

Discussion of

“Long Term Expectations and Aggregate Fluctuations”

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The views expressed here are solely those of the discussant and should not be taken to represent the views of the Bank of England (or any of its committees).

Bird eye view

- A very ambitious paper, giving us behavioural perspective on asset pricing and macroeconomic dynamics
- “*Rational Expectations*” has been the central paradigm in macroeconomics and finance during the past half-century
 - Decades of unresolved puzzles, eg Shiller (1981) excess volatility puzzle
 - Focus on time varying discount factor and risk premia
- This paper:
 - Includes survey forecasts of short- and long-term earnings of the S&P 500 index into a dividend discount model (DDM) with a constant discount rate,
 - Delivers a “synthetic” S&P index matching the actual index and “excess” volatility
 - Survey respondents are non-rational, their errors in forecasting long-term earnings growth are a key driver of asset prices
 - The “non-rational” optimism and associated overreaction is further associated with business cycles

The paper – main steps

1. Start from DDM

$$\tilde{p}_t = e_t + \frac{\tilde{k} - r}{1 - \alpha} + \ln \left(\frac{EPS_{t,t+1}}{EPS_t} \right) + \alpha \ln \left(\frac{EPS_{t,t+2}}{EPS_{t,t+1}} \right) + \sum_{s=2}^{10} \alpha^s LTG_t + \frac{\alpha^{10}}{1 - \alpha} g_*$$

- $EPS_{t,t+1,2}$ - 1-2 yrs IBES forecasts, LTG – expected annual earnings increase over 3-5 yrs
- Constants: r , g , α , k
- LTG_t displays excess volatility, as a result $\tilde{p}_t$ matches the data well!

2. Use the “miracle variable”, ie yearly LTG_t change, as an independent shock

- LP analysis for main finance and macro variables
- Result – LTG acts like a good shock: financial markets and investment, real economy go up, but eventually go down, ie higher LTG predicts systematic disappointment and embodies a systematic future “bad shock”

3. Discuss excess “exuberant optimism” as a driving force for financial and business cycle

Main discussion points

- 1. DDM framework and its other “volatile” ingredients.**
- 2. It would be great to know empirical properties of the IBES forecasts and the “miracle” variable**
- 3. ... and get the structural interpretation of the “miracle” driver of the financial and business cycles.**

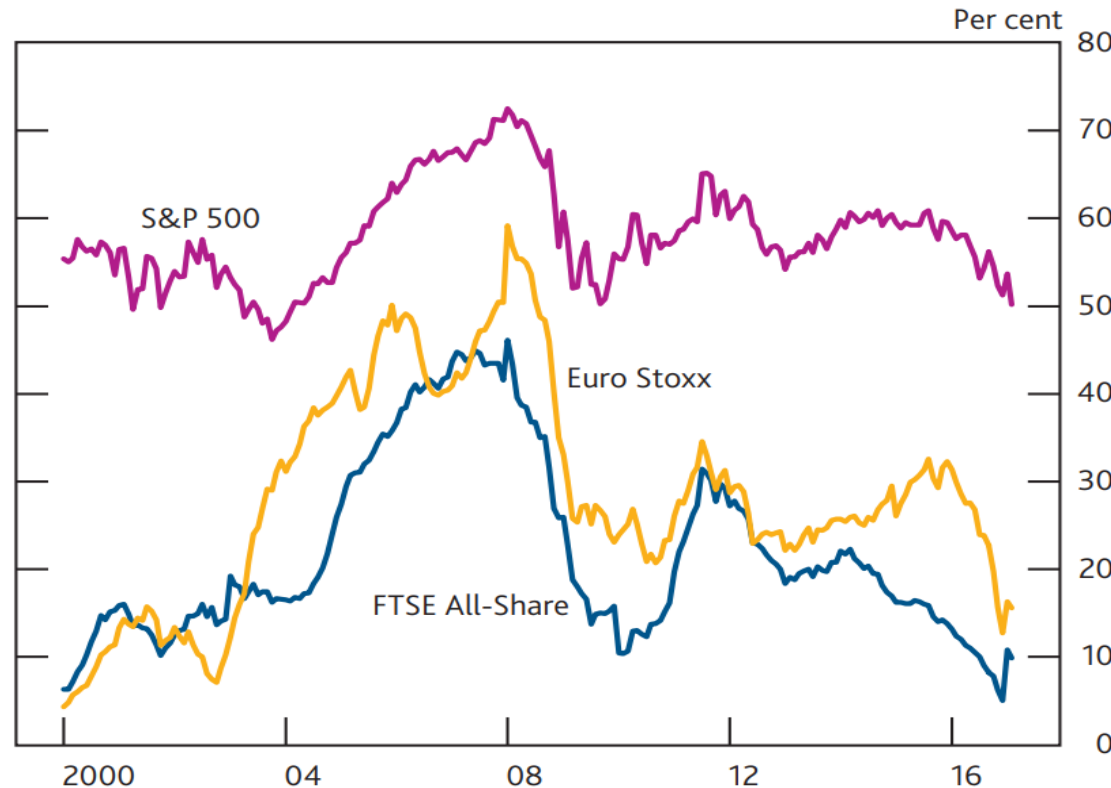
DDM framework

- A Dividend Discount Model (DDM) is a simple type of model that can be used to help understand past moves in equity prices.
- DDMs are based on the net present value relationship that relates equity prices to expected future shareholder payouts, risk-free interest rates and compensation for risk.
- DDM at the BoE (see eg [Dison and Rattan, 2017](#)) also accounts for
 - IBES earning forecasts, and
 - “excessively volatile” share buybacks,
 - variation over time in long-term growth expectations (long term IMF forecasts),
 - variation in risk-free interest rates across maturities;
 - and equity risk premia as a residual.

DDM framework: [Dison and Rattan, 2017](#)

Chart 8 Share buybacks are a significant component of shareholder remuneration in the United States

Share buybacks as a proportion of total shareholder remuneration

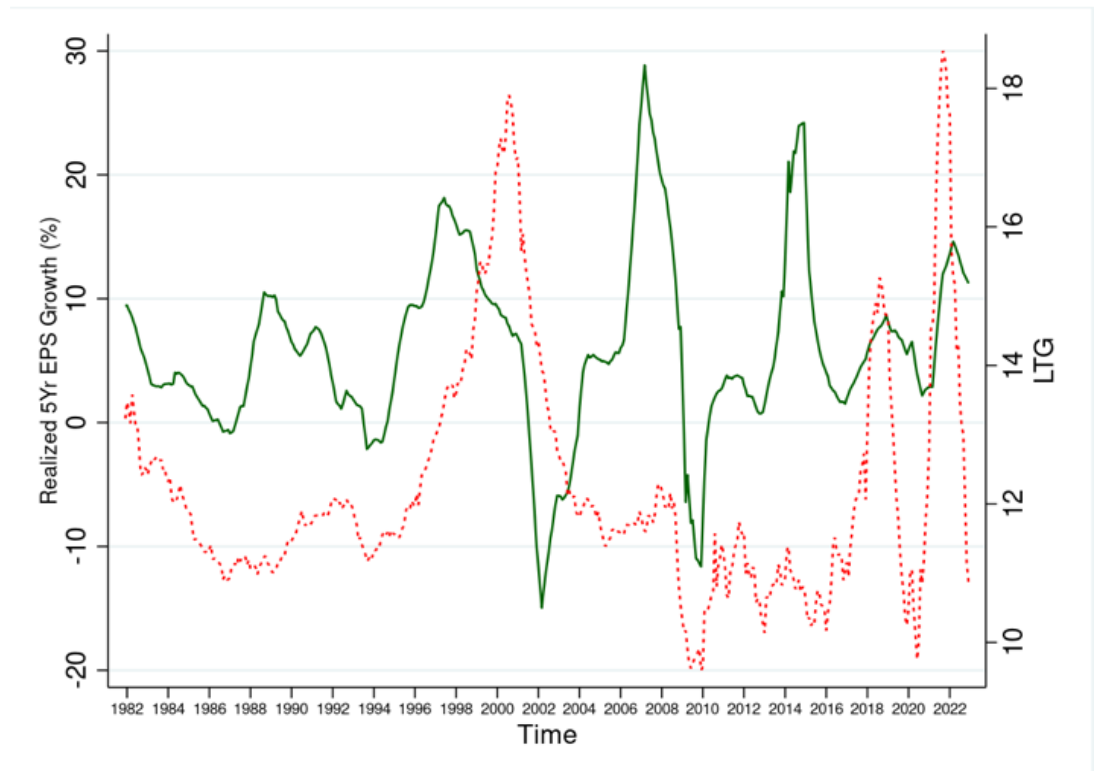


Sources: Bloomberg, Thomson Reuters Datastream and Bank calculations.

Empirical properties of the IBES forecasts and the “miracle” variable

- Dividend expectations are known to be upwardly biased
- How do the surveys perform during busts vs booms?
 - In periods of high macroeconomic uncertainty, the median expectation is slow to adjust.
 - Typically the respondents wait for more certainty before revising their expectations e.g. March 2020
- Properties of the LTG shock used for LP analysis
 - Reliability statistics, eg Mertens and Ravn (2013)
 - Interpretation

LTG vs realised earnings per share growth



Source: Figure 2, lower subplot from the original paper.

Structural interpretation

- What is the “miracle” LTG shock?
- How does LTG respond to key fundamental shocks:
 - Monetary policy (e.g. action, policy expectations, policy uncertainty, [Kaminska, Mumtaz, Sustek, 2021](#))
- What is the role of time varying uncertainty?
 - link between long-term component of equity market volatility and economic activity: [Engle et al. \(2013\)](#) , [Engle and Rangel \(2008\)](#)
 - [economic policy uncertainty](#) (EPU) index by [Baker et al. \(2016\)](#)
- Exuberant optimism and LTG vs overconfidence and lower risk aversion
 - Time varying risk aversion (e.g. [Guiso, Sapienza and Zingales, 2018](#))

To conclude

- A great paper
- My main suggestions:
 - focus more on the “miracle” variable, which drives all the results,
 - provide shock interpretation and discuss its links to other fundamental shocks/concepts in classical and behavioural literature.