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How Do Households' View on Inflation Expectations Affect Their Consumption Decisions?

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Abstract

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This study explores how households perceive future price changes and the subsequent impact of these perceptions on their consumption decisions. Using data from the Bangko Sentral ng Pilipinas Consumer Expectations Survey covering the period Q1 2010 to Q1 2024, the empirical results reveal that expectations of higher prices prompt households to increase their planned consumption in the near-term, particularly of essential goods. Moreover, when inflation expectations reach 5 percent or higher, a greater proportion of households express their intention to boost their consumption expenditures. The study also examines the potential impact of economic shocks. Households' inflation expectations tend to increase with rising international prices for oil and rice and decrease in response to higher policy rates and currency appreciation. Consequently, household consumption in the near term declines with an increase in policy rates but rises with higher international prices of oil and rice and a depreciation of the Philippine peso. Following an oil price shock, the probability of households purchasing durable goods within the next 12 months rises. These findings underscore the significant effects of economic shocks on inflation expectations and household consumption.

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I. Introduction

Inflation expectations are believed to influence households' consumption decisions. Anticipations of higher prices lower households' perception of current real interest rates, potentially persuading them to increase their spending. This construct, known as the intertemporal substitution, is central to many macroeconomic models. For monetary policy, this notion suggests a channel through which inflation expectations can impact economic activity through household consumption and spending.

Nonetheless, the formation of household inflation expectations and their influence on economic decisions remain subjects of inquiry and debate. We explore these issues using results from the Bangko Sentral ng Pilipinas (BSP) Consumer Expectations Survey (CES) covering the period Q1 2010 to Q1 2024. Our analysis focuses on how Filipino households perceive future price changes and how these assessments affect their consumption decisions. We adopt the methodology of Andrade et al. (2023), distinguishing between households' qualitative perception and quantitative assessment of future inflation movements. The qualitative perception, or the extensive margins, pertains to households' view of whether future inflation will increase, decrease, or remain steady. Meanwhile, the quantitative assessment, or intensive margins, refers to their expected percentage point increase or decrease in inflation.

Our study contributes to the literature in several ways. First, we provide evidence on how households' assessment of inflation expectations varies for different consumption items (e.g., essential goods, non-essential commodities, services, and durable goods) and how these variations influence planned consumption and expenditures. Second, we extend the discussion in this area to include the potential impact of various shocks—such as policy rate changes, exchange rate fluctuations, and commodity price movements—on inflation expectations and, subsequently, on planned consumption expenditures. Last, we present evidence on the differences in the formation of inflation expectations and their effects on household planned consumption between emerging economies, like the Philippines, and advanced economies. Our study reveals that a significant proportion of Filipino households (96.9 percent) expect prices to rise over the next 12 months, with only a small percentage (2.93 percent) anticipating steady prices. This contrasts with the findings of Andrade et al. (2023), which indicated that many French households expect prices to remain stable rather than increase – a trend also observed in Germany and the United States (US). Such discrepancies lead to varying conclusions regarding the impact of inflation expectations on household economic choices.

Our empirical results indicate that expectations of higher prices lead households to increase their planned consumption, particularly of essential commodities, such as food, non-alcoholic beverages, fuel, light, and electricity in the near-term. An increasing number of households plan to raise their consumption expenditures as their inflation expectations rise. Moreover, the planned expenditure for a given commodity is more responsive to its expected price changes than the overall household inflation expectations.

Considering the potential effects of economic shocks, we find that households' inflation expectations rise with increases in international benchmark prices for oil and rice but decline in response to a higher policy rate and an appreciation of the

Philippine peso. Expectations are markedly sensitive to fluctuations in oil prices and currency appreciation. Simulation results signify that a policy rate increase will likely deter households from increasing consumption across most commodities. On the contrary, rising international prices of oil and rice prompt households to expand their near-term consumption, as they anticipate higher future inflation. Following an oil price shock, the likelihood of households purchasing durable goods within the next 12 months rises. A depreciation of the Philippine peso also significantly raises the average likelihood of increased consumption across various goods in the next quarter.

The paper is organized as follows: The next section gives a brief survey of related literature. The third section describes the data used in our analysis. The fourth section presents stylized facts and observations regarding inflation expectations and household consumption. The fifth section discusses our methodological approach. The sixth section presents the empirical results and analysis. The seventh section discusses policy implications. The final section summarizes our findings.

II. Literature Review

The empirical evidence on the relationship between household inflation expectations and consumption presents mixed results. Some studies support the idea that higher inflation expectations positively influence readiness to spend (D'Acunto et al., 2023; Duca-Radu et al., 2021) and actual spending in qualitative terms (Dräger & Nghiem, 2021; Ichiue & Nishiguchi, 2015). On the contrary, other research indicates either a weak stimulating effect of inflation expectations on consumption (Burke & Ozdagli, 2023) or an insignificant and negative relationship (Coibion et al., 2023; Binder, 2017; Bachmann et al., 2015). Burke and Ozdagli (2023) found no evidence that consumers increase spending on large durable goods in response to rising inflation expectations. Instead, they observed that household characteristics and macroeconomic conditions have a greater influence on spending behavior than inflation expectations alone.

Crump et al. (2022) underscored the importance of distinguishing between different types of spending. They noted that while durable goods spending may increase with inflation expectations among certain demographics (e.g., households with higher education), nondurable goods spending showed little to no response. Hogen and Okuma (2018) observed similar findings, noting that the effects of inflation expectations on consumption are often contingent upon individual household circumstances.

Recent literature emphasizes the role of balance sheet factors in moderating the relationship between inflation expectations and consumption. Vellekoop and Wiederholt (2019) posit that households with higher financial assets are more likely to display a stronger positive reaction to increased inflation expectations in their spending decisions. This implies that liquidity constraints and overall financial health significantly affect how households respond to inflationary signals.

Another body of literature looks at the roles of perceptions, behavioral preferences, cognitive biases, and financial frictions to explain the heterogeneity in household consumption responses to inflation expectations (Montag, 2024; D'Acunto et al., 2019a, 2019b, 2023; Georganas et al., 2014).

Research contributions in this area underscores the complexity of the relationship between household inflation expectations and consumption decisions. They put emphasis on the need for a nuanced understanding of how various factors – from individual perceptions to broader economic conditions – interact to shape consumer decisions amid changing inflation expectations. Our study considers these factors as we analyze the influence of households' inflation expectations on their planned consumption. We discuss the data we used in our analysis in the next section.

III. Consumer Expectations Survey

We used the BSP Consumer Expectations Survey (CES) as our main data source. The BSP CES is a quarterly survey of approximately 5,000 randomly sampled households in the Philippines.[1,2] The survey serves as a tool for the BSP to assess consumer and household sentiment. It was first officially conducted in Q4 2004, initially including only a sample of households in the National Capital Region (NCR). The sample was eventually expanded to cover the entire country starting in Q1 2007.[3]

The survey consists of five sections designed to capture households' assessment of their current economic and financial conditions, as well as their expectations over the next quarter and the following year.[4] It includes questions regarding households' buying intentions and saving outlook. Households are also asked to provide their outlook for the country's macroeconomic performance. The demographic and economic characteristics of households are collected in a section of the survey.

III.A. Inflation Expectations

The BSP CES gathers information about households' qualitative and quantitative perceptions of price changes for specific commodities over the next 12 months. Following the approach of Andrade et al. (2023), we differentiate between these two assessments to evaluate their relative influence on households' inflation expectations and, subsequently, on their consumption decisions.

For the qualitative assessment, households respond to the question: "*What do you think would happen to the prices of the following goods and services in the next 12 months?"* They can choose from three possible responses: "go up," "go down," or "no change." If households indicate that prices will either increase or decrease, they are subsequently asked to quantify their responses with the question, *"How much in percent?"* Households that anticipate no price change are not required to

[1] The BSP CES adopts the sampling design of the Labor Force Survey of the Philippine Statistics Authority (PSA). The CES sample was drawn from the PSA's master sample for household surveys, which is considered a representative sample of households nationwide. The sample households were generated using a stratified multi-stage probability sampling scheme.

[2] Several central banks also conduct surveys to gauge consumers' inflation expectations, including the Bank of England, Bank of Canada, European Central Bank, Federal Reserve of New York, Bank of Japan, Bank Indonesia, and the Reserve Bank of India, among others.

[3] From an initial sample survey of 3,039 households in the NCR, the quarterly CES now covers approximately 5,000 sample households, equally allocated at about 2,500 households for each geographical area (i.e., NCR and areas outside NCR).

[4] Philippine Statistics Authority & Bangko Sentral ng Pilipinas. (2024). *Consumer Expectations Survey July 2024* [Questionnaire]. https://www.bsp.gov.ph/Media_And_Research/ConsumerExpectationsSurvey/BSP_CES_Questionnaire.pdf

provide a quantitative assessment, and their expected inflation rate is set at zero percent.

Since 2010, the CES has included expected inflation for the next 12 months for 14 major Consumer Price Index (CPI) commodity items. This coverage has expanded over the years, reaching 24 commodities by 2022, collectively accounting for 98.3 percent of the country's CPI basket.

The results from the CES allow the qualitative and quantitative assessment of inflation expectations for various commodities that comprise the CPI basket. This enables us to determine which commodities contribute more to changes in inflation expectations, making the analysis in this study broader and more detailed relative to previous studies.

III.B. Consumption Expenditures

Households were asked about their expected expenditures for selected commodities in the next quarter with the question, *"In the next quarter, what do you think would be the expenditures of your family on the following?"* They signify whether they anticipate their expenditures to increase, decrease, or stay the same. The results from this section enable us to connect households' inflation expectations with their planned expenditures for specific commodities.

IV. Stylized Facts on Inflation Expectations and Planned Expenditures

In this section, we present stylized facts regarding the sources of variation in households' inflation expectations and how these changes affect the planned expenditures of households for selected commodities.

IV.A. Stylized Fact 1: Households tend to overpredict inflation.

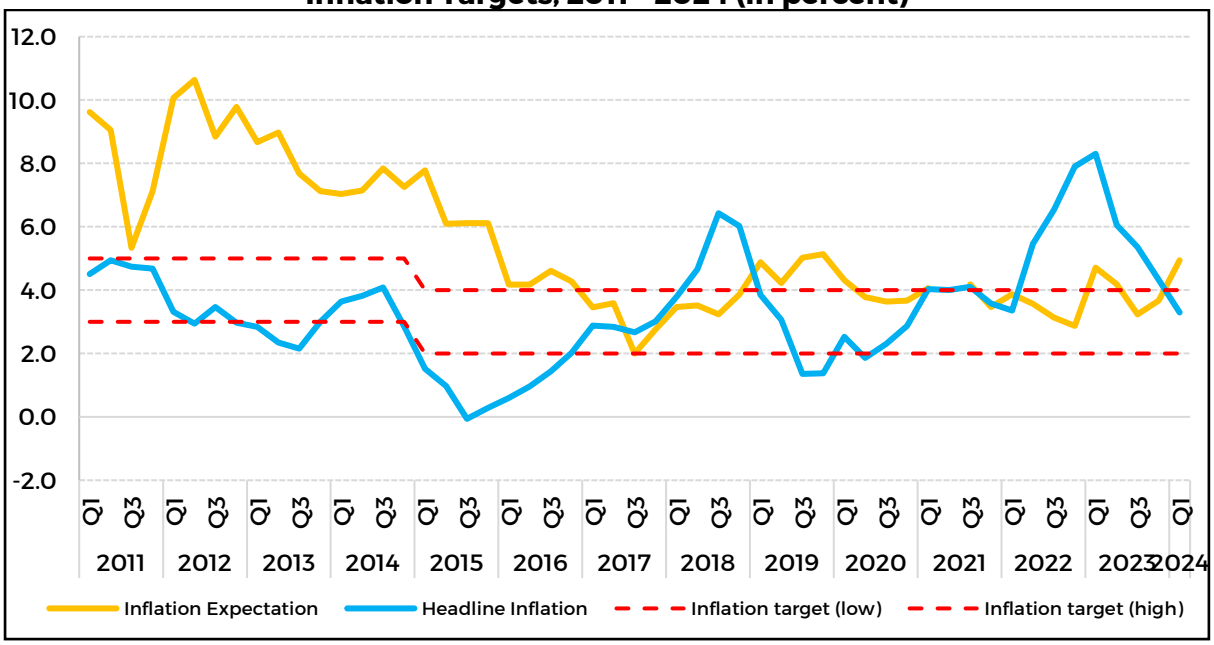
Figure 1 plots the quarterly inflation rate and survey-based household inflation expectations from Q1 2010 to Q1 2024, along with the upper and lower bounds of the national government's inflation target for the same period.

From Q1 2011 to Q4 2015, household inflation expectations averaged 4.96 percent higher than actual inflation. Previous studies analyzing the expectations results of the BSP CES have similarly noted that households tend to overpredict inflation (Cacnio & Basilio, 2022; Bank for International Settlements, 2016). However, starting in 2016, the gap between actual inflation and expected inflation significantly narrowed, contracting to an average of just 0.15 percent (*Figure 1*).

The tapering of the difference between inflation and price expectations coincided with a downward trend in the latter. Beginning in 2015, households' inflation expectations declined and aligned more closely with actual inflation and the BSP's inflation target (*Figure 1*). In the aftermath of the Global Financial Crisis (GFC), the Philippines experienced robust economic growth that was broad-based and resilient to shocks. Aggregate demand increased, while inflation remained low and stable. Basilio and Cacnio (2020) observed that positive inflation trends over the past two decades have led to a lesser frequency of commodity price changes

and a lengthening duration between price adjustments in the country. These developments have contributed to lower inflation expectations among households.

Figure 1. Year-on-year Headline Inflation Rate, Inflation Expectations, and Inflation Targets, 2011 – 2024 (in percent)



Sources of basic data: Philippine Statistics Authority; Bangko Sentral ng Pilipinas

In the Consumer Expectations Survey, households are asked about their expected inflation for the next four quarters. The graph plots these inflation expectations contemporaneously with the actual headline inflation rate of the corresponding quarter. For example, the inflation expectation for Q1 2011 is shown with the actual inflation rate of Q1 2012.

From Q1 2010 to Q4 2012, only 14 Consumer Price Index items were included in the calculation for inflation expectations. This increased to 18 items from Q1 2013 to Q4 2014, 19 items in 2015, 21 items from Q1 2016 to Q1 2022, and 24 items from Q2 2022 onward.

IV.B. Stylized Fact 2: A sizeable proportion of households expects prices to increase.

Most households expect prices to rise over the next 12 months, with 96.9 percent anticipating an increase and only a small percentage (2.93 percent) expecting prices to remain stable. This contrasts with the findings of Andrade et al. (2023), which indicate that a significant share of French households expects prices to remain stable rather than increase—a trend also seen in Germany and the US. The observed difference may be attributed to the Philippines experiencing relative higher and more volatile inflation compared to developed economies. Moreover, the findings suggest that Filipino households perceive inflation to be persistent, leading them to expect price increases over the next year.

We look at the relationship between household inflation expectations and the prevailing inflation environment at the time these expectations are formed. We define high inflation periods as periods when actual inflation exceeds the upper bound of the inflation target, while low inflation periods refer to times when headline inflation falls below the lower bound of the target. During high inflation periods, households expect prices to rise by an average of 4.73 percent (*Table 1*). Meanwhile, in low inflation periods, households expect an average price increase of 5.06 percent. Households' average expected inflation is even higher at 6.09 percent when headline inflation is within the target range. This trend is driven

by a larger number of households expecting price increases for commodities with greater CPI weights when headline inflation is within the target, compared to low and high inflation periods (*Figure 2*).[5] Our results suggest that households may expect a reversal in the inflation environment over the next 12 months while tending to overpredict inflation above the target rate.

Table 1 shows households' inflation expectations classified by demographic groups. Low-income households generally expect higher inflation rates than other households. Female household heads and those with only elementary education also form higher inflation expectations. Meanwhile, married individuals tend to have higher inflation expectations compared with singles and those in other categories. The higher inflation expectations among female household heads and married individuals may be linked to their anticipations of greater price increases for commodities that have larger CPI weights such as food, fuel, and utilities. Households in the Visayas and Mindanao regions show higher inflation expectations than those in Luzon, likely due to the higher regional inflation reported in these areas.

Table 1. Inflation Expectations Across Different Characteristics, pooled household data, 2010 – 2024 (in percent)

	Average π^e All (%)	Percent of households with $\pi^e = 0$	Average π^e Non-zero (%)
All	5.52	2.93	5.68
High inflation (> inflation target)	4.73	4.49	4.95
Low inflation (< inflation target)	5.06	2.07	5.16
Within target	6.09	2.67	6.25
Income group			
Low	6.01	3.04	6.20
Middle	5.26	2.66	5.40
High	4.96	3.22	5.12
Gender			
Male	5.39	3.42	5.59
Female	5.60	2.59	5.75
Education			
No grade completed	5.36	6.30	5.72
Elementary	5.72	3.35	5.91
Secondary	5.40	2.88	5.56
Tertiary or higher	5.55	2.61	5.70
Marital status			
Single	5.43	3.37	5.62
Married	5.66	2.69	5.82
Others	5.12	3.34	5.30

[5] The commodities include rice, meat, fish and seafood, clothing, transportation, and light or electricity, comprising about 37.0 percent of the CPI weights used to calculate households' inflation expectations.

Region			
National Capital Region	5.36	2.46	5.50
Cordillera Administrative Region	6.30	4.50	6.59
Region I – Ilocos Region	3.23	4.89	3.40
Region II – Cagayan	4.74	3.12	4.89
Region III – Central Luzon	4.83	6.36	5.15
Region IV-A – CALABARZON	5.61	2.92	5.78
Region IV-B – MIMAROPA	3.43	3.50	3.55
Region V – Bicol Region	7.45	1.52	7.56
Region VI – Western Visayas	6.69	1.39	6.78
Region VII – Central Visayas	6.98	2.75	7.18
Region VIII – Eastern Visayas	6.99	1.06	7.06
Region IX – Zamboanga Peninsula	6.34	3.96	6.61
Region X – Northern Mindanao	5.76	2.12	5.88
Region XI – Davao Region	3.72	8.49	4.07
Region XII – SOCCSKSARGEN	7.35	1.99	7.50
Region XIII – Caraga	6.71	5.35	7.09

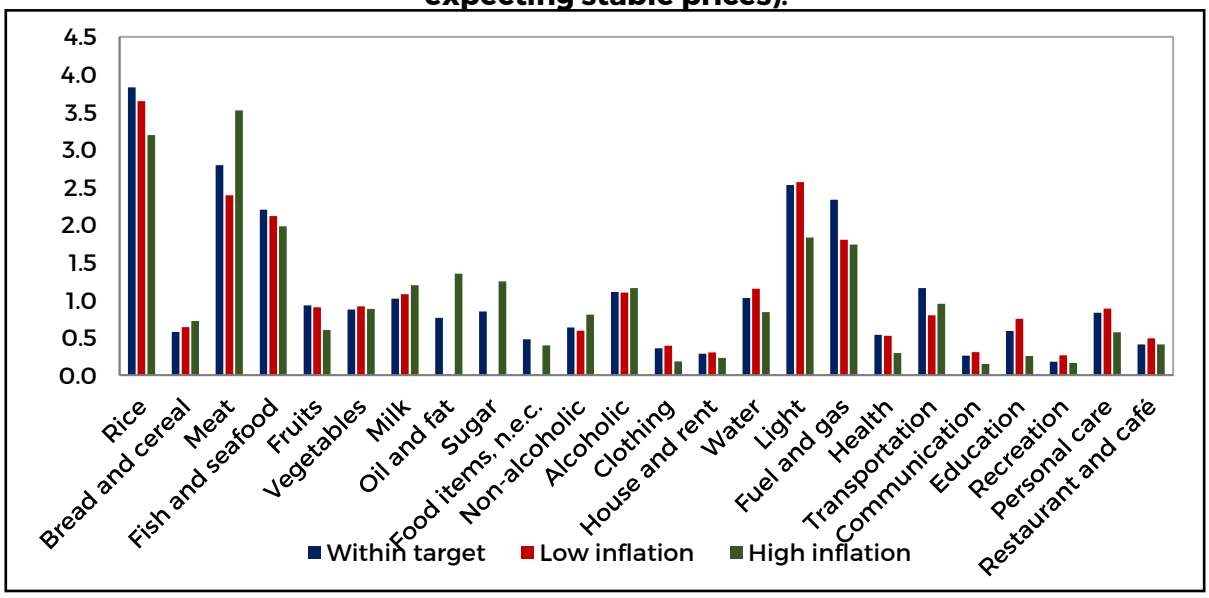
Sources of basic data: Philippine Statistics Authority; Bangko Sentral ng Pilipinas

In the Consumer Expectations Survey, households are asked about their expected inflation for the next four quarters. The first category shows the inflation expectations formed under different inflation environments. The first and third columns show inflation expectations, including and excluding households with zero expected inflation, respectively. The second column refers to the proportion of households reporting zero expected inflation.

High inflation pertains to quarters when the headline inflation rate exceeds the upper-bound target, while low inflation pertains to quarters when the headline inflation rate falls below the lower-bound target.

No observations from the Bangsamoro Autonomous Region in Muslim Mindanao were available for the entire period covered by the study.

Figure 2. Perceived Price Evolution Per Commodity in Different Inflationary Periods (Ratio of households expecting price increases over households expecting stable prices).



Source of basic data: Bangko Sentral ng Pilipinas

n.e.c. – Not elsewhere classified

IV.C. Stylized Fact 3: Quantitative assessment (i.e., intensive margins) of households drive their formation of inflation expectations.

Following Andrade et al. (2023) and Klenow and Kryvtsov (2008), we decompose household inflation expectations into qualitative and quantitative components. The qualitative component refers to the fraction of households with positive inflation expectations, while the quantitative component involves the average expectations among households with positive inflation forecasts (Andrade et al., 2023). We denote these components as the extensive and intensive margins, respectively.

Formally, let $\pi^e_{ht|t+4}$ represent the expected inflation of household h at quarter t for the quarter $t+4$, indicating the expected inflation for the following year. Let $\mathbf{1}_{ht,\pi^e_{ht|t+4}>0} = \mathbf{1}_{ht}$ be an indicator function for the household at quarter t. If the average inflation expectation is calculated as $\pi^e_{t|t+4} = \frac{1}{n_t}\sum_{i=1}^{n_t}\pi^e_{ht|t+4}$, this can be broken down into the following components:

$$\pi^e_{t|t+4} = \left(\frac{1}{n_t}\sum_{i=1}^{n_t}\mathbf{1}_{ht}\right) \times \left(\sum_{i=1}^{n_t}\mathbf{1}_{ht}\right)^{-1}\left(\sum_{i=1}^{n_t}\pi^e_{ht|t+4}\right) = fr_t \times dp^e_{t|t+4}$$

The first-order approximation around the sample mean of the average inflation expectations yields:

$$\pi^e_{t|t+4} - \bar{\pi}^e = \left(fr_t - \overline{fr}\right)\overline{dp}^e + \left(dp^e_{t|t+4} - \overline{dp}^e\right)\overline{fr} + \omega_t \qquad (1)$$

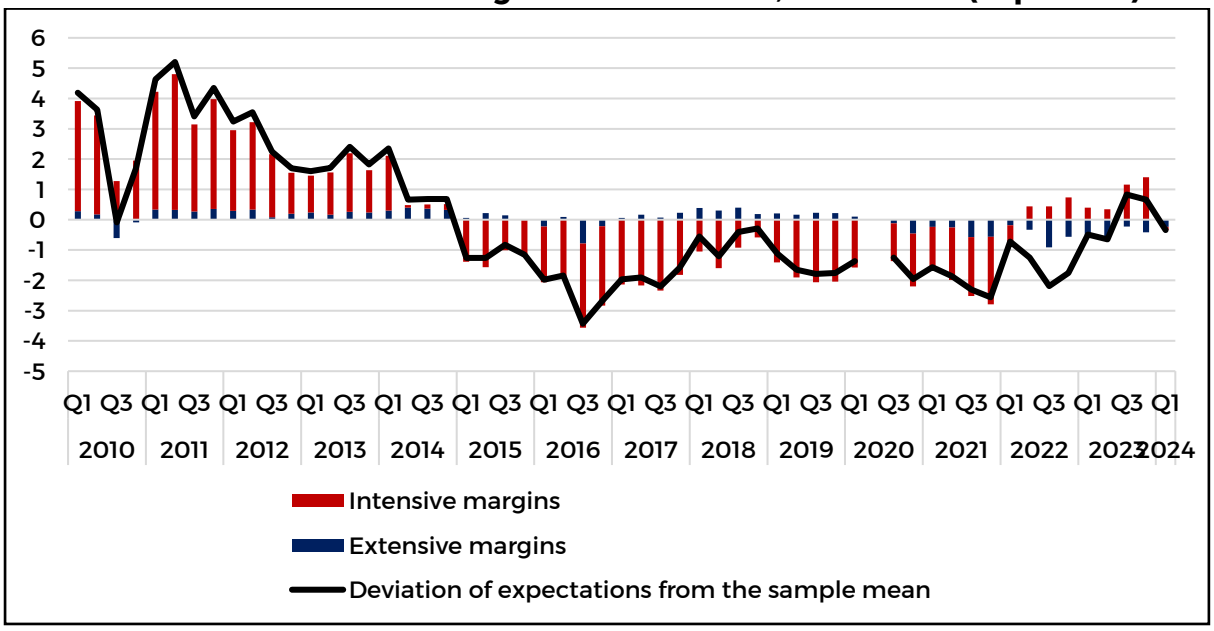
where the first term on the right-hand side corresponds to the extensive margins, while the second term corresponds to the intensive margins of expectations.

Following Andrade et al. (2023), the variation of average expectations across all quarters, $Var(\pi^e_{t|t+4})$, can be decomposed into two: the variation associated with households' quantitative assessments and the variation stemming from their qualitative assessments.

$$Var\left(\pi^e_{t|t+4}\right) = \underbrace{Var\left(dp^e_{t|t+4}\right)\overline{fr}^2}_{intensive} + \underbrace{Var(fr_t)\overline{dp}^{e\,2} + 2cov(fr_t, dp^e_{t|t+4})\overline{dp^e fr}}_{extensive} \qquad (2)$$

Figure 3 plots the decomposition of fluctuations in average inflation expectations between the intensive and extensive margins, based on *Equation 1*. The results show that intensive margins drive the fluctuations in average household inflation expectations between 2010 and 2024.

Figure 3. Decomposition of Aggregate Inflation Expectations Between the Intensive and Extensive Margins of Households, 2010 – 2024 (in percent)



Source of basic data: Bangko Sentral ng Pilipinas

The Consumer Expectations Survey was not conducted in Q2 2020 due to the COVID-19 pandemic.

Table 2 shows the variance decomposition of inflation expectations across various commodities. We note that the intensive margins account for a larger proportion of the variation in price expectations for commodities comprising a significant share of the CPI basket (*Column 3* to *5*). Specifically, commodities marked with higher intensive margins variations, indicated by asterisks, constitute around 33.0 percent of the CPI weights used in calculating inflation expectations. Although the remaining items make up a larger portion of the CPI weights, the influence of the extensive margins variation at the commodity level is diminished. This may be attributed to two factors: (a) some commodities may exhibit substantial variation but account for a smaller share of the CPI weights, or (b) they may have minimal variations but account for a larger share of the CPI weights. The only exception to these patterns is transportation, which displays both a significant extensive margins variation and a sizable share in CPI weights.

Our findings suggest that households' quantitative assessment drives the formation of their expectations. This observation is consistent even at the commodity level.

Table 2. Average Price Expectations and Dispersion Across Households and Variance Decomposition of Price Expectations Across Quarters Per Commodity

Commodity	$\overline{\pi^e_{ht\|t+4}}$	$SD(\pi^e_{ht\|t+4})$	$Var(\pi^e_{t\|t+4})$	Variance	
				Intensive margins	Extensive margins
Rice*	4.7968	7.2426	3.1573	1.7314	0.7632
Bread and cereal	5.6868	12.9452	6.7565	2.0703	4.4818
Meat*	5.1504	7.7869	2.0525	1.2557	0.7304
Fish and seafood*	7.3578	11.0365	5.6386	3.6464	1.5116
Fruits	7.3336	14.2110	13.7525	4.7969	7.7321
Vegetables*	6.9679	14.4855	5.7104	3.4077	2.7833

Milk	5.3059	9.5084	2.4196	1.4818	1.9550
Oil and fat	5.6196	13.5475	1.5327	0.0895	2.1142
Sugar	5.8151	13.3687	0.7361	0.5424	1.4057
Food items, n.e.c.	4.7230	11.8311	0.3817	0.1393	0.1620
Non-alcoholic	4.4272	8.8032	2.9932	1.0251	2.6229
Alcoholic*	4.9550	8.6603	1.9874	1.8203	0.5856
Clothing	3.4126	11.2334	4.6831	1.0946	3.3704
House and rent	3.4415	9.3385	2.2008	0.5937	1.3462
Water*	6.9601	12.4455	5.7267	4.1591	1.3876
Light*	8.5453	12.5490	6.9984	5.1604	2.0280
Fuel and gas	4.9355	9.2884	3.6147	1.6267	1.7911
Health	4.8652	11.7584	7.1808	1.6931	4.9086
Transportation	7.6605	12.9079	11.6879	3.4843	8.0403
Communication	2.7375	9.6033	2.8196	1.0987	1.8483
Education	5.3338	11.9552	8.3945	1.8291	5.4055
Recreation*	1.6552	6.9058	0.4445	0.3059	0.2388
Personal care	5.8196	10.8959	6.0662	2.4160	3.1851
Restaurant and café	3.9300	9.7115	2.0859	1.0856	1.1022

Source of basic data: Bangko Sentral ng Pilipinas

The first two columns show the average and standard deviation of price expectations across households. The succeeding columns show the variation of price expectations across quarters.

Intensive margins variance refers to the variance associated with households' quantitative assessment of the selected commodity, while extensive margins variance pertains to the variance associated with their qualitative assessment.
The variances from the intensive and extensive margins do not sum up to the variance of price expectations across quarters.

IV.D. Stylized Fact 4: Households base their consumption decisions on quantitative assessments of price changes rather than on qualitative perceptions.

Table 3 presents the planned expenditure of households across 15 commodities, considering both the extensive and intensive margins of inflation expectations. Inflation expectations refer to the expectations for the following year formed during the reference quarter, while planned expenditures reflect households' anticipated consumption of commodities in the quarter following the reference period. Our results yield several key observations.

First, expectations of higher prices prompt households to increase their planned consumption of commodity items observed to have inelastic demand. In the extensive margins column, a sizeable number of households intend to spend more on essentials – such as food and non-alcoholic beverages, water utilities, electricity, and fuel – in anticipation of inflation. Expenditures on food and non-alcoholic beverages, as well as electricity, are particularly sensitive to perceived price increases. By contrast, planned expenditures on non-essential items – like house and rent, furnishings, recreation and culture, and communication – do not exhibit an increase in response to higher inflation expectations.

Second, similar trends are observed in the intensive margins column, with an increasing number of households planning to raise their expenditures as their inflation expectations go up. For example, within an inflation expectations range of zero to 3 percent, nearly 1.4 times more households plan to increase their food

consumption. This ratio doubles for inflation expectations between 3.0 percent and 5.0 percent and triples for expectations ranging from 5.0 percent and above. Furthermore, if households forecast inflation to exceed 20.0 percent, a greater number plan to increase their spending across all items, except for recreation and housing, compared with those who intend to maintain their current consumption levels. For all commodities, the ratio of households intending to increase consumption when inflation expectations are between 5.0 percent and 10.0 percent exceeds the ratio of households responding solely to perceived price increases. These findings indicate that Filipino households make consumption decisions based on quantitative price changes rather than mere qualitative perceptions.

Lastly, we evaluate the relationship between households' planned expenditures and expected price changes for specific commodities. *Table 4* presents the intensive and extensive price changes for selected commodities that account for about 37.0 percent of the CPI weights used in calculating inflation expectations. We observe that the proportion of households planning to increase their spending on these commodities, given expected price changes, exceeds those responding to movements in inflation expectations (*Table 3*). This trend holds across all scenarios under the extensive and intensive margins of these commodities' expected price changes. This observation suggests that households' planned expenditures are more responsive to anticipated price changes for specific commodities than to overall inflation expectations. However, given the similarity in household responses to inflation expectations, we conclude that assessing planned expenditures in light of general price changes remains valid. We will systematically explore this trend further in the next section.

Table 3. Planned Expenditures and Inflation Expectations of Households (ratio of increase in planned expenditure to no change in planned expenditure)

Commodity	Perceived price evolution (Extensive)			Perceived price evolution (Intensive)				
	Increase	Stable	Decrease	(0%, 3%]	(3%,5%]	(5%,10%]	(10%,20%]	(20% <)
Food and non-alcoholic beverages	2.242	0.331	0.837	1.381	2.165	3.034	4.096	4.995
Alcoholic beverages	0.565	0.125	0.255	0.358	0.526	0.765	1.311	2.256
Clothing and footwear	0.428	0.120	0.208	0.273	0.348	0.453	0.800	1.425
House and rent	0.201	0.090	0.098	0.130	0.152	0.199	0.318	0.544
House furnishings	0.336	0.089	0.175	0.233	0.294	0.409	0.736	1.493
Water	1.113	0.216	0.538	0.786	1.124	1.327	1.540	1.608
Light	2.260	0.302	0.974	1.447	2.266	2.945	3.776	4.159
Gas and solid fuel	1.353	0.219	0.593	0.822	1.277	1.771	2.399	2.684
Health	0.473	0.140	0.239	0.284	0.365	0.535	0.948	1.670
Transport	0.854	0.154	0.346	0.409	0.671	1.198	2.118	3.098
Communication	0.298	0.088	0.129	0.176	0.231	0.322	0.584	1.026
Education	0.743	0.173	0.407	0.528	0.621	0.804	1.228	1.908
Recreation and culture	0.202	0.071	0.104	0.131	0.167	0.238	0.506	0.917
Hotel and restaurant	0.360	0.094	0.191	0.207	0.285	0.408	0.706	1.034
Personal care and effects	0.734	0.133	0.325	0.422	0.631	0.886	1.493	2.328

Source of basic data: Bangko Sentral ng Pilipinas

Under the intensive margins column, inflation expectations are grouped by ranges, starting from zero percent.

Column (20%, <) pertains to the inflation expectations above 20.0 percent.

Table 4. Planned Expenditures and Commodity Price Expectations of Households (ratio of increase in planned expenditure to no change in planned expenditure)

Commodity	Perceived own price evolution (Extensive)			Perceived own price evolution (Intensive)				
	Increase	Stable	Decrease	(0%, 3%]	(3%, 5%]	(5%, 10%]	(10%, 20%]	(20%, <)
Food and non-alcoholic beverages	2.379	0.436	0.999	1.402	2.072	2.885	3.823	4.772
House and rent	0.643	0.096	0.324	0.698	0.588	0.672	0.671	0.582
Gas and solid fuel	2.241	0.380	0.784	2.106	2.105	2.328	2.443	2.381
Transport	1.895	0.292	0.604	1.363	1.604	1.585	1.914	2.477
Hotel and restaurant	0.984	0.163	0.490	0.717	0.760	1.058	1.062	1.238

Source of basic data: Bangko Sentral ng Pilipinas

Under the intensive margins column, inflation expectations are grouped by ranges, starting from zero percent.

Column (20%, <) pertains to the inflation expectations above 20.0 percent.

The selected commodities comprise about 37.0 percent of the Consumer Price Index weights as of 2018.

The perceived own price evolution for food and non-alcoholic beverages is determined by recalculating food price inflation expectations from Q1 2010 to Q1 2024.

V. Inflation Expectations and Consumption Spending

In this section, we assess how households' inflation expectations influence their spending decisions. Specifically, we investigate the effects of higher inflation expectations on planned consumption of selected commodities, including food, alcohol and tobacco, education, health, fuel, and durable goods. Unlike the studies by Andrade et al. (2023), Burke and Ozdagli (2023), and Ichiue and Nishiguchi (2015), we introduce various shocks that may impact households' inflation expectations and, consequently, their consumption choices.

V.A. Modeling Expectations, Consumer Behavior, and Entry Points of Shocks

We introduce the following shocks into the household inflation expectations: (a) a shock in the BSP's monetary policy stance, (b) a commodity price shock on the international prices of rice and oil, and (3) an exchange rate shock. To do this, we predict the inflation expectations of households $\widehat{\pi^{e}_{ht|t+4}}$ with sets of equations, controlling for various household characteristics and time. The baseline models are run separately.

Monetary policy

We introduce a monetary policy shock through an increase in the BSP's reverse repurchase (RRP) rate RRP_t by 25 basis points (bps) during periods of high inflation. We consider two policy responses from the BSP: (a) an anticipatory response, where the BSP raises policy rates one quarter before the occurrence of an above-target inflation rate; and (b) a reactive response, where the BSP raises policy rates concurrently with the quarter that registered high inflation. We also control for the four lags of headline inflation $\sum_{i=1}^{4}\pi_{t-i}$ as follows:

$$\pi^{e}_{ht|t+4} = \alpha_0 + \alpha_1 RRP_t + \sum_{i=1}^{4}\alpha_{1+i}\pi_{t-i} + Z'\lambda + \delta T + \upsilon_{ht} \qquad (3)$$

where Z is a vector of economic and demographic variables (e.g., gender, age, income group, marital status, educational attainment, current and expected family income) and region-fixed effects, and T are time-fixed effects.

Benchmark commodity prices

Shocks in commodity prices are introduced using data on the average quarterly international prices of oil and rice, specifically the Dubai spot crude oil price and the Thai 5% broken rice price, as benchmarks (Valera et al., 2022; Valera et al., 2024; Bin et al., 2021). We assume that domestic prices for these commodities and their variants move with the benchmark prices. We calculated the year-on-year change of the respective commodity prices.

We specify the inflation expectations as determined by the contemporaneous and the two lags of commodity prices. We run the following equation separately for rice and oil prices:

$$\pi^{e}_{ht|t+4} = \alpha_0 + \sum_{i=1}^{3} \alpha_i CP_{t-i+1} + Z'\lambda + \delta T + \upsilon_{ht} \quad (4)$$

USD-to-PHP exchange rate

The Philippines is among the top remittance-receiving countries globally. Thus, many Filipino households closely monitor exchange rate fluctuations, particularly the USD-to-PHP exchange rate. To evaluate how exchange rates influence household expectations, we use the quarterly average USD-to-PHP exchange rate to capture the most relevant information that households encounter. We then calculate the quarter-on-quarter appreciation or depreciation of the Philippine peso and control for whether or not a household receives remittances.

Similarly, we specify inflation expectations as being determined by the contemporaneous and the two lags of the exchange rate:

$$\pi^{e}_{ht|t+4} = \alpha_0 + \sum_{i=1}^{3} \alpha_i FX_{t-i+1} + Z'\gamma + \delta_1 Remit + \delta_2 (Remit \cdot FX_t) + \delta_3 T + \upsilon_{ht} \quad (5)$$

We use the estimated $\widehat{\alpha_1}$ coefficients from *Equation 3* to *Equation 5* to simulate a change in the predicted value of a household's inflation expectation $\widehat{\pi^{e}_{ht|t+4}}^{*}$, given a change in the RRP rate, the benchmark commodity prices, and the USD-to-PHP exchange rate. Using $\widehat{\pi^{e}_{ht|t+4}}^{*}$, we then assess the changes in the pooled sample's average predicted probability of increasing the consumption of a commodity in quarter k, $\Pr(\widehat{c_{ht|t+k}} = 1)$.

Household planned consumption

A household's decision to increase spending on good c_h between the reference quarter t and a future quarter $t+k$ is modeled as a discrete process:

$$c_{ht|t+k} = \begin{cases} 1 & if \quad c^{*}_{ht|t+k} > 0 \\ 0 & otherwise \end{cases} \quad (6)$$

where $c^{*}_{ht|t+k}$ pertains to the unobserved characteristic of a household's magnitude of increase in consumption from the reference quarter.

The latent characteristic changes according to their inflation expectations, other household characteristics, and time:

$$c^{*}_{ht|t+k} = \beta_0 + \beta_1 \pi^{e}_{ht|t+4} + X'\gamma + \delta T + \varepsilon_{ht} \quad (7)$$

where X is a vector of economic and demographic variables (e.g., gender, age, income group, marital status, educational attainment, current and expected family income) and region-fixed effects, and T are time-fixed effects.

VI. Assessing the Potential Effects of Shocks on Household Expectations and Planned Consumption

Table 5 illustrates the sensitivity of inflation expectations to changes in policy rates, commodity prices, and the USD-to-PHP exchange rate. We interpret the results as the change in inflation expectations (in percentage point) due to a 1-percentage point change in the covariates. *Annex 1* provides additional determinants of households' inflation expectations, including various economic and demographic factors.

As anticipated, inflation expectations rise with increases in international benchmark commodity prices and decline with higher RRP rates and an appreciation of the Philippine peso. We also observe that expectations are particularly sensitive to fluctuations in oil prices and the appreciation of the Philippine peso. Specifically, a 1-percentage point increase in the growth rate of oil prices leads to a 2-percentage point increase in inflation expectations, while a similar appreciation of the peso results in a 6-percentage point change.

As a robustness check, we used regional rice and gasoline inflation rates in an alternative specification, with results presented in *Annex 2*. While the findings are broadly similar, the coefficient for gasoline is smaller in the alternative specification than when using the Dubai oil spot price. This difference may be attributed to the use of y-o-y inflation rates, which smooth out oil price volatilities.

Table 5. Factors Affecting Household Inflation Expectations (standard errors in parenthesis)

Dependent variable: $\pi^{e}_{ht\|t+4}$ *(expected inflation over the next four quarters)*				
	(1)	(2)	(3)	(4)
Reverse repurchase rate	-2.604***			
(quarterly average)	(0.162)			
Quarterly average of rice price change		0.035***		
(Thai 5% broken)		(0.004)		
Quarterly average of rice price change (-1)		-0.005		
(Thai 5% broken)		(0.005)		
Quarterly average of rice price change (-2)		-0.031***		
(Thai 5% broken)		(0.004)		
Quarterly average of oil price change			2.261***	
(Dubai oil spot prices)			(0.313)	
Quarterly average of oil price change (-1)			-1.243***	
(Dubai oil spot prices)			(0.167)	
Quarterly average of oil price change (-2)			0.319***	
(Dubai oil spot prices)			(0.043)	
USD-PHP foreign exchange:				-6.020***
PHP appreciation				(0.735)
USD-PHP foreign exchange:				2.476***
PHP appreciation (-1)				(0.359)
USD-PHP foreign exchange:				0.094***
PHP appreciation (-2)				(0.023)

Source of basic data: Authors' calculations

* p < 0.10, ** p < 0.05, *** p <0.01

Column 1 to *Column 4* control for gender, age, income group, marital status, educational attainment, current and expected family income, region-fixed effects, and time-fixed effects. *Column 1* controls for the four lags of actual inflation. *Column 4* controls for whether the household receives remittances.

VI.A. How Do Shocks Affect the Consumption Intention of Households?

Using the results from *Table 5*, we derive the predicted inflation expectations and run a probit model for *Equation 6* and *Equation 7*. We examine the relationship between inflation expectations and the intention to increase the consumption of various commodities like food and fuel (essential items), alcohol and tobacco, clothing and footwear (non-essential items), health and education (services), and durable goods for long-term consumption.

Table 6 presents the average marginal effects of the changes in inflation expectations on these commodities. Each column corresponds to the predicted expectations derived from the cases specified in *Table 5*. The results signify that the predicted expectations are robust across alternative models that may influence individual inflation expectations, as evidenced by the relatively close values of the coefficients for each commodity across *Column 1* to *Column 3*.

Table 6. Effects of Inflation Expectations on the Intention to Increase Consumption of Selected Commodities (standard errors in parenthesis)

		Reverse repurchase rate	Benchmark commodity price change	Exchange rate
Food		0.1538***	0.1649***	0.2068***
		(0.0348)	(0.0340)	(0.0386)
Non-essentials	Alcohol and tobacco	0.4529***	0.4508***	0.4353***
		(0.0399)	(0.0397)	(0.0385)
	Clothing and footwear	0.2570***	0.2647***	0.2629***
		(0.0332)	(0.0325)	(0.0316)
Human capital	Education	0.7823***	0.7864***	0.7821***
		(0.0365)	(0.0357)	(0.0346)
	Health	-0.7926***	-0.7764***	-0.7470***
		(0.0328)	(0.0320)	(0.0311)
Energy and utility	Gas and solid fuel	0.1525***	0.1720***	0.1705***
		(0.0358)	(0.0350)	(0.0339)
	Water	0.0084	0.0077	0.0119
		(0.0341)	(0.0333)	(0.0323)
	Electricity	0.0756**	0.0819**	0.0861***
		(0.0344)	(0.0335)	(0.0325)
Housing	House rent	0.1295***	0.1363***	0.1325***
		(0.0233)	(0.0228)	(0.0221)

Other services	House furnishings	0.1240*** (0.0361)	0.1234*** (0.0359)	0.1282*** (0.0349)
	Transportation	0.2324*** (0.0360)	0.2470*** (0.0352)	0.2445*** (0.0342)
	Communication	0.1555*** (0.0306)	0.1578*** (0.0300)	0.1705*** (0.0291)
	Recreation and culture	0.0522* (0.0312)	0.0521* (0.0311)	0.0535* (0.0302)
	Hotel and restaurant	0.0673** (0.0310)	0.0720** (0.0303)	0.0733** (0.0294)
	Personal care and effects	0.1571*** (0.0362)	0.1640*** (0.0354)	0.1586*** (0.0343)
Durable goods		0.1410*** (0.0255)	0.1461*** (0.0249)	0.1504*** (0.0242)

Source of basic data: Authors' calculations

p < 0.10, ** p < 0.05, *** p <0.01

The probit model is run while controlling for gender, age, income group, marital status, educational attainment, current and expected family income, region-fixed effects, and time-fixed effects.

The predicted expectations from the runs using Dubai spot oil prices and Thai 5% broken rice prices produce close values. Hence, *Column 2* does not show the differences in the results between the two runs at the significant digits displayed in the table.

Moreover, the results suggest that, in general, households will likely increase their consumption of the selected commodities if their inflation expectations rise by one percentage point. For example, households may consume 15.4 percent to 16.5 percent more food with a one percentage point increase in expectations. Similarly, expectations of higher inflation will likely boost the probability of households purchasing durable goods within the next 12 months by 14.1 percent to 15.0 percent. We also observe that the likelihood of increasing spending on education services is more sensitive to changes in expectations, followed by alcohol and tobacco. Meanwhile, the likelihood of increased spending on health-related commodities and services appears to decrease by nearly 75.0 percent to 80.0 percent with rising expectations.

It is important to note that health and education are services and households typically do not alter their access to these activities in response to price changes, especially when they are needed. For instance, families sending their children to school are unlikely to withdraw them due to anticipated higher education fees. Instead, they will incorporate these price increases in their education expenditures and household budget. The same rationale applies for health-related services and products. Households may not increase their consumption of health commodities even if a general price increase is expected over the next 12 months. Nonetheless, except for health-related expenditures, the baseline scenario for these commodity groups suggests that expectations of higher future prices lead to increased household consumption in the near term.

Given the established relationship between expectations and households' intention to increase consumption, we simulate shocks on the policy rate[6], benchmark international commodity prices, and exchange rate separately. We compare the predicted probabilities of a household's intention to increase expenditure on selected commodities under baseline conditions and following the introduction of a shock. The specifications of these shocks and the differences in predicted probabilities are presented in Table 7.

For the monetary policy shock, we find that in both the anticipatory and reactive scenarios, a 25-basis-point hike will lead households to delay increasing their consumption of most commodities. However, there are no significant differences between how households' consumption intentions would change under the two scenarios.

On the shocks to the benchmark international commodity prices, we introduce a 2.5 percentage point shock for oil prices and 5.0 percentage point shock for rice prices. We note that, in terms of average growth rates, the magnitude of shocks for both commodities are nearly equivalent to 5.0 percentage points. As indicated in Table 7, households are more responsive to changes in oil prices. The likelihood of increasing consumption of food and fuel commodities is the highest among the selected commodities at about 81.8 percent and 74.8 percent, respectively. The likelihood to purchase durable goods within the next 12 months also rises by about 55.9 percent in response to an oil price shock.

While a rice price shock causes a similar impact on consumption intentions, the magnitude of changes in predicted probabilities is less pronounced than that observed with oil price shocks. In all cases, except health expenditures, a rice price shock would only result to an increase in predicted probabilities by about one percentage point.

Finally, a depreciation shock on the Philippine peso significantly raises the average likelihood of increased consumption across various goods (excluding health) in the subsequent period. Specifically, a one-percentage point depreciation shock yields predicted probabilities comparable to those resulting from an oil price shock. As expected, food and fuel consumption display more substantial changes due to this shock.

[6] The BSP can either increase or decrease its key policy rate. This gives a signal to the market on the general level of interest rates that will prevail in the economy.

Table 7. Predicted Probabilities of Increasing Household Consumption of Various Commodities at the Baseline and with a Shock

	Food	Alcohol and Tobacco	Clothing and Footwear	Education	Health	Gas and Solid Fuel	Water	Electricity
Reverse Repurchase Rate (Anticipated)								
Baseline	0.6460	0.4763	0.2540	0.3425	0.2836	0.5147	0.4675	0.6396
Counterfactual	0.6204	0.4236	0.2278	0.2857	0.4189	0.4906	---	0.6275
Two-tailed T-test	-3.0e+02***	-3.0e+02***	-2.8e+02***	-2.8e+02***	303.42***	-3.0e+02***	---	-3.0e+02***
Reverse Repurchase Rate (Reactive)								
Baseline	0.6460	0.4763	0.2540	0.3425	0.2836	0.5147	0.4675	0.6396
Counterfactual	0.6204	0.4225	0.2266	0.2843	0.4188	0.4904	---	0.6275
Two-tailed T-test	-3.0e+02***	-3.0e+02***	-2.8e+02***	-2.8e+02***	303.42***	-3.0e+02***	---	-3.0e+02***
Rice Price Increase (5 pct pt)								
Baseline	0.6463	0.4926	0.2557	0.3434	0.2854	0.5143	0.4665	0.6404
Counterfactual	0.6604	0.5152	0.2806	0.4173	0.2242	0.5294	---	0.6476
Two-tailed T-test	536.57***	333.27***	529.16***	540.24***	-5.3e+02***	541.77***	---	536.64***
Fuel Price Increase (2.5 pct pt)								
Baseline	0.6463	0.4926	0.2557	0.3434	0.2854	0.5143	0.4665	0.6404
Counterfactual	0.8176	0.6941	0.6220	0.6662	0.1355	0.7475	---	0.7911
Two-tailed T-test	495.74***	324.05***	537.73***	528.24***	-4.9e+02***	499.75***	---	500.12***
Exchange Rate Depreciation (1 pct pt)								
Baseline	0.6463	0.4919	0.2557	0.3434	0.2854	0.5143	0.4665	0.6404
Counterfactual	0.8179	0.6940	0.6220	0.6662	0.1355	0.7485	---	0.7983
Two-tailed T-test	495.47***	325.11***	537.68***	527.84***	-4.9e+02***	498.87***	---	496.00***

Source of basic data: Authors' calculations

* p < 0.10, ** p < 0.05, *** p <0.01

The significance is determined by the one-tailed t-test between the average predicted probabilities of the baseline and counterfactual scenarios.

The one-tailed t-test is implemented toward the scenario with the higher mean.

Table 7 (cont'd). Predicted probabilities of increasing household consumption of various commodities at the baseline and with a shock

House Rent	House Furnishings	Transportation	Communication	Recreation and Culture	Hotel and Restaurant	Personal Care and Effects	Durable Goods
0.0993	0.3653	0.4175	0.2036	0.2228	0.2173	0.3841	0.1222
0.0848	0.3482	0.3815	0.1853	0.2154	0.2075	0.3613	0.1097
-2.7e+02***	-2.9e+02***	-3.0e+02***	-2.9e+02***	-2.8e+02***	-2.9e+02***	-3.0e+02***	-2.3e+02***
0.0993	0.3653	0.4175	0.2036	0.2228	0.2173	0.3841	0.1222
0.0838	0.3475	0.3815	0.1848	0.2148	0.2071	0.3610	0.1097
-2.7e+02***	-2.9e+02***	-3.0e+02***	-2.9e+02***	-2.8e+02***	-2.9e+02***	-3.0e+02***	-2.3e+02***
0.1002	0.3705	0.4181	0.2047	0.2241	0.2172	0.3838	0.1218
0.1132	0.3813	0.4403	0.2194	0.2304	0.2236	0.3985	0.1361
466.02***	480.92***	543.45***	526.52***	488.98***	524.10***	544.14***	464.75***
0.1002	0.3705	0.4181	0.2047	0.2241	0.2172	0.3838	0.1218
0.5490	0.6313	0.6999	0.5939	0.4545	0.4721	0.6794	0.5583
545.05***	426.51***	519.41***	543.16***	533.90***	546.04***	535.13***	541.78***
0.1002	0.3753	0.4181	0.2047	0.2275	0.2172	0.3838	0.1218
0.5493	0.6383	0.7000	0.5975	0.4754	0.4907	0.6807	0.5588
545.02***	419.18***	519.31***	542.33***	531.50***	546.37***	534.85***	541.64***

Source of basic data: Authors' calculations

* p < 0.10, ** p < 0.05, *** p <0.01

The significance is determined by the one-tailed t-test between the average predicted probabilities of the baseline and counterfactual scenarios.

The one-tailed t-test is implemented toward the scenario with the higher mean.

VI.B. What Do the Results Imply?

We aim to trace and evaluate the expectation channel by examining how various shocks affect household consumption plans. Our findings indicate that the intensive margins of expectations (i.e., households' quantitative forecasts) drive overall household inflation expectations and consumption intentions. Notably, the impact on consumption is stronger when expected inflation reaches 5.0 percent. Our analysis also reveals that inflation expectations are particularly sensitive to fluctuations in oil prices and currency depreciation. Consequently, shocks in these factors significantly influence household consumption intentions through the expectations channel.

The substantial impact of exchange rate fluctuations on inflation expectations and consumption can be partly attributed to the remittances received by households. Nearly one-third of households in the Philippines rely on remittances to augment their income.[7] This makes them particularly attentive to exchange rate developments, especially in the PHP-to-USD rate. Traditional media outlets such as newspapers, radio, and television, along with social media platforms, provide daily exchange rate updates. Given the country's dependence on imports for essential commodities like rice and oil, discussions about exchange rate movements also often include analyses of their potential effects on the pass-through of import prices to domestic prices.

Meanwhile, fluctuations in oil prices can lead to expectations of higher fuel prices, increased transport fees, and rising electricity costs, possibly resulting in second-round effects.

We can also infer differences in how shocks affect planned consumption for essential goods, non-essential items, services, and durable goods. At the baseline, there is a 64.6 percent likelihood of increased food expenditure (*Table 7*). Shocks indicating a future price increase will raise the predicted probabilities above the baseline, depending on how sensitive expectations are to the shock. Conversely, shocks that temper perceptions of future prices will have the opposite effect. Alcohol and tobacco consumption trends mimic the direction of changes in food consumption, given the prevailing perceptions on future prices. However, the magnitude of the probabilities for alcohol and tobacco remains lower than for food.

Spending for health and education services responds differently to changes in expectations due to shocks. We previously established that intentions to increase spending on these items depend on households' needs and access to health and education products and services.

Our findings regarding spending readiness for durable goods suggest that a shock increasing consumers' inflation expectations also raises the likelihood of spending on these goods within the next 12 months. This contrasts with the findings

[7] Using the Family Income and Expenditure Survey–Labor Force Survey merged dataset, we estimated the proportion of households receiving remittances in 2015, 2018, and 2021 at 28.14 percent, 29.69 percent, and 26. 19 percent, respectively.

of Bachmann et al. (2015), who observed that the probability of spending on durable goods is either insignificant or decreases during periods near a zero lower bound. Although we did not investigate similar periods in the context of the Philippines, our evidence signifies an increased propensity to spend on durables when prices are perceived to rise. Our results also differ from those of Andrade et al. (2023), who mainly attributed durable spending decisions to qualitative variations in expectations. Given our initial observation that intensive margins of expectations significantly influence overall household expectations, we suggest that the effects of shocks on planned consumption for durables and other commodities also pass through the intensive margins of household expectations.

VII. Policy Implications

Our findings provide evidence of the potential effect of inflation expectations on household consumption. Anticipations of rising prices prompt households to increase their planned consumption, especially for essential commodities, such as food and non-alcoholic beverages, fuel, and utilities. Moreover, the proportion of households that intend to increase their consumption in the near term grows with higher inflation expectations.

What do these results imply for monetary policy? We outline two possible scenarios. First, during periods when inflation exceeds the target (i.e., an inflationary period) and inflation expectations are elevated, increased household consumption may drive price hikes. This may also prompt households to demand higher wages to meet their consumption needs, resulting in second-round effects that make inflation more persistent and harder to bring back to target. Second, during periods when inflation is below target (i.e., a disinflationary period), monetary authorities should aim to bolster expectations to reach 5.0 percent or higher to stimulate household consumption. Any policy response from central banks to bring inflation back to target should be accompanied by effective communication to boost the perception of households about future price increases and encourage them to translate these expectations into higher demand.

We also observed that a larger number of households tend to expect elevated prices for commodities with greater CPI weights when actual inflation is within target than during low and high inflation periods. This results in higher average expected inflation during quarters when inflation is within target. Such finding suggests that central banks should closely monitor price developments in goods and services, particularly those with larger CPI weights, even when inflation is within target. Effective communication is also important to temper households' inflation expectations and ensure they remain aligned with the inflation target.

Simulation results showed that an increase in the policy rate helps moderate inflation expectations, which, in turn, affects consumption spending. This substantiates the functioning of the inflation expectations channel. However, shocks to international oil prices and fluctuations in the exchange rate have shown a more pronounced impact on inflation expectations and household consumption

than changes in the policy rate. This highlights the significant effects of supply-side shocks on inflation expectations and economic activity. Supply-side shocks are generally considered to have temporary and short-lived effects on prices and do not necessarily warrant a monetary policy response. Nonetheless, central banks should remain vigilant to prevent these shocks from leading to second-round effects.

VIII. Concluding Thoughts

In this study, we examined how Filipino households perceive future price changes and how these perceptions influence their consumption decisions. We distinguished households' qualitative perceptions and quantitative assessments of future inflation movements. Our analysis considered the potential impact of various shocks—such as policy rate changes, exchange rate fluctuations, and commodity price movements—on inflation expectations and, consequently, on planned consumption expenditures.

Our empirical results indicated that households tend to increase their planned consumption in the near term when they expect higher prices. This is particularly true for essential commodities like food and non-alcoholic beverages, fuel, and utilities. Higher inflation expectations also prompt a larger share of households to increase their consumption spending. Moreover, the planned expenditure for a specific commodity is more responsive to expected price changes for that commodity than to the overall household inflation expectations.

In assessing the potential effect of certain shocks, we observed that households' inflation expectations rise with increases in international benchmark prices of oil and rice and decline in response to higher policy rates and an appreciation of the Philippine peso. Households' expectations are particularly sensitive to fluctuations in oil prices and currency appreciation. Linking changes in household inflation expectations to consumption behavior, our simulation results suggest that an increase in the policy rate will lead households to defer increasing their consumption of most commodities. Conversely, higher international prices of oil and rice lead households to increase their near-term consumption in anticipation of higher future inflation. Following an oil price shock, the likelihood of purchasing durable goods within the next 12 months also increases significantly. Furthermore, a depreciation of the Philippine peso results in a notable rise in the average likelihood of increased consumption of various goods in the next period.

Our findings have important implications for monetary policy. Central banks should continue to closely monitor price developments in goods and services, even when inflation is within target, as households tend to form higher inflation expectations during this period.

Clear communication is crucial to curb these expectations and keep them aligned with the inflation target. Understanding the potential effects of supply-side shocks on inflation expectations and, subsequently, on household consumption could also help calibrate central banks' necessary responses.

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Annexes

Annex 1

Table A1. Determinants of household inflation expectations (standard errors in parenthesis)

Dependent variable: $\pi^{e}_{ht|t+4}$ *(expected inflation over the next 4 quarters)*

	(1)	(2)	(3)	(4)
Reverse repurchase rate	-2.604***			
(quarterly average)	(0.162)			
Headline inflation (-1)	-0.265***			
	(0.0770)			
Headline inflation (-2)	0.0112			
	(0.0624)			
Headline inflation (-3)	0.611***			
	(0.0578)			
Headline inflation (-4)	0.0558			
	(0.0759)			
Quarterly average of rice price change		0.0353***		
(Thai 5% broken)		(0.00374)		
Quarterly average of rice price change (-1)		-0.00455		
(Thai 5% broken)		(0.00479)		
Quarterly average of rice price change (-2)		-0.0309***		
(Thai 5% broken)		(0.00447)		
Quarterly average of oil price change			2.261***	
(Dubai oil spot prices)			(0.313)	
Quarterly average of oil price change (-1)			-1.243***	
(Dubai oil spot prices)			(0.167)	
Quarterly average of oil price change (-2)			0.319***	
(Dubai oil spot prices)			(0.0425)	
USD-PHP depreciation/appreciation				-6.020***
				(0.735)
USD-PHP depreciation/appreciation (-1)				2.476***
				(0.359)
USD-PHP depreciation/appreciation (-2)				0.0944***
				(0.0227)
Sex (base: Male)	0.067***	0.0626***	0.0626***	0.0614***
	(0.0199)	(0.0199)	(0.0199)	(0.0199)
Age	0.00126	0.000905	0.000905	0.00112
	(0.004)	(0.004)	(0.004)	(0.004)
Age^2	0.000	-9.97e-05***	-9.97e-05***	-0.0001***
	(0.000)	(3.86e-05)	(3.86e-05)	(3.86e-05)
Income group (Base: Low)				
Middle	-0.189***	-0.196***	-0.196***	-0.207***
	(0.0236)	(0.0235)	(0.0235)	(0.0237)

High	-0.161***	-0.158***	-0.158***	-0.183***
	(0.0307)	(0.0306)	(0.0306)	(0.0316)
Marital status (Base: Single)				
Others	0.155***	0.143***	0.143***	0.144***
	(0.0355)	(0.0355)	(0.0355)	(0.0355)
Married	0.142***	0.132***	0.132***	0.132***
	(0.0306)	(0.0306)	(0.0306)	(0.0306)
Highest educational attainment (Base: None)				
Elementary undergraduate/graduate	0.405***	0.345***	0.345***	0.343***
	(0.123)	(0.123)	(0.123)	(0.123)
Secondary undergraduate/graduate	0.452***	0.400***	0.400***	0.397***
	(0.123)	(0.123)	(0.123)	(0.123)
Tertiary undergraduate/graduate	0.576***	0.509***	0.509***	0.506***
	(0.124)	(0.124)	(0.124)	(0.124)
Expected family income in the next 12 months				
Go up	0.00228	0.00360	0.00360	0.00350
	(0.0217)	(0.0216)	(0.0216)	(0.0216)
Go down	0.958***	1.002***	1.002***	1.002***
	(0.0506)	(0.0506)	(0.0506)	(0.0506)
Current family income compared to 12 months ago				
Went up	0.258***	0.273***	0.273***	0.268***
	(0.0270)	(0.0270)	(0.0270)	(0.0271)
Went down	0.510***	0.544***	0.544***	0.545***
	(0.0261)	(0.0261)	(0.0261)	(0.0261)
Migrant household (Base: non-migrant household)				0.102***
				(0.0354)
USD-PHP x Migrant household				-0.0268
				(0.0177)
Constant	18.29***	4.885***	1.783***	6.009***
	(0.335)	(0.164)	(0.465)	(0.205)
Regional controls	Y	Y	Y	Y
Time controls	Y	Y	Y	Y
No. of observations	288,764	299,982	299,982	299,982
R-squared	0.166	0.159	0.159	0.159
F-statistic	635.21***	628.15***	628.15***	613.50***

Note: * p < 0.10, ** p < 0.05, *** p <0.01
Columns (1) to (4) control for gender, age, income group, marital status, educational attainment, current and expected family income, region-fixed effects, and time-fixed effects. Column (1) controls for the four lags of actual inflation. Column (4) controls for whether the household receives remittances.
Source of basic data: Authors' calculations.

Annex 2

Table A2. Robustness test using regional rice and gasoline inflation rate in the Philippines (standard errors in parenthesis)

Dependent variable: $\pi^{e}_{ht|t+4}$ *(expected inflation over the next 4 quarters)*

	(1)	(2)
Rice inflation	0.0403***	
	(0.00479)	
Rice inflation (-1)	-0.0349***	
	(0.00614)	
Rice inflation (-2)	0.0121***	
	(0.00467)	
Gasoline inflation		0.00305**
		(0.00138)
Gasoline inflation (-1)		-0.0166***
		(0.00134)
Gasoline inflation (-2)		-0.00199*
		(0.00107)
Sex (base: Male)	0.0613***	0.0619***
	(0.0199)	(0.0199)
Age	0.00118	0.00107
	(0.00378)	(0.00378)
Age^2	-0.000103***	-0.000101***
	(3.87e-05)	(3.87e-05)
Income group (base: Low)		
Middle	-0.191***	-0.187***
	(0.0236)	(0.0236)
High	-0.148***	-0.148***
	(0.0307)	(0.0307)
Marital status (base: Single)		
Others	0.146***	0.142***
	(0.0356)	(0.0356)
Married	0.133***	0.133***
	(0.0307)	(0.0307)
Highest educational attainment (base: None)		
Elementary undergraduate/graduate	0.350***	0.344***
	(0.123)	(0.123)
Secondary undergraduate/graduate	0.413***	0.406***
	(0.123)	(0.123)
Tertiary undergraduate/graduate	0.520***	0.512***
	(0.124)	(0.124)
Expected family income in next 12 months		
Go up	-0.0129	-0.0115
	(0.0217)	(0.0217)
Go down	1.030***	1.036***
	(0.0508)	(0.0509)
Current family income compared to 12 months ago		
Went up	0.274***	0.271***
	(0.0271)	(0.0271)
Went down	0.549***	0.538***
	(0.0260)	(0.0260)

Constant	5.821***	6.255***
	(0.163)	(0.164)
Regional controls	Y	Y
Time controls	Y	Y
No. of observations	299,982	299,982
R-squared	0.152	0.153

Note: * p < 0.10, ** p < 0.05, *** p <0.01
Source of basic data: Authors' calculations.