

Measuring ECB's Communication: a
"Media-based" Automated Approach
by
Francesco Pesci

discussion
by
Sylverie Herbert
Cornell University

December 17, 2018

Measuring ECB's Communication: a media-based approach

How can we measure the informational content of monetary policy communication?

Objective

- ▶ build an index of central bank communication about future interest rate policy, based on *media coverage*
- ▶ based on occurrences of predefined hawkish, dovish and neutral expressions

Findings

- ▶ A measure which does not capture information conveyed by past interest rate decisions
- ▶ Correlated with future changes in interest rates
- ▶ Affecting expectations of future level of interest rates

Automated approach

- ▶ Gather articles within a 1.5-days window around press conferences following GC meetings
- ▶ Consider sentences containing at least one ECB-related words
- ▶ Count number of hawkish, dovish and neutral expressions (all predetermined)
- ▶ Index is a weighted average of occurrences

$$I_t = \frac{H_t - D_t}{H_t + D_t + N_t}$$

Future monetary policy decisions

- ▶ Predictive power on future monetary policy decisions

$$MRO_{t+m} - MRO_t = \alpha_m + \beta_m I_t + u_m$$

- ▶ Effect on market expectations

$$\Delta f_t^{n+1} = \alpha_n + \beta_n \Delta r_t + \gamma_n \Delta I_t + u_n$$

Importance of media's perception of monetary policy

- ▶ Media's role in the transmission of monetary policy
 - ▶ Plausible that most people get informed about monetary policy through the media (household vs bond trader)
- ▶ Possible to look at dispersion: do all news articles have an index of the same sign?
 - ▶ This would give an idea of the precision or noise of communication
- ▶ Offers a methodology to look at the difference between how hawkish the ECB intended to be and how the media perceived it to be?

Index about future monetary policy

- ▶ Index does not capture information conveyed by the monetary policy decision at time t (correlation between index and MRO is low)
- ▶ Can it be driven by speeches of GC members happening the same day?
- ▶ Use of machine learning tools to build the list of expressions that are most likely to be associated with coverage of future monetary policy
- ▶ Measure of uncertainty about future policy decisions
- ▶ Importance of controlling for coverage (counts):
“man-bites-dog” vs “dog-bites-man”
 - ▶ newspapers have editorial functions (Nimark 2018), and degree of common knowledge of an event depends on media coverage

Summing up

- ▶ Very interesting new perspective on measuring the informational content of central bank communication
- ▶ Provides tools to evaluate how it is perceived
- ▶ Reproducible method (non-subjective) such that it can be applied to other central banks or other forms of media (social media)