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November 14, 2022

2022RWP-205

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# PARTISAN BIAS IN INFLATION BELIEFS: NEW EVIDENCE FROM KOREA<sup>\*</sup>

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November 14, 2022

## ABSTRACT

Does partisanship affect household inflation beliefs? This paper answers this question using new online survey data of South Korea, which was run between the presidential election in March 2022 and the presidential inauguration in May 2022, during which participants experienced a regime change. We find that (1) partisan bias affects both inflation expectations and perceived inflation in the past year but (2) self-reported financial literacy mitigates the bias.

*JEL classification:* E32, I31

*Keywords:* Inflation expectations, partisan bias, household survey, Blinder-Oaxaca decomposition

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<sup>\*</sup>We acknowledge the financial support from Yonsei University and Yongwoon Scholarship Foundation (Yonsei-Yongwoon Research Grant No. 2021-11-0410). Any errors are the authors' responsibility.

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# 1 INTRODUCTION

Understanding the formation of inflation expectations is critical in macroeconomics because inflation expectations play a key role in many macroeconomic models (e.g., Fisher equation, Philips curve, Taylor rule, etc). A notable feature is that expectation formation can be affected substantially by political attitudes. For example, Gerber and Huber (2010), Gillitzer et al. (2021), and Mian et al. (2021) document partisan bias in expectations about the economic outcomes among US households.<sup>1</sup> This paper aims to broaden our understanding of how partisan bias affects inflation expectations by conducting a novel household survey (henceforth, the Yonsei-Yongwoon Survey) in South Korea.

Two waves of the Yonsei-Yongwoon survey are used for our analysis. Each wave has 10,000 and 2,000 respondents, respectively, which are representative of the South Korean population. Importantly, the second survey was run in April 2022, which was between the presidential election (March 2022) and the presidential inauguration (May 2022). The outgoing president was from a left-wing party (the Minjoo Party of Korea), while the incoming president was from a right-wing party (People Power Party). The fact that the new government was yet to rule during the survey period, i.e., in the absence of actual economic outcomes of the new government, provides us with clear identification of the effect of partisan bias on the views of the economy. Exploiting the ideal timing, we aim to answer whether partisan bias affects (1) knowledge/information on the pre-determined economic outcomes (e.g., current and last years' inflation) and (2) expectations on the future (inflation expectations).

We find strong evidence that partisan bias affects the economic perceptions and expectations of South Korean households. First, a respondent inclined to the right-wing tends to report last year and the current inflation rate, the economic outcome of the previous government, to be higher than those with a left-wing stance. Interestingly, the same right-wing person tends to make lower three-year-ahead inflation expectations, the economic outcome of the incoming government, than a left-wing person. Such a stark reversal of inflation beliefs speaks to the existence of partisan bias.

Moreover, we document that self-reported financial literacy mitigates the bias; the more the survey participant considers him- or herself financially literate, the smaller the partisan bias in expected inflation three years ahead as well as the last year's inflation rate. However, we do not find similar effects on education level.

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<sup>1</sup>Gillitzer et al. (2021) finds partisan bias in inflation expectations among Australian households as well.

Thus, we make two main contributions to the literature: First, we provide well-identified evidence on the partisan bias in inflation beliefs outside the United States, and first evidence from Asian countries. Second, we unveil the role of financial literacy as an alleviation of the bias, which is a novel finding and has implications for further research on how to combat the bias.

## 2 DATA

We ran two waves of the Yonsei-Yongwoon survey in February and April of 2022. Surveys were conducted online with participants recruited by a survey research firm, Embrain, located in South Korea. In the first wave, 10,000 participants that represent the population of South Korea reported (1) their demographic characteristics, such as age, gender, household income, education level, and employment status, and (2) personal traits, such as media preference, risk aversion, personality, political attitudes, policy interests, usage of social media. Table 1 provides the summary statistics of several variables of interest. As the interval between the two waves was two months, we confidently assume these characteristics did not change over time.

In the second wave, 2,000 participants were randomly selected from the participants of the first wave (and again represent the population of Korea) and asked to answer their purchase history and purchase plan as well as various macroeconomic perceptions, including inflation expectations. The second wave in April 2022 was between the presidential election (March 2022) and the presidential inauguration (May 2022), the best time to capture both evaluations of the outgoing president (Moon Jae-in from the left-wing party) and the expectation for the incoming president (Yoon Seok-yeol from the right-wing party).

In particular, participants were asked what they thought inflation last year was in the first wave of the survey.<sup>2</sup> And then in the second wave, they reported what they thought current inflation was and what they expected inflation in one and three years to be. The mean and standard deviation of perception about inflation last year are 4.82% and 2.79% respectively. Considering that the actual CPI inflation rate in 2021 is 2.5%, people perceive inflation as almost twice as high, which is consistent with the finding in the literature that households tend to overestimate actual inflation (e.g., Axelrod et al. (2018); and Abildgren and Kuchler (2021)).

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<sup>2</sup>Questions in the survey are provided in the Online Appendix A.

Table 1: Summary statistics of selected variables

	Mean	SD	Obs.
Female	0.492	0.5	2000
Age	45.154	13.147	2000
Household income (10,000 won)	472.11	225.42	1923
College or more	0.774	0.418	2000
Right-wing	-0.063	0.743	2000
Financial literacy	-0.041	0.926	2000

The mean of perceptions about current inflation and one- and three-year-ahead inflation expectations are 8.11%, 5.98%, and 6.85%, respectively. These are much higher than responses of perceptions about inflation last year, which shows that participants were recognizing the rising inflation of the time. The standard deviation of these responses is 6.30%, 6.19%, and 6.49%, which are also higher than that of the inflation last year. This can be rationalized by a positive relationship between the level and volatility of inflation as well as increasing uncertainty over forecasting horizons.<sup>3</sup> Figures 1 and 2 illustrate the distribution of households' perceptions about current inflation and three-year-ahead inflation expectations, respectively.

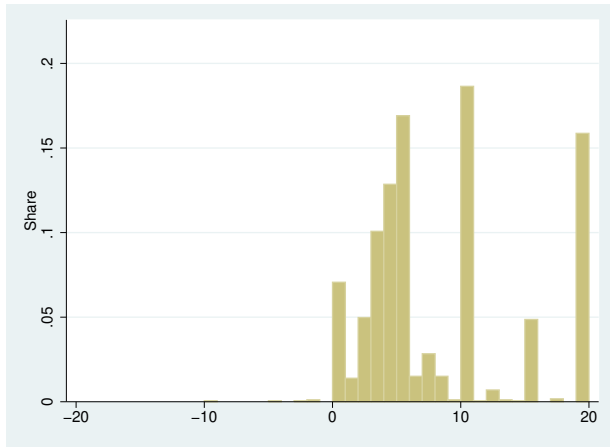


Figure 1: Households' beliefs about current inflation

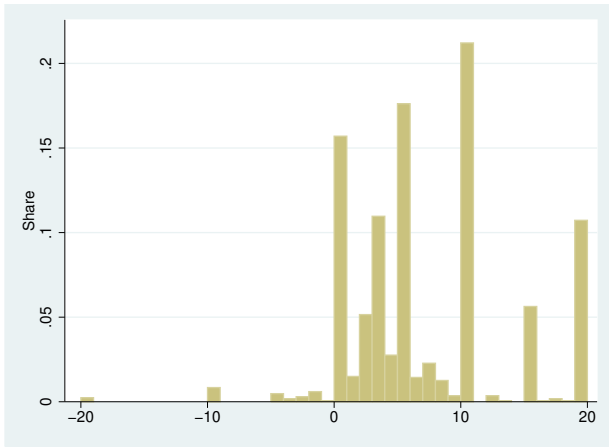


Figure 2: Households' beliefs about inflation in 3 years

<sup>3</sup>One caveat is that the ranges available for the responses differ between the survey waves (as 0~10 for inflation last year in the first wave and -20~20 for the others in the second wave).

### 3 EMPIRICAL ANALYSIS

**3.1 MAIN ANALYSIS** To investigate how partisanship shapes inflation perceptions and expectations, we consider the following regression model:

$$y_i = \alpha + \beta \times \text{right-wing}_i + \boldsymbol{\psi} \mathbf{X}_i + \epsilon_i \tag{3.1}$$

where  $y_i$  represents inflation perceptions (beliefs about inflation last year and current inflation) or expected inflation after one and three years of the respondent  $i$ ;  $\text{right-wing}_i$  is a political ideology and is evaluated on -2 to 2 scale (left; center-left; center; center-right; right).  $\mathbf{X}_i$  is a vector of individual characteristics that can potentially affect inflation expectations including gender, age, employment status, and household income,<sup>4</sup> city of residence, education years, saving rate, dummy variables indicating whether one lives alone/with mother/with father/with children, and the extent to which one is familiar with financial terminology.<sup>5</sup>

Given that responses are collected within a limited range, we estimate Equation (3.1) with the Tobit model, which is suitable when a dependent variable is censored.

Table 2: Effect of partisanship on inflation perceptions and expectations

	(1)	(2)	(3)	(4)
	last year	current	in 1 year	in 3 years
Right-wing	0.419*** (0.149)	0.788*** (0.230)	0.010 (0.222)	-0.461** (0.234)
Controls for demographics	Yes	Yes	Yes	Yes
Observations	804	1,527	1,556	1,488

Note: Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 2 documents estimated  $\beta$  for the perception and expectation of inflation at each horizon. Interestingly, a more right-wing (or less left-wing) person tends to perceive inflation last year as 0.42% points higher and current inflation as 0.79% points higher (first and second column), showing that there

<sup>4</sup>We removed apparent outliers from the regression for those who reported annual, not monthly income.

<sup>5</sup>The choice of covariates is motivated by existing studies in the literature on inflation expectations and individual characteristics. For example, Easaw et al. (2013) document that inflation expectations decrease with age and education levels, while they are higher for women than men. D’Acunto et al. (2021) find that the grocery shopping experience makes women have persistently higher inflation expectations than men. Malmendier and Nagel (2016) document that learning from experience (i.e., age) that is overweighting the inflation experienced during one’s own lifetime exists in the Michigan Consumer survey.

is a partisan bias even on the retroactive variables. When the survey was conducted, the left-wing party was still in power, suggesting that left-wingers recognize inflation as lower than right-wingers during periods of the government they support. In terms of Bordalo et al. (2016), our finding indicates that households' stereotype for low (high) inflation is a high (low) quality leader in Korea.

Then, is there partisan bias in inflation expectations, too? Columns (3) and (4) in Table 2 indicate that the bias exists, but only in the inflation expectations in 3 years. A small and statistically insignificant partisan effect on one-year inflation expectations may be because households understand that one year is too short for the incoming government to exhibit any dramatic change in economic outcomes. However, right-wingers expect lower inflation than left-wingers over a three-year horizon during which the new president they support governs.

This is a unique finding that is not apparent in Gillitzer et al. (2021) nor Mian et al. (2021). In both studies, they observed a vivid partisan bias in one-year inflation expectations, and neither of them measured the inflation expectations over a three-year horizon.<sup>6</sup> Our finding suggests that even though households with different political attitudes may agree on the state of the economy right after the regime change, they may disagree over the longer horizon. All of our results are robust to employing an OLS regression instead.

**3.2 DISCUSSION 1: BLINDER-OAXACA DECOMPOSITION** Following Bachmann et al. (2021), we employ Blinder-Oaxaca decomposition to quantify the extent to which political ideology affects inflation perceptions and expectations. By dividing the difference in the mean of inflation perceptions and expectations of right-wingers and left-wingers into (1) the portion that can be explained by individual characteristics and (2) the component that cannot, we argue that the unexplained part can be attributed to partisan bias. In particular, we consider the following decomposition:

$$\begin{aligned}
\bar{Y}_{\text{right}} - \bar{Y}_{\text{left}} &= \hat{\beta}_{\text{right}} \bar{X}_{\text{right}} - \hat{\beta}_{\text{left}} \bar{X}_{\text{left}} \\
&= \hat{\beta}_{\text{right}} \bar{X}_{\text{right}} + \hat{\beta}^* \bar{X}_{\text{right}} - \hat{\beta}^* \bar{X}_{\text{right}} - \hat{\beta}_{\text{left}} \bar{X}_{\text{left}} + \hat{\beta}^* \bar{X}_{\text{left}} - \hat{\beta}^* \bar{X}_{\text{left}} \\
&= \underbrace{\hat{\beta}^* (\bar{X}_{\text{right}} - \bar{X}_{\text{left}})}_{\text{Explained}} + \underbrace{(\hat{\beta}_{\text{right}} - \hat{\beta}^*) \bar{X}_{\text{right}} + (\hat{\beta}^* - \hat{\beta}_{\text{left}}) \bar{X}_{\text{left}}}_{\text{Unexplained (political ideology)}}
\end{aligned} \tag{3.2}$$

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<sup>6</sup>Gillitzer et al. (2021) includes long-term (5-10 years) inflation expectations from the Michigan Survey of Consumers in their analysis.

where  $\bar{Y}_{\text{right}}$  and  $\bar{Y}_{\text{left}}$  denote average inflation perception of those who are right-wingers and left-wingers respectively;  $\bar{\mathbf{X}}_{\text{right}}$  and  $\bar{\mathbf{X}}_{\text{left}}$  denote vector of average individual characteristics of each group;  $\hat{\beta}_{\text{right}}$ ,  $\hat{\beta}_{\text{left}}$ , and  $\hat{\beta}^*$  denote vector of estimated coefficients from the regression for people who are right-wingers, left-wingers, and either of the two respectively.

Table 3: Results of Blinder-Oaxaca decomposition

	(1)	(2)	(3)
	All	last year & current	in 1 & 3 year(s)
Right-wingers	6.166*** (0.174)	7.018*** (0.245)	5.496*** (0.227)
Left-wingers	6.160*** (0.138)	6.074*** (0.187)	6.227*** (0.197)
Difference	0.006 (0.219)	0.944*** (0.305)	-0.731*** (0.277)
Explained (demographics)	-0.137 (0.093)	-0.044 (0.158)	-0.206* (0.125)
Unexplained (political ideology)	0.144 (0.219)	0.988*** (0.288)	-0.524* (0.284)
Observations	2,607	1,147	1,460

Bootstrapped standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3 summarizes the results of a twofold pooled Blinder-Oaxaca decomposition analysis. Standard errors are obtained using 500 bootstraps. The first and second rows show the means of perceptions and expectations about inflation made by right-wingers and left-wingers, respectively; the third row displays the difference between the two. For inflation last year and current inflation, right-wingers' perceptions are 0.94% points higher than left-wingers'. However, right-wingers' inflation expectations in one and three years are 0.73% points lower than left-wingers'. The fourth row illustrates the parts of the differential that can be explained by individual characteristics, and the fifth row documents the remaining unexplained part, which is attributable to political ideology. Political ideology yields upward bias amounting to 0.99% points in right-wingers' perceptions about inflation under the left-wing government and 0.52% points in left-wingers' expectations about inflation under the right-wing government.

**3.3 DISCUSSION 2: EFFECT OF FINANCIAL LITERACY** Given the evidence on partisan bias in inflation beliefs, we ask whether there is any way to alleviate the bias. Professional forecasters seem not to display



partisan bias (Gillitzer et al. (2021)), and having more information can reduce partisan bias (Anduiza et al. (2013); Carlson (2016); Robbett and Matthews (2018); Matthews and Pickup (2019)). Similarly, financial literacy might mitigate partisan bias by providing more accurate information about the state of the economy. We check this argument by running the same regression as before but adding an interaction term as follows:

$$y_i = \alpha + \beta \times \text{right-wing}_i + \gamma \times (\text{right-wing}_i \times \text{Financial Literacy}_i) + \delta \times \text{Financial Literacy}_i + \psi \mathbf{X}_i + \epsilon_i \quad (3.3)$$

where Financial Literacy<sub>*i*</sub> is the response of individual *i* on whether one can understand basic financial terminology without searching. The responses are on a -2 (strongly disagree) to 2 (strongly agree) scale.

Table 4 shows the results. We find that financial literacy does ameliorate partisan bias. The interaction coefficient has a negative value of -0.27% points in the first column and a positive value of 0.60% points in the fourth column. This implies that the higher level of financial literacy, the smaller the partisan bias in inflation perceptions. However, in the case of the perception of current inflation, financial literacy does not alleviate partisan bias. Also, we do not observe a similar effect when we consider education level instead of financial literacy.<sup>7</sup>

Table 4: Effect of financial literacy on partisan bias

	(1)	(2)	(3)	(4)
	last year	current	in 1 year	in 3 years
Right-wing	0.479*** (0.150)	0.771*** (0.231)	-0.010 (0.220)	-0.497** (0.232)
Right-wing x Financial Literacy	-0.271* (0.162)	0.220 (0.235)	0.416 (0.265)	0.600** (0.266)
Financial Literacy	-0.268** (0.129)	-0.298 (0.202)	-0.328* (0.196)	-0.286 (0.209)
Controls for demographics	Yes	Yes	Yes	Yes
Observations	804	1,527	1,556	1,488

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

<sup>7</sup>The results are provided in the Online Appendix B.

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## A ONLINE APPENDIX. TRANSLATED SURVEY QUESTIONS

The following questions are asked in the survey.

### A. First Wave (February 2022)

Q. What was the inflation rate in South Korea last year (2021)?

- 1) Inflation rate last year (2021): (%)
- 2) Do not know

Q. How much do you agree with the following statement?: I can understand financial terminology without searching.

Strongly agree  Agree  Neutral  Disagree  Strongly disagree

Q. Where do you think you are in the left - right political spectrum?

Left  Center-left  Center  Center-right  Right

### B. Second Wave (April 2022)

Q. The current level of prices in South Korea relative to a year ago...

- 1) Increased by (%)
- 2) Stays about the same
- 3) Decreased by (%)
- 4) Do not know

Q. The level of prices over the next 12 months in South Korea relative to now will...

- 1) Increase by (%)
- 2) Stay about the same
- 2) Decrease by (%)
- 4) Do not know

Q. The level of prices over the next 3 years in South Korea relative to now will...

- 1) Increase by (%)
- 2) Stay about the same
- 2) Decrease by (%)
- 4) Do not know

## B ONLINE APPENDIX. EFFECT OF YEARS OF EDUCATION ON PARTISAN BIAS

Table B.1: Effect of years of education on partisan bias

	(1)	(2)	(3)	(4)
	last year	current	in 1 year	in 3 years
Right-wing	0.387**	0.789***	-0.004	-0.473**
	(0.151)	(0.230)	(0.223)	(0.234)
Right-wing x Years of education	0.150**	-0.007	0.112	0.097
	(0.075)	(0.109)	(0.110)	(0.107)
Years of education	-0.123**	-0.080	-0.044	-0.128
	(0.062)	(0.098)	(0.096)	(0.097)
Controls for demographics	Yes	Yes	Yes	Yes
Observations	804	1,527	1,556	1,488

Note: Years of education are demeaned. Robust standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1