Global Economic Forecasts With Alternative Scenarios

PREPARE FOR A RANGE OF OUTCOMES BY EVALUATING THE IMPACT OF SHOCKS AND DIFFERING ECONOMIC ASSUMPTIONS
Global Economic Forecasts With Alternative Scenarios

Moody's Analytics Global Economic Forecasts With Alternative Scenarios are the foundation of stress testing, regulatory compliance, and “what if?” analysis. Our scenarios are produced by a team of more than 80 economists and 20 data specialists located around the world and enable clients—banks, corporations, governments and regulators—to test the impact of shocks and differing economic assumptions on their businesses and portfolios.

STANDARD ALTERNATIVE SCENARIOS

Moody’s Analytics produces forecasts for more than 80 countries/jurisdictions. These forecasts and alternative scenarios are updated on a monthly basis, reflecting the latest economic data, conditions and expectations.

SUPERVISORY SCENARIOS

We provide fully expanded supervisory scenarios for more than 50 countries, based on projections provided by the BoE, EBA, ECB, IMF and U.S. Federal Reserve, as well as mandated idiosyncratic/bespoke scenarios and other scenarios proposed by regulatory authorities.

CUSTOM/BESPOKE SCENARIOS

We develop scenarios customized to clients’ unique views, “what if” assumptions, or other needs. We can build a complete scenario around key client-provided series/assumptions or collaborate with the client to specify a scenario.
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Benefits

» Accuracy and Consistency
   Analyze with confidence using forecasts and scenarios produced, vetted and maintained by our international team of more than 80 experienced economists.

» Timeliness
   Account for the most recent data and conditions with our monthly updated Standard Alternative Scenarios, or leverage our highly experienced team to develop custom scenarios on any schedule you need.

» Depth
   Take advantage of scenarios that include a comprehensive set of economic indicators, covering not just headline numbers but all concepts relevant for portfolio modeling and stress testing.

» Transparency
   Fully understand the underlying assumptions for each scenario with documented methodologies, monthly narratives, and complete access to our economists.

Applications

» Stress Testing
   Run comprehensive, transparent and consistent stress tests on portfolios, translating scenarios into stressed conditions for credit, market, liquidity and operational risk.

» Business Planning
   Understand the impact of potential economic outcomes on the performance of businesses and portfolios.

» Risk Management
   Expose possible vulnerabilities to better manage risk.

» Validation and Testing
   Test internal models to validate results and assumptions.

» Regulatory Compliance & Accounting Standards
   Leverage fully documented and transparent scenarios from a trusted source for CCAR, DFAST, CECL, EBA, PRA and IFRS 9 compliance requirements.

Summary of UK Economic Scenarios (March 2017)

<table>
<thead>
<tr>
<th>SCENARIO</th>
<th>REAL GDP</th>
<th>HOUSE PRICES</th>
<th>MONETARY POLICY RATE</th>
<th>UNEMPLOYMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1 Stronger Recovery</td>
<td>Growth of 1.8% in 2017, 1.7% in 2018</td>
<td>Growth of 5% in 2017, 4% in 2018</td>
<td>On hold at 0.25% until early 2019</td>
<td>Falls to 4.5% in 2018</td>
</tr>
<tr>
<td>BL Baseline Current</td>
<td>Growth of 1.5% in 2017, 1% in 2018</td>
<td>Growth of 4% in 2017, 1% in 2018</td>
<td>On hold at 0.25% until mid-2019</td>
<td>Rises to 5.5% in 2018</td>
</tr>
<tr>
<td>S2 Mild Recession</td>
<td>Growth of 0.8% in 2017, 0.3% in 2018</td>
<td>Growth of 2% in 2017, -3% in 2018</td>
<td>Lowered to 0% by mid-2017 and held there until 2020</td>
<td>Peaks around 6.5% in 2018</td>
</tr>
<tr>
<td>S3 Deep Recession</td>
<td>Growth of 0.4% in 2017, Decline 1.7% in 2018</td>
<td>Growth of 1% in 2017, -9% in 2018</td>
<td>Lowered to 0% by mid-2017 and held there until 2021</td>
<td>Peaks around 8% in 2018</td>
</tr>
<tr>
<td>S4 Protracted Slump</td>
<td>Decline 0.2% in 2017, -3% in 2018</td>
<td>Decline 0.5% in 2017, -14% in 2018</td>
<td>Lowered to 0% by mid-2017 and held there until 2022</td>
<td>Peaks around 9% in 2019</td>
</tr>
<tr>
<td>PRA Stress Testing Scenario</td>
<td>Decline 1.6% in 2017, -1.8% in 2018</td>
<td>Decline 3% in 2017, -15% in 2018</td>
<td>Raised to 4% by 2018 and held there until mid-2020</td>
<td>Peaks at 9.5% in 2018</td>
</tr>
</tbody>
</table>

Coverage of more than 80 countries and major aggregates, updated monthly. Each scenario, including supervisory and custom, is accompanied by a narrative describing the assumptions behind it.

Evaluate the impact of shocks, expose vulnerabilities and develop strategic business plans using economic forecast scenarios from a trusted source.
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Key Features

» Coverage of major economies, including:

COUNTRIES/JURIDICTIONS
Argentina China Hungary Laos Oman Slovakia United Kingdom
Australia Colombia India Lebanon Peru Slovenia United Arab Emirates
Austria Czech Republic Indonesia Luxembourg Philippines South Africa
Bahrain Denmark Ireland Malaysia Poland Spain
Belgium Finland Israel Mexico Portugal Sweden
Brazil France Italy Myanmar Qatar Switzerland
Cambodia Germany Japan Netherlands Russia Taiwan
Canada Greece Korea New Zealand Saudi Arabia Thailand
Chile Hong Kong Kuwait Norway Singapore Turkey

AGGREGATES
Asia-Pacific Developed Asia Euro zone Latin America OECD
ASEAN 5 Developing Asia Europe North America South America
Asia Eastern Europe European Union Oceania World

» Coverage of major macroeconomic concepts, including national accounts (output) — both real and nominal, in local currency and in U.S. dollars, as well as current accounts, demographics, employment, foreign trade, government, income, industrial production, interest and exchange rates, labor force survey, prices, real estate and retail sales.

» 30-year forecast horizon

» Monthly forecast updates, including narratives detailing forecast assumptions.

Methodology

Our scenario-driven approach to forecasting begins with our baseline forecast. We define this as the “most likely outcome” based on current conditions and our view of where the economy is headed. From this we develop the basic outlines of our alternative scenarios by running multiple simulations to develop a probability distribution of economic outcomes. We then produce fully fledged economic scenarios that align with this probability distribution.

Some of the scenarios are cyclical—that is, they extend only through the current business cycle, with no change in the economy’s long-run growth rate. Others are longer term, with different long-run growth rates compared with the baseline. For each alternative scenario, we provide an economic narrative explaining what would cause the change in the outlook relative to the baseline. That story changes over time as underlying economic conditions change. Our approach consists of:

» Dynamic systems of equations representing the components of aggregate demand and supply.

» Quarterly or monthly re-estimation of equations for model robustness and forecasting accuracy.

» Time-series and panel-data econometric techniques brought forward into the estimation process.

» Monte Carlo simulations implemented to generate deviations from our median/baseline forecast and to produce empirical probability distributions.