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# Media coverage and ECB policy-making: Evidence from an augmented Taylor rule<sup>☆</sup>



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## ABSTRACT

Media coverage of ECB's policy decisions has an impact on financial market expectations, and thus, on the monetary policy objectives of the ECB. In this article, we use a computational linguistic approach to extract the uncertainty tone emerging from media coverage of ECB's policy decisions during the period 1999M01–2014M08, the Media Uncertainty Index (MUI). We then relate the MUI to the interest rate setting procedure of the ECB. Our results suggest that the monetary institution implements an accommodative (restrictive) monetary policy in response to an increase (decrease) of the degree of uncertainty expressed by the media. Additional extensions show that (i) the ECB is more responsive to the uncertainty captured by the MUI in the pre-crisis era, while in the post-crisis era the ECB is more concerned by the uncertainty of the overall economic environment, as captured by the Economic Policy Uncertainty index (Baker et al., 2016) and that (ii) it (also) reacts to media's expressed uncertainty through its unconventional policy measures. Our findings shed some new light on the decision-making process of the ECB when it has to deal with the uncertainty ensuing from its past policy decision and the uncertainty of the overall economic environment, and thus, address an important issue related to the political economy of central banking.

## 1. Introduction

In the aftermath of the global financial crisis (GFC), the European Central Bank (ECB) launched a set of unconventional monetary policy tools with the aim to boost economic growth and to prevent deflation. This period was also characterized by a strong monitoring from the media and a great uncertainty expressed by financial market participants regarding the beneficial effects of these measures. As an illustration, trust in the ECB decreased notably in countries where sovereign bond yields rose significantly (Wälti, 2012).

This situation has been attributed to several causes. First, the GFC has pushed the ECB to pursue multiple objectives: the objective of financial stability in addition to the traditional objective of macroeconomic stability. This has raised some doubts on the possibility for a single policy tool, namely, the central bank's policy rate, to meet these multiple and different targets. Second, the exit strategies from the unconventional measures might imply a balance sheet recession, and potentially expose the ECB to credit-risk (Bordo and Siklos, 2017). Finally, ECB's government bonds purchases might undermine its independence and its objective of price stability (Goldberg and Klein, 2010; Belke et al., 2014). Consequently, ECB's policy actions are carefully monitored by the media,<sup>1</sup> which call into question the possibility for the unconventional policy measures to reach their pre-announced objectives, and thus, the ability of

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<sup>1</sup> "Corporate-Bond Yields Fall in Europe as ECB Starts Buying". Bird M. and Fairless T. The Wall Street Journal, June 8, 2016.

the central bank to achieve its pre-commitments.

Research suggests that media that are monitoring ECB's policy actions can affect the economic perception of both financial market participants and the general public, and shape their opinion about the economy (Soroka et al., 2015). Since the general public has cognitive capacity constraints and cannot digest all available information (Sims, 2003), the media is a cost-effective source to update its information sets. This argument is relevant for financial market participants as well, as Hayo and Neuenkirch (2015) show that they are time constrained and that they must rely on the media to assimilate the flood of information. The media is then a relevant source of information for the expectation formation process (Carroll, 2003; Blinder and Krueger, 2004), which affects agents' macroeconomic and inflation expectations that can feed into the actual evolution of inflation, for instance through wage claims, saving, investment and consumption decisions (Blinder et al., 2008; Lamla and Lein, 2014).

Therefore, since the media channel has a significant impact on interest rate expectations (Lamla and Sturm, 2013), on inflation expectations (Lamla and Lein, 2015), and on public support for the ECB (Hayo and Neuenkirch, 2014), the ECB might take into account news stories discussing its policy measures in its decision-making process. Against this background, this paper proposes to assess the reaction function of the ECB - via an augmented Taylor rule - when the media express uncertainty following its implemented policy measures. This approach is motivated by the evidence that heightened economic uncertainty - as expressed by media coverage - decreases employment and output (Bloom, 2009; Baker et al., 2016) and that the ECB tries to influence public and market perceptions - which are likely to be affected by media coverage - through the conduct of policy, and notably by the moves of its policy rate (Goldberg and Klein, 2010). The ECB might then react to media's expressed uncertainty through its policy-making procedure, in order to affect economic outcome and public and market perceptions.

Our contribution in the literature is thus twofold: this paper is the first to compute an index measuring the degree of uncertainty expressed by the media following the implementation of ECB's policy decisions: the media uncertainty index (MUI). Media's expressed uncertainty following ECB's policy decisions can be attributed to several causes: (i) the effectiveness *per se* of the policy decision implemented by the ECB, (ii) the economic/financial context in which the policy decision is made, (iii) the reasons underlying this policy decision, (iv) future economic developments or (v) future ECB's policy steps. Identifying the source(s) of media's uncertainty is beyond the scope of this paper, nevertheless, the MUI allows combining those multiple sources of uncertainty expressed by the media after each ECB's policy decision into a single variable. The second contribution aims to analyze the response function of the ECB - through an augmented Taylor rule - when there is a change of the MUI. Therefore, in this paper, we test if and how the ECB reacts to media coverage of its past policy decision. The main findings show that in the pre-crisis era, the ECB reacts dovishly (hawkishly) when media's expressed uncertainty following its past policy decision increases (decreases), while in the post-crisis era, the ECB is more responsive to the uncertainty of the overall economic environment, as captured by the Economic Policy Uncertainty index (Baker et al., 2016). We also find that the ECB reacts to media's expressed uncertainty with its unconventional policy measures. This suggests that the ECB responds to media's expressed uncertainty both through its repo rate and its unconventional policy measures. These results contribute then to the literature related to the political economy of central banking, and in particular, to the ECB's decision-making process.

The remainder of this paper is structured as follows: Section 2 derives the MUI, Section 3 describes the data and the methodology used in the paper, Section 4 presents the results, Section 5 provides additional extensions while the last section concludes.

## 2. The media uncertainty index

Following each monetary decision adopted by the ECB on Thursday at 2.30 p.m., numerous newspaper articles analyze the policy decision the same day and the day after (Berger et al., 2011). Empirical evidences suggest that financial market participants and the general public rely on those media reports rather than on self-monitoring<sup>2</sup> to digest information about ECB's policy decisions (Lamla and Sturm, 2013; Hayo and Neuenkirch, 2015). Furthermore, given that the main channel by which media reports affect both financial markets and public's expectations is through the tone of economic reporting (Doms and Morin, 2004), we might assess the perception of financial market participants and the general public regarding ECB's policy decisions by extracting the tone emerging from those articles.

In a first step, we use Factiva database to collect newspaper articles analyzing each policy decision taken by the ECB for the period 1999M01–2015M09, and appearing on Thursday and Friday following its implementation. We obtain in total 21,386 articles. Unfortunately, the textual analysis procedure used to compute the media uncertainty index implies to only consider newspaper articles written in English. Nevertheless, given that most of the collected articles are published by Dow Jones Newswire Services, Reuters, Market News International, the Financial Times, and the Wall Street Journal, the fact that we only have articles written in English is not an issue as those newspapers are mainly targeting financial market participants. The perception about ECB's policy decisions emerging from the textual analysis of those articles is then similar to the one that financial market participants might have when reading them. Furthermore, we also have articles that are aimed to the general public in the database (like e.g. from Agence France-Presse or the Associated Press), although in a lesser extent. This collection procedure allows then to consider newspaper articles that are aimed to financial market participants, and to a lesser extent, to the general public.

It is important to remind that media coverage about ECB's policy decisions might be biased. The literature has identified a supply-side media bias, i.e., when media coverage is influenced by journalistic preferences (Groseclose and Milyo, 2005) and a demand-side media bias, i.e., when media coverage is influenced by audience preferences (Mullainathan and Shleifer, 2005; Gentzkow and

<sup>2</sup> By attending press conferences, reading the press releases or looking at the data.

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