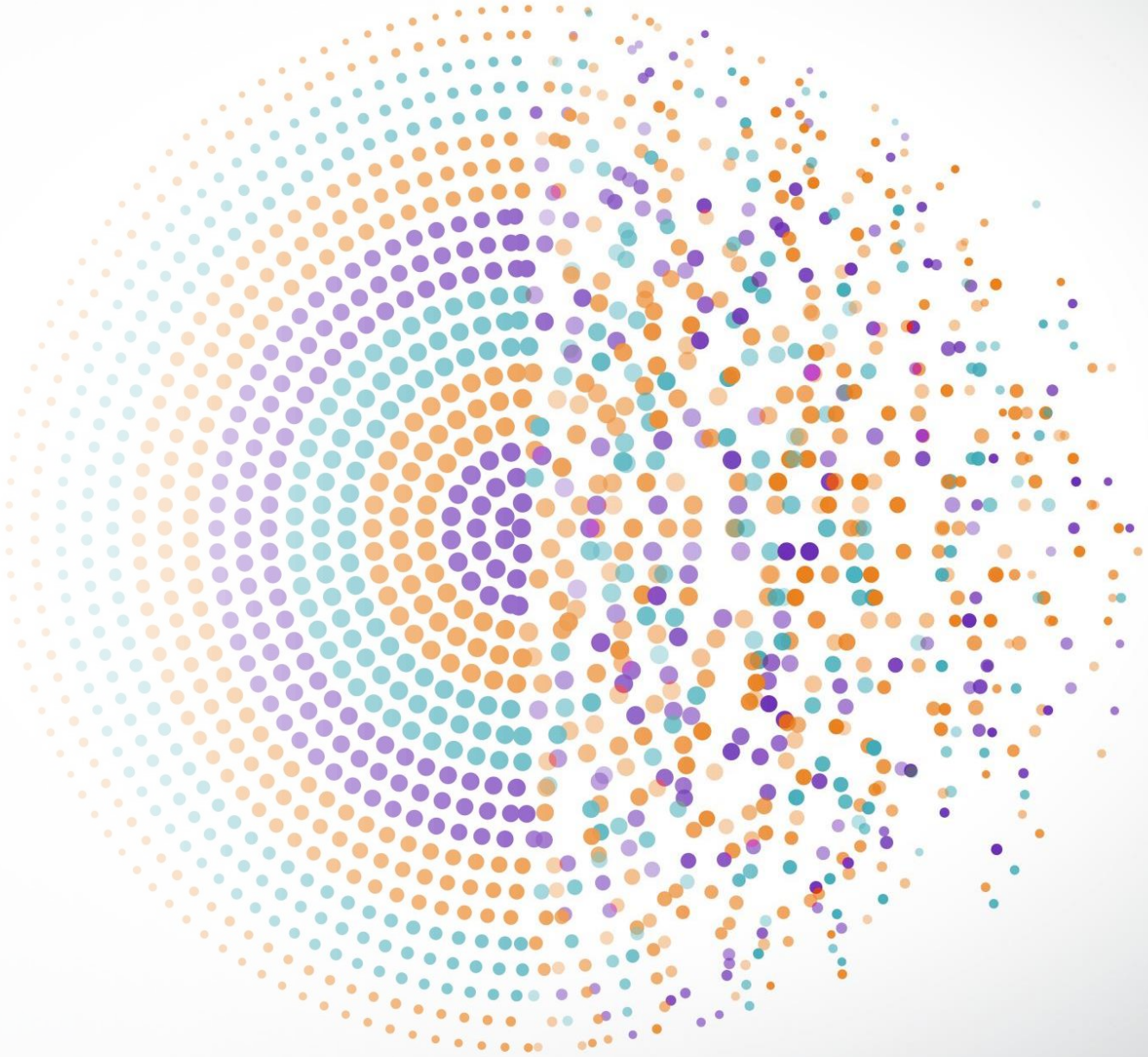
Title: "Financial Markets and the Macroeconomy"

Author: Naowar Mohiuddin, University of Kansas

Overview: This study explores the relationship between U.S. stock and bond markets and economic activity from 2002Q1 to 2022Q1.



Main Findings:

- Long-run linear relationship exists between S&P 500 index, total return index, earnings per share, and U.S. GDP
- Stock returns and government bond yields are significant predictors of economic growth
- Including financial variables improves GDP growth forecasts

Contribution to Literature:

- Extends analysis to recent period including Great Recession and COVID-19 pandemic
- Combines linear and non-linear cointegration analysis(Johansen cointegration, VECM, TVECM, and VAR models)
- Assesses both cointegration relationships and out-of-sample forecasting power

Data Used:

- Nominal GDP (Bureau of Economic Analysis)
- S&P 500 Index, Total Return Index, Earnings Per Share (S&P Global)
- 10-year and 30-year Treasury yields (Federal Reserve Bank of St. Louis)

Research Design:

- Johansen cointegration test and Vector Error Correction (VEC) model
- Threshold Vector Error Correction (TVEC) model
- Vector Autoregressive (VAR) model and Granger causality test
- Impulse response functions and forecast evaluation

Strengths:

- Comprehensive approach combining multiple econometric techniques
- Use of both linear and non-linear models

Robust testing of forecasting power

Critical Analysis

Strengths

- Incorporates recent data including major economic downturns
- Uses multiple econometric techniques for robustness
- Considers both stock and bond markets
- Examines both long-run relationships and forecasting power
- Compares performance to benchmark AR(1) model

Weaknesses and Limitations

- Limited to one threshold in non-linear analysis
- Focuses only on U.S. markets
- Does not consider international spillover effects
- Limited exploration of specific transmission mechanisms
- Potential omitted variable bias

Alternative Approaches

- Include international markets for comparative analysis
- Incorporate additional macroeconomic variables (e.g., inflation, unemployment)
- Explore sector-specific stock market indices
- Employ machine learning techniques for forecasting
- Conduct event study analysis around major economic shocks

Theoretical Implications:

- Supports wealth effect theory on consumption
- Reinforces importance of financial markets in macroeconomic modeling
- Highlights asymmetric relationship between EPS and GDP

Practical Implications:

- Central banks should monitor stock returns and bond yields for GDP forecasting
- Policymakers could use VAR models with financial variables for improved economic projections
- Threshold effects in EPS-GDP relationship suggest non-linear policy responses may be needed

Key Takeaways:

- Long-run cointegration exists between stock market variables and U.S. GDP
- S&P 500 returns and 10-year bond yields significantly predict GDP growth
- Including financial variables improves GDP forecasting accuracy

Strengths: Comprehensive methodology, recent data inclusion (2002-2022), robust forecasting analysis

Areas for Improvement: Expand to international markets, explore sector-specific effects, consider additional macroeconomic variables