

r^* Dashboard

Natural Rate of Interest Explorer

An interactive tool for exploring the forces driving real interest rates in advanced economies.

Based on Rachel (2025), "What Next for r^* ",
Brookings Papers on Economic Activity, Fall 2025.

rstar-dashboard.vercel.app

Overview

r* Dashboard

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Overview

Natural rate of interest in advanced economies — baseline paths and sensitivity analysis

Light

R* (2026)

0.4%

-4.9pp since 1971

R* (2050 STEADY STATE)

0.2%

-0.1pp from 2026

MODEL WEALTH/GDP (2026)

5.79

+81% since 1971

MODEL PARAMETERS

$\beta=0.99$

IES=0.5

Natural Rate of Interest in Advanced Economies

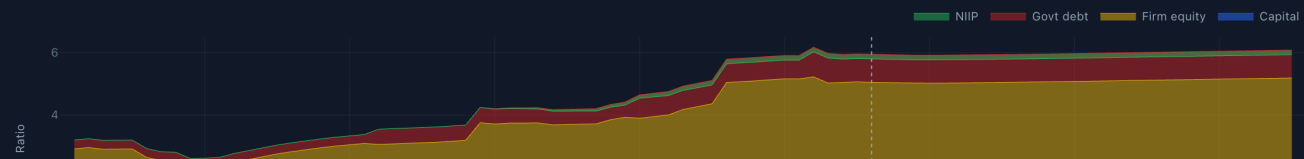
Risky Perfect foresight Band [Export](#)



Observed real rate: GDP-weighted average of ex-post real interest rates across advanced economies (source: weighted government bond yields minus realized inflation).

Safe r^* shown is computed under limited foresight; perfect foresight is available via the toggle above. See the [methodology](#) section for details.

Wealth-to-GDP Components



Data: Oct 2025 WEO

Track the natural rate of interest from 1970 to 2055 under perfect and limited foresight, with sensitivity bands showing the range of plausible r^* paths. The overview displays the model baseline alongside wealth decomposition and model-vs-data comparison.

Force Decomposition

r* Dashboard

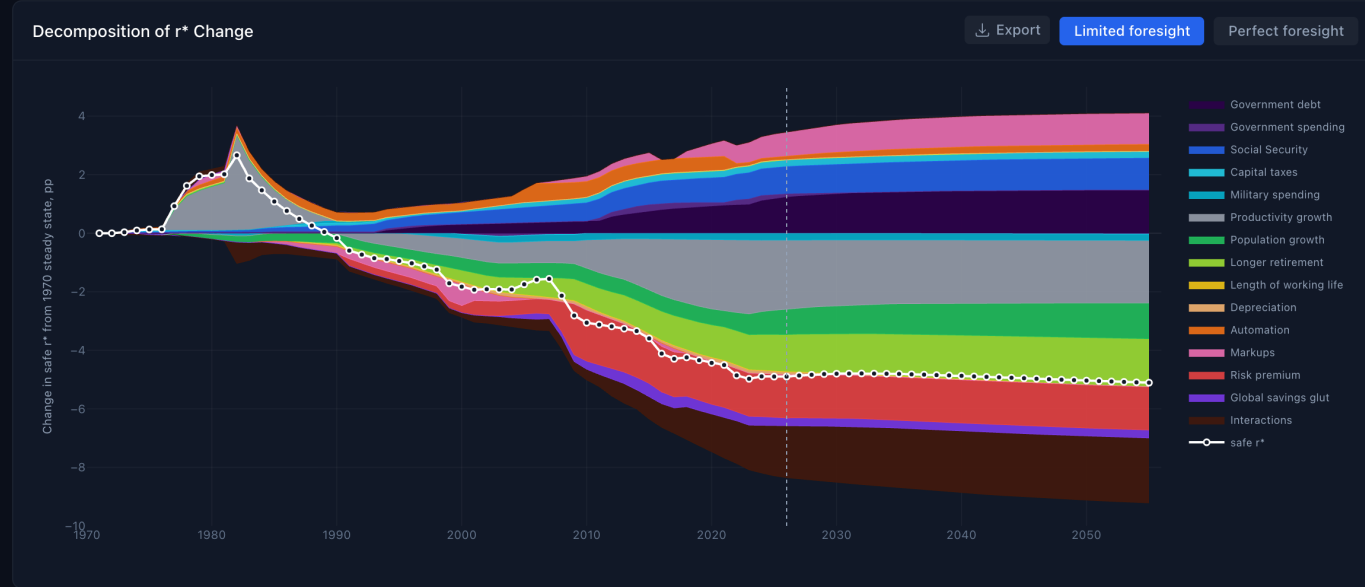
Force Decomposition

Contribution of structural forces to the change in r^* since 1971

Light

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Force Reference

Government debt	+148 bps	Government spending	-3 bps	Social Security	+109 bps
Capital taxes	+23 bps	Military spending	-22 bps	Productivity growth	-214 bps
Population growth	-122 bps	Longer retirement	-164 bps	Length of working life	+1 bps
Depreciation	-1 bps	Automation	+23 bps	Markups	+107 bps
Risk premium	-147 bps	Global savings glut	-27 bps	Interactions	-222 bps

Exogenous Variable Paths (Advanced Economy)

Time series of all exogenous inputs to the model (1971–2055)

Data: Oct 2025 WEO

Isolate the contribution of 15 structural forces to the secular decline in r^* . Each force — demographics, productivity, fiscal policy, risk premia, and more — is shown as a stacked area, revealing which factors push rates up or down over time.

Supply & Demand

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Supply & Demand

Asset market equilibrium: how shifts in demand and supply determine r^*

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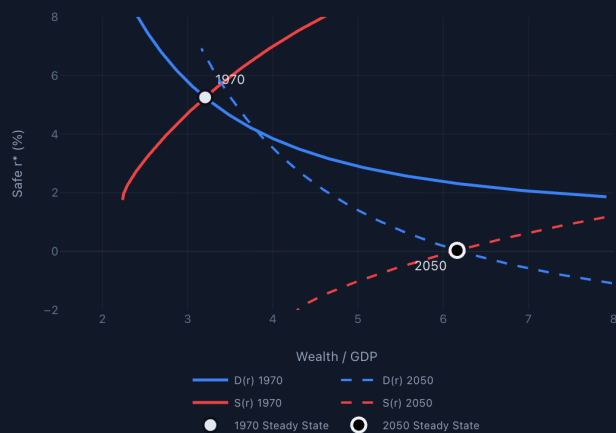
Capital demand $D(r)$ is the total demand for assets in the economy: physical capital K , capitalized firm profits Π , and government debt B . Each component falls as the interest rate rises, so $D(r)$ is downward-sloping and convex.

Capital supply $S(r)$ is the long-run capital supply schedule — it shows how much wealth households accumulate at each interest rate in steady state. Because of the OLG life-cycle structure, $S(r)$ is backward-bending (C-shaped): at low rates the income effect dominates and higher r raises saving, but at very high rates the substitution effect eventually dominates. Only the upward-sloping portion is plotted, as it contains the stable equilibrium.

The **stock diagram** (left) plots wealth-to-GDP against r^* . The **flow diagram** (right) rescales by the net growth rate $g = (x-1) + (n-1)$ to give saving and investment as fractions of GDP.

Steady State Equilibrium

2050 Transition Export



Saving & Investment Equilibrium (Flows)

2050



INITIAL EQUILIBRIUM (1970)

r^* 5.25%

Wealth/GDP 3.21

EQUILIBRIUM AT 2050

r^* 0.04%

Wealth/GDP 6.16

CHANGE (1970 → 2050)

Δr^* -5.22 pp

Δ Wealth/GDP +2.96

Data: Oct 2025 WEO

Visualize capital market equilibrium through supply-demand diagrams. See how asset demand (household saving) and supply (capital, equity, government debt) shift between the 1970 and 2050 calibrations to determine the equilibrium r^* .

Impulse Responses

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Data: Oct 2025 WEO

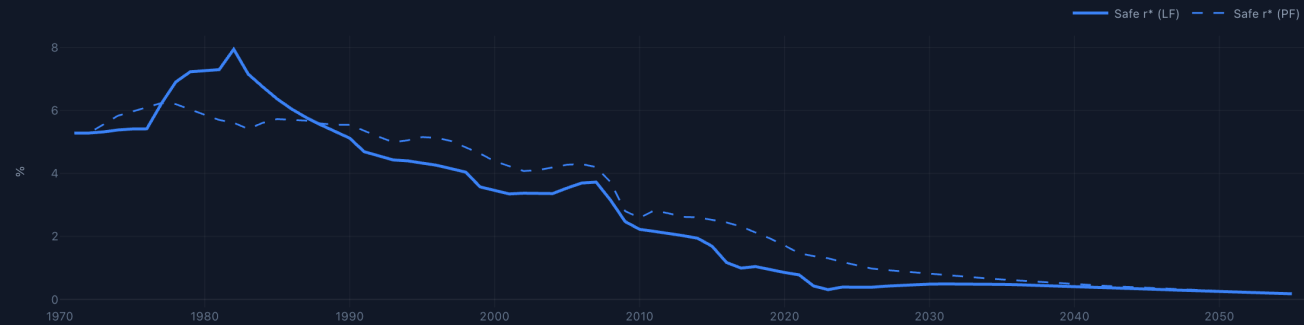
Country Analysis & IRFs

Country-specific r^* paths and impulse response functions

Advanced Economies (Avg) ▾

Light

r^* Path — Advanced Economies (Avg)



Impulse Response Functions

Response of safe r^* to a permanent +1pp shock — 1970 vs 2050 calibration



Examine how permanent shocks to each exogenous force affect r^* in steady state. IRFs are computed at both the 1970 and 2050 calibrations, showing how the economy's sensitivity to shocks evolves over time.

Scenario Analysis

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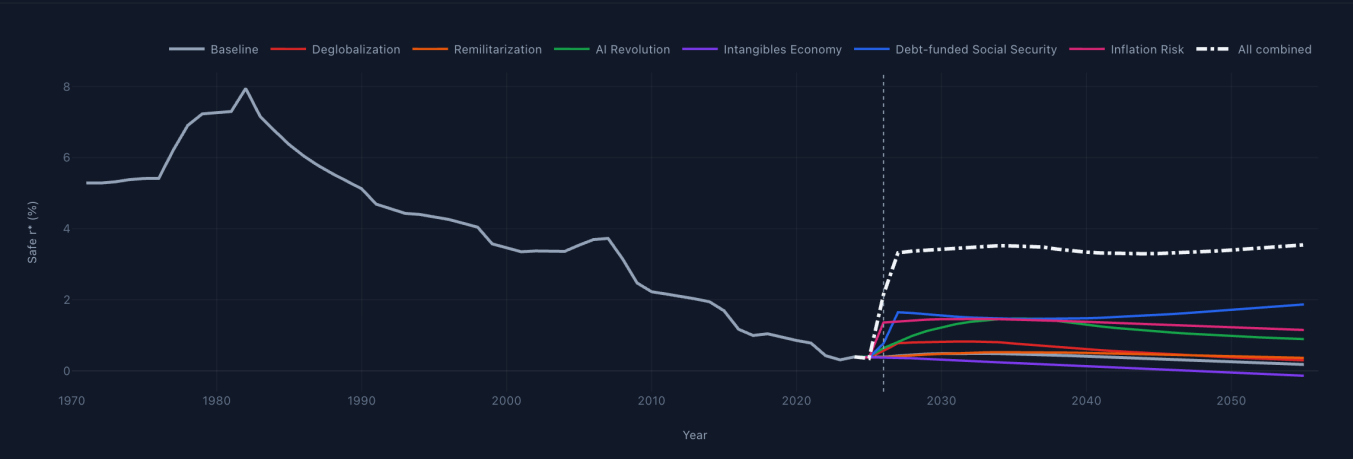
Scenario Analysis

Pre-built alternative r^* paths under different macroeconomic scenarios

Light

Scenario Analysis

Deglobalization Remilitarization AI Revolution Intangibles Economy Debt-funded Social Security Inflation Risk Combined



Scenario Descriptions

Show Details

Deglobalization

Reversal of global savings glut and trade openness

+33 bps at 2030

Global savings Productivity growth Risk premium

Remilitarization

Increased defense spending funded by government debt

-1 bps at 2030

Government debt Military spending

AI Revolution

Accelerated TFP growth, automation, and lower markups

+75 bps at 2030

Productivity growth Automation Markups

Intangibles Economy

Shift toward intangible capital with higher depreciation

-17 bps at 2030

Productivity growth Depreciation Markups

Data: Oct 2025 WEO

Compare six pre-built macroeconomic scenarios: deglobalization, remilitarization, AI-driven productivity boom, rise of intangibles, expanded social security, and persistent inflation risk. Each scenario shows the deviation from baseline r^* .

Scenario Builder

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Scenario Builder

Create custom macro scenarios — adjust exogenous variables and see r^* respond in real-time

Copy Link

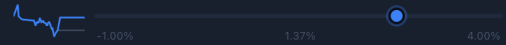
Light

Adjust Variables

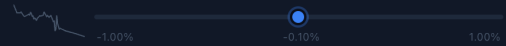
Reset All

Sensitivities based on impulse response functions at the 2050 calibration

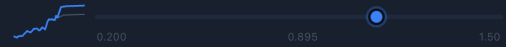
Productivity growth 2.69% **+254 bps**



Population growth -0.10% **+0 bps**



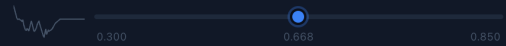
Government debt 1.14 **+21 bps**



Risk premium 3.14% **+133 bps**



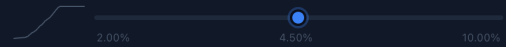
Capital share 0.668 **+0 bps**



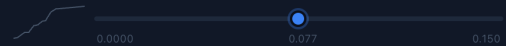
Markups 1.14 **+0 bps**



Depreciation 4.50% **+0 bps**



Social security 0.077 **+0 bps**

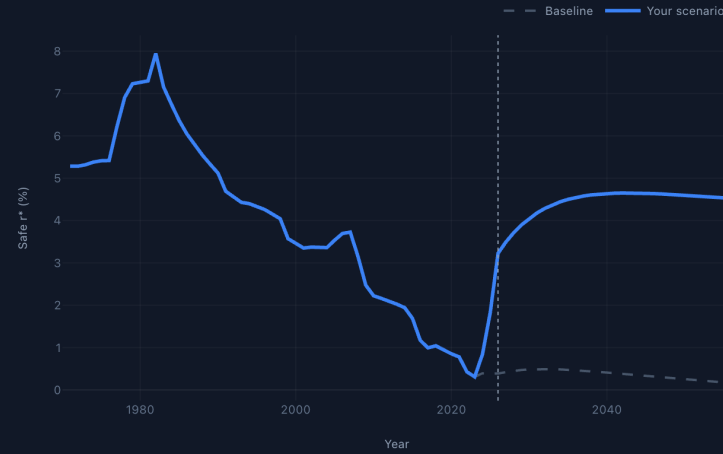


Net foreign assets -0.150 **+0 bps**

Custom Scenario r^* Path

Changes apply to forecast period only

Export



Build your own macroeconomic scenarios by adjusting sliders for any combination of the model's exogenous forces. The dashboard interpolates pre-computed marginal effects in real time to show the resulting r^* path instantly.

Model vs Market

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Model vs Market

Compare model-implied r^* with market-based measures of real interest rates

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This page compares the model r^* from Rachel (2025) with market-based real interest rate measures. The first chart uses US TIPS yields; the 5-year, 5-year forward TIPS rate ($2 \times 10Y - 5Y$) provides a market-implied expectation of real rates 5–10 years ahead. The second chart shows a proxy real rate for multiple countries: 10-year nominal government bond yield minus the 2% inflation target.

Model r^* vs US TIPS Real Yields

5y5y Fwd 10Y TIPS 5Y TIPS



US TIPS real yields from FRED. 5y5y forward = $2 \times 10Y \text{ TIPS} - 5Y \text{ TIPS}$. Monthly averages of daily data.

10Y Nominal Yield Minus 2% Inflation Target

US UK Germany Japan



Compare the model's r^* predictions with real-world interest rates: TIPS yields, nominal government bonds across major economies, central bank policy rates, and realized equity returns. This page bridges theory and market data.