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Public Attention to Monetary Policy: Asymmetric Responses in Google Search Behavior Following Interest Rate Changes in the Euro Area

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Abstract

Monetary policy decisions play an important role in shaping the economic landscape and fuel wide public debates. This paper explores the public perception of such decisions with the help of Google Trends to explicate the link between policy fluctuations and internet search intensities related to key economic variables. The analysis focuses on search activity surrounding monetary policy decision dates and compares the responses to interest rate increases and decreases. The results indicate a statistically significant asymmetric reaction in public search actions. In the majority of the euro area's founding countries, interest rate reductions have been observed to result in a more pronounced increase in search intensity compared to the effects of interest rate increases. This finding contradicts the research hypothesis that search intensity reacts equally to both types of policy changes. The findings persist when the observation window is extended beyond the policy decision date and when the sample is restricted to the period following the global financial crisis. These findings contribute to the expanding body of literature that utilizes digital trace data to measure public attention and economic expectations. The authors posit that expansionary monetary policy decisions elicit a more robust information-seeking behavior among the public, underscoring the pivotal role of monetary policy in shaping public awareness of economic conditions, possibly amplified by media.

Keywords: *Google Trends; Search Engine data; Financial markets; Official statistics*

1. Introduction

Lately, digital data sources have become increasingly important in economic research, especially for measuring public attention and expectations in real time. Google Trends is one

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such source that is widely used because it captures aggregated internet search behavior, providing insights into the information demands of households and investors. Since online searches are initiated voluntarily and at negligible cost, they can be interpreted as a direct indicator of interest in specific economic topics. Consequently, many studies use Google Trends data to analyze macroeconomic expectations, predict economic activity, and measure public interest in economic developments and uncertainty. Empirical evidence demonstrates a close correlation between search intensity and macroeconomic variables, including GDP, inflation, and financial market developments (Buelens, 2025; Diaf and Schütze, 2024; Grybauskas et al., 2023; Schütze, 2020; Narita and Yin, 2018).

Recent literature has begun to investigate the influence of monetary policy decisions on public attention. A close examination of Google search data reveals a conspicuous surge in search activity related to economic subjects following monetary policy announcements and central bank meetings. Studies focusing on the euro area demonstrate that shifts in monetary policy can have a substantial impact on the level of attention households allocate to economic developments, such as inflation (Buelens, 2025). It is important to note that these responses may vary across countries and can display asymmetric patterns depending on the economic context and policy environment.

At the same time, a broad strand of monetary economics highlights that the effects of monetary policy are often asymmetric. Financial markets, macroeconomic variables, and expectations may respond differently to policy tightening than to policy easing. Empirical evidence from various contexts shows that the reaction of economic agents to interest rate increases can differ from their response to interest rate cuts, reflecting differences in uncertainty, borrowing conditions, or perceived economic risks (Apostolakis and Giannellis, 2024; Cavaca and Meurer, 2024). Despite these insights, relatively little research has examined whether such asymmetries also appear in public information demand as measured by internet search behavior.

This paper makes a significant contribution to the extant literature by analyzing whether changes in the policy interest rate led to asymmetric responses in Google search intensity related to economic topics such as the economy, interest rates, and credit in the founding countries of the euro area. The present study combines monetary policy event data with high-frequency search data, thereby providing novel evidence on how the public reacts to policy decisions and whether interest rate increases and decreases generate different patterns of information-seeking behavior.

2. Methodology

The research hypothesis posits that the response to Google searches, following an interest rate reduction and an interest rate increase by the European Central Bank (ECB), is equally robust.

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The interest rate under consideration is the deposit facility rate. In order to test this hypothesis, the interest rate decision meetings of the ECB were examined. In principle, the ECB Governing Council meets every six weeks to discuss monetary policy and key interest rates in the euro area. In this study, the focus was exclusively on meetings that resulted in a modification of the interest rate. They took place between December 16, 2005, and October 23, 2024 (ECB, 2026). The meetings were then classified according to whether the interest rate had risen or fallen. Google search queries, obtained via Google Trends, were subsequently collected within a 90-day timeframe surrounding the interest rate change date.

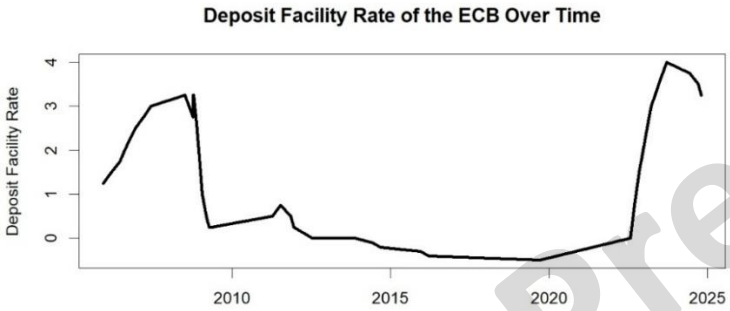


Figure 1: Deposit Facility Rate of the ECB.

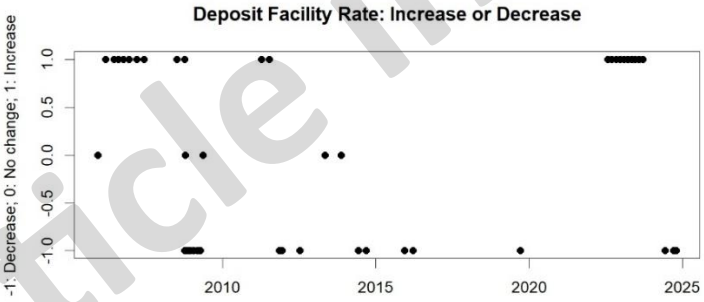


Figure 2: Increases or decreases in the Deposit Facility Rate. -1: rate was decreased; 1: rate was increased; 0: rate remained constant.

A total of 43 interest rate change dates were observed. Interest rates exhibited an upward trend on 21 occasions and a downward trend on 17 occasions. The deposit facility rate remained constant on five specific dates, which were excluded from the subsequent analysis. These are only within the sample because the main refinancing operations rate changed. The sample is

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reasonably balanced, with 21 dates to 17. Figure 1 displays the deposit facility rate over the course of the entire period, while Figure 2 exclusively illustrates the alterations in binary code.

A review of the Google Trends search index reveals several limitations. First, daily data is only available for a maximum of 90 days. Second, the index reports relative rather than absolute search frequencies. This implies that each time series contains at least one value of 100 and one value of 0. For daily data, 100 denotes the day with the highest search volume within the sample. Meanwhile, 0 represents the day with the lowest search volume. A value of 50 indicates that there were half as many queries as on the day with a value of 100. To account for these properties, a 90-day window around the central bank's decision was selected, covering 45 days prior to and 44 days after the meeting. This approach reflects the possibility that interest rate changes will follow events that generate heightened search activity, which receives the value of 100 and limits its influence on subsequent search behavior after the decision. Restricting the analysis to post-decision days would be problematic because, by definition, one observation would always equal 100. This could result in identical mean search intensities before and after the rate change.

A key advantage of Google Trends is the use of topics that aggregate multiple related search terms, providing a language-independent measure. This is particularly relevant when analyzing the 12 founding members of the Eurozone, as they differ substantially in language. Individual search terms would not capture the full range of relevant queries. Therefore, five topics were selected: "Economy," "Interest Rates," "Credit," "Unemployment," and "Investment," as they are closely linked to the deposit facility rate.[1] The resulting dataset covers 12 countries, 38 interest rate change dates, and the five aforementioned topics within a 90-day window, yielding a total of 205,200 observations.

To statistically test the aforementioned hypothesis, the three days following the interest rate date and the date itself were extracted from each 90-day Google Trends time series. Welch's t-test was employed to assess statistical significance, as it is resistant to variations in group sizes and potentially unequal variances (Welch, 1947). Additionally, the procedure was executed in both directions to enhance conservatism. The data extracted from all dates on which an interest rate increase was decided were compared with that from dates on which an interest rate cut was decided.

To assess the robustness of the results, the time frame was expanded to 7 and 14 days. The sample was further shortened to exclude the effects of the financial crisis of 2007-2009, with the range shortened from April 13, 2011, to October 23, 2024, with 12 increases and 11

[1] Inflation was not employed, despite its apparent relevance to the subject matter. It should be noted that this topic has previously been investigated by Buelens (2025).

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decreases in the interest rate. The period was chosen because it describes a period of monetary policy after the financial crisis that was more stable.

3. Results

Tables 1 to 3 present the findings concerning the topics of economy, interest rates, and credit. Both the topic "economy" and the topic "interest rates" show a significant difference in search intensity after a change in interest rates. In most countries, this difference is significant, and search intensity is higher after a decrease in interest rates. For the topic of credit, this can only be observed in half of the 12 eurozone countries, but here too, the mean value is significantly higher after an interest rate cut. These results indicate that the research hypothesis can be rejected for these topics and that there is an asymmetric response in terms of information gathering to a change in interest rates.

Table 1: Results in search intensity for the Google Trends topic "Economy"

Country	Diff. is sig.	Mean after increase	Mean after decrease
Austria	**Yes**	52,89	**60,62**
Belgium	**Yes**	54,56	**63,01**
Germany	**Yes**	73,05	**74,67**
Finland	**Yes**	42,93	**59,28**
France	**Yes**	59,93	**67,92**
Greece	**Yes**	46,36	**60,46**
Ireland	**Yes**	40,80	**48,39**
Italy	No	72,36	73,31
Luxembourg	**Yes**	**13,42**	8,26
Netherlands	**Yes**	52,96	**60,00**
Portugal	**Yes**	48,52	**58,27**
Spain	**Yes**	70,89	**72,70**

The difference is regarded as significant if the null hypothesis of the Welch two-sample t-test is rejected at the 5% significance level. The mean search intensity is shown for the next 3 days once after an interest rate increase and once after an interest rate decrease. Higher values are bold if the difference is significant. Timeframe: 2005-2024.

For the topics "unemployment" and "investment" (not shown in tables), the results are less often statistically significant. In the case of "unemployment," the difference is only significant in four countries, and for the topic "investment", it is only significant in two countries. However, even in these cases, search intensity exhibits a marked increase following an interest rate reduction. Therefore, these two topics were not further investigated.

Table 2: Results in search intensity for the Google Trends topic "Interest Rate"

Country	Diff. is sig.	Mean after increase	Mean after decrease

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Austria	**Yes**	38,44	**57,76**
Belgium	**Yes**	44,40	**60,18**
Germany	**Yes**	66,95	**75,09**
Finland	**Yes**	51,79	**61,72**
France	**Yes**	64,86	**71,26**
Greece	**Yes**	**56,33**	43,31
Ireland	**Yes**	35,05	**42,96**
Italy	No	71,94	80,19
Luxembourg	**Yes**	**37,93**	22,28
Netherlands	No	64,69	65,46
Portugal	**Yes**	30,05	**49,93**
Spain	No	65,45	68,46

The difference is regarded as significant if the null hypothesis of the Welch two-sample t-test is rejected at the 5% significance level. The mean search intensity is shown for the next 3 days once after an interest rate increase and once after an interest rate decrease. Higher values are bold if the difference is significant. Timeframe: 2005-2024.

In the context of the "economy" topic, it was observed that the results remained constant when the data was collected over a span of 7 or 14 days, as opposed to 3 days. A subsequent analysis, focusing exclusively on the values from April 13, 2011, revealed a statistically significant relationship between heightened search intensity and interest rate cuts in nine countries.

In the context of the "interest rates" topic, it was observed that the results remained constant when the time span was extended from three days to seven days. Following a 14-day interval, a substantially elevated search pattern was observed in a mere seven countries. A more focused analysis, examining values from April 13, 2011, reveals a statistically significant relationship between heightened search intensity and interest rate cuts in only six countries.

Table 3: Results in search intensity for the Google Trends topic "Credit"

Country	Diff. is sig.	Mean after increase	Mean after decrease
Austria	**Yes**	58,60	**72,76**
Belgium	No	72,50	75,81
Germany	No	82,33	80,24
Finland	**Yes**	35,52	**55,63**
France	No	84,20	84,56
Greece	No	42,38	43,90
Ireland	No	67,85	72,65
Italy	**Yes**	76,88	**86,10**
Luxembourg	**Yes**	**29,63**	16,79
Netherlands	**Yes**	72,23	**77,90**

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Portugal	**Yes**	69,07	**76,66**
Spain	No	81,62	82,07

The difference is regarded as significant if the null hypothesis of the Welch two-sample t-test is rejected at the 5% significance level. The mean search intensity is shown for the next 3 days once after an interest rate increase and once after an interest rate decrease. Higher values are bold if the difference is significant. Timeframe: 2005-2024.

However, a divergent pattern emerges for the topic "credit." For a 7-day period, search activity is observed to exhibit a marked increase in seven countries following an interest rate reduction. For a period of 14 days, this number increases to 9. This pattern repeats itself when only the limited period from 2011 onwards is considered.

In summary, an asymmetric response in terms of search intensity depending on a change in interest rates is evident. In the vast majority of countries, a considerably elevated level of search intensity is observed following a reduction in the key interest rate. This weakens only marginally when a longer time horizon of 7 or 14 days is employed. Furthermore, this effect is also present when the first interest rate change after the financial crisis is used as the start date.

4. Conclusion

This paper examines how changes in the policy interest rate affect Google search intensity related to the topics of economics, interest rates, and credit across the founding member states of the Eurozone. The findings reveal a statistically significant asymmetric response in search behavior to monetary policy decisions. Specifically, search intensity exhibits a more pronounced increase following interest rate cuts compared to the aftermath of interest rate hikes. Consequently, the research hypothesis that search intensity responds equally to both increases and decreases in the policy rate is rejected. The findings are consistent across the majority of the founding Eurozone countries and remain robust when extending the observation window beyond the policy decision date as well as when restricting the sample to the period following the global financial crisis.

The findings indicate that monetary policy easing prompts a heightened inclination towards information-seeking among the general public, potentially reflecting elevated uncertainty or an augmented perception of the relevance of borrowing conditions. Future research could further explore the underlying mechanisms driving this asymmetry. For example, additional search categories could be analyzed, alternative measures of public attention could be incorporated, or it could be examined whether similar patterns emerge in other monetary policy regimes and economic regions. In addition, the role of the media in reinforcing/weakening monetary decisions should be examined.

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