

Mood of the nation : An integrated statistical approach to household inflation expectations in India

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Abstract

This study examines household inflation perceptions and expectations in India by utilizing data collected from six rounds (78, 79, 79B, 80, 81, and 81B) of the Inflation Expectations Survey of Households conducted in 2025. Inflation expectations are analyzed across current, three-month, and one-year horizons using balance statistics. The results show

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that expectations increase with the time horizon and vary across consumption categories, with housing and general prices showing higher expected increases. Significant variation is observed across cities, while demographic factors have limited influence. Multivariate analysis confirms that city is the most important determinant. The distributional findings show that the further out the time frame is the greater the uncertainty, and challenges in anchoring inflation expectations.

Subject Classification: 62D20, 62P25.

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1. Introduction

Inflation expectations are an important part of how an economy functions. They affect consumer spending, savings and investment behavior and are also an important factor in determining how successful monetary policy can be. In particular, contemporary macroeconomic models, like the New Keynesian Phillips Curve, stress that future inflation expectations play a crucial role in determining inflation. As a result, how households perceive and form expectations about inflation is of great importance for policymakers. Data on household inflation expectations in India are obtained from the Reserve Bank of India's Inflation Expectations Survey of Households (IESH). This survey offers a comprehensive picture of households' assessment of the current inflation rate and their inflation expectations over the near and longer term horizons. With the variation in income, consumption habits and living conditions across the nation, It is likely that there is variability in inflation expectations across groups and regions. Household inflation expectations in India have been studied using the Reserve Bank of India's Inflation Expectations Survey of Households (IESH), with evidence that qualitative survey responses can provide useful information about aggregate inflation expectations (Das, Lahiri, and Zhao [1]). Over the past few years, inflation expectations have received growing attention because of their crucial role in driving economic activity and impacting the effectiveness of monetary policy. We now know that expectations do not only reflect predictions, but also influence household decisions on consumption, savings and wages.

Several recent papers demonstrate how households tend to base their expectations on their real-life experiences and not just on official sources of information. For instance, empirical studies suggest that individuals' perceptions of current inflation significantly influence their expectations

regarding future inflation. The evidence suggests that individuals are likely to rely more on observed price changes in their daily lives than on aggregate macroeconomic indicators (Goyal and Parab [2]), (Coibion, Gorodnichenko, and Weber [3]), (Cavallo, Cruces, and Perez-Truglia [4]). The existence of differences in individuals' expectations for inflation is another significant finding from the literature. They vary depending on socio-economic characteristics such as income, education, and financial conditions. Households facing financial constraints or economic uncertainty often report higher inflation expectations, reflecting the impact of personal experiences and circumstances on expectation formation (Dräger, Lamla, and Pfajfar [5]), (D'Acunto et al. [6]), and (Kuchler and Zafar [7]). In addition, recent studies have highlighted how communication and information shape expectations. People's perceptions of inflation and how they modify their expectations over time can be greatly influenced by central bank communication, media exposure, and access to economic data (Coibion, Gorodnichenko, and Weber [3]) and (Coibion, Gorodnichenko, and Kumar [8]). These findings reveal that expectations are sensitive to learning and modification and are created in an environment with incomplete information. Another important strand of literature focuses on inflation uncertainty. According to studies, people's expectations become more dispersed as the time horizon lengthens because they have limited certainty about future inflation. Economic behavior, particularly wage-setting procedures and consumption choices, may be significantly impacted by this uncertainty (Binder [9]), and (Armantier et al. [10]). From a theoretical perspective, modern macroeconomic frameworks, particularly those based on the New Keynesian approach, emphasize the central role played by expectations in influencing inflation dynamics. Recent empirical evidence further highlights the importance of household-level data, showing that survey-based household inflation expectations contain useful information for predicting future inflation (Brandão-Marques et al. [11]). In addition, several studies highlight the presence of regional and cross-sectional variation in inflation expectations. Differences in local economic conditions, cost of living, and price experiences can lead to significant variation in expectations across regions and demographic groups (Cavallo, Cruces, and Perez-Truglia [4]), and (Roth and Wohlfart [12]). This emphasizes how important it is to analyze survey data in-depth and separately.

Although there is evidence that inflation expectations depend on past experiences, information, variables, recent and detailed evidence for

India is scarce. The current study adds to the literature in the following ways. First, it draws on the most recent IESH data of 2025 to offer fresh evidence on households' inflation expectations. Second, it does not examine only the average inflation expectations, but breaks them down by categories, cities, and time horizons. Third, it adopts descriptive, multivariate, and distributional analyses to gain a better understanding of the factors that affect expectations and the associated uncertainty. Specifically, the distribution fitting and confidence intervals based on bootstrapping techniques help account for spread in expectations, which are not commonly explored in previous studies based on IESH. This study enhances the understanding of regional differences and the dynamics of inflation expectations in India.

2. Data and Methodology

Unit-level data from the Reserve Bank of India's Inflation Expectations Survey of Households (IESH) form the basis of the present analysis. The analysis uses information from several rounds in 2025 on household perceptions of current inflation and expected inflation over the next three months and one-year. As answers are qualitative, they are expressed in quantitative terms using balance statistic:

$$\text{Balance Statistics} = P(\text{Increase}) - P(\text{Decrease})$$

Where,

$P(\text{Increase})$ = percentage of respondents expecting an increase in prices.

$P(\text{Decrease})$ = percentage of respondents expecting a decrease in prices.

This metric can serve to aggregate inflation expectations for categories including all prices, food, housing, services and non-food items. To investigate differences between groups, we look at differences between cities, and additionally divide the data into two categories: less than 16 per cent and 16 per cent or more. This grouping reflects variation in the inflation level across geographical areas. Multivariate Analysis of Variance (MANOVA) is used to investigate the effects of city, gender, age group and work category on expectations. The test statistic chosen is Pillai's Trace for its robustness and Wilks' Lambda and Hotelling's Trace for validation. In addition, appropriate probability distributions are utilized to fit the data to explain the distribution of inflation expectations. The Burr (4-parameter) distribution is applied for current and short-term expectations and the Wakeby distribution is used for longer term. The fitted distributions were expressed using their standard distribution-specific parameterizations;

the Burr (4P) distribution was characterized by two shape parameters (k , a), a scale parameter (β), and a location parameter (γ), whereas the Wakeby distribution was characterized by two scale parameters (a , g), two shape parameters (β , δ), and a location parameter (ξ). Bootstrap methods are employed to calculate confidence intervals, higher variability in the intervals shows greater uncertainty in household expectations.

3. Results and Discussion

The Figure 1, presents respondents' perceptions of inflation across three time horizons—current, three months ahead, and one-year ahead—disaggregated by gender (male, female) and overall responses. A consistent upward trend in expected inflation is observed across all groups as the time horizon increases. At the current period, the overall perceived inflation rate is 6.3%, with male respondents reporting a lower perception (4.8%) compared to female respondents (6.6%). This suggests that females expect higher current inflation than males. For the coming three months, higher inflation expectations are observed among all respondents. The aggregate expectation now stands at 7.0%, with the expectation of males and females increasing to 6.0% and 8.4% respectively. The gender gap continues, with higher inflation expectations are observed among females than males. Looking to a year ahead, inflation expectations remain high. The overall expectation slightly moderates to 6.5%, while male expectations increase to 6.3%, and female expectations further rise to 8.5%, representing the highest value across all categories and time periods.

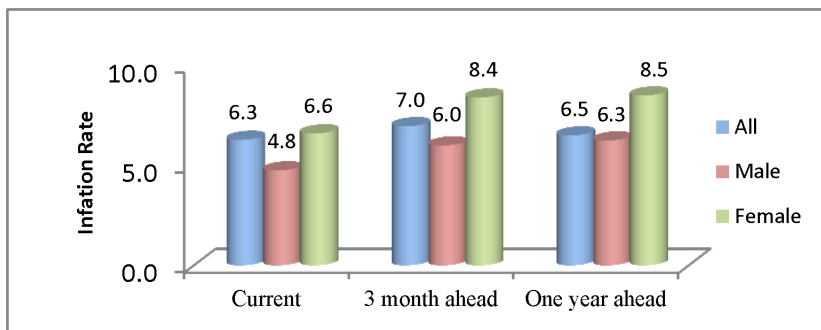


Figure 1

**Inflation Expectations of Households by Gender-November 2025
(IESH Round 81B)**

Balance statistics provide a clear picture of households' expectations regarding price changes across various categories over the next three months and one year as presented in Table 1. Overall, the findings point to a high anticipation of price increases, with higher values for the one-year horizon than for the three-month horizon, suggesting growing inflationary concerns over time. In the short-term (next three months), the highest balance statistics are observed for housing (57.2%) and general prices (54.8%), suggesting that households expect relatively stronger price increases in these categories. This is followed by food products (47.4%) and services (45.1%), while non-food products (42.4%) show moderate expectations. Notably, household durables (23.4%) exhibit the lowest balance statistic, indicating relatively weaker expectations of price increases in this category in the near term. Looking at the longer-term horizon (next one-year), expectations of price increases become more pronounced across all categories. Housing shows the highest balance statistic (69.2%), followed by general prices (65.2%), services (58.9%), and food products (57.5%). Non-food products (54.6%) also reflect strong expectations of price increases. Although household durables (41.5%) remain the lowest among all categories, their balance statistic increases significantly compared to the short-term horizon, suggesting a rise in expected price pressures even in this segment over time. In short, the

Table 1
Balance Statistics of Household Inflation Expectations by Category -
November 2025 (IESH Round 81B)

Expectations on Prices		Balance Statistics (in %)
3 months ahead	General	54.8
	Food products	47.4
	Non food products	42.4
	Household durables	23.4
	Housing	57.2
	Services	45.1
1 year ahead	General	65.2
	Food products	57.5
	Non food products	54.6
	Household durables	41.5
	Housing	69.2
	Services	58.9

findings indicate that inflation expectations are higher over the long run than over the short run, reflecting that housing and general price categories consistently exhibit the highest expectations, highlighting their dominant role in shaping household inflation perceptions. The analysis reveals that households expect ongoing inflationary pressures, especially in high-expenditure and critical categories, which could significantly influence inflation dynamics and consumption patterns.

The analysis focuses on the city-wise distribution of responses relating to current inflation perceptions and future expectations over both short-term (three months ahead) and long-term (one-year ahead) horizons. Table 2 displays these responses by classifying them into two major

Table 2
City-wise Inflation Perceptions and Expectations - IESH 2025
(Rounds 78 to 81B)

City	Current Inflation Rate			3-months ahead Inflation Rate			One-year ahead Inflation Rate		
	N	<16 %	>=16 %	N	<16 %	>=16 %	N	<16 %	>=16 %
Ahmedabad	2189	6.8	0.7	2189	6.9	1.0	2189	6.9	1.3
Bengaluru	3968	12.2	1.9	3968	12.3	2.6	3968	12.3	3.9
Bhopal	875	2.3	3.4	875	2.2	4.6	875	2.2	4.0
Bhubaneswar	595	1.7	1.1	595	1.8	1.0	595	1.8	1.2
Chandigarh	595	1.6	2.2	595	1.6	2.1	595	1.6	2.0
Chennai	2369	7.1	3.0	2369	7.2	3.1	2369	7.0	4.7
Delhi	5749	15.3	23.9	5749	15.3	21.8	5749	15.8	18.3
Guwahati	597	1.8	0.9	597	1.8	1.0	597	1.7	1.3
Hyderabad	2940	8.6	5.7	2940	8.3	7.9	2940	8.0	9.9
Jaipur	1141	3.5	0.4	1141	3.6	0.5	1141	3.6	0.8
Jammu	586	1.3	4.7	586	1.6	2.3	586	1.6	2.0
Kolkata	3889	9.3	24.8	3889	9.3	22.2	3889	9.3	20.8
Lucknow	1199	3.4	2.8	1199	3.4	2.8	1199	3.4	2.9
Mumbai	5332	14.7	17.6	5332	14.3	19.6	5332	14.3	18.9
Nagpur	1195	3.5	2.1	1195	3.5	2.5	1195	3.5	2.3
Patna	594	1.8	0.8	594	1.8	0.9	594	1.8	0.9
Raipur	596	1.6	2.1	596	1.6	1.9	596	1.7	1.6
Ranchi	598	1.8	0.7	598	1.8	0.9	598	1.8	1.0
Thiruvananthapuram	599	1.7	1.2	599	1.7	1.4	599	1.6	2.2
Total	35606	100	100	35606	100	100	35606	100	100

categories: inflation less than 16 per cent and inflation 16 per cent or more. The percentages shown are calculated as the share of total responses per city. Under the assumption of cross-sectional homogeneity, the share of respondents who report inflation in the “greater than or equal to 16 per cent” category would be similar across cities. But the results show there is significant variation across cities.

The results presented in Table 2 indicate that the proportion of respondents from cities like Delhi, Kolkata and Mumbai report a higher percentage of inflation perceptions and expectations in the “greater than or equal to 16 per cent” category for all time horizons. Here, the proportions are particularly high in current perceptions and for all future horizons, showing greater concern about inflation. However, respondents in cities like Ahmedabad, Jaipur, Patna, Ranchi and Guwahati express comparatively lower shares of responses in the “greater than or equal to 16 per cent” category. These findings indicate that these cities tend to exhibit relatively lower perceptions and expectations of inflation. This pattern across cities holds across all three time horizons, but there is a general pattern of a higher proportion of high inflation expectations in longer time horizons, from current perceptions to one-year ahead. This suggests households in a number of cities expect inflation to increase in the future, despite lower perceptions.

The observed cross-sectional variation highlights the presence of significant regional heterogeneity in inflation perceptions and expectations across Indian cities. This variation offers a new perspective to the analysis, revealing the importance of regional economic factors, price movements and variations in the cost of living in determining households' expectations. The findings of the Multivariate Analysis of Variance (MANOVA) presented in Table 3, offer valuable insights into determinants of household inflation expectations in India. The results are interpreted based on the three widely applied tests statistics (Pillai's Trace, Wilks' Lambda and Hotelling's Trace), which provide strong evidence on the significance and size of the effects. The findings suggest the variable “City” has a large and significant multivariate effect on inflation expectations. This is confirmed by the three test statistics: Pillai's Trace (0.145, $p \leq 0.001$), Wilks' Lambda (0.860, $p \leq 0.001$), and Hotelling's Trace (0.156, $p \leq 0.001$). The relatively regional variations play an important role in shaping household expectations, reflecting the impact of local economic conditions and price movements. By contrast, the effect of the variable “Gender” is not significant in any of the multivariate tests. Pillai's Trace ($p = 0.425$) is essentially zero, while Wilks' Lambda ($p = 0.425$) is equal to 1.000,

suggesting no significant difference in terms of gender. This is confirmed by Hotelling's Trace, which indicates that there is no statistically significant variation in inflation expectations across the male and female respondents, on average. The study further indicates a statistically significant yet relatively weak association of 'Age Group' on inflation expectations. Pillai's Trace (0.008, $p = 0.003$), Wilks' Lambda (0.992, $p = 0.003$), and Hotelling's Trace (0.008, $p = 0.003$) all indicate the presence of age-related differences. But the statistics have comparatively lower values than those of a city, suggesting that although age has a significant effect, the difference is not as large as that between cities. The findings for 'Work Category' indicate a small and non-significant impact. Pillai's Trace (0.004, $p = 0.209$) and Wilks' Lambda (0.996, $p = 0.209$) suggest that differences in occupations are not significant in explaining differences in inflation expectations. This is confirmed by the results of Hotelling's Trace. The lack of a significant impact of gender and occupational category on inflation expectation needs to be justified. Although previous research has shown gender

Table 3
Multivariate Analysis of Variance (MANOVA) Results for Household Inflation Expectations - November 2025 (IESH Round 81B)

Category	Statistic	Value	F	Hypothesis df	Error df	P-Value
City	Pillai's Trace	0.145	16.995	54	18081	0.000
	Wilks' Lambda	0.860	17.205	54	17952.939	0.000
	Hotelling's Trace	0.156	17.412	54	18071	0.000
Gender	Pillai's Trace	0.000	0.931	3	6025	0.425
	Wilks' Lambda	1.000	0.931	3	6025	0.425
	Hotelling's Trace	0.000	0.931	3	6025	0.425
Age Group	Pillai's Trace	0.008	1.969	24	18081	0.003
	Wilks' Lambda	0.992	1.970	24	17474.934	0.003
	Hotelling's Trace	0.008	1.970	24	18071	0.003
Work Category	Pillai's Trace	0.004	1.252	18	18081	0.209
	Wilks' Lambda	0.996	1.253	18	17041.759	0.209
	Hotelling's Trace	0.004	1.253	18	18071	0.209

differences in inflation perception, these differences might not be that significant in India. For many families, consumption choices are joint decisions and men and women face similar price changes, particularly for basic goods. This may result in similar inflation expectations for both men and women. A similar finding is made for occupation. This suggests work category is not a significant driver of inflation expectations. This could be simply because inflation, especially for the commonly consumed goods, is equally visible for workers in different occupations.

Further, the freely available price information via markets, media and internet could also contribute to a convergence across groups. The findings indicate that inflation expectations in India are driven more by shared consumption patterns and price variations across regions rather than individual specific factors such as gender and occupation.

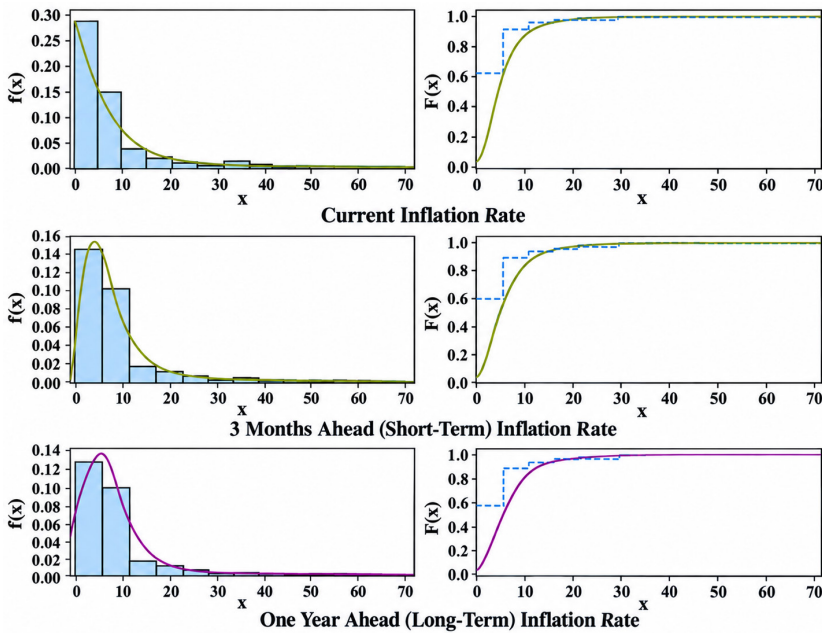


Figure 2

Fitted Distributions and Cumulative Distribution Functions of Household Inflation Expectations: Current, Short-Term, and Long-Term Horizons

Figure 2 clearly demonstrates that household inflation expectations across all three horizons: current, 3 months ahead, and one-year ahead, are positively skewed with an extended right tail, suggesting that although

most respondents expect moderate inflation, a smaller proportion anticipates significantly higher rates. The fitted distributions confirm that the Burr (4-parameter) distribution adequately captures the behavior of current and short-term (3 months ahead) expectations, whereas the Wakeby distribution better represents the one-year ahead expectations, reflecting increased flexibility needed to model long-term uncertainty. The fact that dispersion and uncertainty rise with the forecast horizon is a crucial finding. This is evident from the progressively wider spread of the histograms, flatter peaks, slower-rising cumulative distribution functions, and larger confidence interval length for the one-year ahead expectations.

Table 4 presents the fitted probability distributions for household views on inflation across different time horizons-current, three months ahead, and one-year ahead, along with the corresponding 95% confidence intervals. The analysis suggests that the Burr (4-parameter) distribution is the most appropriate for modelling current perceptions and short-term (three-month ahead) expectations, whereas the The Wakeby distribution provides a better fit and is therefore more appropriate for modelling

Table 4
Fitted Distributions and Confidence Intervals for Household Inflation
Expectations – November 2025 (IESH Round 81B)

View on Inflation Rate	Fitted Distribution	Distribution Parameters	95% Confidence Interval		Confidence Interval Length
			Lower Confidence Limit	Upper Confidence Limit	
Current	Burr(4P)	k=0.49749, a=5.0951, β =6.9729, γ =-1.8367	8.6497	9.1465	0.4968
3 Months ahead	Burr(4P)	k=0.47334, a=5.54, β =7.9224, γ =-2.2847	9.4755	9.9892	0.5137
1 Year ahead	Wakeby	a=20.788, β =2.198, g=1.7663, δ =0.55364, ξ =-0.85948	9.2218	10.1480	0.9262

longer-term (one-year ahead) expectations. This suggests that the statistical properties of inflation expectations differ across various forecasting horizons, and that longer-term forecasts are more complex and volatile. As far as the confidence intervals are concerned, the current view of inflation is within a relatively tight range, having a confidence interval length of around 0.4968. Three- month ahead expectations have a somewhat wider interval, with a slightly longer interval length of about 0.5137. By comparison, for the one- year ahead expectations, the confidence interval is significantly wider, with a much larger interval length of around 0.9262.

The confidence intervals yield relatively narrow ranges overall, indicating reliable estimation. But there is a clear trend: the longer the time horizon, the larger the confidence intervals. These findings indicate that respondents are more certain and coherent in their current inflation views than they are in their expectations of future inflation. That is, survey participants exhibit greater confidence regarding current inflation rates than about future inflation trends. The widening of confidence intervals for longer horizons stems from the increased uncertainty and variability in expectations, especially for the one-year horizon. This implies that while expectations about current inflation are relatively stable and coherent, expectations about future inflation become less certain and less coherent, reflecting an increase in uncertainty. These results highlight that the consistency of responses decreases with the length of the horizon, suggesting households exhibit greater consistency in their perceptions of current inflation than of future inflation.

4. Conclusions

This paper examines the perception and expectation of inflation among households in India using data from the IESH 2025. The findings reveal that inflation expectations rise with the horizon, suggesting ongoing inflation concerns. Inflation expectations differ across product categories, with housing and general prices perceived to increase more, reflecting the influence of essential products. There are also large city-to-city differences, suggesting that regional factors and variations in the cost of living play a large role in shaping expectations, while other demographics such as gender and occupation play a minor role. Age has a small impact. Households also have greater certainty about current inflation than about inflation in the future, and the uncertainty rises with time. Thus, inflation expectations in India are diverse, and influenced by category-specific and

regional impacts. These results provide a useful basis for policy-making, since sustained and uncertain expectations can affect household behaviour and make it difficult for policy makers to achieve price stability.

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