Discussion of "A Comprehensive Evaluation of Biases in Expectation Formation"

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Question

- Can forecasting anomaly regressions improve survey forecasts in real time?
- **Key Idea**: Full information rational expectations (FIRE) should be tested out-of-sample rather than in-sample, just as in the return predictability literature (Welch and Goyal 2008)
- Estimate regressions of the form

$$y_{t+h} - \hat{y}_{t+h|t} = \beta' x_t + u_{t+h}$$

- Construct

$$y^*_{t+h|t} = \hat{y}_{t+h|t} + \hat{\beta}'_t x_t$$

- Is $\hat{y}_{t+h|t}$ or $y^*_{t+h|t}$ a better forecast?

Answer

- For the most part, survey forecasts (especially professional forecasts) perform better unadjusted - i.e. $\hat{y}_{t+h|t}$ outperforms $y^*_{t+h|t}$

- **Some Exceptions**:
  1. Mean bias in professional forecasts of interest rates
  2. Mean bias and autocorrelation in household inflation forecasts
  3. Excess dispersion of individual forecasts from the consensus for both professionals and households

Comment 1: Testing for Predictability

- This is a paper about comparing the predictive ability of forecasts. Draw more on this literature!
- Report results using Diebold and Mariano (1995) tests and/or Clark and West (2007) tests (for nested models)
- The paper alludes to the multiple testing problem. There are so many model specifications and tests here. Some rejections are almost certainly spurious. Take this more seriously
- Consider implementing procedures like the White (2000) “reality check" or the Hansen et al (2011) “model confidence set"

Comment 2: Say More About $\hat{\beta}_t$

- The paper briefly discusses instability in anomaly regression coefficients across various specifications, particularly the Coibion and Gorodnichenko (2015) results
- Document instability of (or lack thereof) in-sample using time-varying coefficient models. Use e.g. Cai (2007) non-parametric regression or an unobserved component model to estimate time-varying betas
- Patterns in these coefficients can also help inform which theories to focus on - $\hat{\beta}_t$ is of independent interest
- Does downweighting past observations help time-varying β model to improve survey forecasts as it does in the return predictability literature? See e.g. Farmer, Schmidt, and Timmermann (2023)

Comment 3: Do Forecasters Learn?

- Strength of excess dispersion anomaly is striking
- Lingering question: do people learn about their mistakes? Or is this systematic behavioral bias?
- One possibility: Changing forecaster composition leads anomalies to persist
- Check strength of excess dispersion anomaly on individual forecasters with long time series dimensions
- Does the strength of the anomaly diminish over time?
- Is anomaly strength correlated with age (in the SCE) or tenure (in the SPF)?

Comment 4: Joint vs Univariate Forecasts

- Why are anomalies so prominent for some variables but not others?
- Is this spuriousness (comment 1)? Or is this because forecasters use different models for different sets of variables?
- There seems to be some clustering in the improvement for variables like inflation, GDP, and consumption
- Maybe professional forecasters use a VAR model for these but not others?
- Simple test (example): Does currently available information about GDP (controlling for inflation) predict forecast errors in inflation?

Additional Comments

- Important language clarification: non-zero coefficients in the reported forecasting anomaly regressions $\neq$ behavioral bias, simply a violation of FIRE $\Rightarrow$ could simply be a lack of full information

- Are the results sensitive to using final as opposed to initial data releases as a way of constructing forecast errors?

Conclusion

- This is a great paper and I believe out-of-sample testing is the right way to evaluate forecasting anomalies
- Useful way of developing a comprehensive set of facts to test theories of expectation formation
- Some small changes could push the project even further