighted return including dividends
`SEP.xlsx`	individual projections of FOMC meeting participants

* Because of the data licensing, the highlighted data files above are not included in the replication package. Sample data is included in files with names ending in `SAMPLE`.

<u>Files with intermediate output, subfolder `output`:</u>

File	**Description**
`bluechip_rule_regressions.csv` `bluechip_rule_regressions.RData`	OLS and FE estimates of simple policy rule
`bluechip_rule_inertial.csv` `bluechip_rule_inertial.RData`	Estimates of inertial policy rule
`actual_rule_simple.csv` `actual_rule_simple.RData`	Rolling-window estimates of simple rule
`actual_rule_inertial.csv` `actual_rule_inertial.RData`	Rolling-window estimates of inertial rule
`ssm_ols.RData`	Estimates of state-space model, OLS specification

`ssm_fe.RData`	Estimates of state-space model, FE specification
`gamma_ew.dta`	Equal-weighted gamma-hat estimates, estimated forecaster-by-forecaster
`gamma_bias_adjusted.dta`	Bias-adjusted estimates of perceived policy rule
`coeffs_id_ym_interact.dta`	Estimates of gamma with interaction between forecaster FE and output gap/inflation

`gamma_tercile1.dta`
`gamma_tercile2.dta`
`gamma_tercile3.dta`
	Estimation of gamma for different terciles of forecasters by inflation forecast

Setup, Data Processing and Estimation

Directories

- R code should be run with the root folder as the working directory
- Stata code is run from `Stata` folder

Installation of R packages

Code file `R/setup.R` installs all the packages required for running the R code.

Processing Blue Chip Financial Forecasts

- Code file: `R/process_bluechip.R`
- Required data files:
    - `data/bcff_raw_May23.RData`
    - `data/CPIAUCSL.csv`
    - `data/alfred/GDPC1.txt`
    - `data/alfred/GDPC1_UNITS.txt`
    - `data/alfred/GDPPOT.txt`
    - `data/alfred/GDPPOT_UNITS.txt`
- Output:
    - `data/bc_May23.RData`
    - `data/bc_May23.dta`

Estimation of simple policy rule

- Code file: `R/bluechip_rules_regressions.R`
- Requires: `data/bc_May23.RData`
- Output:
    - `output/bluechip_rule_regressions.csv`
    - `output/bluechip_rule_regressions.RData`

Estimation of inertial policy rule

- Code file: `R/bluechip_rules_inertial.R`
- Requires:
    - `data/bc_May23.RData`
    - `data/FEDFUNDS.csv`
- Output:
    - `output/bluechip_rule_inertial.csv`

- `output/bluechip_rule_inertial.RData`

Estimation of actual/historical simple and inertial policy rules

- Code files:
  - `R/actual_rule.R`
  - `R/actual_rule_inertial.R`
- Requires:
  - `data/FEDFUNDS.csv`
  - `data/output_gap.csv`
  - `data/CPIAUCSL.csv`
- Output:
  - `output/actual_rule_simple.csv`
  - `output/actual_rule_simple.RData`
  - `output/actual_rule_inertial.csv`
  - `output/actual_rule_inertial.RData`
  - correlation between actual and perceived (pre-ZLB: 0.5, p.12)

Estimation of state-space models

- Code files: `R/ssm_ols.R` and `R/ssm_fe.R`
- Requires:
  - `data/bc_May23.RData`
- Output:
  - `output/ssm_ols.RData`
  - `output/ssm_fe.RData`

Estimation of coefficients equal-weighting forecasters

- Code file: `Stata/gamma_ew.do`
- Requires:
  - `data/bc_May23.dta`
  - `output/bluechip_rule_regressions.csv`
  - `output/bluechip_rule_inertial.csv`
- Output: `output/gamma_ew.dta`

Estimation that accounts for heterogeneity

- Estimation of gamma for different terciles of forecasters by inflation forecast, and gamma with interaction between forecaster FE and output gap/inflation
- Code file: `Stata/heterogeneity_FE_terciles.do`
- Requires:
  - `data/bc_May23.dta`
- Output:
  - `output/coeffs_id_ym_interact.dta`
  - `output/gamma_tercile1.dta`
  - `output/gamma_tercile2.dta`
  - `output/gamma_tercile3.dta`

Bias-adjusted estimates of perceived policy rule

- Code file: `Stata/bias_v4.do`
- Requires:
  - `data/bc_May23.dta`
  - `output/bluechip_rule_regressions.csv`
- Output:
  - `output/gamma_bias_adjusted.dta`

Estimation of perceived policy rule with credit spreads

- Code file: `R/bluechip_rules_creditspreads.R`
- Requires: `data/bc_May23.dta`
- Output: prints correlation of gamma estimates (reported in Section 6) to console

Figures and Tables

Figures 1 & 2, Appendix Figure B.1: perceived and actual policy rules

- Code file: `R/plot_parameters.R`
- Requires:
  - `output/bluechip_rule_regressions.RData`
  - `output/actual_rule_simple.RData`
  - `output/bluechip_rule_inertial.RData`
  - `output/actual_rule_inertial.RData`
  - `output/ssm_ols.RData`
  - `output/ssm_fe.RData`
- Output:
  - `figures/bluechip_rule_simple.pdf` - Figure 1 (without annotations)
  - `figures/bluechip_rule_inertial.pdf` - Figure 2 (without annotations)
  - `figures/ssm.pdf` - Appendix Figure B.1

Table 1: cyclical correlations of gamma-hat

- Code file: `R/gamma_cyclical.R`
- Requires:
  - `output/bluechip_rule_regressions.RData`
  - `output/bluechip_rule_inertial.RData`
  - `data/feds200628.csv`
  - `data/UNRATE.csv`
  - `data/USRECM.csv`
  - `data/VIXCLS_monthly.csv`
  - `data/VXOCLS_monthly.csv`
- Output: table printed to console

Figure 3 and Appendix Table D.1: response of gamma-hat to high-frequency monetary policy surprises

- Code file: `R/gamma_lp.R`
- Requires:

- output/bluechip_rule_regressions.RData
- output/bluechip_rule_inertial.RData
- data/output_gap.csv
- data/fomc_bauer_swanson.xlsx

- Output:
  - figures/gamma_lp.pdf – Figure 3
  - Appendix Table D.1 printed to console

Table 2: sensitivity of interest rates to macro news

- Code file: Stata/macro_news_clean.do
- Requires:
  - output/bluechip_rule_regressions.csv
  - output/bluechip_rule_inertial.csv
  - data/feds200628.csv
  - data/ff futures updated.xlsx
  - data/macro_news_updated.xlsx
- Output: Tables are saved as .tex files in folder tables
  - Table 2 (sensitivity to macro news): macro_news_a.tex (Panel A) and macro_news_b.tex (Panel B)

Table 3, Appendix Tables E.1, E.2, E.3, E.4, C.1: term premia and fed funds forecast error regressions

- Code file: Stata/term_premia.do
- Requires:
  - output/bluechip_rule_regressions.csv
  - output/bluechip_rule_inertial.csv
- Output: Tables are saved as .csv files in folder tables
  - Table 3 (term premia): returns_surveys_gamma_ffe.csv (Panel A) and returns_surveys_gamma_inertia.csv (Panel B)
  - Table E.1 (Predictability of excess bond returns): returns_1yr_5yr_controls_gamma_ffe.csv (Panel A), returns_2yr_5yr_controls_gamma_ffe.csv (Panel A), returns_1yr_5yr_controls_gamma_inertia.csv (Panel B), returns_2yr_5yr_controls_gamma_inertia.csv (Panel B)
  - Table E.2 (Correlation with interest rate disagreement): printed to console
  - Table E.3 (Term premia controlling for interest rate disagreement): returns_surveys_9010_gamma_ffe.csv (Panel A), returns_surveys_9010_gamma_inertia.csv (Panel B)
  - Table E.4 (Term premia onto components of perceived inertial rule): returns_surveys_multi.csv
  - Table C.1 (Predictability of fed funds forecast errors for the federal funds rate): forecast_errors_gamma_ffe.csv (Panel A) and forecast_errors_gamma_inertia.csv (Panel B)

Table 4

- Code file: `Stata/hs_clean.do`
- Requires:
    - `data/output_gap.csv`
    - `data/fomc_bauer_swanson.xlsx`
    - `data/feds200628.csv`
    - `data/feds200805.csv`
    - `data/macro_news_updated.xlsx`
- Output: Tables are saved as .tex files in folder `tables`
    - Table 4 (sensitivity of long-term rates to monetary policy surprises): `hs_a.tex` (Panel A) and `hs_b.tex` (Panel B)

Table 5

- Code file: `Stata/bk_clean.do`
- Requires:
    - `output/bluechip_rule_regressions.csv`
    - `output/bluechip_rule_inertial.csv`
    - `data/fomc_bauer_swanson.xlsx`
    - `data/vwretd_daily.dta`
- Output: Tables are saved as .tex files in folder `tables`
    - Table 5 (stock market responses to monetary policy surprises): `bk.tex`

Figure 4 (model-implied impulse responses)

- Code file: `Matlab/ModelIRF.m`
    - also uses: `Matlab/Simulate2.m` to simulate the model
- Output: `figures/gamma_IRF_rationality.png`

Appendix Figure A.1: term structure of disagreement

- Code file: `R/disagreement.R`
- Requires: `data/bc_May23.RData`
- Output: `figures/disagreement.pdf`

Appendix Figure B.4: Comparison with SPF

- Code file: `R/spf_rules.R`
- Requires: `data/SPFmicrodata.xlsx`
- Output: `figures/spf.pdf`

Appendix Figure B.5: Rules implied by FOMC economic projections

- Code file: `R/sep.R`
- Requires:
    - `data/SEP.xlsx`
    - `data/alfred/GDPC1.txt`
    - `data/alfred/GDPC1_UNITS.txt`
    - `data/alfred/GDPPOT.txt`

        - `data/alfred/GDPPOT_UNITS.txt`
        - `output/bluechip_rule_regressions.RData`
- Output: `figures/sep.pdf`

Appendix Table A.1 (summary statistics)

- Code file: `Stata/summary_stats.do`
- Requires: `data/bc_May23.dta`
- Output: summary statistics printed to Stata console

Appendix Figures B.2 and B.3 (forecaster heterogeneity and bias-adjusted estimates)

- Code file: `Stata/robustness_plots_correlations.do`
- Requires:
    - `data/bc_May23.dta`
    - `output/bluechip_rule_regressions.csv`
    - `output/bluechip_rule_inertial.csv`
    - `output/gamma_ew.dta`
    - `output/gamma_bias_adjusted.dta`
    - `output/coeffs_id_ym_interact.dta`
    - `output/gamma_tercile1.dta`
    - `output/gamma_tercile2.dta`
    - `output/gamma_tercile3.dta`
- Output:
    - correlations with baseline gamma in tab correlations (mentioned in text in Section 6)
    - `figures/AppendixFigureB2_PanelA.pdf`
    - `figures/AppendixFigureB2_PanelB.pdf`
    - `figures/AppendixFigureB3.pdf`