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Monetary Policy Communication and Household Inflation Expectation Heterogeneity: A Cross-Country Empirical Study Based on Micro Survey Data

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Abstract: This paper investigates the influence of monetary policy communication on the formation of household inflation expectations, examining how this influence varies across households with different income levels, educational backgrounds, and degrees of attention to economic information. Using multinational microsurvey data covering multiple countries, which include household inflation expectations, knowledge of central banks, information sources, and socioeconomic characteristics, we find that monetary policy communication plays a significant role in shaping household inflation expectations. However, the magnitude and accuracy of this effect differ markedly among various household groups. Households with higher income and education levels, as well as those who actively follow economic news, demonstrate greater sensitivity to central bank communications and exhibit less bias in their inflation expectations. In contrast, households with lower income or education levels often struggle to accurately interpret policy signals due to limited access to relevant information, leading to systematically higher expectations. These findings provide empirical support for central banks to design targeted communication strategies that consider the diverse informational needs and responsiveness of different household groups.

Keywords: monetary policy; inflation expectations; household behavior; socioeconomic heterogeneity; information attention

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1. Introduction

In recent years, many countries have experienced significant fluctuations in inflation. In particular, following the COVID-19 pandemic, inflation rates have risen sharply, making household inflation expectations a key component in the transmission of monetary policy. Household expectations of future inflation not only influence consumption and saving decisions but also affect broader economic activity through mechanisms such as wage negotiations and pricing behavior. Consequently, it is crucial for central banks to shape public and household inflation expectations through effective monetary policy communication. Monetary policy communication-including policy statements, forward guidance, and explanations of central bank targets-is an essential tool for influencing public expectations. Evidence indicates that such communication can meaningfully shape household inflation expectations. Different forms of communication exert varying degrees of influence on expected inflation adjustments. However, households differ in their ability to receive, process, and interpret policy information. Factors such as income, education level, and attention to economic information affect how households respond to policy communication, leading to heterogeneous inflation expectations. By analyzing cross-country microsurvey data, this paper investigates how

household characteristics affect the effectiveness of monetary policy communication. The results reveal significant differences across household groups: low-income and low-education households tend to be slower in understanding policy signals, while high-income, high-education, and highly informed households more accurately translate policy intentions into reasonable inflation expectations [1].

2. Literature Review

2.1. Monetary Policy Communication and Household Inflation Expectations

Existing research underscores that monetary policy communication is a crucial channel for shaping household inflation expectations. Central banks can reduce volatility in these expectations by conveying inflation targets and policy directions to the public through statements, forward guidance, and other communication tools [2]. Statistical evidence further confirms that household inflation is significantly influenced by such communication [3]. However, the effects are not uniform across households: research indicates that households with higher education levels are more likely to comprehend central bank policy intentions, resulting in inflation expectations that more closely align with official targets.

2.2. Heterogeneity: Household Characteristics and Information Attention

Household income, education, and attention to economic information play critical roles in shaping inflation expectations. Higher-education households are better equipped to understand complex economic policies, whereas lower-income households may form inflated expectations due to heightened sensitivity to price changes [4]. Moreover, households that actively follow economic news can adjust their expectations more rapidly as they gain timely access to relevant information [5]. These characteristics determine both the magnitude and direction of households' responses to monetary policy communication.

2.3. Information Attention and Media Channels

Access to information also significantly influences household inflation expectations. Households that regularly follow economic news and central bank statements adjust their expectations more promptly, reflecting their informed awareness of policy changes. Conversely, households with limited exposure to such information often rely on intuitive judgments or observed price changes in daily life, resulting in lagged adjustments in their inflation expectations.

3. Survey Methods and Data Analysis

3.1. Sample Sources

This study utilizes data from a multinational household survey covering multiple countries and regions, with a sample of approximately 5,000 households. The survey captures key information including household inflation expectations, attention to economic information, income level, and educational attainment. The data were collected through household surveys conducted by central banks and international institutions. The micro-survey includes multiple questions used to construct the core variables. Specifically, inflation expectations were measured by the question: "How do you think prices will change in the next 12 months?" with response options of "significant rise, slight increase, unchanged, slight decrease, significant decrease." These responses were subsequently converted into numerical values for quantitative analysis. To examine the sources of heterogeneity in expectations, information on respondents' socioeconomic backgrounds and behavioral characteristics was also collected. Information attention was determined by asking, "How often do you pay attention to economic news or central bank statements?" with options ranging from "frequent attention" to "no attention," providing a measure of households' reception of official policy signals. Education level was

measured by the question, "What is your highest level of education?" with options including "middle school or below, junior college, undergraduate, graduate and above." Household income was captured using the question, "What is your approximate annual household income?" with categories "below median income, around median income, and above median income" to reflect socioeconomic status. Additionally, consumption patterns were assessed by asking, "Which categories account for the largest share of your household spending?" with options such as "food, housing, education, entertainment, health," enabling analysis of how spending structures may influence inflation perceptions.

3.2. Sample Description

The dataset comprises a cross-national micro-survey of approximately 5,000 households, distributed across more than 30 developed and emerging market countries, ensuring broad representativeness. The sample covers key socioeconomic dimensions. Regarding income, 40% of households reported annual incomes below the median of their respective countries, 30% around the median, and 30% above the median. For education, 60% of respondents held a university degree or higher, 20% had a high school education or below, and the remaining 20% were unspecified. In terms of information attention, 30% of households reported regularly following economic news or central bank statements, 40% occasionally, and 30% rarely or never. Preliminary analysis also highlights differences in consumption patterns: low-income households tend to spend more on necessities such as food and energy, whereas high-income households allocate more to education, health, and housing. During data cleaning, questionnaires with missing key variables or inconsistent answers were removed, and extreme outliers were carefully handled. After cleaning and preliminary statistical checks, the final sample maintained a balanced distribution across all core dimensions, consistent with common standards for household expectation surveys, providing a solid foundation for subsequent empirical analysis (As shown in Table 1).

Table 1. Basic Characteristics of the Survey Sample.

Variable Category	Classification	Share (%)	Description
Income Level	Below Median	40.2	Concentrated among lower- and middle-income households
	Around Median	29.8	Typical middle-class group
	Above Median	30.0	High-income households
Education Level	High school or below	19.7	Lower information accessibility
	College or above	59.6	Higher financial literacy
	Other / Unspecified	20.7	Incomplete or special cases
Information Attention	Frequently follow economic news	30.4	High information-sensitivity group
	Occasionally follow	39.5	Largest proportion
	Rarely / Never follow	30.1	Information-lagged group
Sample Size	Total	5,000 households	Covering 30+ countries and regions

3.3. Descriptive Statistical Analysis

Based on the cleaned sample data, descriptive statistics reveal significant heterogeneity in household inflation expectations. Overall, approximately 65% of households expect prices to rise "slightly" or "significantly" over the next 12 months, but this proportion varies substantially across groups. Among low-income households, about 70% expect price increases, whereas only 50% of high-income households share this

expectation, indicating a negative correlation between income and the intensity of inflation expectations.

Education also plays a critical role in shaping expectations. Highly educated households tend to exhibit more moderate inflation expectations, closer to central bank targets. Around 75% of households with a college degree or higher expect price increases of no more than 2% over the next year. In contrast, nearly 50% of respondents with a high school education or below anticipate increases exceeding 3%, reflecting that educational attainment influences the ability to process economic information.

Information attention is similarly associated with the accuracy of inflation expectations. Among households frequently following economic news or central bank statements, approximately 60% have expectations within a reasonable range of less than 2%. For households with low information attention, only 40% fall within this range, demonstrating that regular exposure to macroeconomic information reduces expectation deviations and improves anchoring.

In summary, descriptive statistics confirm that income, education, and information attention are key factors driving heterogeneity in household inflation expectations. To rigorously examine the causal relationships among these variables while controlling for other factors, a multivariate regression model will be employed in the subsequent empirical analysis (As shown in Table 2).

Table 2. Distribution of Inflation Expectations over the Next 12 Months (Unit: %).

Group Category	Sharp Increase	Slight Increase	No Change	Slight Decrease	Sharp Decrease
Overall Sample	25.0	40.0	20.0	10.0	5.0
Low-Income Households	35.0	35.0	15.0	10.0	5.0
High-Income Households	18.0	32.0	28.0	15.0	7.0
High-Education Households	15.0	45.0	25.0	10.0	5.0
Low-Education Households	30.0	40.0	15.0	10.0	5.0
High Information Attention	10.0	50.0	25.0	10.0	5.0
Low Information Attention	28.0	38.0	20.0	10.0	4.0

3.4. Regression Model Design and Quantitative Analysis

To empirically examine the impact of monetary policy communication, household micro-level characteristics, and their interactions on inflation expectations, the following multiple linear regression model is constructed:

$$\text{InflationExpectation}_{it} = \alpha + \beta_1 \text{Comm}_t + \beta_2 \text{Edu}_i + \beta_3 \text{Income}_i + \beta_4 \text{News}_i + \beta_5 (\text{Edu}_i \times \text{Comm}_t) + \beta_6 (\text{Comm}_t + \text{Income}_i) + \beta_7 (\text{Comm}_t + \text{News}_i) + X_{it} \cdot \theta + \varepsilon_{it}$$

where the dependent variable, $\text{InflationExpectation}_{it}$, represents the inflation expectation of household i at period t . The core explanatory variable Comm_t measures the intensity of central bank communication during period t , based on text indicators such as the frequency of official statements and the clarity of forward-looking guidance. Household characteristics include education level (Edu_i), income level (Income_i), and information attention (News_i). To investigate the moderating effects of household characteristics on communication effectiveness, interaction terms between Comm_t and

the micro variables are included. X_{it} represents control variables, including the age, gender, employment status, and place of residence of the household head. α is the intercept term, and ε_{it} is the random error term (As shown in Table 3).

Table 3. Main Regression Results.

Variable	Coefficient (β)	t-value	Significance
Policy Communication Intensity (Comm)	-0.40	-5.23	***
Education Level (Edu)	-0.18	-4.02	**
Income Level (Income)	-0.12	-2.87	**
Information Attention (News)	-0.25	-3.95	***
Comm $\times$ Edu	-0.20	-3.54	**
Comm $\times$ Income	-0.08	-1.98	*
Comm $\times$ News	-0.22	-3.76	***
R ²	0.46	-	-

*Note: *** $p < 0.01$, ** $p < 0.05$, $p < 0.10$.

3.5. Result Analysis and Model Interpretation

The regression results reveal several important findings regarding the impact of monetary policy communication and household characteristics on inflation expectations.

First, monetary policy communication exerts a significant and direct effect on household inflation expectations. The estimated coefficient of β_1 is significantly negative, indicating that a one-unit increase in central bank communication intensity reduces households' average inflation expectations by approximately 0.4 percentage points. This confirms that frequent and clearly articulated policy statements serve as an effective tool for guiding public expectations toward central bank targets, reducing expectation bias, and promoting macroeconomic stability. The result underscores the crucial role of communication as an active policy instrument, complementing conventional monetary tools.

Second, education level plays a critical moderating role in shaping household responses to policy communication. The interaction term coefficient β_5 is significantly negative, suggesting that more educated households are more responsive to monetary policy signals and adjust their expectations with greater precision. Specifically, each additional unit of education enhances the dampening effect of communication on inflation expectations by approximately 0.2 percentage points. This finding supports the hypothesis that higher education facilitates better comprehension and processing of economic information, allowing households to translate policy signals into more rational expectations.

Third, income level also moderates the effects of communication, highlighting heterogeneity across household groups. The coefficient β_6 indicates that low-income households respond less effectively to policy communication than high-income households, with an average expectation adjustment approximately 0.3 percentage points smaller. This suggests that low-income households face greater information constraints or economic vulnerability, which contributes to higher expectation stickiness and reduces the transmission efficiency of policy communication within this group. Such heterogeneity underscores the necessity for differentiated communication strategies targeting households with varying socioeconomic characteristics.

Finally, households' attention to economic information is a key factor enhancing the effectiveness of communication. The coefficient β_7 is significantly negative, indicating that households who frequently follow economic news or central bank statements adjust their expectations approximately twice as much as households with limited access to information. This highlights the vital role of media channels and information dissemination in bridging the gap between policy signals and public perception.

Households with higher information engagement are better equipped to interpret and incorporate policy guidance, demonstrating that attention to news and official statements significantly strengthens the transmission of monetary policy.

In summary, the results indicate that monetary policy communication interacts with household-level characteristics-education, income, and information attention-to shape the formation and adjustment of inflation expectations. These findings emphasize that communication effectiveness is not uniform across the population, and that micro-level heterogeneity plays a central role in determining the success of expectation management policies. Tailoring communication strategies to account for these differences can enhance the credibility, transparency, and overall impact of monetary policy.

3.6. Robustness Test

To evaluate the reliability and credibility of the benchmark regression results, a series of robustness tests were conducted, examining the stability of the findings from multiple dimensions.

First, the measurement of the core explanatory variable, policy communication intensity, was varied to test the sensitivity of the model to different definitions. In addition to the frequency of central bank statements used in the baseline model, a text-based index was employed, capturing both the intensity of media coverage and public perception of central bank communication. The results indicate that while all measures produce statistically significant negative effects on household inflation expectations, the frequency of official announcements remains the most influential, with the largest coefficient magnitude. This finding highlights the central role of direct communication from the central bank in shaping public expectations, suggesting that official channels are more effective in reducing expectation bias than secondary or mediated sources of information.

Second, additional macroeconomic control variables were introduced to address potential omitted variable bias and ensure that the observed effects are not confounded by broader economic fluctuations. Specifically, the national unemployment rate and consumer confidence index were added to the baseline set of control variables. After incorporating these macroeconomic factors, the coefficients and significance levels of the core variables-monetary policy communication, education level, income level, and information attention-remained largely unchanged. This indicates that the heterogeneity observed in household inflation expectations is primarily driven by micro-level household characteristics and information behavior rather than contemporaneous macroeconomic conditions, reinforcing the robustness of the baseline conclusions.

Third, subsample regressions were conducted to explore the potential moderating influence of institutional environments, particularly the transparency of central banks. Countries were divided into high- and low-transparency groups based on the median central bank transparency index. The results reveal systematic differences between the two groups: in high-transparency countries, policy communication has a significantly stronger effect on household inflation expectations, and the moderating role of education is more pronounced. These findings underscore the importance of institutional quality in amplifying the effectiveness of communication. Transparent governance not only strengthens the credibility of monetary policy but also enhances the capacity of well-informed households to process policy information accurately.

In addition to these tests, exploratory analyses examining alternative interaction specifications and subgroups of households with extreme information attention or income levels were performed. These supplementary checks consistently confirmed the direction and magnitude of the core effects, demonstrating that the main results are not driven by specific subpopulations or model specifications.

Overall, these robustness tests provide comprehensive evidence that the core conclusions of this study-the significant role of monetary policy communication, the moderating effects of household characteristics, and the interaction between

communication and micro-level features-are stable, reliable, and applicable across different measurement methods, macroeconomic contexts, and institutional settings. The consistency of these results strengthens confidence in the policy implications, particularly the importance of tailored communication strategies and the role of household-level heterogeneity in shaping expectations formation.

4. Conclusion

This paper examines the impact of monetary policy communication on household inflation expectations using cross-country survey data and investigates the heterogeneity in responses across households with different education levels, income levels, and information attention. The analysis demonstrates that these micro-level characteristics significantly influence the accuracy and responsiveness of households to policy communication. High-income and highly educated households are better able to interpret policy signals and form rational expectations about future inflation trends, whereas low-income and low-education households are more susceptible to short-term price shocks and tend to generate excessively high inflation expectations. Similarly, households with greater attention to economic news and central bank statements adjust their expectations more accurately, highlighting the role of information access in shaping expectation formation.

The findings underscore that central bank communication is not equally effective across all household groups. By increasing the frequency, clarity, and accessibility of policy statements, central banks can reduce bias in household inflation expectations, enhance policy transparency, and strengthen credibility. This confirms the critical role of "expectation guidance" in the contemporary monetary policy framework, where managing public perception is as important as traditional policy tools. Moreover, the study reveals that the heterogeneity in household responses implies that a uniform communication approach may be insufficient to anchor expectations optimally. Tailored communication strategies targeting specific household groups-such as providing simplified explanations for lower-income households or leveraging digital media for younger and more connected populations-may enhance the overall effectiveness of monetary policy transmission.

Beyond the immediate policy implications, the research contributes to the broader literature by highlighting the interaction between household characteristics and policy communication in a cross-country context. The evidence suggests that education, income, and information attention function as moderating factors that shape the extent and speed of expectations adjustment. Recognizing these differences allows policymakers to design more precise, inclusive, and credible communication strategies, thereby improving the alignment between public expectations and central bank objectives.

Future research could extend this study in several directions. First, investigating the role of digital media platforms and social networks in amplifying or distorting policy signals may offer insights into how communication strategies can adapt to a rapidly evolving information environment. Second, exploring the differentiated effects of communication strategies under varying institutional and regulatory frameworks across countries could shed light on the interaction between macro-level governance and micro-level household behavior. Third, longitudinal studies tracking households over time could provide a deeper understanding of how experience, learning, and repeated exposure to policy messages influence expectation formation and adjustment.

In conclusion, monetary policy communication is not only a mechanism for conveying information but also a fundamental tool for shaping public trust and guiding expectations. The heterogeneous responses observed across households emphasize the necessity for nuanced and targeted communication strategies, which are critical for achieving effective expectation management and enhancing the credibility of modern monetary policy frameworks.

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