# MEASURING INFLATION INEQUALITY IN INDIA

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## Abstract

This paper is the first attempt to track the inflation rates of the distribution of Indian households based on consumption weights of different fractiles of rural and urban households from 2015 to 2024. Computing the consumption expenditure shares of different fractiles of Indian households–from the poorest to the richest–and the inflation faced by them, we show that the volatility of inflation is higher for the poor vis-à-vis the rich households and has persistently remained higher for the poor households. This paper argues that this inequality of inflation and high volatility is anti-poor and requires immediate policy intervention.

**Keywords:** Inequality, Inflation, Monthly Per Capita Consumption Expenditure (MPCE), Inflation volatility, India, Food Inflation, Distribution

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## 1. Introduction

Inflation refers to a general increase in prices of goods and services across different sectors of the economy. Consumer Price Index (CPI) inflation measures the average cost of living in India based on the spending pattern of an average household, however, it does not take into account the differences in the spending patterns of the households with respect to the changes in price of goods and services.

There are two kinds of inequality that exist among the poor and the rich with respect to inflation. First, inflation erodes the purchasing power of the poor more than the rich and second, the rate of inflation faced by the poor is different than the rich. While the first kind of inequality has received a lot of attention in the literature, there have been only a few empirical studies which calculated the inequality in the rate of inflation among the rich and the poor. To the best of our knowledge, there has been no empirical investigation based on Indian data to calculate how different is the rate of inflation faced by the poor vis-à-vis the rich.

The fact that inflation affects the poor more than the rich has been a subject of major debates. This was well articulated by Keynes (1930) as follows:

*"Any attempt to strike an average for the amount by which purchasing power has changed for a community as a whole necessarily involves equating the purchasing power of money for one class to its purchasing power for a different class, which cannot be done except by an arbitrary assumption. . . . but I see no meaning in an assumption to the effect that the purchasing power of money is equal for different classes of the community."*

The cost of inflation is particularly devastating for the poor. This has been noted by central bankers worldwide. Jerome Powell (2022), Federal Reserve Bank Chairman, in his speech on "Monetary Policy and Price Stability", noted that "*The burdens of high inflation fall heaviest on those who are least able to bear them*" . Michele Bullock (2023), governor of the Reserve Bank in Australia, also quoted in her first speech as governor, "*High inflation erodes the value of savings and reduces the purchasing power of households. It especially hurts those on low incomes."*

The rising cost of living is making life harder for everyone, especially Canadians who have less to start with. People are working hard, but their salaries don't buy what they used to. They cannot afford the things they need to live. It feels unfair. Tiff Macklem (2023), in his remarks as governor of the Bank of Canada, said:

*"That feeling of unfairness eats away at the fabric of society. There's more disagreement. With higher inflation in the last couple of years, we're seeing more strikes as employers and workers struggle to reconcile rising costs on each side. Nobody wants this - workers don't want to strike, and employers don't want work to stop. But high and unpredictable inflation makes it difficult to agree on fair compensation for work, and that leads to strikes. When inflation is high and volatile, contracts get shorter, negotiations are harder, and uncertainty is higher for everybody."*

Agustín Carstens (2021), general manager of the BIS, argued that

*"Inflation is often rightly portrayed as one of the most regressive taxes. The households at the lowest end of the income spectrum are the least able to hedge against it: their income is usually fixed in nominal terms and their savings held in cash or bank accounts."*

The governor of the Reserve Bank of India in his statement on 4 May, 2023 also noted that high inflation has "*pronounced adverse effects on the poorer segments of the population by eroding their purchasing power* (Das, 2022).

This working paper builds on our earlier publication, *"Measuring Inflation Inequality in India"* (*Economic & Political Weekly*, March 15, 2025), by presenting updated and extended estimates of inflation inequality, incorporating new data up to the year 2024.[2] While the initial article focused primarily on national-level trends, this paper broadens the scope by presenting the trends in inflation inequality and volatility of inflation for rural and urban India.

A significant addition is the examination of the inflation gap between the richest and the poorest segments of the distribution for various sub-groups such as cereals, pulses, vegetables etc. that constitutes the food basket. In particular, we highlight the persistent pro-rich bias embedded in the official Consumer Price Index (CPI) basket, especially within food expenditure patterns. Our results underscore how inflation burdens are unevenly distributed, with the poorest households experiencing higher effective inflation rates.

The next Section of the paper provides a background to the literature on inflation inequality measurement and its distributional consequences in different parts of the world. Section 3 describes the data sources and methodology used to find the

[2] See the paper here:
https://www.epw.in/journal/2025/11/special-articles/measuring-inflation-inequality-india.html

inflation rate faced across the different fractile class of households (based on monthly per capita consumption expenditure). Section 4 presents the key findings from this empirical analysis. Section 5 outlines the robustness checks conducted to validate the statistical significance of these findings. The paper ends by providing policy recommendations and points out the issue of missing data that limits a more dis-aggregated analysis of inflation inequality. By highlighting the uneven distributional impacts of inflation, this paper seeks to contribute to the growing body of research that interrogates aggregate macroeconomic indicators through a distributional lens.

## 2. Inflation Inequality Measurement: Understanding Distributional Consequences

Inflation affects different households differently depending on the mix of goods and services that they consume. Inflation poses a significant threat to individuals with lower socio-economic status, primarily because they allocate a larger portion of their earnings towards essential items like food and housing, which are prone to inflationary pressures. Moreover, the economically disadvantaged often possess fewer assets and limited access to credit, rendering them more vulnerable to the adverse effects of inflation. Inflation can erode the purchasing power of wages and social welfare benefits, exacerbating financial strain for those already struggling. Inflation introduces heightened uncertainty and instability, complicating household financial planning. Kidane and Woldemichael (2020) showed that a 10 per cent inflation in staple food prices during pregnancy reduces the survival rate of children under the age of five by approximately 5.4 per cent in Ethiopia. Fujii (2013) simulated the impact of food inflation on poverty using provincial data for prices and household expenditure survey in the Philippines and found that the poorest households were extremely vulnerable to the food inflation.

Bulir (2001) augmented the analysis of income inequality based on Kuznet's hypothesis by incorporating inflation for 75 countries in 2001. The author found that price stability significantly improves income distribution in a non-linear way. This means that when inflation is very high, reducing it can lead to significant reduction in income inequality. The paper also showed that the classic problem of failure of Kuznet's hypotheisis, that is due to inclusion of Latin America, is solved when one allows for inflation to be a key factor explaining inequality. [3] Inflation,

[3] Economists like Deininger and Squire (1996) pointed out a problem with the classic Kuznets curve: when you include Latin American countries in global inequality analyses, the expected inverted-U

thus, is an omitted variable in traditional inequality models. The paper demonstrates that high inflation worsens inequality in Latin American countries. Milanovic and Ersado (2010) argued that inflation was anti-poor across 26 post-communist countries undergoing economic transition in Eastern Europe and Central Asia during 1990 to 2005.

The belief that households experience different inflation rates (than the average inflation rates) has been empirically tested by scholars across countries. Hobijn and Lagakos (2005) conducted a study for the period 1987 to 2001 for the US and showed that the inflation faced by households varies year-on-year and a large part of these disparities in household-level inflation can be attributed to inflation in education, health care, and gasoline prices. Gürer and Weichenrieder (2020) studied 25 European countries over the period 2001 to 2015. Their study shows the existence of pro-rich inflation and they report an average increase in the cost of the consumption bundles by 11.2 percentage points for the poorest deciles compared to the richest deciles of Europe. They found that the Gini coefficient of consumption expenditures is underestimated by 0.04 points if the variation in inflation across the rich and the poor is ignored. Colavecchio et al (2011) argue that the deviations in inflation rates were persistent in the short run to medium run and the economically vulnerable households were subject to higher-than-average inflation rates in Europe from 1997 to 2008. Hait and Jansky (2014) studied the deviation of inflation rates from the average inflation for the Czech Republic from 1995 to 2010. They found that only 60 per cent of households experienced inflation similar to the national average inflation rates. In Uganda, Okidi and Nsubuga (2010) claim food to be the cause of inequality in inflation rates among the population making the national inflation rate pro-rich. They found that the poor households faced much higher rates of inflation and high inflation volatility. Akkoc and Kizilirmak (2021) argued that inflation rates are much lower for the rich in Turkey than the poor from 2004 to 2016. This has exacerbated income inequality in the country. They found negative plutocratic gap, indicating that the inflation was anti-poor in their economy. They studied the gendered effect of inflation inequality and found that female-headed households experienced lower rates of inflation. The authors found that the disparities in inflation were weakly persistent over the years.

shape often disappears. This is because many Latin American countries have high inequality despite being at middle-income levels.

Oosthuizen (2013) took a different approach for measuring inflation inequality in South Africa from 1998 to 2008. They classified households based on demographics and labour market to identify vulnerable groups in South Africa instead of using income or expenditure quintiles. The highest rates of inflation were faced by grant recipient households (14.9 percentage points higher than the urban rate) and unemployed households (11.0 percentage points higher than the urban rate), compounding with greater volatility in inflation rates for the poor. In contrast, they found that households in stable jobs, such as those who were public sector workers, and formal private sector workers experienced lower inflation rates and their monthly inflation (measured as year-on-year change in prices) was less volatile. Oosthuizen (2013) found that an average of only 33 per cent of urban households experienced a rate of inflation that was within 1 percentage point of the all-urban inflation rate. Jaravel (2019) examined inflation inequality for the poor in the US from 2004 to 2015 using retail sector data. The author found that the annual inflation for retail products was 0.661 percentage points higher for the poorest income quintile compared to the richest income quintile. In a recent study on rural India, Atkin et al. (2024) used Engel curve-based methods to estimate inflation across income deciles without requiring comprehensive price data. Their analysis shows that during India's 1991 reform period, poorer households experienced significantly higher effective inflation rates, which substantially offset the nominal income convergence observed across the distribution. This paper demonstrated that the average CPI masks the inflation inequality observed across the income distribution.

It must be noted that the notion of inflation being pro-rich is not constant throughout the literature on inflation inequality. Despite a majority of empirical evidence and literature suggesting that inflation bleeds into the pockets of the disadvantaged groups, there are empirical studies claiming otherwise (Crawford and Oldfield, 2002; Goñi et al, 2006; Baldini, 2005).

There are several scholars who studied the relationship between inflation and income inequality, inflation and poverty, and inflation and economic growth (Albanesi 2007; Fessler and Fritzer, 2013; Easterly and Fischer, 2001; Datt and Ravallion, 2002; Chancel and Piketty, 2019; Bharti et al 2024; Anand and Thampi, 2021, Ghatak and Kumar, 2024). While these relationships are critical to understanding the implications of inflation inequality, the scope of this paper is to examine and empirically estimate the inequality of inflation and persistence of

inflation volatility in India.

## 3. Methodology: Measuring Distribution of Inflation in India

This section provides details on the data used in this paper and the two methods used to derive the distribution of inflation across different households in India. Note that the price change of a particular item in the consumption basket of the lower income deciles is the same as the change in prices of those in the higher income deciles in the population.[4]

### 3.1 Data Sources

We used two data sources, namely, the monthly Consumer Price Index (CPI) data published by the Ministry of Statistics and Programme Implementation (MoSPI), National Statistical Office (NSO) and the 68th round of the Household Consumer Expenditure Survey (HCES) conducted by the National Sample Survey Office (NSSO) from July 2011-June 2012 on which the CPI consumption weights are based.

CPI measures the average cost of living in India for 299 items. It includes both goods and services. These items are further aggregated into subgroups and groups. The major groups for which household consumption expenditure or CPI is available are food and beverages, pan, tobacco and intoxicants, clothing and footwear, housing, fuel and light, and miscellaneous.

The HCES is traditionally a quinquennial (recurring every five years) survey conducted by the government's NSSO. The weights in the current CPI series are based on the HCES, 2011-12 which is the 68th round of the National Sample Survey. The items are classified in CPI using the international standard Classification of Individual Consumption of Items according to Purpose (COICOP) to ensure international comparability. The CPI basket is kept constant over time for consistency but is changed to reflect changing consumption patterns, for example, to include new goods and to replace items that are no longer widely purchased.

[4] The bias that this paper deals with is due to the different consumption expenditures by different strata of the populace. Consequently, a simpli fying assumption is that the recording bias in consumption expenditure surveys, as explained by Prais (1958), is equally distributed across all households.

It is important to note that the HCES, like most household surveys in India, tends to underrepresent the right-tail of the consumption distribution. Both under-reporting and sampling limitations mean that the very rich are likely missed out. This limitation has been widely discussed in recent work (e.g., Chancel and Piketty, 2019; Bharti et al., 2024). As a result, what is labeled as the 'rich households' in our analysis may, in fact, exclude the actual richest households of India, and thus understate the full extent of inflation inequality at the upper end of the distribution.

**3.2 Using subgroup level price indices to calculate inflation for group-level commodities for rural and urban India**

We use the Report of the Group of Technical Advisory Committee (TAC) on Statistics of Prices and Cost of Living to map the HCES items to the CPI basket for every item of the CPI basket for rural, urban and all-India. The TAC report on Statistics of Prices and Cost of Living gives the unique NSS unit level code for mapping the CPI basket with the 68$^{th}$ round of the HCES.

Information already available publicly includes CPI-urban and CPI-rural data at subgroup and group level only. CPI-all India combined (CPI-C) data are available at all levels of dis-aggregation: item-level, subgroup level, and group level.

Step 1: We constructed consumption expenditure fractiles in accordance with the CPI basket from the household consumption expenditure survey data. This step gives us a spectrum of households ranging from the poorest to the richest in terms of their consumption expenditure.

Step 2: We calculated the item-level weights of consumption for CPI-rural, CPI-urban, and CPI-combined. These item-level weights were then aggregated to get the subgroup and group weights for CPI-rural, urban and all India. Now, since these weights were not available at the item-level for rural and urban India but were available for CPI-combined, we used the weight of each of the 299 items at an all-India level and then calibrated with the actual weights available in the CPI-combined. This was applied to the 12 consumption fractiles to map the inflation distribution of India for rural and urban areas. To calibrate the weights of CPI-combined with CPI-rural and CPI-urban at the item-level, we used the share of consumption expenditure for rural India which was 53.52 per cent and share of consumption expenditure for urban India, at 46.48 per cent, in the total CPI basket.

Step 3: The consumption expenditure weights (in per cent) of each subgroup of CPI basket are constructed for all the fractiles by aggregating the item-level

weights as per the HCES of 2011-12 for rural and urban India. The weight of goods and services vary considerably between the low- and high-consumption classes, hence the inflation rate computed is different. Moreover, the consumption pattern of low-income households constitutes more food and fewer non-food items in their consumption basket.

Step 4: We aggregated the sub-group price indices obtained in Step 3 to construct a price index for a group. For example the price index for the group, food and beverages is calculated using the constructed weights for each subgroup, which is different for all the 12 fractile classes of consumption expenditure.

$$P_{gt} = \sum P_{sit} . W_{si} / \sum W_{si}$$

Where $P_{gt}$ is the price index for group g at time t, which is the sum-product of the prices and the weight of that subgroup divided by the sum of the weights of that sub-group. $W_i$ = expenditure on item i/ total expenditure on all items.

By doing this analysis, we compute the rural and urban India item-wise weight, which is not published by the NSO. It is important to note that the price index for each subgroup is assumed to be the same across all the consumption classes as item-level price index is not available for rural and urban areas separately.

Step 5: The general headline index is then computed as a weighted average of the constructed groups, which yields a difference in the price index, and thus, inflation and its volatility for the different fractile classes of consumption can be computed.

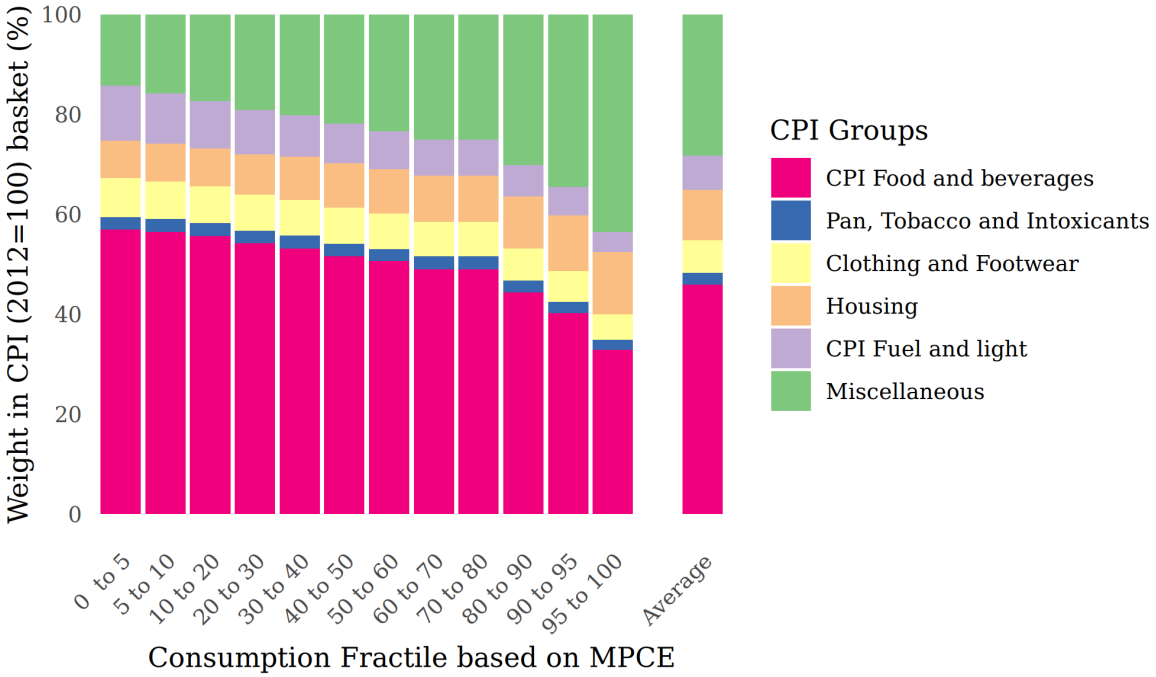
This enables us to comment on the inflation inequality and volatility of inflation for rural and urban India separately (see Appendix B). The methodology used to estimate the rate of inflation across different fractile class of households at an all-India level requires an additional step.

### 3.3 Using Item-Level Price Index to calculate inflation for subgroup and group level commodities for All-India Combined

Given the loss of data due to unavailability of item-level price index for rural and urban India, we used a novel approach to calculate the item-level weights at all-India level using the computed rural and urban India weights for each item across the 12 fractile classes of consumption. We computed the item-level weights across the 12 fractile classes for all-India. The price index is also available at item-level for all-India. Thus, using this granular information, we

enrich our analysis by computing the subgroup price index as well which was not possible without this additional step. The item-level price index for the 12 fractile classes is the same for each item, but the subgroup price indices at all-India and consequently all the groups indices are computed for all 12 fractile classes of consumption, leading to a more accurate analysis of inflation distribution. The price indices for all items as per the CPI new series is available from January 2014 at a monthly frequency. We compute the inflation rates for the 12 fractile classes of households from January 2015 to December 2024. Figure 1 provides the breakdown of consumption weights for all the major groups at the all-India level. A detailed breakdown at the subgroup level is provided in Appendix Table A1.

**Figure 1: Weight of different major groups, by fractile class of households, as per the CPI basket**




**Sources:** Authors' calculation using data from HCES (2011-12) and the Report of the Group of Technical Advisory Committee (TAC) on Statistics of Prices and Cost of Living. Detailed technical note is given with Appendix Table A1.

## 4. Empirical Findings: Distributional Effects of Inflation

This section describes the inflation inequality faced by different fractile class of households in India.[5]

### 4.1: Inflation inequality and volatility of inflation for all-India

During 2015 and 2016, the two years of high average headline inflation, the inflation rate faced by the poor was about 0.6 percentage points higher than that faced by the rich. In the subsequent period, from 2017 to 2019, which saw three years of low average headline inflation, the inflation rate faced by the poor was much lower than that faced by the rich (in the range of 0.5 percentage points in 2019 to 1.8 percentage points in 2017) and also lower than the average headline inflation (Table 2).

In 2020, supply chain disruptions due to COVID-19 led to a substantial increase in inflation rates, disproportionately affecting the poor, who experienced much higher inflation than the rich. In 2021, the rate of average headline inflation fell drastically, resulting in the rich facing higher inflation than the poor once again.

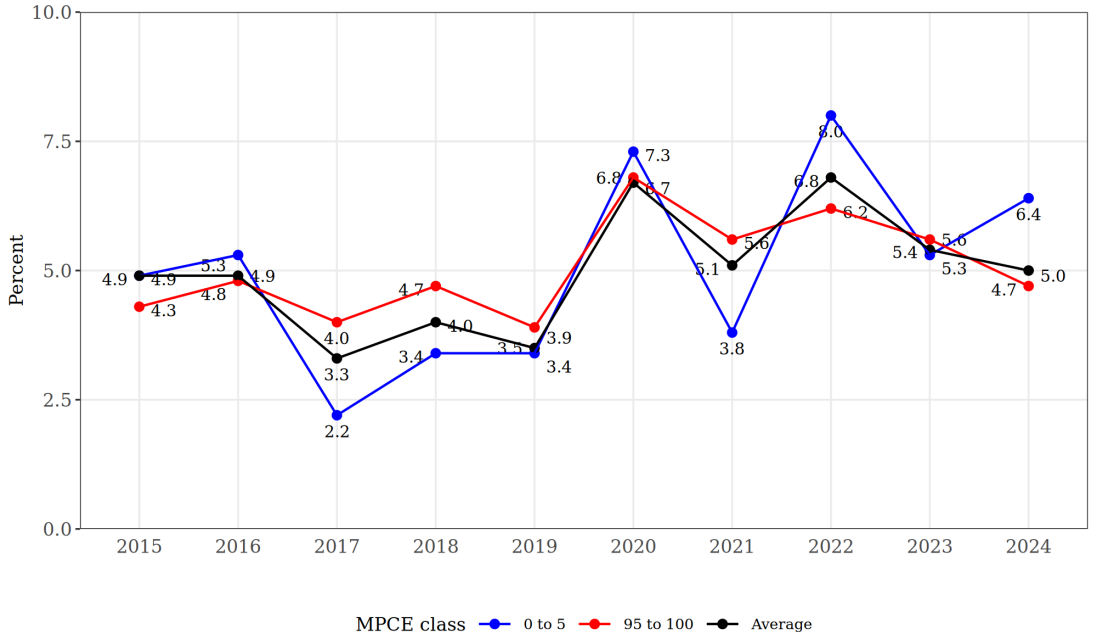
In 2022, with the outbreak of the Russia-Ukraine war and globally high food prices, average headline inflation rose to 6.8 per cent. During this period of high average headline inflation, the poor faced much higher inflation rates than the rich. By 2023, as the inflation rate declined, the inequality reversed, with the rich facing higher inflation rates than the poor. For the latest year for which data were available, 2024, the inflation rates faced by the poorest households (6.4 per cent) are much higher than the richest households (4.7 per cent). This pattern of inflation inequality demonstrates that during the periods of volatile and rising headline inflation, the poor experience significantly higher inflation rates than the rich, often exceeding the average inflation rate in India. Conversely, when headline inflation drops sharply, the poor face lower inflation rates than the rich. This clearly indicates that volatile food components disproportionately impact the poor more than the rich.

Figure 2 shows the inequality of headline inflation between the richest 5 per cent households and the poorest 5 per cent households vis-à-vis the average Indian household. The figure illustrates the point clearly that the rich and the poor face a much different rate of inflation compared to the average household in India. However, as one can see, there is no consistent pattern. In some years, the inflation faced by the rich is higher than the poor, whereas in some years, it is the poor who face higher inflation than the rich. However, if one looks at the food inflation, it is clear that the years in which food inflation for the poor was higher than the rich, the headline inflation also exhibited the same pattern (Tables 1 and 2). As fuel inflation

[5] The same analysis can be extended for all states/union territories of India, but we limit the results of this paper to rural, urban and all-India level .

does not vary much between classes of households, the inequality stems primarily from food inflation.

**Figure 2: Headline inflation faced by the poorest, richest, and average Indian household, 2015 to 2024, All-India**




**Source:** Authors' calculation using data from HCES (2011-12) and the Report of the Group of Technical Advisory Committee (TAC) on Statistics of Prices and Cost of Living.

**Figure 3: Food inflation faced by the poorest, richest, and average Indian household, 2015 to 2024, All-India**

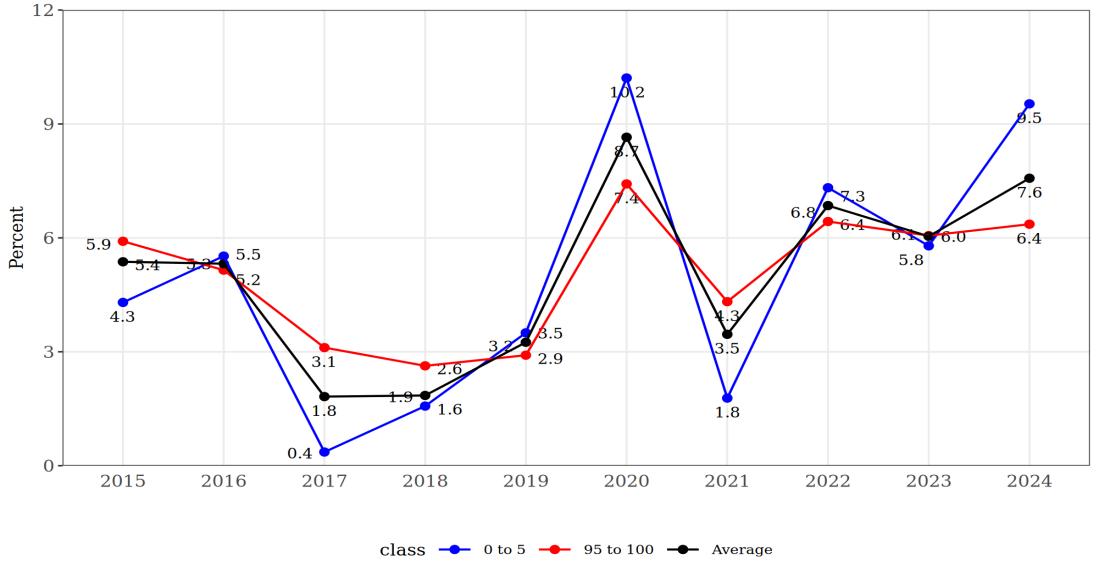


**Table 1: Headline inflation, 2015 to 2024, All-India, by class**

| Fractile Class of Households | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 to 5 | 4.9 | 5.3 | 2.2 | 3.4 | 3.4 | 7.3 | 3.8 | 8.0 | 5.3 | 6.4 |
| 5 to 10 | 5.0 | 5.3 | 2.4 | 3.5 | 3.4 | 7.2 | 4.1 | 7.7 | 5.3 | 6.1 |
| 10 to 20 | 5.1 | 5.2 | 2.5 | 3.5 | 3.4 | 7.1 | 4.3 | 7.6 | 5.4 | 5.8 |
| 20 to 30 | 5.1 | 5.1 | 2.7 | 3.6 | 3.4 | 7.0 | 4.6 | 7.4 | 5.4 | 5.6 |
| 30 to 40 | 5.1 | 5.1 | 2.9 | 3.6 | 3.4 | 6.9 | 4.8 | 7.2 | 5.4 | 5.4 |
| 40 to 50 | 5.1 | 5.0 | 3.0 | 3.7 | 3.4 | 6.8 | 4.9 | 7.2 | 5.4 | 5.2 |
| 50 to 60 | 5.1 | 5.0 | 3.1 | 3.7 | 3.5 | 6.7 | 5.0 | 7.0 | 5.4 | 5.1 |
| 60 to 70 | 5.1 | 4.9 | 3.2 | 3.8 | 3.5 | 6.6 | 5.1 | 6.9 | 5.4 | 4.9 |
| 70 to 80 | 5.1 | 4.9 | 3.4 | 4.0 | 3.5 | 6.5 | 5.2 | 6.8 | 5.5 | 4.8 |
| 80 to 90 | 5.0 | 4.9 | 3.6 | 4.1 | 3.5 | 6.4 | 5.3 | 6.6 | 5.4 | 4.6 |
| 90 to 95 | 4.8 | 4.8 | 3.8 | 4.4 | 3.5 | 6.3 | 5.5 | 6.4 | 5.4 | 4.5 |
| 95 to 100 | 4.3 | 4.8 | 4.0 | 4.7 | 3.9 | 6.8 | 5.6 | 6.2 | 5.6 | 4.7 |
| Average | 4.9 | 4.9 | 3.3 | 4.0 | 3.5 | 6.7 | 5.1 | 6.8 | 5.4 | 5.0 |

**Sources:** NSO, MOSPI; HCES (2011-12); and author's calculation.

**Table 2: Food inflation, 2015 to 2024, India, by class**

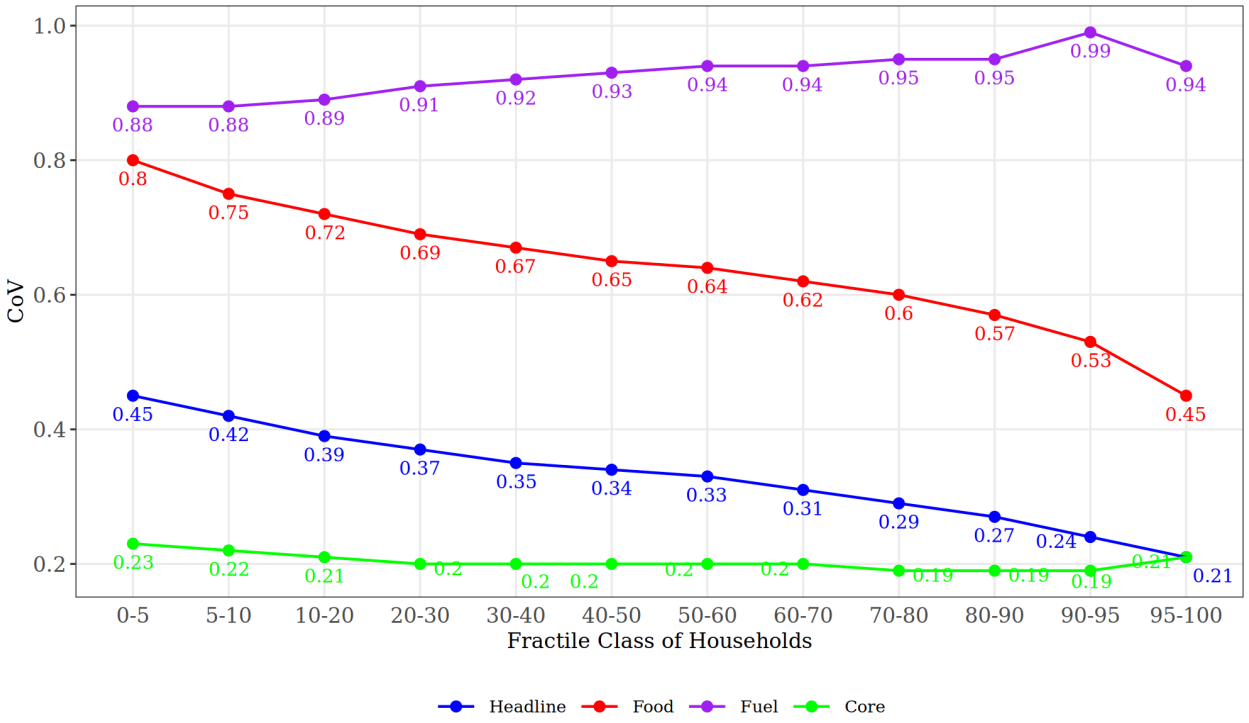
| Fractile Class of Households | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 to 5 | 4.3 | 5.5 | 0.4 | 1.6 | 3.5 | 10.2 | 1.8 | 7.3 | 5.8 | 9.5 |
| 5 to 10 | 4.5 | 5.6 | 0.6 | 1.6 | 3.5 | 9.9 | 2.2 | 7.2 | 5.7 | 9.0 |
| 10 to 20 | 4.8 | 5.5 | 0.9 | 1.6 | 3.4 | 9.6 | 2.5 | 7.2 | 5.9 | 8.7 |
| 20 to 30 | 5.0 | 5.5 | 1.1 | 1.6 | 3.4 | 9.4 | 2.8 | 7.1 | 6.0 | 8.4 |
| 30 to 40 | 5.1 | 5.4 | 1.3 | 1.6 | 3.4 | 9.3 | 3.1 | 7.0 | 6.0 | 8.1 |
| 40 to 50 | 5.2 | 5.4 | 1.5 | 1.7 | 3.4 | 9.1 | 3.2 | 7.0 | 6.0 | 7.9 |
| 50 to 60 | 5.4 | 5.4 | 1.5 | 1.6 | 3.4 | 8.9 | 3.5 | 7.0 | 6.0 | 7.7 |
| 60 to 70 | 5.5 | 5.3 | 1.7 | 1.7 | 3.3 | 8.7 | 3.6 | 6.9 | 6.1 | 7.5 |
| 70 to 80 | 5.5 | 5.2 | 1.9 | 1.8 | 3.3 | 8.5 | 3.6 | 6.8 | 6.2 | 7.4 |
| 80 to 90 | 5.6 | 5.2 | 2.2 | 1.9 | 3.2 | 8.2 | 3.8 | 6.7 | 6.2 | 7.1 |
| 90 to 95 | 5.7 | 5.1 | 2.6 | 2.1 | 3.0 | 7.9 | 3.9 | 6.6 | 6.1 | 6.9 |
| 95 to 100 | 5.9 | 5.1 | 3.1 | 2.6 | 2.9 | 7.4 | 4.3 | 6.4 | 6.1 | 6.4 |
| Average | 5.4 | 5.3 | 1.8 | 1.9 | 3.3 | 8.6 | 3.5 | 6.9 | 6.0 | 7.6 |

**Sources:** NSO, MOSPI; HCES (2011-12); and author's calculation.

The volatility of inflation is defined as the "variability of monthly inflation from the average annual inflation" for a particular year. The volatility of inflation can be captured by the standard deviation of inflation or by using the coefficient of variation. We used the coefficient of variation, as standard deviation is not a unit-free measure.

We examined this volatility in inflation for the entire period of study, from January 2015 to December 2024, across the different fractile class of households (based on MPCE) at the all-India level. Figure 5 shows that the volatility of inflation falls consistently as we move from poorest households to the richest households for the headline and food inflation. The coefficient of variation of headline inflation falls from 0.45 for the poorest 5 percent of households to 0.21 for the richest 5 percent of households (Figure 4).

**Figure 4: Coefficient of Variation of Headline, Core, Food, and Fuel Inflation, by MPCE Class, January 2015 to December 2024, All-India**




**Sources:** NSO, MOSPI; HCES (2011-12); and author's calculation.

During the same period, the coefficient of variation of food inflation was 0.86 for the poorest 5 per cent of the households, whereas it was 0.48 for the richest 5 per cent of the households, showing stark differences in the volatility in food inflation between the rich and the poor. As food constitutes the major expenditure of their total monthly expenses, high volatility in food prices hurts the poor the most compared to the rich. Notably, the core inflation, which is under direct control of the monetary policy, has almost the same level of volatility for the rich and the poor.

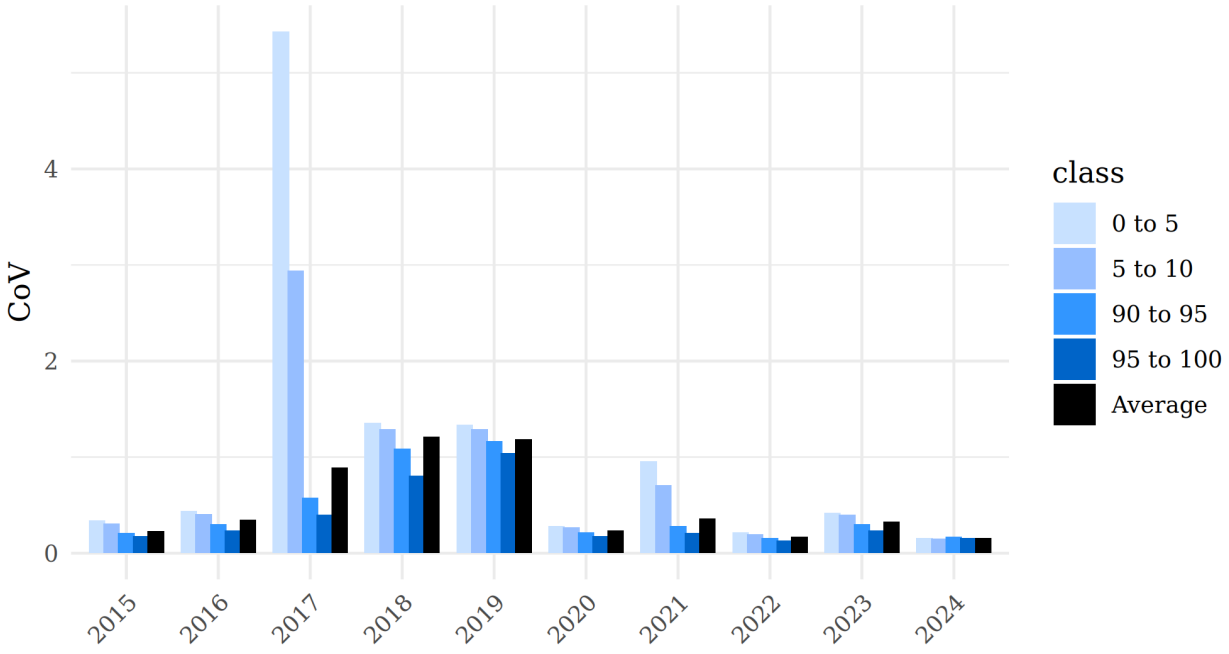
Two pertinent questions arise out of this analysis: Why is a volatile inflation bad and who is affected the most by this volatility? A high volatility in inflation would mean that the expectations of the people may remain unanchored. The poor strata of the population cannot defer or plan their consumption as a major proportion of their expenditure is necessity consumption. Regardless of the price volatility, individuals must incur expenditures to sustain a minimum level of consumption. As a result, even with high volatility of inflation, they are

forced to consume unlike the rich, who can plan their consumption choices better. Additionally, poor households are often credit constrained. As per the All-India Debt and Investment Survey, 2019, 35 per cent of households in rural India and 22.4 per cent of households in urban India were in debt. In rural India, 37.9 per cent of cash debt outstanding for institutional loans and 61.1 per cent of cash debt took debt from non-institutional agencies were for consumption purposes (education, medical treatment, housing, consumption expenditure). In urban India, these figures were 83.1 per cent for the institutional and 76 per cent for non-institutional debt (MoSPI, 2021). These figures clearly illustrate that the households which were indebted to meet consumption expenditure are more vulnerable to the volatility in inflation rates.

In the years when food inflation was high, we can see that the volatility of food inflation faced by the poor was also high. This is illustrated in Figure 5, which shows that the CoV of food inflation rose to 5.3 per cent during 2017 for the poorest households in India.[6] Generally, the CoV of food has been higher for the poor than the rich for all years under study. These results show that volatility is higher for the poor vis-à-vis the rich households and has persistently remained higher for the poor households in the period of our study.

[6] The unusually high coefficient of variation (CV) observed for food inflation among the bottom 0–5 and 5-10 MPCE class in 2017 is primarily attributable to substantial intra-year volatility. For instance, the 0 to 5 MPCE class experienced a mild positive inflation of 0.87 per cent in the first quarter, a sharp deflation of –1.72 per cent in the second quarter, and a significant rebound to 2.71 per cent in the fourth quarter. These large directional shifts, particularly in a low-inflation year, contribute to a high relative variation despite a modest annual average inflation rate. The pattern is consistent across the bottom two fractiles, and less pronounced in higher groups, indicating high volatility in the food inflation faced by the poorest households in 2017.

**Figure 5: Coefficient of Variation of Food Inflation, 2015 to 2024, All-India**




**Sources:** NSO, MOSPI; HCES (2011-12); and author's calculation.

### 4.2 Pro-Rich Bias in the CPI Food Basket

We examine the inflation gap between the richest and poorest households (top and bottom 5 per cent MPCE classes) across major food groups from 2015 to 2024 at the all-India level (Figure 6). The findings show significant distributional disparities, particularly in volatile staples like edible oils, vegetables, and pulses where poorer households face higher inflation for several years—highlighting the limitations of using an average CPI number to compute inflation.

In this analysis, the inflation gap is defined as the difference in item-level inflation rates between the richest and poorest households (inflation rate of Top 5 per cent MPCE – Bottom 5 per cent MPCE). A positive value indicates that richer households faced higher inflation, while a negative value suggests that poorer households had a heavier inflation burden—implying a regressive burden of inflation. Values closer to zero show minimal disparity, where inflation was broadly similar across classes. Meanwhile, larger absolute values signify greater inequality in inflation exposure, indicating an uneven distribution of price shocks across income groups.

Cereals constitute a substantial 19 per cent of the consumption basket for the poorest households, compared to just 4.2 per cent for the richest. Ordinarily, such a disparity in budget share can potentially expose poorer households to a higher risk of inflation inequality in cereals. However, the Public Distribution System (PDS) plays a crucial role in shielding them from this burden. By providing cereals like rice and wheat at highly subsidized prices, the PDS acts as a buffer against market price volatility, ensuring price stability for essential staples. As a result, the inflation gap in cereals between rich and poor households remains relatively narrow, underscoring the redistributive and inflation-protective function of the PDS in India's food security framework. The next two sub-groups that constitute the largest shares in the CPI basket of the poor include vegetables and oils and fats. Vegetables constitute 9.7 per cent of the poor's basket whereas only 3.2 per cent of the rich's basket. Here again, we see that in many years the poor face severe inflation inequality with the inflation gap reaching as high as -10 percentage points. Oils and fats comprise 4.8 per cent of the poor's basket whereas 2.1 per cent of the rich basket. In the years of supply side shocks and covid crises, we see that the poor face a much higher inflation gap from the rich. The gap is as high as -14 percentage points in 2021. Pulses also exhibit a similar pattern with the poor having 3.9 per cent of the basket whereas for the rich it is 1.2 per cent. While the aggregate CPI Food and Beverages index shows only a modest inflation gap between the richest and the poorest households (see Figure 6, second panel), disaggregated trends reveal substantial and persistent gaps in specific components like vegetables, oils and fats, and pulses. These categories contribute significantly to the poor’s consumption basket, suggesting that the

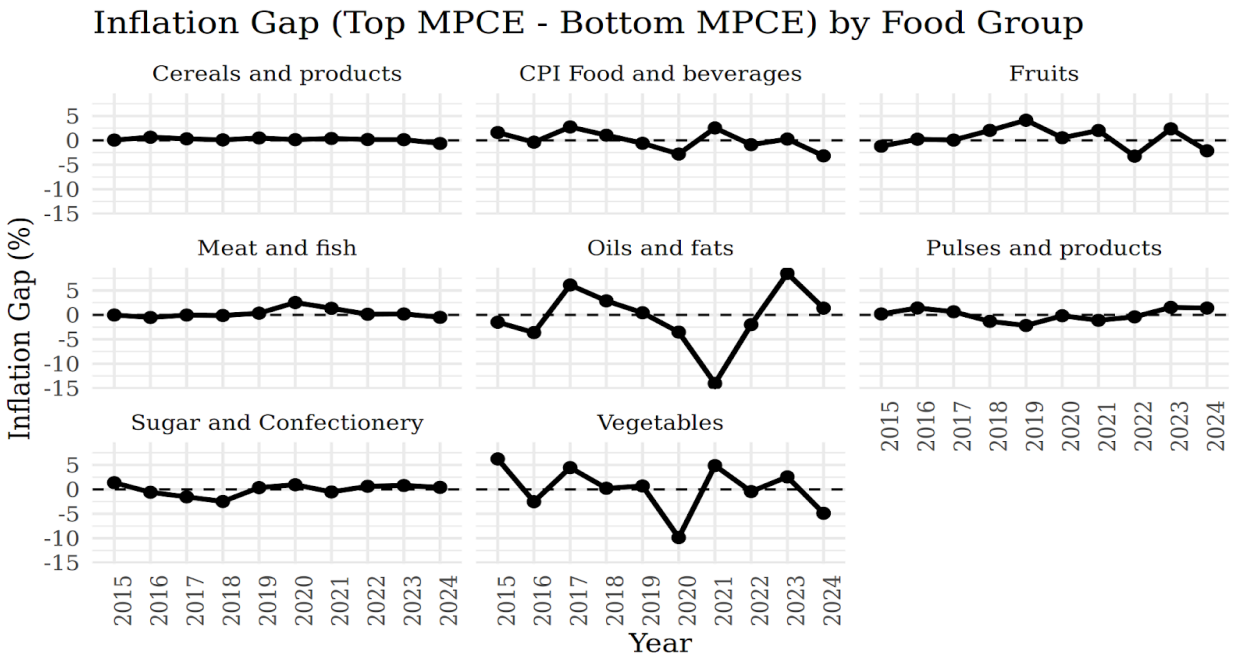
average-based CPI may obscure real inflation pressures faced by poorer households in critical food items.

We argue that the CPI Food and Beverages index consistently understates the inflation faced by the poorest households, revealing a systemic pro-rich bias in inflation protection. This arises because poor households spend a larger share of their budget on volatile staples like vegetables, edible oils, and pulses — items prone to frequent supply shocks and price spikes. In contrast, richer households consume more diversified food baskets. Since official CPI averages dilute these class-based differences, policies indexed to CPI (e.g., wages, subsidies) fail to keep pace with the real cost pressures on the poor, deepening inequality.

This empirical exercise underscores that in the absence of robust policy instruments like the Public Distribution System (PDS), poorer households remain disproportionately exposed to food price volatility and inflationary shocks. While the PDS has demonstrably cushioned the impact of cereal inflation, other essential items such as oils, vegetables, and pulses—where such protection is absent—continue to exhibit sharp and regressive inflation gaps. The analysis also reveals that headline CPI averages mask these distributional disparities, leading to a pro-rich bias in inflation measurement and protection.

Our analysis confirms the presence of plutocratic bias in the Consumer Price Index (CPI)—that is, the index disproportionately reflects the consumption patterns of higher-spending households. This issue is thoroughly examined by Nachane and Chaubal (2017), who show that the Indian CPI exhibits a significant degree of plutocratic bias. Their study highlights notable differences between rural and urban CPIs and shows that during the period 2012 to 2015, the poorest households (bottom 30 per cent) faced higher inflation rates than the average, especially in years of moderate to high inflation. Their analysis show that the official CPI understates the cost-of-living pressures on poorer households.

**Figure 6: Inflation gap for different food-sub groups, 2015 to 2024, All-India**




**Sources:** NSO, MOSPI; HCES (2011-12); and author's calculation.

## 5. Robustness Checks

Table 3 presents the F-values for variance differences in headline inflation experienced by various household fractile classes from 2015 to 2024 (as indicated by the adjacent columns). The null hypothesis ($H_0$) for these tests is that the variance of the two populations are equal. The results indicate statistically significant differences in inflation between the poorest households (0-5 fractile class of MPCE) and both- the middle-class households (40-50 and 50-60 fractile classes of MPCE) and the richer households (60 and above, including the 95-100 fractile classes of MPCE). The most pronounced differences are between the poorest households (0-5 fractile class) and the richest households (95-100 fractile class), indicating that these groups experience inflation very differently. The "average" row and column show the F-values for the average inflation measured and reported using CPI. The values indicate significant differences with most classes, reflecting an overall disparity in inflation variance

across different household groups. Similar results are obtained for food inflation.

**Table 3: F-values for Variance Differences in Headline Inflation Across Household Fractile Classes (2015-2024)**

| | 0-5 | 5-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 | 90-95 | 95-100 | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-5 | 1 | 1.154 | 1.296 | 1.44 * | 1.611 ** | 1.751 *** | 1.898 *** | 2.135 *** | 2.385 *** | 2.904 *** | 3.616 *** | 4.564 *** | 2.546 *** |
| 5-10 | 0.867 | 1 | 1.123 | 1.248 | 1.397 * | 1.518 ** | 1.645 *** | 1.851 *** | 2.067 *** | 2.517 *** | 3.134 *** | 3.956 *** | 2.207 *** |
| 10-20 | 0.772 | 0.89 | 1 | 1.111 | 1.244 | 1.352 | 1.465 ** | 1.648 *** | 1.841 *** | 2.241 *** | 2.791 *** | 3.522 *** | 1.965 *** |
| 20-30 | 0.695 * | 0.801 | 0.9 | 1 | 1.119 | 1.217 | 1.318 | 1.483 ** | 1.657 *** | 2.017 *** | 2.512 *** | 3.17 *** | 1.769 *** |
| 30-40 | 0.621 ** | 0.716 * | 0.804 | 0.893 | 1 | 1.087 | 1.178 | 1.325 | 1.48 ** | 1.802 *** | 2.244 *** | 2.832 *** | 1.58 ** |
| 40-50 | 0.571 *** | 0.659 ** | 0.74 | 0.822 | 0.92 | 1 | 1.084 | 1.219 | 1.362 | 1.658 *** | 2.065 *** | 2.606 *** | 1.454 ** |
| 50-60 | 0.527 *** | 0.608 *** | 0.683 ** | 0.758 | 0.849 | 0.923 | 1 | 1.125 | 1.256 | 1.53 ** | 1.905 *** | 2.404 *** | 1.342 |
| 60-70 | 0.468 *** | 0.54 *** | 0.607 *** | 0.674 ** | 0.755 | 0.82 | 0.889 | 1 | 1.117 | 1.36 | 1.694 *** | 2.138 *** | 1.193 |
| 70-80 | 0.419 *** | 0.484 *** | 0.543 *** | 0.604 *** | 0.676 ** | 0.734 | 0.796 | 0.895 | 1 | 1.218 | 1.516 ** | 1.914 *** | 1.068 |
| 80-90 | 0.344 *** | 0.397 *** | 0.446 *** | 0.496 *** | 0.555 *** | 0.603 *** | 0.654 ** | 0.735 | 0.821 | 1 | 1.245 | 1.572 ** | 0.877 |
| 90-95 | 0.277 *** | 0.319 *** | 0.358 *** | 0.398 *** | 0.446 *** | 0.484 *** | 0.525 *** | 0.59 *** | 0.66 ** | 0.803 | 1 | 1.262 | 0.704 * |
| 95-100 | 0.219 *** | 0.253 *** | 0.284 *** | 0.315 *** | 0.353 *** | 0.384 *** | 0.416 *** | 0.468 *** | 0.523 *** | 0.636 ** | 0.792 | 1 | 0.558 *** |
| Average | 0.393 *** | 0.453 *** | 0.509 *** | 0.565 *** | 0.633 ** | 0.688 ** | 0.745 | 0.838 | 0.937 | 1.14 | 1.42 * | 1.792 *** | 1 |

*: Significant at the 10 per cent level, ** at the 5 per cent level, and *** at the 1 per cent level.

**Sources:** NSO, MOSPI; HCES (2011-12); and author's calculation.

## 6. Conclusions and Policy Recommendations

The work presented in this paper tries to address the different rates of inflation and volatility of inflation faced by the different fractile class of households in India. It is important to acknowledge that there are certain limitations inherent to this research. The analysis is constrained by the lack of latest consumption basket by CPI (the CPI basket is based on HCES 2011-12 and not 2022-23 or 2023-24), non-availability of data on consumption items provided under various government schemes like PMGKAY is not captured by CPI (these goods can be free or have zero prices,[7] and thus result in overstating inflation, and methodological issues inherent to the CPI calculation (substitution bias as explained by Jorgenson *et al,* 1996).

It is important to acknowledge that the consumption weights used in this paper are derived from HCES 2011–12, which also form the basis of the official CPI series. These weights may not fully reflect shifts in household expenditure patterns over the past decade. While updated data from the 2022–23 and 2023–24 rounds of HCES capture these changes, incorporating them into CPI-linked inflation calculations presents a significant methodological challenge, particularly due to the lack of a one-to-one mapping between the revised consumption items and the CPI classification. Appendix Tables A3 and A4 present updated fractile-wise consumption weights from the recent HCES rounds for rural India. Notable shifts are evident, particularly within the food category. For instance, in rural India, the poorest households allocated 19.8 per cent of their total expenditure to cereals in 2011–12; this share declined to just 8.3 per cent by 2023–24. While the composition of food expenditure has changed substantially—such as increased shares for more price-volatile items like eggs, fish, meat, and fruits—the overall share of food in the poorest households' budgets has remained high, declining only moderately from 60.6 per cent in 2011–12 to 54.2 per cent in 2023–24. These structural shifts are likely to affect the magnitude and composition of inflation inequality, particularly due to the reduced weight of relatively price-stable items like cereals (buffered by the PDS) and increased exposure to volatile food items. While this paper does not attempt to re-estimate inflation using the 2023–24 weights—given the complexity of matching the new item structure to the existing CPI—we present the updated consumption profiles across fractiles in rural and urban India in Appendix Tables A2–A7 to illustrate the nature of this transformation.

Despite these constraints, the insights gained by this study help in understanding the

[7] Das and George (2023).

long-term trends in inflation inequality in India and formulating policy recommendations.

A few studies have provided policy measures that can be taken to reduce the distributional impact of inflation. The study conducted by Curci *et al* (2022) quantified the extent to which government measures supported Italian households' incomes and lessened energy price hikes, mitigating the distributional impact of the inflationary shocks. According to their estimates, in 2022, these measures mitigated inflation on average by slightly less than 2 percentage points and reduced the impact of the shock on households.

Ghosh (2023) outlays policy solutions for the developing economies to contain inflation: controlling the prices of key commodities, increasing domestic production to remove critical shortages, and ensuring social protections for the newly unemployed, and introducing effective cross-border capital controls in the long run. A combination of these measures, an enhanced fiscal policy support, and an expansion of public work programmes and public distribution system (PDS) can prove critical to reduce the volatility in inflation rates faced by the poor households in India. In a commentary, Gill and Nagle (2022) suggested social welfare policies that includes targeted cash, food and in-kind transfers, school feeding programs and public works programs. Roy (2024) showed that the recent episodes of inflation, particularly after the pandemic, have led to the redistribution of income, favouring the rich and big corporations in India. Several scholars have argued that after the pandemic and the Russia-Ukraine war, prices of fertilizer, feed, and food skyrocketed. The firms, particularly large global corporations, gained a huge markup during this period, shifting the burden of inflation on the poor (Konczal and Lusiani, 2022; Rawal and Bansal, 2024). Mitigating strategies by the Indian state can make a major impact on curbing the volatility of inflation for the poor. There is rich evidence on the welfare effects of in-kind transfers provided through PDS vis-à-vis cash transfers that are often not inflation indexed (Gadenne et al, 2021; Khera, 2014; Himanshu and Sen, 2013). Gadenne et al. (2021) showed that the expansion of PDS plays a significant role in reducing sensitivity of calories to prices. An increase in PDS value by Rs. 100 reduces the sensitivity of calories to market prices by 73 per cent making PDS as one of the key measures that provides insurance against price risk. Since the poor's basket constitutes around 57 per cent of the expenditure on food, measures that can strengthen the PDS, enhance food security in the country, enhance the purchasing power of the poor (formal employment) should be taken.

This empirical exercise yields two major results. First, the inflation rate for the poor is higher than the inflation rate for the rich in years when food inflation has been high. Conversely, the

inflation rate for the rich has been higher compared to the poor in years where food prices have been low and non-food inflation was higher. Food constitutes 57 per cent of the basket of the poorest people, whereas it is only 32 per cent of the consumption basket of the richest. Second, the coefficient of variation of inflation, a measure of inflation volatility, falls from 0.45 for the poorest households to 0.21 for the richest households. This shows that the volatility of inflation is higher for the poor vis-à-vis the rich households and has persistently remained higher for the poor households for the period under study. The high volatility of inflation faced by the poor make them much more vulnerable to slipping into extreme poverty arising due to price shocks. This paper argues that this inequality of inflation and high volatility is anti-poor and requires immediate policy intervention. The results of this paper indicate that we need stronger fiscal policy support to curb the volatility of inflation faced by the poor.

**7. Data Constraints in Measuring Inflation Inequality**

NSO covers 1181 rural and 1114 urban markets to collect prices and these markets are distributed equally across four weeks of a month to capture weekly price variations. The CPI is compiled and published by the National Statistical Office (NSO) based on a rich and expansive data collection framework.

What is less widely known, however, is the granularity of this data collection. Prices are obtained not just at the item level – say, "rice" or "milk" – but at a much finer level of detail, known as the Structured Product Description (SPD). This means that within "rice", for instance, NSO tracks separate quotations for basmati and non-basmati rice (basmati is a rice variety which is often perceived as premium quality); similarly, detailed specifications exist for other commodities like edible oils, pulses, or footwear. SPD uniquely identifies the product by specifying its various features including brand, variety, unit and quality (CSO, 2014a, Das and George, 2023).

These micro-level data are collected but are not available in the public domain. The released data are much more aggregated– typically the average item-level index at the all-India level. Even the rural-urban disaggregated item-level price indices, which are used by the NSO to construct CPI-rural and CPI-urban, are not publicly released in the existing CPI series. This

lack of data limits empirical research into critical issues like inflation inequality.

As India increasingly emphasises data-driven policymaking, there is a strong case for greater transparency and access to micro price data. Making SPD-level and market-level price information publicly available – even with a suitable lag – could open new research frontiers in inequality, consumption behavior, and regional inflation dynamics.

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## Appendix A: Detailed table of weights as per CPI basket and HCES data

### Table A1: Consumption share of different subgroups, by fractile class of households, as per the CPI basket (2012=100)

| | 0 to 5 | 5 to 10 | 10 to 20 | 20 to 30 | 30 to 40 | 40 to 50 | 50 to 60 | 60 to 70 | 70 to 80 | 80 to 90 | 90 to 95 | 95 to 100 | **Average** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cereals and products | 19.1 | 17.1 | 15.8 | 14.3 | 13.1 | 12.0 | 11.3 | 10.2 | 10.2 | 8.1 | 6.5 | 4.2 | 9.7 |
| Meat and fish | 2.4 | 3.1 | 3.5 | 3.9 | 4.0 | 3.9 | 4.1 | 4.0 | 4.0 | 3.8 | 3.4 | 3.0 | 3.6 |
| Egg | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 | 0.2 | 0.4 |
| Milk and products | 3.9 | 5.2 | 6.2 | 6.4 | 7.0 | 7.2 | 7.3 | 7.4 | 7.4 | 7.4 | 6.9 | 5.1 | 6.6 |
| Oils and fats | 4.8 | 4.8 | 4.6 | 4.5 | 4.3 | 4.2 | 4.1 | 4.0 | 4.0 | 3.3 | 2.9 | 2.1 | 3.6 |
| Fruits | 1.1 | 1.4 | 1.7 | 2.1 | 2.4 | 2.6 | 2.8 | 3.0 | 3.0 | 3.5 | 3.6 | 3.1 | 2.9 |
| Vegetables | 9.7 | 9.2 | 8.6 | 8.2 | 7.6 | 7.3 | 7.0 | 6.6 | 6.6 | 5.4 | 4.7 | 3.2 | 6.0 |
| Pulses and products | 4.0 | 3.7 | 3.5 | 3.2 | 3.1 | 2.9 | 2.8 | 2.6 | 2.6 | 2.1 | 1.8 | 1.2 | 2.4 |
| Sugar and Confectionery | 1.9 | 1.9 | 1.8 | 1.7 | 1.6 | 1.6 | 1.6 | 1.5 | 1.5 | 1.3 | 1.2 | 0.8 | 1.4 |
| Spices | 3.8 | 3.6 | 3.4 | 3.3 | 3.2 | 3.0 | 2.9 | 2.8 | 2.8 | 2.3 | 1.9 | 1.3 | 2.5 |
| Non-alcoholic beverages | 1.2 | 1.2 | 1.2 | 1.3 | 1.3 | 1.3 | 1.4 | 1.4 | 1.4 | 1.3 | 1.3 | 1.0 | 1.3 |
| Prepared meals, snacks, sweets etc. | 4.7 | 4.9 | 4.8 | 4.7 | 4.9 | 5.1 | 4.8 | 5.1 | 5.1 | 5.3 | 5.7 | 7.5 | 5.5 |
| **CPI Food and beverages** | 56.9 | 56.5 | 55.7 | 54.2 | 53.1 | 51.6 | 50.6 | 49.0 | 49.0 | 44.3 | 40.2 | 32.8 | 45.9 |
| **Pan, Tobacco and Intoxicants** | 2.6 | 2.7 | 2.6 | 2.5 | 2.7 | 2.4 | 2.4 | 2.6 | 2.6 | 2.4 | 2.2 | 2.1 | 2.4 |
| Clothing | 6.7 | 6.4 | 6.3 | 6.3 | 6.1 | 6.2 | 6.0 | 5.9 | 5.9 | 5.5 | 5.3 | 4.3 | 5.6 |
| Footwear | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.9 | 0.7 | 0.9 |
| **Clothing and Footwear** | 7.7 | 7.4 | 7.3 | 7.3 | 7.1 | 7.2 | 7.0 | 6.9 | 6.9 | 6.4 | 6.2 | 5.1 | 6.5 |
| **Housing** | 7.5 | 7.5 | 7.6 | 8.0 | 8.6 | 9.0 | 8.9 | 9.3 | 9.3 | 10.5 | 11.2 | 12.5 | 10.1 |
| **CPI Fuel and light** | 11.0 | 10.1 | 9.4 | 8.9 | 8.4 | 8.0 | 7.6 | 7.2 | 7.2 | 6.3 | 5.7 | 4.0 | 6.8 |
| Household goods and services | 2.9 | 3.0 | 3.0 | 3.1 | 3.1 | 3.2 | 3.3 | 3.5 | 3.5 | 3.9 | 4.3 | 5.2 | 3.8 |
| Health | 2.9 | 3.5 | 3.9 | 4.3 | 4.4 | 4.5 | 5.2 | 5.2 | 5.2 | 6.3 | 7.4 | 8.8 | 5.9 |
| Transport and communication | 2.9 | 3.3 | 4.0 | 4.7 | 5.3 | 6.1 | 6.7 | 7.5 | 7.5 | 9.2 | 10.8 | 14.5 | 8.6 |
| Recreation and amusement | 0.6 | 0.8 | 0.9 | 1.1 | 1.2 | 1.3 | 1.5 | 1.6 | 1.6 | 1.9 | 2.1 | 2.3 | 1.7 |
| Education | 1.7 | 1.9 | 2.3 | 2.7 | 2.9 | 3.3 | 3.5 | 3.8 | 3.8 | 5.2 | 5.9 | 6.6 | 4.4 |
| **Personal care and effects** | 3.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.3 | 3.3 | 3.6 | 4.0 | 6.1 | 3.8 |
| Miscellaneous | 14.2 | 15.8 | 17.3 | 19.0 | 20.1 | 21.8 | 23.4 | 25.0 | 25.0 | 30.1 | 34.5 | 43.5 | 28.3 |
| **General Index (All Groups)** | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

**Note:** This table is based on the authors' calculations using a mapping between HCES (2011–12) consumption data and CPI basket, following the methodology outlined in the TAC report. For example, grinding charges, biscuits, chocolates are

included under 'Cereals and Products' in the CPI basket but are not separately identified in the HCES ‘Cereals’ sub-group. Additionally, housing-related expenditures (e.g., rent, imputed rent, taxes, and cess) are excluded from the rural CPI basket, although it is recorded in the HCES. As a result, some methodological differences between the HCES and CPI basket affect category-level comparisons. Moreover, the average inflation used in this paper and actual inflation published by the NSO could be marginally different due to construction from sub-groups to aggregate level inflation.

**Sources:** NSO, MOSPI; HCES (2011-12); and author’s calculation.

Tables A2 to A7 present the consumption expenditure shares across MPCE fractiles for rural and urban India based on the three rounds of the HCES i.e., 2011-12, 2022-23 and 2023-24. These tables reflect only the original HCES category shares and do not represent any mapping to the CPI expenditure classification.

## Table A2: Consumption expenditure shares as per HCES (2011-12), Rural India, by class

| Weights | 0-5 per cent | 5-10 per cent | 10-20 per cent | 20-30 per cent | 30-40 per cent | 40-50 per cent | 50-60 per cent | 60-70 per cent | 70-80 per cent | 80-90 per cent | 90-95 per cent | 95-100 per cent | All Classes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cereals and products | 19.8 | 18.2 | 17.0 | 15.5 | 14.4 | 13.1 | 12.2 | 11.1 | 10.2 | 8.8 | 7.2 | 4.8 | 10.8 |
| Egg, Meat and fish | 2.7 | 3.3 | 3.9 | 4.6 | 4.9 | 4.8 | 5.4 | 5.2 | 5.1 | 5.1 | 4.8 | 4.5 | 4.8 |
| Milk and milk products | 3.4 | 4.8 | 6.2 | 6.4 | 7.4 | 8.0 | 8.1 | 8.7 | 9.0 | 9.5 | 9.3 | 7.4 | 8.0 |
| Edible oils | 5.1 | 5.0 | 4.9 | 4.7 | 4.6 | 4.5 | 4.3 | 4.1 | 3.8 | 3.4 | 2.9 | 2.1 | 3.7 |
| Fruits (fresh and dry) | 0.9 | 1.1 | 1.5 | 1.8 | 2.1 | 2.4 | 2.6 | 2.9 | 3.3 | 3.5 | 3.8 | 3.3 | 2.8 |
| Vegetables | 10.0 | 9.6 | 9.1 | 8.7 | 8.1 | 7.8 | 7.3 | 7.0 | 6.6 | 5.9 | 5.2 | 3.6 | 6.6 |
| Pulses and products (include gram) | 4.2 | 4.0 | 3.8 | 3.7 | 3.5 | 3.4 | 3.3 | 3.1 | 2.9 | 2.6 | 2.3 | 1.7 | 2.9 |
| Sugar | 1.9 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.7 | 1.6 | 1.4 | 1.1 | 1.7 |
| Spices & salt | 5.0 | 4.5 | 4.4 | 4.3 | 4.2 | 4.1 | 4.2 | 4.0 | 3.9 | 3.5 | 3.0 | 2.2 | 3.7 |
| Beverages, prepared meals, processed food etc | 7.7 | 7.8 | 7.6 | 7.5 | 7.8 | 8.0 | 7.7 | 7.9 | 7.8 | 7.8 | 7.7 | 8.7 | 7.9 |
| **Food and beverages** | **60.6** | **60.2** | **60.3** | **59.2** | **58.9** | **58.0** | **57.0** | **55.7** | **54.2** | **51.8** | **47.6** | **39.5** | **52.9** |
| Pan, Tobacco and Intoxicants | 2.9 | 3.1 | 3.0 | 3.0 | 3.3 | 3.1 | 3.2 | 3.4 | 3.4 | 3.3 | 3.2 | 3.1 | 3.2 |
| Clothing | 7.4 | 7.2 | 6.9 | 6.7 | 6.6 | 6.6 | 6.6 | 6.2 | 6.0 | 5.8 | 5.5 | 4.4 | 6.0 |
| Footwear | 1.0 | 1.0 | 1.0 | 1.0 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.0 | 0.8 | 1.0 |
| Clothing and Footwear | 8.4 | 8.2 | 7.9 | 7.8 | 7.6 | 7.7 | 7.7 | 7.3 | 7.1 | 6.9 | 6.5 | 5.2 | 7.0 |
| Rent and taxes & cess | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 1.2 | 1.8 | 0.7 |
| Fuel and light | 12.4 | 11.4 | 10.6 | 10.2 | 9.5 | 9.1 | 8.8 | 8.4 | 7.9 | 7.4 | 6.6 | 4.5 | 8.0 |
| medical inst & non-inst | 3.1 | 3.8 | 4.0 | 4.7 | 4.7 | 4.9 | 5.4 | 5.5 | 6.4 | 7.2 | 8.7 | 11.0 | 6.7 |
| Education | 1.4 | 1.6 | 1.9 | 2.2 | 2.2 | 2.5 | 2.5 | 2.9 | 3.3 | 3.9 | 4.8 | 6.2 | 3.5 |
| Other* | 11.1 | 11.7 | 12.1 | 12.8 | 13.6 | 14.4 | 15.1 | 16.3 | 17.2 | 18.8 | 21.5 | 28.6 | 18.0 |
| **Non-Food** | **39.4** | **39.8** | **39.7** | **40.8** | **41.1** | **42.0** | **43.0** | **44.3** | **45.8** | **48.2** | **52.4** | **60.5** | **47.1** |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

*: Other includes entertainment, minor durable-type goods, toilet articles, other household consumables, consumer services, conveyance and durable goods.

**Sources:** NSO, MOSPI; HCES (2011-12); and author's calculation.

## Table A3: Consumption expenditure shares as per HCES (2022-23), Rural India, by class

| Weights | 0-5 per cent | 5-10 per cent | 10-20 per cent | 20-30 per cent | 30-40 per cent | 40-50 per cent | 50-60 per cent | 60-70 per cent | 70-80 per cent | 80-90 per cent | 90-95 per cent | 95-100 per cent | All Classes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cereals and products | 7.9 | 7.2 | 6.8 | 6.5 | 6.1 | 5.7 | 5.4 | 5.1 | 4.6 | 4.2 | 3.7 | 2.7 | 4.9 |
| Egg, Meat and fish | 5.2 | 5.2 | 5.4 | 5.3 | 5.4 | 5.3 | 5.2 | 5.1 | 5.0 | 4.8 | 4.6 | 3.9 | 4.9 |
| Milk and milk products | 6.4 | 7.5 | 8.0 | 8.5 | 8.8 | 9.0 | 9.0 | 9.1 | 8.9 | 8.7 | 8.2 | 6.4 | 8.3 |
| Edible oils | 6.0 | 5.6 | 5.3 | 4.9 | 4.6 | 4.3 | 4.0 | 3.7 | 3.4 | 2.9 | 2.5 | 1.9 | 3.6 |
| Fruits (fresh and dry) | 2.4 | 2.8 | 3.1 | 3.4 | 3.6 | 3.7 | 3.9 | 3.9 | 4.0 | 4.0 | 4.0 | 3.5 | 3.7 |
| Vegetables | 8.3 | 7.6 | 7.2 | 6.8 | 6.5 | 6.2 | 6.0 | 5.6 | 5.2 | 4.7 | 4.2 | 3.0 | 5.4 |
| Pulses and products (include gram) | 3.4 | 3.1 | 2.8 | 2.6 | 2.5 | 2.4 | 2.2 | 2.1 | 1.9 | 1.7 | 1.5 | 1.1 | 2.0 |
| Sugar | 1.2 | 1.2 | 1.1 | 1.1 | 1.0 | 1.0 | 0.9 | 0.9 | 0.8 | 0.7 | 0.6 | 0.5 | 0.8 |
| Spices & salt | 4.5 | 4.2 | 3.9 | 3.8 | 3.6 | 3.5 | 3.3 | 3.2 | 3.1 | 2.8 | 2.6 | 1.9 | 3.1 |
| beverages, prepared meals, processed food etc | 8.9 | 9.2 | 9.4 | 9.6 | 9.5 | 9.6 | 9.7 | 9.8 | 9.8 | 9.6 | 9.6 | 9.6 | 9.6 |
| **Food** | **54.2** | **53.7** | **53.0** | **52.5** | **51.8** | **50.8** | **49.6** | **48.4** | **46.7** | **44.2** | **41.5** | **34.4** | **46.4** |
| Pan, Tobacco and Intoxicants | 4.5 | 4.1 | 4.0 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.9 | 3.9 | 3.9 | 3.2 | 3.8 |
| Clothing& bedding | 6.7 | 6.5 | 6.3 | 6.1 | 5.8 | 5.8 | 5.5 | 5.4 | 5.2 | 4.9 | 4.6 | 3.9 | 5.2 |
| Footwear | 1.2 | 1.1 | 1.1 | 1.0 | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.8 | 0.7 | 0.6 | 0.9 |
| Clothing, bedding and Footwear | 7.8 | 7.6 | 7.3 | 7.1 | 6.8 | 6.7 | 6.4 | 6.3 | 6.0 | 5.7 | 5.4 | 4.5 | 6.1 |
| rent and taxes & cess | 0.2 | 0.2 | 0.3 | 0.4 | 0.4 | 0.4 | 0.5 | 0.6 | 0.7 | 0.9 | 1.4 | 2.6 | 0.9 |
| Fuel and light | 9.3 | 8.9 | 8.4 | 8.0 | 7.7 | 7.5 | 7.3 | 6.9 | 6.6 | 6.2 | 5.6 | 4.2 | 6.7 |
| medical inst & non-inst | 3.3 | 3.7 | 4.1 | 4.5 | 5.0 | 5.3 | 5.7 | 6.0 | 6.7 | 7.8 | 9.0 | 13.1 | 7.1 |
| Education | 1.7 | 2.0 | 2.3 | 2.4 | 2.5 | 2.7 | 2.8 | 2.9 | 3.2 | 3.6 | 4.1 | 5.3 | 3.3 |
| Other* | 19.0 | 19.8 | 20.6 | 21.2 | 22.0 | 22.9 | 23.9 | 25.1 | 26.1 | 27.7 | 29.1 | 32.7 | 25.7 |
| **Non-Food** | **45.8** | **46.3** | **47.0** | **47.5** | **48.2** | **49.2** | **50.4** | **51.6** | **53.3** | **55.8** | **58.5** | **65.6** | **53.6** |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

*: Other includes entertainment, toilet articles, other household consumables, consumer services, conveyance and durable goods.

**Sources:** NSO, MOSPI; HCES (2022-23); and author's calculation.

## Table A4: Consumption expenditure shares as per HCES (2023-24), Rural India, by class

| Weights | 0-5 per cent | 5-10 per cent | 10-20 per cent | 20-30 per cent | 30-40 per cent | 40-50 per cent | 50-60 per cent | 60-70 per cent | 70-80 per cent | 80-90 per cent | 90-95 per cent | 95-100 per cent | All Classes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cereals and products | 8.3 | 7.4 | 6.7 | 6.3 | 5.9 | 5.6 | 5.3 | 5.0 | 4.7 | 4.3 | 3.9 | 3.0 | 5.0 |
| Egg, Meat and fish | 5.0 | 5.0 | 4.8 | 4.9 | 4.9 | 5.0 | 5.0 | 5.1 | 5.0 | 4.9 | 5.0 | 4.6 | 4.9 |
| Milk and milk products | 6.5 | 7.5 | 8.2 | 8.5 | 8.7 | 8.8 | 9.0 | 8.8 | 8.8 | 8.8 | 8.5 | 7.1 | 8.4 |
| Edible oils | 4.7 | 4.3 | 3.9 | 3.7 | 3.4 | 3.2 | 3.0 | 2.8 | 2.5 | 2.2 | 1.9 | 1.6 | 2.8 |
| Fruits (fresh and dry) | 2.6 | 2.9 | 3.2 | 3.4 | 3.6 | 3.8 | 3.8 | 4.0 | 4.1 | 4.2 | 4.2 | 3.9 | 3.8 |
| Vegetables | 9.0 | 8.4 | 7.9 | 7.5 | 7.2 | 6.8 | 6.5 | 6.1 | 5.7 | 5.2 | 4.7 | 3.8 | 6.0 |
| Pulses and products (include gram) | 3.2 | 3.0 | 2.8 | 2.6 | 2.5 | 2.3 | 2.1 | 2.0 | 1.9 | 1.7 | 1.6 | 1.3 | 2.0 |
| Sugar | 1.2 | 1.1 | 1.1 | 1.0 | 1.0 | 0.9 | 0.8 | 0.8 | 0.7 | 0.7 | 0.6 | 0.5 | 0.8 |
| Spices & salt | 4.8 | 4.5 | 4.3 | 4.1 | 3.9 | 3.7 | 3.6 | 3.4 | 3.3 | 3.0 | 2.7 | 2.2 | 3.4 |
| beverages, prepared meals, processed food etc | 9.5 | 9.4 | 9.6 | 9.7 | 9.8 | 10.1 | 10.0 | 10.2 | 10.1 | 10.1 | 9.7 | 9.1 | 9.8 |
| **Food** | **54.8** | **53.5** | **52.5** | **51.6** | **50.8** | **50.2** | **49.1** | **48.2** | **46.9** | **45.1** | **42.9** | **37.1** | **47.0** |
| Pan, Tobacco and Intoxicants | 4.3 | 4.3 | 4.1 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.9 | 3.8 | 3.6 | 3.1 | 3.8 |
| Clothing& bedding | 7.4 | 7.0 | 6.9 | 6.6 | 6.4 | 6.2 | 6.0 | 5.8 | 5.6 | 5.3 | 4.9 | 3.9 | 5.7 |
| Footwear | 1.2 | 1.1 | 1.1 | 1.1 | 1.0 | 1.0 | 1.0 | 1.0 | 0.9 | 0.9 | 0.9 | 0.7 | 1.0 |
| Clothing, bedding and Footwear | 8.5 | 8.2 | 8.0 | 7.7 | 7.5 | 7.2 | 7.0 | 6.8 | 6.5 | 6.2 | 5.8 | 4.6 | 6.6 |
| rent and taxes & cess | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 | 0.5 | 0.6 | 0.9 | 1.1 | 2.3 | 0.8 |
| Fuel and light | 8.2 | 7.7 | 7.5 | 7.2 | 6.9 | 6.6 | 6.4 | 6.2 | 5.9 | 5.6 | 5.2 | 4.4 | 6.1 |
| medical inst & non-inst | 3.0 | 3.5 | 3.8 | 4.2 | 4.6 | 5.1 | 5.5 | 5.8 | 6.5 | 7.4 | 8.9 | 13.8 | 6.8 |
| Education | 1.7 | 2.1 | 2.4 | 2.7 | 2.8 | 2.9 | 3.1 | 3.2 | 3.4 | 3.7 | 4.0 | 3.9 | 3.2 |
| Other* | 19.2 | 20.4 | 21.5 | 22.4 | 23.1 | 23.7 | 24.5 | 25.2 | 26.2 | 27.2 | 28.5 | 30.7 | 25.5 |
| **Non-Food** | **45.2** | **46.5** | **47.5** | **48.4** | **49.2** | **49.8** | **50.9** | **51.8** | **53.1** | **54.9** | **57.1** | **62.9** | **53.0** |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

*: Other includes entertainment, toilet articles, other household consumables, consumer services, conveyance and durable goods.

**Sources:** NSO, MOSPI; HCES (2023-24); and author's calculation.

## Table A5: Consumption expenditure shares as per HCES (2011-12), Urban India, by class

| Weights | 0-5 per cent | 5-10 per cent | 10-20 per cent | 20-30 per cent | 30-40 per cent | 40-50 per cent | 50-60 per cent | 60-70 per cent | 70-80 per cent | 80-90 per cent | 90-95 per cent | 95-100 per cent | All Classes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cereals and products | 16.9 | 14.1 | 12.6 | 11.2 | 9.9 | 8.9 | 8.3 | 7.4 | 6.5 | 5.5 | 4.2 | 2.2 | 6.7 |
| Egg, Meat and fish | 3.4 | 4.4 | 4.7 | 4.9 | 5.0 | 4.4 | 4.3 | 4.1 | 3.7 | 3.9 | 3.0 | 2.0 | 3.7 |
| Milk and milk products | 5.4 | 6.8 | 7.6 | 8.2 | 8.4 | 8.5 | 8.5 | 8.2 | 8.0 | 7.1 | 6.5 | 4.1 | 7.0 |
| Edible oils | 5.0 | 4.9 | 4.5 | 4.2 | 3.9 | 3.6 | 3.4 | 3.1 | 2.7 | 2.3 | 1.8 | 1.0 | 2.7 |
| Fruits (fresh and dry) | 1.6 | 2.0 | 2.3 | 2.7 | 3.2 | 3.2 | 3.5 | 3.7 | 3.8 | 4.0 | 4.0 | 3.2 | 3.4 |
| Vegetables | 8.9 | 8.1 | 7.3 | 6.9 | 6.4 | 6.0 | 5.8 | 5.4 | 4.8 | 4.1 | 3.3 | 1.9 | 4.6 |
| Pulses and products (include gram) | 4.2 | 3.8 | 3.5 | 3.1 | 2.9 | 2.7 | 2.5 | 2.3 | 2.1 | 1.8 | 1.4 | 0.7 | 2.0 |
| Sugar | 2.1 | 2.0 | 1.8 | 1.7 | 1.6 | 1.4 | 1.3 | 1.2 | 1.0 | 0.9 | 0.7 | 0.4 | 1.0 |
| Spices & salt | 4.8 | 4.7 | 4.3 | 4.0 | 3.8 | 3.4 | 3.2 | 2.8 | 2.6 | 2.2 | 1.7 | 0.9 | 2.5 |
| beverages, prepared meals, processed food etc | 7.0 | 7.8 | 7.5 | 7.6 | 7.7 | 8.2 | 7.7 | 8.3 | 8.6 | 8.9 | 9.7 | 11.5 | 9.0 |
| **Food** | **59.2** | **58.6** | **56.2** | **54.4** | **52.6** | **50.2** | **48.5** | **46.4** | **43.8** | **40.5** | **36.4** | **27.8** | **42.6** |
| Pan, Tobacco and Intoxicants | 2.5 | 2.5 | 2.4 | 2.3 | 2.3 | 1.8 | 1.8 | 1.9 | 1.5 | 1.4 | 1.2 | 0.9 | 1.6 |
| Clothing& bedding | 6.8 | 6.3 | 6.2 | 6.2 | 6.0 | 6.0 | 5.8 | 5.7 | 5.4 | 5.2 | 5.2 | 4.2 | 5.4 |
| Footwear | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.0 | 1.0 | 1.0 | 0.8 | 1.0 |
| Clothing, bedding and Footwear | 7.9 | 7.4 | 7.3 | 7.3 | 7.0 | 7.1 | 6.9 | 6.8 | 6.4 | 6.2 | 6.2 | 5.0 | 6.4 |
| rent and taxes & cess | 1.5 | 1.8 | 2.7 | 3.1 | 3.8 | 4.6 | 5.3 | 5.8 | 6.9 | 7.6 | 8.1 | 12.3 | 7.1 |
| Fuel and light | 11.4 | 10.5 | 9.7 | 9.0 | 8.6 | 8.1 | 7.5 | 7.1 | 6.7 | 6.1 | 5.6 | 4.1 | 6.7 |
| medical inst & non-inst | 3.0 | 3.6 | 4.2 | 4.3 | 4.5 | 4.6 | 5.5 | 5.5 | 5.6 | 6.0 | 6.4 | 6.4 | 5.5 |
| Education | 2.3 | 2.8 | 3.4 | 4.0 | 4.4 | 5.3 | 5.8 | 6.2 | 7.2 | 8.4 | 9.2 | 8.8 | 6.9 |
| Other* | 12.1 | 12.8 | 14.1 | 15.6 | 16.6 | 18.2 | 18.7 | 20.3 | 21.8 | 23.8 | 26.9 | 34.7 | 23.2 |
| **Non-Food** | **40.8** | **41.4** | **43.8** | **45.6** | **47.4** | **49.8** | **51.5** | **53.6** | **56.2** | **59.5** | **63.6** | **72.2** | **57.4** |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

*: Other includes entertainment, minor durable-type goods, toilet articles, other household consumables, consumer services, conveyance and durable goods.

**Sources:** NSO, MOSPI; HCES (2011-12); and author's calculation.

## Table A6: Consumption expenditure shares as per HCES (2022-23), Urban India, by class

| Weights | 0-5 per cent | 5-10 per cent | 10-20 per cent | 20-30 per cent | 30-40 per cent | 40-50 per cent | 50-60 per cent | 60-70 per cent | 70-80 per cent | 80-90 per cent | 90-95 per cent | 95-100 per cent | All Classes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cereals and products | 6.5 | 5.8 | 5.5 | 5.1 | 4.8 | 4.5 | 4.2 | 4.0 | 3.6 | 3.2 | 2.6 | 1.6 | 3.6 |
| Egg, Meat and fish | 5.4 | 5.5 | 5.0 | 4.6 | 4.5 | 4.4 | 4.2 | 3.8 | 3.5 | 3.3 | 2.8 | 1.8 | 3.6 |
| Milk and milk products | 7.8 | 8.4 | 8.8 | 8.9 | 8.8 | 8.5 | 8.3 | 7.9 | 7.5 | 6.9 | 6.1 | 4.4 | 7.2 |
| Edible oils | 5.0 | 4.5 | 4.0 | 3.6 | 3.2 | 3.0 | 2.8 | 2.5 | 2.2 | 1.9 | 1.5 | 1.0 | 2.4 |
| Fruits (fresh and dry) | 3.0 | 3.3 | 3.6 | 3.7 | 3.9 | 4.0 | 4.0 | 4.1 | 4.1 | 4.0 | 3.9 | 3.2 | 3.8 |
| Vegetables | 7.0 | 6.2 | 5.7 | 5.4 | 5.0 | 4.7 | 4.4 | 4.0 | 3.7 | 3.2 | 2.7 | 1.8 | 3.8 |
| Pulses and products (include gram) | 2.8 | 2.5 | 2.2 | 2.0 | 1.9 | 1.7 | 1.6 | 1.5 | 1.3 | 1.2 | 1.0 | 0.6 | 1.4 |
| Sugar | 1.1 | 1.0 | 0.9 | 0.8 | 0.7 | 0.7 | 0.6 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.5 |
| Spices & salt | 3.8 | 3.5 | 3.2 | 3.1 | 2.9 | 2.7 | 2.6 | 2.4 | 2.2 | 1.9 | 1.6 | 1.0 | 2.2 |
| beverages, prepared meals, processed food etc | 8.7 | 8.8 | 9.1 | 9.2 | 9.3 | 9.7 | 9.6 | 9.7 | 10.1 | 10.5 | 11.5 | 14.2 | 10.6 |
| **Food** | **51.1** | **49.4** | **48.1** | **46.5** | **45.1** | **44.0** | **42.3** | **40.5** | **38.8** | **36.5** | **34.0** | **29.9** | **39.2** |
| Pan, Tobacco and Intoxicants | 3.2 | 3.1 | 2.9 | 2.7 | 2.7 | 2.6 | 2.6 | 2.5 | 2.3 | 2.3 | 2.1 | 2.1 | 2.4 |
| Clothing& bedding | 6.1 | 5.8 | 5.5 | 5.3 | 5.2 | 5.0 | 4.9 | 4.8 | 4.7 | 4.5 | 4.3 | 3.5 | 4.6 |
| Footwear | 1.0 | 1.0 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.6 | 0.8 |
| Clothing, bedding and Footwear | 7.1 | 6.8 | 6.5 | 6.3 | 6.1 | 5.9 | 5.7 | 5.6 | 5.4 | 5.2 | 5.0 | 4.1 | 5.4 |
| rent and taxes & cess | 1.1 | 1.5 | 2.2 | 2.8 | 3.4 | 4.2 | 5.2 | 5.9 | 6.9 | 8.4 | 9.6 | 11.6 | 6.8 |
| Fuel and light | 10.5 | 9.7 | 9.0 | 8.5 | 8.0 | 7.5 | 7.1 | 6.5 | 6.0 | 5.4 | 4.9 | 3.6 | 6.3 |
| medical inst & non-inst | 4.0 | 4.4 | 4.6 | 5.0 | 5.2 | 5.1 | 5.4 | 5.7 | 5.9 | 6.2 | 7.0 | 7.2 | 5.9 |
| Education | 2.7 | 3.2 | 3.7 | 4.0 | 4.4 | 4.9 | 5.1 | 5.9 | 6.2 | 6.5 | 6.6 | 7.6 | 5.8 |
| Other* | 20.3 | 22.0 | 23.1 | 24.2 | 25.2 | 25.9 | 26.5 | 27.4 | 28.4 | 29.5 | 30.9 | 33.9 | 28.2 |
| **Non-Food** | **48.9** | **50.6** | **51.9** | **53.5** | **54.9** | **56.0** | **57.7** | **59.5** | **61.2** | **63.5** | **66.0** | **70.1** | **60.8** |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

*: Other includes entertainment, toilet articles, other household consumables, consumer services, conveyance and durable goods.

**Sources:** NSO, MOSPI; HCES (2022-23); and author's calculation.

## Table A7: Consumption expenditure shares as per HCES (2023-24), Urban India, by class

| Weights | 0-5 per cent | 5-10 per cent | 10-20 per cent | 20-30 per cent | 30-40 per cent | 40-50 per cent | 50-60 per cent | 60-70 per cent | 70-80 per cent | 80-90 per cent | 90-95 per cent | 95-100 per cent | All Classes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cereals and products | 6.9 | 6.0 | 5.5 | 5.1 | 4.8 | 4.6 | 4.2 | 4.0 | 3.7 | 3.3 | 2.7 | 1.6 | 3.8 |
| Egg, Meat and fish | 4.9 | 4.9 | 4.6 | 4.5 | 4.3 | 4.2 | 4.0 | 4.0 | 3.6 | 3.3 | 2.7 | 1.8 | 3.6 |
| Milk and milk products | 7.8 | 8.5 | 8.6 | 8.6 | 8.4 | 8.2 | 7.9 | 7.7 | 7.4 | 7.0 | 6.0 | 4.5 | 7.2 |
| Edible oils | 3.7 | 3.3 | 3.0 | 2.7 | 2.4 | 2.2 | 2.1 | 1.9 | 1.7 | 1.5 | 1.2 | 0.7 | 1.8 |
| Fruits (fresh and dry) | 3.0 | 3.4 | 3.6 | 3.8 | 3.9 | 4.0 | 4.1 | 4.2 | 4.2 | 4.1 | 3.8 | 3.3 | 3.9 |
| Vegetables | 7.2 | 6.6 | 6.1 | 5.7 | 5.2 | 4.9 | 4.6 | 4.3 | 4.0 | 3.6 | 3.0 | 1.9 | 4.1 |
| Pulses and products (include gram) | 2.6 | 2.3 | 2.1 | 2.0 | 1.8 | 1.7 | 1.6 | 1.5 | 1.4 | 1.2 | 1.0 | 0.6 | 1.4 |
| Sugar | 1.0 | 0.9 | 0.8 | 0.8 | 0.7 | 0.6 | 0.6 | 0.5 | 0.5 | 0.4 | 0.3 | 0.2 | 0.5 |
| Spices & salt | 4.0 | 3.7 | 3.5 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.3 | 2.0 | 1.7 | 1.1 | 2.4 |
| beverages, prepared meals, processed food etc | 9.6 | 9.6 | 10.0 | 10.2 | 10.6 | 10.7 | 10.7 | 10.6 | 10.6 | 11.0 | 12.0 | 13.2 | 11.1 |
| **Food** | **50.8** | **49.1** | **47.9** | **46.6** | **45.1** | **44.0** | **42.4** | **41.3** | **39.4** | **37.4** | **34.4** | **29.1** | **39.7** |
| Pan, Tobacco and Intoxicants | 3.2 | 3.1 | 3.0 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 | 2.3 | 2.1 | 1.9 | 1.9 | 2.4 |
| Clothing& bedding | 6.8 | 6.5 | 6.0 | 5.8 | 5.6 | 5.4 | 5.2 | 4.9 | 4.8 | 4.4 | 4.1 | 3.2 | 4.8 |
| Footwear | 1.1 | 1.1 | 1.0 | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.7 | 0.9 |
| Clothing, bedding and Footwear | 7.9 | 7.6 | 7.1 | 6.8 | 6.6 | 6.3 | 6.1 | 5.8 | 5.6 | 5.3 | 4.9 | 3.9 | 5.7 |
| rent and taxes & cess | 1.2 | 1.5 | 2.2 | 2.7 | 3.5 | 4.1 | 5.1 | 5.6 | 6.8 | 8.1 | 10.2 | 14.0 | 6.9 |
| Fuel and light | 8.8 | 8.2 | 7.6 | 7.1 | 6.7 | 6.3 | 6.1 | 5.8 | 5.4 | 5.1 | 4.5 | 3.4 | 5.6 |
| medical inst & non-inst | 3.5 | 4.0 | 4.4 | 4.8 | 4.8 | 5.1 | 5.3 | 5.6 | 5.8 | 6.4 | 7.0 | 7.6 | 5.9 |
| Education | 3.1 | 3.6 | 3.8 | 4.2 | 4.7 | 5.1 | 5.5 | 5.8 | 6.5 | 6.6 | 7.4 | 7.8 | 6.0 |
| Other* | 21.5 | 22.8 | 24.0 | 25.0 | 25.9 | 26.6 | 27.1 | 27.7 | 28.2 | 29.0 | 29.8 | 32.4 | 28.0 |
| **Non-Food** | **49.2** | **50.9** | **52.1** | **53.4** | **54.9** | **56.0** | **57.6** | **58.7** | **60.6** | **62.6** | **65.6** | **70.9** | **60.3** |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

*: Other includes entertainment, toilet articles, other household consumables, consumer services, conveyance and durable goods.

**Sources:** NSO, MOSPI; HCES (2023-24); and author's calculation.

## Appendix B: Inflation inequality and volatility in Rural India

### Table B1: Headline inflation, 2012 to 2024, Rural India, by class

| Fractile Class of Households | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 to 5 | 9.7 | 11.4 | 6.7 | 5.4 | 5.8 | 2.9 | 3.2 | 2.4 | 7.0 | 3.7 | 7.5 | 6.6 | 5.8 |
| 5 to 10 | 9.8 | 11.3 | 6.7 | 5.4 | 5.7 | 3.0 | 3.3 | 2.5 | 7.0 | 3.8 | 7.4 | 6.4 | 5.7 |
| 10 to 20 | 9.9 | 11.1 | 6.8 | 5.4 | 5.7 | 3.0 | 3.3 | 2.6 | 7.0 | 4.0 | 7.3 | 6.3 | 5.6 |
| 20 to 30 | 9.9 | 11.0 | 6.8 | 5.4 | 5.7 | 3.1 | 3.4 | 2.7 | 6.9 | 4.2 | 7.2 | 6.2 | 5.4 |
| 30 to 40 | 9.9 | 10.8 | 6.8 | 5.5 | 5.7 | 3.1 | 3.4 | 2.7 | 6.9 | 4.3 | 7.1 | 6.1 | 5.3 |
| 40 to 50 | 10.0 | 10.7 | 6.9 | 5.5 | 5.7 | 3.2 | 3.5 | 2.7 | 6.8 | 4.4 | 7.1 | 6.0 | 5.1 |
| 50 to 60 | 10.0 | 10.6 | 6.9 | 5.5 | 5.7 | 3.2 | 3.5 | 2.8 | 6.9 | 4.6 | 7.0 | 5.9 | 5.0 |
| 60 to 70 | 10.0 | 10.4 | 6.9 | 5.5 | 5.7 | 3.3 | 3.6 | 2.8 | 6.8 | 4.7 | 7.0 | 5.8 | 4.9 |
| 70 to 80 | 10.0 | 10.3 | 6.9 | 5.5 | 5.6 | 3.4 | 3.7 | 2.9 | 6.7 | 4.8 | 6.9 | 5.8 | 4.8 |
| 80 to 90 | 10.0 | 10.0 | 6.9 | 5.5 | 5.6 | 3.5 | 3.8 | 3.0 | 6.6 | 5.0 | 6.8 | 5.7 | 4.6 |
| 90 to 95 | 10.0 | 9.7 | 6.9 | 5.4 | 5.5 | 3.6 | 4.0 | 3.2 | 6.4 | 5.2 | 6.7 | 5.5 | 4.4 |
| 95 to 100 | 10.0 | 9.1 | 6.7 | 5.3 | 5.5 | 3.9 | 4.4 | 3.6 | 6.3 | 5.6 | 6.5 | 5.3 | 4.0 |
| Average | 9.9 | 10.3 | 6.9 | 5.5 | 5.6 | 3.3 | 3.8 | 2.9 | 6.7 | 4.8 | 6.9 | 5.8 | 5.4 |

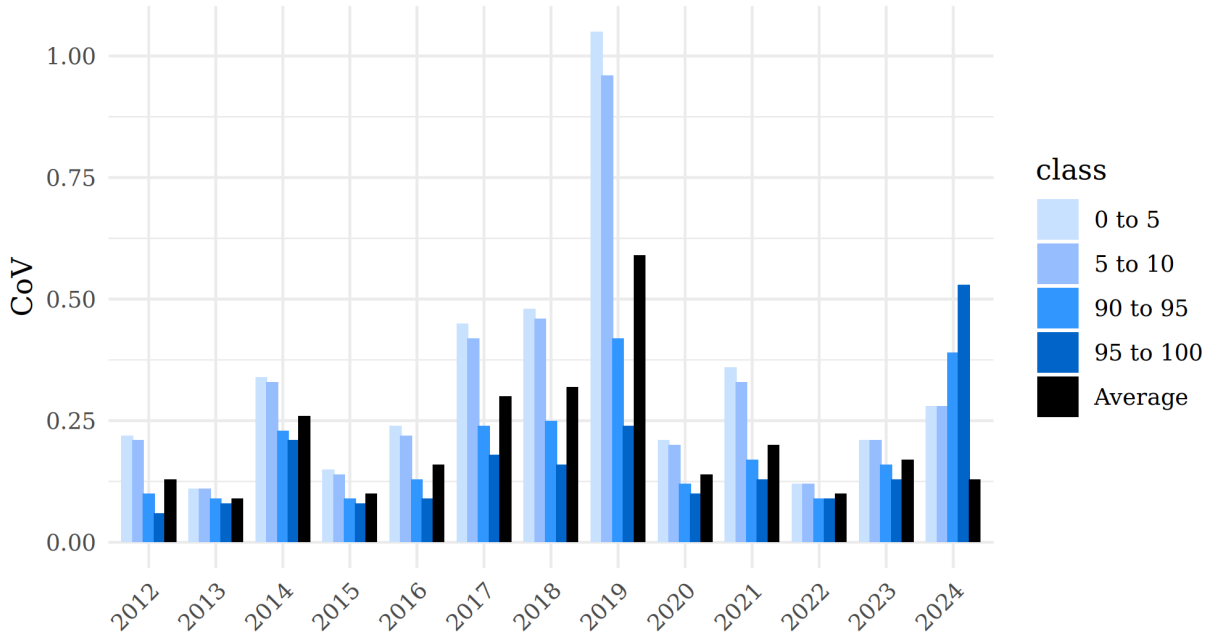
**Sources:** NSO, MOSPI; HCES (2011-12); and author's calculation.

## Table B2: Food inflation, 2012 to 2024, Rural India, by class

| Fractile Class of Households | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 to 5 | 8.9 | 13.2 | 6.9 | 4.9 | 5.9 | 1.5 | 1.5 | 2.2 | 9.3 | 1.7 | 7.3 | 7.6 | 8.1 |
| 5 to 10 | 9.1 | 13.1 | 7.0 | 5.0 | 5.8 | 1.6 | 1.6 | 2.3 | 9.2 | 1.9 | 7.2 | 7.3 | 7.9 |
| 10 to 20 | 9.3 | 12.9 | 7.1 | 5.1 | 5.8 | 1.7 | 1.7 | 2.2 | 9.1 | 2.2 | 7.1 | 7.2 | 7.6 |
| 20 to 30 | 9.3 | 12.8 | 7.1 | 5.1 | 5.8 | 1.7 | 1.7 | 2.3 | 9.2 | 2.5 | 7.1 | 6.9 | 7.5 |
| 30 to 40 | 9.5 | 12.6 | 7.2 | 5.2 | 5.8 | 1.8 | 1.8 | 2.2 | 9.0 | 2.7 | 7.0 | 6.8 | 7.2 |
| 40 to 50 | 9.6 | 12.5 | 7.3 | 5.3 | 5.8 | 1.9 | 1.9 | 2.2 | 8.9 | 2.9 | 7.0 | 6.7 | 7.0 |
| 50 to 60 | 9.6 | 12.4 | 7.3 | 5.3 | 5.8 | 1.9 | 1.9 | 2.2 | 9.0 | 3.1 | 6.9 | 6.6 | 6.8 |
| 60 to 70 | 9.7 | 12.3 | 7.4 | 5.4 | 5.8 | 2.0 | 1.9 | 2.2 | 8.9 | 3.2 | 6.9 | 6.5 | 6.6 |
| 70 to 80 | 7.2 | 12.2 | 7.5 | 5.4 | 5.8 | 2.1 | 2.0 | 2.1 | 8.8 | 3.3 | 6.9 | 6.4 | 6.5 |
| 80 to 90 | 8.6 | 12.0 | 7.6 | 5.5 | 5.7 | 2.2 | 2.1 | 2.1 | 8.6 | 3.4 | 6.8 | 6.3 | 6.2 |
| 90 to 95 | 10.3 | 11.9 | 7.7 | 5.6 | 5.7 | 2.3 | 2.2 | 2.0 | 8.5 | 3.6 | 6.7 | 6.1 | 5.9 |
| 95 to 100 | 13.5 | 11.7 | 7.8 | 5.8 | 5.8 | 2.6 | 2.5 | 2.0 | 8.1 | 4.2 | 6.6 | 5.8 | 4.9 |
| Average | 9.7 | 12.3 | 7.4 | 5.4 | 5.8 | 2.1 | 2.0 | 2.2 | 8.8 | 3.1 | 6.9 | 6.5 | 7.7 |

**Sources:** NSO, MOSPI; HCES (2011-12); and author's calculation.

**Figure B1: Coefficient of Variation of Headline Inflation, 2015 to 2024, Rural India**




**Sources:** NSO, MOSPI; HCES (2011-12); and author's calculation.

## Table B3: Headline inflation, 2012 to 2024, Urban India, by class

| Fractile Class of Households | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 to 5 | 8.5 | 11.8 | 5.5 | 4.7 | 4.4 | 2.4 | 3.0 | 5.3 | 7.5 | 4.8 | 6.9 | 6.3 | 5.5 |
| 5 to 10 | 8.6 | 11.4 | 5.7 | 4.7 | 4.4 | 2.6 | 3.1 | 5.2 | 7.5 | 5.1 | 6.8 | 6.1 | 5.3 |
| 10 to 20 | 8.6 | 11.1 | 5.8 | 4.6 | 4.4 | 2.6 | 3.3 | 5.1 | 7.4 | 5.2 | 6.7 | 6.0 | 5.1 |
| 20 to 30 | 8.6 | 10.9 | 5.9 | 4.6 | 4.3 | 2.8 | 3.4 | 5.0 | 7.3 | 5.3 | 6.7 | 5.9 | 5.0 |
| 30 to 40 | 8.7 | 10.7 | 5.9 | 4.5 | 4.3 | 2.9 | 3.6 | 4.9 | 7.2 | 5.4 | 6.6 | 5.8 | 4.8 |
| 40 to 50 | 8.7 | 10.5 | 6.0 | 4.4 | 4.3 | 3.0 | 3.7 | 4.8 | 7.0 | 5.4 | 6.5 | 5.7 | 4.7 |
| 50 to 60 | 8.7 | 10.4 | 6.0 | 4.4 | 4.3 | 3.1 | 3.8 | 4.8 | 7.0 | 5.5 | 6.5 | 5.6 | 4.7 |
| 60 to 70 | 8.7 | 10.2 | 6.0 | 4.3 | 4.2 | 3.2 | 4.0 | 4.7 | 6.8 | 5.5 | 6.5 | 5.5 | 4.6 |
| 70 to 80 | 8.8 | 9.9 | 6.1 | 4.3 | 4.2 | 3.3 | 4.1 | 4.6 | 6.7 | 5.6 | 6.4 | 5.5 | 4.4 |
| 80 to 90 | 8.8 | 9.7 | 6.1 | 4.2 | 4.2 | 3.5 | 4.4 | 4.6 | 6.5 | 5.6 | 6.3 | 5.4 | 4.3 |
| 90 to 95 | 8.8 | 9.3 | 6.2 | 4.1 | 4.2 | 3.6 | 4.6 | 4.4 | 6.2 | 5.7 | 6.3 | 5.3 | 4.1 |
| 95 to 100 | 8.9 | 8.8 | 6.1 | 3.8 | 4.1 | 4.0 | 5.1 | 4.1 | 5.9 | 5.9 | 6.2 | 5.1 | 3.7 |
| Average | 8.7 | 9.4 | 6.6 | 4.3 | 4.2 | 3.3 | 4.2 | 4.6 | 6.6 | 5.6 | 6.4 | 5.5 | 4.4 |

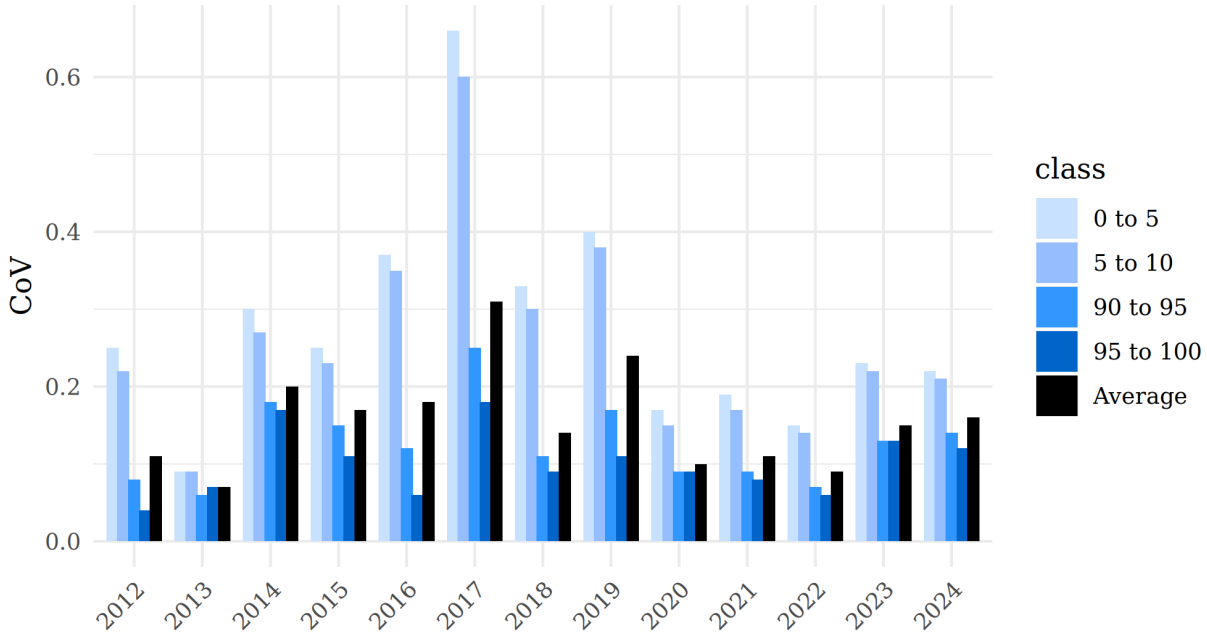
**Sources:** NSO, MOSPI; HCES (2011-12); and author's calculation.

## Table B4: Food inflation, 2012 to 2024, Urban India, by class

| Fractile Class of Households | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 to 5 | 7.5 | 15.4 | 5.5 | 5.2 | 4.8 | 0.6 | 0.0 | 7.0 | 9.4 | 3.3 | 7.1 | 7.5 | 9.0 |
| 5 to 10 | 7.7 | 14.8 | 5.7 | 5.2 | 4.9 | 0.8 | 0.2 | 6.8 | 9.4 | 3.8 | 7.0 | 7.2 | 8.5 |
| 10 to 20 | 7.9 | 14.5 | 5.9 | 5.3 | 4.9 | 0.9 | 0.3 | 6.6 | 9.4 | 4.0 | 6.9 | 7.1 | 8.3 |
| 20 to 30 | 8.0 | 14.3 | 6.1 | 5.2 | 4.8 | 1.1 | 0.5 | 6.5 | 9.4 | 4.1 | 6.9 | 6.9 | 8.1 |
| 30 to 40 | 8.1 | 14.1 | 6.3 | 5.2 | 4.8 | 1.2 | 0.6 | 6.4 | 9.3 | 4.3 | 6.8 | 6.8 | 8.0 |
| 40 to 50 | 8.2 | 14.0 | 6.4 | 5.2 | 4.7 | 1.3 | 0.7 | 6.3 | 9.1 | 4.4 | 6.8 | 6.7 | 7.9 |
| 50 to 60 | 8.2 | 13.9 | 6.5 | 5.2 | 4.7 | 1.4 | 0.7 | 6.3 | 9.1 | 4.4 | 6.7 | 6.7 | 7.9 |
| 60 to 70 | 8.3 | 13.8 | 6.6 | 5.2 | 4.6 | 1.6 | 0.9 | 6.2 | 9.0 | 4.6 | 6.7 | 6.6 | 7.7 |
| 70 to 80 | 8.4 | 13.6 | 6.8 | 5.2 | 4.6 | 1.6 | 1.0 | 6.1 | 8.8 | 4.7 | 6.7 | 6.6 | 7.6 |
| 80 to 90 | 8.6 | 13.5 | 7.0 | 5.1 | 4.6 | 1.9 | 1.2 | 5.9 | 8.7 | 4.9 | 6.6 | 6.5 | 7.4 |
| 90 to 95 | 8.8 | 13.2 | 7.3 | 5.1 | 4.6 | 2.2 | 1.5 | 5.7 | 8.2 | 5.1 | 6.6 | 6.4 | 7.1 |
| 95 to 100 | 9.5 | 12.9 | 7.9 | 5.2 | 4.5 | 2.9 | 2.2 | 5.1 | 7.4 | 5.5 | 6.7 | 6.3 | 6.4 |
| Average | 8.5 | 13.7 | 6.8 | 5.2 | 4.7 | 1.7 | 1.0 | 6.1 | 8.8 | 4.6 | 6.7 | 6.6 | 7.6 |

**Sources:** NSO, MOSPI; HCES (2011-12); and author's calculation.

**Figure B2: Coefficient of Variation of Headline Inflation, 2015 to 2024, Urban India**




**Sources:** NSO, MOSPI; HCES (2011-12); and author's calculation.