

READ ME FILE

Title: Real GDP Forecasts by International Organisations

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Description

This 'read me' file details the supplementary information for RDP 2026-05. The publicly available data used to plot the figures appearing in the RDP can be found in 'rdp-2026-05-graph-data.xlsx'.

The R code was run on R version 4.5.2. on Windows 11. Since only some of the raw data can be made available in this supplementary information due to third-party provisions, the code can not be run in full. However, the code files have been provided so that our methods can be understood.

Raw_data

This paper uses a dataset comprising four international organisation and the average of forecasts made by respondents in the monthly Consensus Economics survey. (See Section 3 of the paper). This is in the 'Raw_data' folder.

The supplementary information includes the forecasts of two forecasters:

- European Commission (EC) – these were all downloaded from the EC's publicly available Annual Macroeconomic (AMECO) archive. They are included in the supplementary information.
- Organisation for Economic Co-operation and Development (OECD) – these were all downloaded from the OECD's website, previously from the 'OECD Stat' page and more recently from 'OECD Data Explorer'. They are included in the supplementary information.

The supplementary information also contains two spreadsheets of metadata:

- country_facts.xlsx: data on individual countries, including the time period over which their annual real GDP data is measured.
- Publication_dates.xlsx: the dates that forecast vintages were published.

The supplementary information omits the forecasts of the following:

- International Monetary Fund (IMF) – we use forecasts from the World Economic Outlook (WEO). We use forecasts from both the 'full' WEO (from April and October) and the WEO updates (from January and June). Our dataset of WEO forecasts has not been included in the supplementary information as it includes some forecasts that are not public. However, the IMF publishes the WEO forecasts from the full WEOs in April and October on its website.
- World Bank – we use forecasts from the Global Economic Prospects (GEP). Our dataset of GEP forecasts has not been included in the supplementary information as it includes some forecasts that are not public. However, the World Bank publishes its GEP forecasts for country groups and selected countries on its website.
- Consensus – we use the average of the forecasts made by respondents to the Consensus survey. These forecasts are available via a paid subscription from Consensus Economics.

Folder structure

The main replication files have the following structure:

Code

- Evaluation_functions
- Evaluation_macro_functions
- Import_functions
- Plotting_functions
- Plotting_macro_functions
- Scripts
- Tabulate_functions
- Tabulate_macro_functions
- Tidy_functions
- Tidy_macro_functions

Raw_data

- ce_data
 - ce_real_GDP.xlsx [not provided – see ‘Raw data’ section above]
- Country_facts
 - country_facts.xlsx
- Publication_dates
 - Publication_dates.xlsx
- EC_data
 - ameco_spring_2023
 - ameco_spring2019
 - [and so on, with one folder per vintage – contains .txt data files]
- GEP_data
 - gep_sent_by_Umberto.xlsx [not provided – see ‘Raw data’ section above]
 - gep_sent_by_World_Bank.xlsx [not provided – see ‘Raw data’ section above]
- OECD_data
 - all_variables_1985_1996 [one folder per vintage – contains .xls data files]
 - all_variables_1996_2015 [one .csv data file per vintage]
 - all_variables_2024_2025 [one .csv data file per vintage]
 - ready_made_growth_2015_2023 [one .csv data file per vintage]

WEO_data

WEO_apr_2023_to_apr2025 [files not provided – see ‘Raw data’ section above]

WEO_to_oct2022 [files not provided – see ‘Raw data’ section above]

WEO_from_oct2025 [files not provided – see ‘Raw data’ section above]

Mid_data

Real_GDP

Decomposition_candidate_country

squared_errors_by_year.rds

DM_pvals_candidate_country

squared_errors_by_year.rds

Errors [files not provided – see ‘Raw data’ section above]

errors_source_country_vintages.rds

ce_errors.rds

gep_errors.rds

oecd_errors.rds

ec_errors.rds

weo_errors.rds

Rationality [sub folders contain .rds files]

1_years

2_years

Ratios_candidate_country

rmsfe_by_year.rds

actuals_source_country_vintages.rds [not provided – see ‘Raw data’ section above]

forecasts_source_country_targets.rds [not provided – see ‘Raw data’ section above]

forecasts_source_country_vintages.rds [not provided – see ‘Raw data’ section above]

revisions_source_country_targets.rds [not provided – see ‘Raw data’ section above]

Graph_data

Real_GDP

Compare_accuracy [sub folders contain .xlsx files]

Decomposition

Line_graphs_of_ratios

Panel_regression

h12_year.xlsx

Modal

Detrended_growth

WEO

Japan.xlsx

Rationality

rationality_column

h12_years [sub folders contain .xlsx files]

Depvar ~ 1

Depvar ~ revision_for_target_lag0 + forecast_for_target_lag1

general

Graphs

[same structure as Graph_data]

Inkscape_figures [Figure 16 illustration .pdf and .svg files]

Tables

Real_GDP

Compare_accuracy

h1_years.tex

h2_years.tex

Timing.tex

FY.tex

Code

The figures and tables in the paper can all be replicated by running the R files in the 'Scripts' sub folder. Each script uses a variety of functions that are defined in the R files in the other sub folders of 'Code'.

This table describes the scripts. They must be run in order, as earlier scripts often write files to 'Mid_data' that are used by later scripts. See 'Raw data' section for availability of input/output files. The scripts that produce graphs also write the data underlying those graphs to corresponding files in the Graph_data folder. Figure 16 was produced in Inkscape and is provided in the Inkscape_figures folder.

Script name and description	Inputs	Outputs
rgdp_extract_actuals_forecasts.R A forecast vintage typically contains a time series comprising actual outcomes followed by forecasts. This script imports those vintages and then writes the actuals and forecasts to separate files.	Raw_data/Country_facts/ country_facts.xlsx Raw_data/WEO_data/ Raw_data/EC_data/ Raw_data/OECD_data/ Raw_data/GEP_data/	Mid_data/Real_GDP/actuals_ source_country_vintages.rds Mid_data/Real_GDP/forecasts_ source_country_vintages.rds

	Raw_data/ce_data/Real_GDP/	
	Raw_data\Publication_dates\ Publication_dates.xlsx	
rgdp_compute_errors.R Compares the forecasts to actual outcomes to compute forecast errors, losses (e.g. squared errors), and horizons.	Mid_data/Real_GDP/actuals_ source_country_vintages.rds Mid_data/Real_GDP/forecasts_ source_country_vintages.rds	Mid_data/Real_GDP/Errors/ errors_source_country_ vintages.rds
rgdp_compare_accuracy.R Imports losses of forecasters. Computes RMSFE ratios and does Diebold-Mariano tests. Compares timing of vintages used in accuracy comparisons.	Mid_data/Real_GDP/Errors/ errors_source_country_ vintages.rds	Mid_data/Real_GDP/Ratios_ candidate_country/rmsfe_by_ year.rds Mid_data/Real_GDP/DM_pvals_ candidate_country/squared_ errors_by_year.rds Tables/Real_GDP/Compare_ accuracy/Timing.tex
rgdp_plot_compare_accuracy.R Make two-panel column graph showing number of countries with over or under performance. Makes line graphs of quantiles of RMSFE ratios.	Mid_data/Real_GDP/Ratios_candi date_country/rmsfe_by_year.rds Mid_data/Real_GDP/DM_pvals_ candidate_country/squared_ errors_by_year.rds	Graphs/Real_GDP/Compare_ accuracy/h12_year.pdf Graphs/Real_GDP/Compare_ accuracy/Line_graphs_of_ratios/
rgdp_decompose_loss_differentials.R Decomposes loss differentials into components for each country. Estimates panel regressions using multiple countries.	Mid_data/Real_GDP/Errors/ errors_source_country_ vintages.rds	Mid_data/Real_GDP/ Decomposition_candidate_ country/squared_errors_by_ year.rds Graphs/Real_GDP/Compare_ accuracy/Decomposition/ Graphs/Real_GDP/Compare_ accuracy/Panel_regression/
rgdp_tabulate_compare_accuracy.R Makes a LaTeX table of RMSFE ratios and p-values.	Mid_data/Real_GDP/Ratios_ candidate_country/rmsfe_by_ year.rds Mid_data/Real_GDP/DM_pvals_ candidate_country/squared_ errors_by_year.rds	Tables\Real_GDP\Compare_ accuracy\h1_years.tex Tables\Real_GDP\Compare_ accuracy\h2_years.tex
rgdp_make_rationality_sample.R Makes dataframes of the dependent variable and regressors	Mid_data/Real_GDP/actuals_ source_country_vintages.rds Mid_data/Real_GDP/forecasts_ source_country_vintages.rds	Mid_data/Real_GDP/Rationality/ 1_years/sample/ Mid_data/Real_GDP/Rationality/

for rationality regressions.	source_country_vintages.rds Mid_data/Real_GDP/errors_ source_country_vintages.rds	2_years/sample/
rgdp_estimate_rationality_lm.R Estimates rationality regressions.	Mid_data/Real_GDP/Rationality/ 1_years/sample/ Mid_data/Real_GDP/Rationality/ 2_years/sample/	Mid_data/Real_GDP/Rationality/ 1_years/lm/ Mid_data/Real_GDP/Rationality/ 2_years/lm/
rgdp_plot_rationality_column.R Graphs results of hypothesis tests on rationality regressions.	Mid_data/Real_GDP/Rationality/ 1_years/lm Mid_data/Real_GDP/Rationality/ 2_years/lm	Graphs/Real_GDP/Rationality/ rationality_column/h12_years/ general Graphs/Real_GDP/Rationality/ rationality_column/h12_years/ Depvar ~ revision_for_target_lag0 + forecast_for_target_lag1 Graphs/Real_GDP/Rationality/ rationality_column/h12_years/ Depvar ~ 1
rgdp_modal_analysis_of_acts.R Makes graph of Japan's growth and detrended growth. Compares mode and mean of detrended growth. Computes skewness of detrended growth.	Mid_data/Real_GDP/actuals_ source_country_vintages.rds	Graphs/Real_GDP/Modal/ Detrended_growth/WEO/
rgdp_tabulate_fy.R Makes appendix table of countries whose fiscal year is not a calendar year.	Raw_data/Country_facts/ country_facts.xlsx	Tables/Real_GDP/FY.tex

Mid_data

As shown in the table above, some of the scripts will import raw data, transform it, and save to 'Mid_data'. Other scripts will import from 'Mid_data', transform it, and then write to 'Mid_data' or produce graphs or tables.

The supplementary information includes many of the files in 'Mid_data' produced by these scripts. However, it omits some files that could be used to back out the forecasts of the IMF, GEP or Consensus, which as discussed under the 'Raw_data' section of this readme, have not been made available as part of the supplementary information.

21 September 2026