

# Analysing market returns with regime-specific portfolio modelling

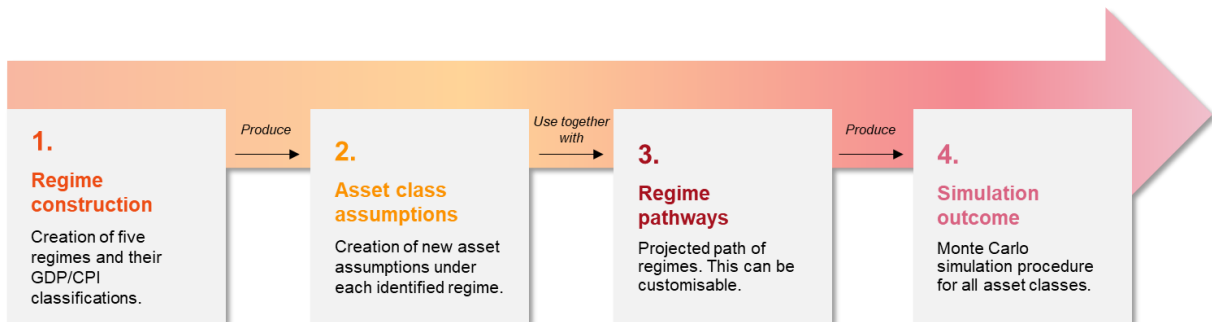
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## Portfolio modelling under different macro regimes

Market experience has shown that economic conditions are constantly changing. Frontier Advisors' Research Team has produced an advanced modelling framework that seeks to better reflect a diverse range of economic environments or regimes. This allows for more nuanced portfolio modelling by examining how asset returns behave differently under different macro environment as well as the effect of macro environment on modelling portfolio outcomes.

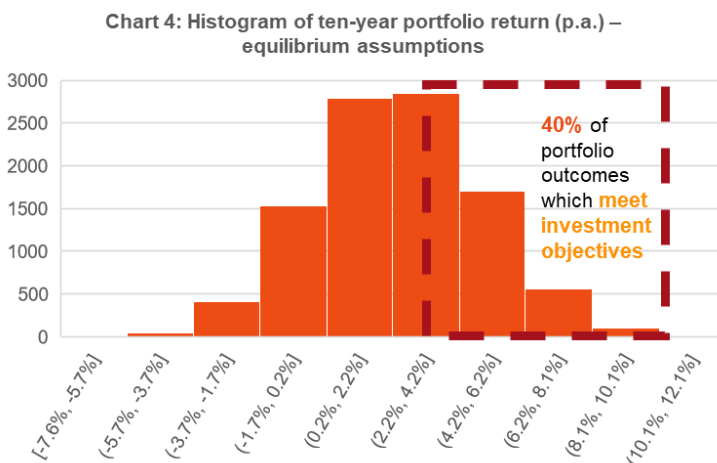
We introduce a set of pre-defined regimes of inflation and GDP growth and introduce a new portfolio modelling approach that utilises regime pathways and Monte Carlo simulations.

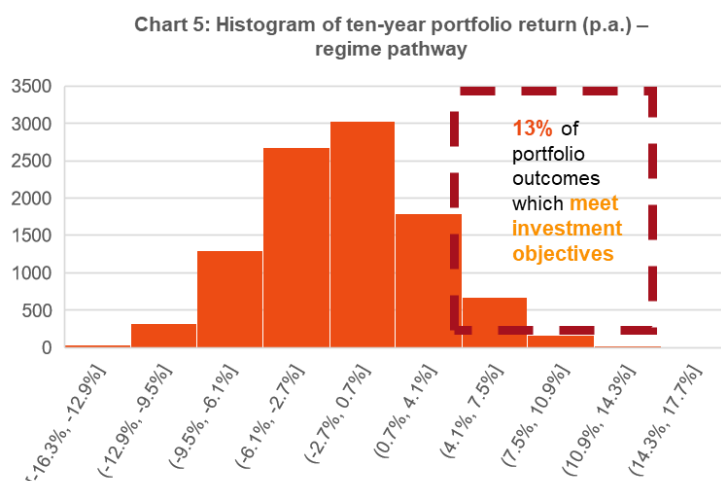
The analysis of economic regimes is particularly important for investors, as it can help them identify which asset classes are likely to perform well under different economic conditions. The analytical framework based on regimes holds significant potential for a wide array of applications, including future analysis, historical review, and forward projection scenarios.



## Simulation outcome

Accounting for asset returns under different macro environments changes portfolio modelling outcomes





- **Enhanced portfolio modelling and risk management:** Economic regime analysis allows clients to tailor simulations to their expectation of future economic conditions. This can assist with better understanding in potential portfolio performance and risk.
- **Tailored strategies and diversification:** Integration of potential future economic outcomes may allow for development of tailored investment strategies, considering macroeconomic conditions, and diversify their portfolios effectively to reduce concentration risk.
- **Dynamic decision-making and scenario analysis:** Simulations can be re-run as future expectations of economic conditions change. This can assist with dynamic and strategic decision-making.
- **Broader long-term planning:** Clients can run multiple different scenarios over varying time periods to explore a range of implications of current and long-term portfolio allocations.

This regime modelling is available for clients of Frontier Advisors interested in extended customised modelling, providing a comprehensive understanding of market dynamics and aiding in more informed decision-making.

### Want to learn more?

This is a summary of a detailed paper issued to our clients. Please reach out to Frontier Advisors to discuss the full report or any questions you may have.

### Authors



**Donna Davis, CFA, Consultant**

Donna Davis joined Frontier Advisors as an Associate in 2019 before being promoted to Consultant in 2021. She works with the Capital Markets and Asset Allocation team, working on portfolio construction and asset class research. She has a special interest in data analysis techniques, machine learning and their applications in portfolio construction, sensitivity analysis and climate modelling. She also works with the Alternatives and Derivatives team leading research into Insurance Linked Securities.

Prior to joining Frontier, Donna worked for AustralianSuper in their Options Management Team. She also has 9 years banking experience with the Commonwealth Bank and ANZ in Corporate and Commercial Lending. Donna holds a Bachelor of Quantitative Finance from the University of South Australia and is a CFA charter holder.



**Vivian Xu, Quantitative Analyst**

Vivian Xu joined Frontier Advisors in 2022 in the Capital Markets and Asset Allocation Team. Her role focuses on quantitative analysis and macro economic analysis. Vivian is pursuing a PhD in Finance from the University of Melbourne. Her research interest covers mutual fund management, corporate finance and emerging markets. Vivian has published articles in top ranking peer-reviewed journals.

Vivian holds a Bachelor degree in Economics from the Renmin University of China and a Master in Finance from the University of Melbourne. Vivian is CFA level two qualified.



**Huan Zhang, Quantitative Developer**

Huan joined Frontier Advisors as a Quantitative Developer in March 2021. Huan is responsible for research and development of quantitative solutions within the Technology team. Prior to joining Frontier, Huan was a Research Analyst in Kaiser Trading Group (KTG) where he was focused on developing Automatic Execution Systems and intra-day trading strategies. Before KTG, Huan worked as a research academic at The University of Melbourne and Deakin University after he obtained his PhD in System Engineering from The Australian National University.

Huan holds a B.Sc. and M.Sc. degree from Northeastern University, China, majoring in Applied Mathematics.