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Inflation : Direct Effect on Middle/Lower Income Group

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Abstract

Achieving stable economic growth is a prerequisite for achieving sustained economic development. Price fluctuations develop an unpredictable environment that is not favorable to development activity. When prices rise, consumers must pay more than they did in the past. Non-essential commodities like alcohol and other vices will likewise cost extra in addition to essential goods. In this essay, the true impact of inflation is discussed. The author believes that inflation is perceived differently by different socio-economic demographics, and seeks to establish an inflation measure parameter for each defined demographic. Main factors assessed will include food, housing, and transportation.

Keywords: Consumer price Index, GDP deflator, monetary policy,Inflation.

Introduction

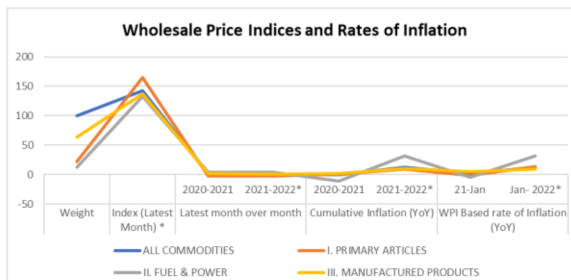
Inflation is an economic phenomena that affects everyone almost every day; but the perception in India is often the opposite of reality. For example, people often ask how during periods of falling inflation, prices continue to rise. A moment of reflection makes it clear that when inflation falls, only the rate of price growth decreases. On the other hand, when the inflation rate rises slightly, not everyone is satisfied. Because, while nominal income goes upward, the real value of income erodes with rising prices. These examples show how popular perceptions disagree with the reality of the phenomenon.

On The Measure

The Economical variation in India can be measured in terms of the Wholesale Price Index (WPI), or the Consumer Price Index (CPI)

WPI is the primary measure of inflation commonly used in India. WPI is available for all commodities, and for main groups, subgroups and individual commodities. Basic advantage of this inflation measure is its high frequency availability at intervals of about two weeks, thereby continuously monitoring the price situation for political purposes. The index does not cover sectors that do not produce commodities - like Services and Non-Trade Goods.

The rate of inflation based on WPI Food Index increased marginally from 9.24% in 2021 to 9.55% in 2022. The details of All India Wholesale Price Indices and Rates of Inflation for different commodity groups for January, 2022 are indicated in below graphs.



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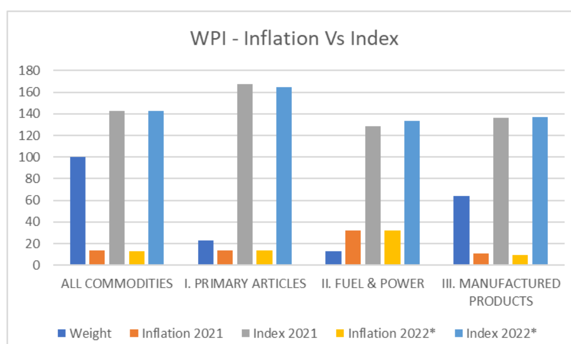

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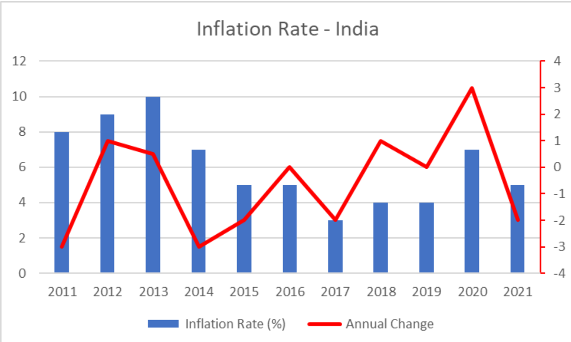
Inflationary Trends in India

The annual percentage change in the average consumer's cost of acquiring a basket of goods and services, which may be set or modified at predetermined intervals, such as annually, is reflected in inflation as measured by the consumer price index.

None of the currently available measurements provide a genuinely accurate representation of inflation at any one time.



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For various baskets of goods and services, an index can be created with various weights to account for various consumer groups or geographic areas. Thus, there is no all-purpose, exhaustive, and legally binding index. An index could be distorted by operational issues and per the financial status of people. For instance, the weights and product basket might be kept unchanged for too long. In fact, over time, some of the commodities might stop being produced. In any event, even if it is obvious that the quality of many industrial goods has been rising, changes in product quality cannot be accurately measured.

Related	Last	Previous	Unit
Inflation Rate	7	6.71	percent
Wholesale Price Index WPI	13.93	12.41	percent
Consumer Price Index CPI	174.3	173.4	points

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India's inflation rate increased to 7% in August 2022 from 6.71% in July, above market estimates of 6.9% for the first time in four months.

Given the current scale of inflation in India (according to the GOI, Consumer Price Index-Combined (CPI-C) inflation in India moderated to 5.2 per cent in 2021-22 (April-December) from 6.6 per cent in the corresponding period of 2020-21 and was recorded at 5.6 per cent in December 2021) and the importance of this on middle and lower income peoples, I believe the impact of inflation on poverty and development deserves more attention. I, therefore, intend to study the relationship between inflation and the new proposed scale. Specifically, the research questions I aim to address are:

1. How does inflation correlate with the new Economic Index?
2. Is there any relationship between inflation and poverty in India?

To answer these questions, I employ multivariate regression analysis – panel data analysis – to be specific, accounting for fixed effects, time fixed effects, random effects, and dynamic panel data analysis with fixed and random effects. I also analyze the effect of inflation with new economic index groups of people differentiated by their level of income. The results of my study show that, in general, there is a positive and statistically significant relationship between inflation and poverty. I find that an increase in inflation is directly associated with the income people earned in that cycle.

The CPI method of measuring inflation is highly flawed. I propose that rather than measuring inflation for India using a single index, we should analyze different methods to separate demographic variables and determine the most efficient way to split up households (eg. by socioeconomic status, geographical location, job, or a combination), and then determine a new CPI for each group created. A final inflation rate could then be calculated using a weighted average of all these values with respect to the size of the population. This would counter the under/over valuation of effect on the more populous lower class than the fewer, more affluent members of the economy.

Literature Review:

Macroeconomic study has traditionally focused on understanding the connection between inflation and real growth. Rangarajan (1998) claims that the question implicitly assumes a potential long- or short-term trade-off between price stability and growth. For instance, the new endogenous growth theories hypothesised that inflation has a negative influence on growth because of its detrimental impacts on efficiency and productivity. Similar arguments were made by others, including Choi, Smith, and Boyd (1996), who claimed that inflation can hinder growth when there is information asymmetry by amplifying financial market frictions and negatively influencing the provision and allocation of investment.

Fischer looked into the possibility of non-linearities in the long-term link between inflation and economic growth in his study. Fischer's parameter estimates show a negative link between inflation and growth using both cross sectional and panel data for a sample of emerging and industrialized nations. Many empirical studies on the inflation threshold that followed made use of extensive panels of data from many nations. When inflation exceeds 3%, it becomes expensive for developing nations, according to Burdekin et al. (2004), who estimated a panel model of 72 countries using annual data and allowed for multiple thresholds. Additionally, a second break was found around 50%, above which marginal growth costs begin to significantly fall. Through their research, Daya Mary Mathew, S. Ancy, and J. Aruna Jasmine (2020) has established that Covid-19 has crippled a number of sectors and resulted in a substantial trade deficit for India.

The Phillips-curve approach looks at how inflation and the production gap are related. Dholakia's work is the only one of them that specifically tries to estimate the Phillips curve for India (1990). Dholakia claims that the Indian economy does not appear to suffer any substantial tradeoffs between unemployment and inflation even in the short run after looking at a sample for 25-30 years. He contends that if growth is occurring quickly, the least developed nations with untapped potential won't be subject to inflationary pressures. Dholakia draws the conclusion that "an illusory serious tradeoff between inflation and unemployment, in all probability, is not likely to occur," with reference to India.

The literature assessment of the research topic makes it clear that the issue of excessive inflation persists in the nation despite the implementation of many solutions. Because of this, further research into additional factors affecting middle-class inflation rates is still necessary.

Causes of inflation:

The idea of inflation and its causes have been thoroughly explored in order to investigate how much economic growth is related to inflation and vice versa. It is possible to study the short- and long-term inflation links between lower and medium income groups with the aid of this knowledge. High costs are incurred by economies and societies as a result of inflation, which also weakens macroeconomic stability and disproportionately harms the poor and groups with fixed incomes. A combination of four variables contribute to inflation.

1. An expanding supply of currency.
2. A shortage of products.
3. A decline in the need for money
4. Goods are more in demand

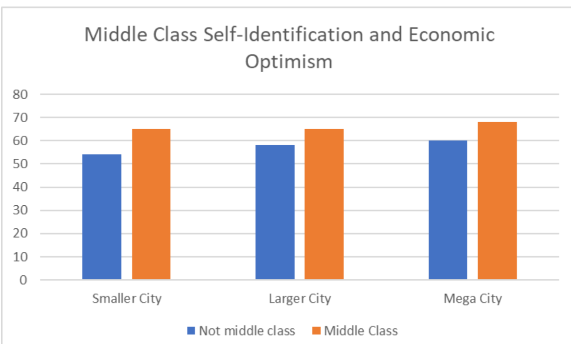
The low-income and those on fixed incomes directly benefit from lower inflation.

Future Plans : Our future plans are impacted by inflation. The price of goods and services has a direct bearing on your goals, whether you're saving for retirement, a home, or just the next year. Your ambitions can cost more in the future due to inflation than they do now. In a year, a lunch that costs INR 15 now may cost INR 18. In one year, a car that costs INR 7 lakhs today may cost INR 7.6 lakhs, and in just five years, it could cost about INR 8 lakhs. So, when making future plans, you must take inflation into account and how it can affect your objectives.

Employee Wages : Because they believe it makes it simpler for the government, employers, financial institutions, and other parties to deceive them, many individuals detest inflation. One of the most crucial effects of inflation is that it makes it possible for people to take advantage of employees by confusing them with price adjustments. As a result, some employers can "forget" to raise their workers' salary by the amount of inflation, giving them a true pay loss. There is evidence to suggest that people are first deceived about their real wages. Instead of real incomes, people appear to rely their sense of happiness on nominal earnings. There is no set minimum national wage in India; instead, earnings vary from state to state. According to recent estimates, the average pay in India in 2022 will be roughly 3,87,500 rupees per year, or about 32,840 rupees per month.

Taxation : The evaluation of financial assets, such as equities, bonds, and case deposits as well as insurance policies, might become more challenging as a result of inflation. In this view, the distribution of power in the financial market is shifted away from the average individual and toward the more sophisticated and educated participants. Therefore, the government can "forget" to modify the tax brackets after an episode of inflation, resulting in greater taxes for the typical person.

Investment distortions : The ability of inflation to harm the economy by skewing investment and consumption decisions is frequently emphasized by economists. The uncertainty of families and businesses over the direction of inflation causes distortions. People are more likely to predict inflation's future level in about the same range when it is stable. But when inflation is quite unpredictable, various people make different assumptions. Most end up being incorrect. Unintentionally, some people succeed while others fail.



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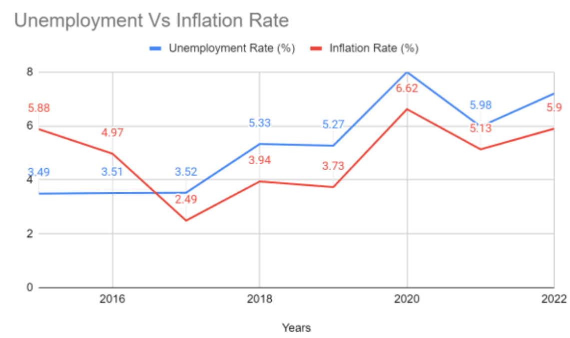
Finally, in light of the fact that Indian society is becoming more urbanized, we separated our "urban" category into three groups: people who live in megacities, larger cities, and smaller cities. We discover that respondents from the middle class are more upbeat in each subcategory. Residents in megacities are marginally more optimistic than those in other urban areas.

Unemployment and Inflation : The following table and figure illustrate how unemployment and inflation have changed throughout time. In contrast to previous years, the unemployment rate in 2020 is significantly higher at 6.62 percent, reflecting the ongoing COVID19 pandemic in 2019. In contrast, the unemployment rate in 2015 was extremely low at 3.49 percent. In India, the average inflation rate (%) declined from 5.88% in 2015 to 2.49% in 2017, but then jumped from 6.62% to 6.88% in 2020.We may infer from the statistics that, prior to 2017, the state of unemployment and inflation in India appeared to be inconsistent; but, after 2017, unemployment and inflation have been moving linearly.



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New Economic Index:

The current problem with the measure of inflation in each economy, and to a finer level, in India, is the "1 number covers all" nature of the value. Whether one is a billionaire or a rural farmer has no impact on the 'inflation' they face. A YoY inflation rate of 7% is assumed to impact the whole population evenly.

In order to combat this issue with the measure, it is important to take into account what the true inflation rate faced by individuals is. A farmer, for example, can be assumed to purchase a larger quantity of rice over a new car each year, so why should his real inflation factor in the price of new vehicles. On the contrary, why should an urban vegetarian household have the same real inflation rate as one that eats meat.

The effect of these additional factors in the calculation of each demographic's inflation is the opposite of what one would expect. While one might believe that including new BMWs in the calculation would increase the inflation calculated, the real inflation rate for farmers would tend to be much higher. For less affluent communities, the only commodity that matters is their necessities, and in general they are only just getting by as it is. Therefore, a 5% increase in housing and food would result in a much larger than 5% impact on their life.

The relationship between the average daily income and the inflation rate does not appear to be strong. This is due to the fact that every person has experienced the effects of variations in inflation, whether directly or indirectly.In addition, the

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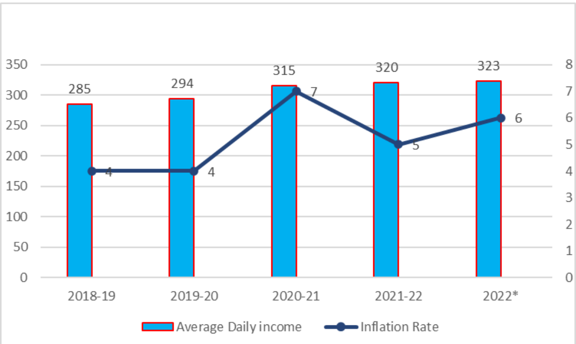
government has not taken into account the rise in inflation to average daily income, which has a direct impact on those with middle-class and lower incomes.



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The following are some presumptions this index would need to make:

- A median value will represent the vast majority of people in the middle class.
- The middle class's preferences for products and services have little YoY fluctuation.
- Based on the average urban household size of 4.3 people and 503 sq. ft. + 20% to account for the skew caused by the low-income population, assume that the baseline sq. ft. per person is 100 sq. ft..

I must first establish the median income for the

1%	The top 10% of the Indian population holds 77% of the total national wealth. 73% of the wealth generated in 2017 went to the richest 1%, while *670 million Indians who comprise the poorest half of the population saw only a 1% increase in their wealth.
70	There are 119 billionaires in India. Their number has increased from only 9 in 2000 to 101 in 2017. Between 2018 and 2022, India is estimated to produce 70 new millionaires every day.
10x	Billionaires' fortunes increased by almost 10 times over a decade and their total wealth is higher than the entire Union budget of India for the fiscal year 2018-19, which was at INR 24422 billion.
63 M	Many ordinary Indians are not able to access the health care they need. 63 million of them are pushed into poverty because of healthcare costs every year - almost two people every second.
941 yrs	It would take 941 years for a minimum wage worker in rural India to earn what the top paid executive at a leading Indian garment company earns in a year.

According to the World Inequality Report 2022, India is not just a developing nation but also one with an extremely unequal distribution of wealth and income. The wealthiest 10% of the population make up 57% of the national income, the report notes, while the lowest 50% of the population languishes with virtually no money. This shows that the bottom 50% earn 2% of the national income.

Hence, we can discern using these two figures that the 40% of the population between these two groups earn 21% of the national income. If *GDP = National income*, then the average earnings per year of these people would be equal to the total value of income divided by the population.

⇒ 0.21*195.61 lakh crore / 0.4 * 1.393 billion = 73,722 INR/person/year.

#A person with this income would not qualify for any income tax bracket.

A good index of the new would factor the median rent into the equation as follows.

People per 650 sq ft = 650/100 = 6.5 people / 650 sqft rental

Rent for 650sqft = 15,000inr / month = 180,000 inr / year = 27,692 inr/person/year

⇒ given the income of 73,722inr/person/year, the percentage of income used for rent is 37.56%.

Additionally, the remaining income is then used for consumption and savings. Using 2022 prices as the base year, the spending on food could be broken down as follows.

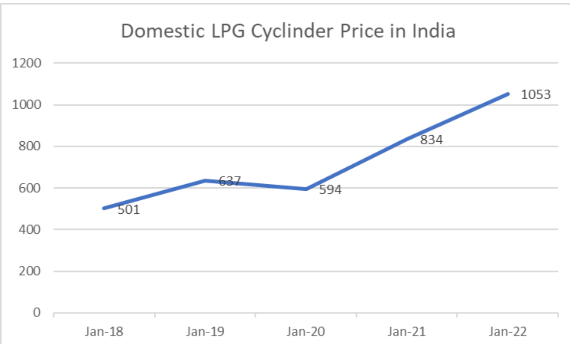
Food ⇒ current index has weighted at ~45%.

We could assume a 10% savings rate for the middle class, meaning that 52.44% (38,660 INR) of the income remains. At this point, we have to make definitions to the proportions that go into each food category, primarily the staples - rice and meats. After this, we must look into the spending on oil and gas for transportation.

<u>Prices and Inflation</u>

We shall examine the cost of the domestic gas cylinder over the last five years to convey the overall picture. Domestic Cooking gas prices have changed an incredible 58 times in the past five years, which is significant to notice given that domestic LPG prices have been rising and burdening the average person. The FOB (free on board) price, ocean freight, insurance, custom duties, port dues, etc. are all included in the IPP, which is based on Saudi Aramco's LPG pricing. After being quoted in dollars, the price is changed to rupees. The price of inland freight, marketing expenses and profit margins levied by the oil firms, fees for bottling, dealer commission, and GST are added to this. This information provides the non-subsidized LPG cylinder's retail selling price to an

Indian customer. The things that the typical family uses as well as the percentage of their expenses that they use would need to be taken into account while creating a new index for a middle class family. To do this, we create a formula using the information described above.



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According to the Poverty estimates of India, The country's gross national income is 195.62 lakh crore INR , or 195.62 trillion INR. The lower 50% of total population earn 2% of the total income (0.02*195.62 trillion INR, or 3.92 trillion INR). As per the data released by **Economic** data shows that in 2012 there were 268.3 million people under the poverty line. Adjusted proportionally for the population growth in india, this would mean that 268.3 million * 1.417 billion / 1.274 billion = 298.34 million people below the poverty line. This data uses 1.90 usd at 2011 PPP to calculate poverty line, and so adjusted for today we get 1.90 2011 USD = 88.58 2011 INR ~ 176.91 INR 2022. Using these two values, we can see that that portion (21.05%) of the population earns 176.91 * 298.34 million = 52.78 billion rupees or 0.027% of the GNI.

Measures to Control Inflation

1. The most crucial weapon for keeping inflation low is monetary policy. Higher interest rates will contribute to slowing the expansion of the economy's aggregate demand. Lower inflation will result from the slower growth. Consumer expenditure is reduced by higher interest rates. Rising interest rates make borrowing more expensive, which discourages people from borrowing and spending.
2. Supply-side measures; Supply-side measures seek to boost productivity and competitiveness over the long run. Consequently, supply-side initiatives have the potential to lower inflationary pressures over the long term.
3. Fiscal policy is a demand-side measure that works similarly to monetary policy. The government can increase taxes and cut spending to lower inflationary pressures. This will lower total demand.
4. Exchange rate policy: It was believed that by maintaining a high value for the pound, inflationary pressures would be lessened.
5. Wage Control: One of the main factors affecting inflation is wage increase. Rapid wage growth will result in significant inflation. There was a brief attempt at pay limits in the 1970s that aimed to restrain wage increases. But because it was hard to extensively enforce, it was essentially dropped.

Conclusion

One of the most essential goals of macroeconomic policy is to reduce inflation. But there are supposedly trade-offs between generating high growth and reducing inflation. The study's analysis of the data and facts revealed that, in the long run, the economy and the rate of inflation are two sides of the same coin. According to studies, the rising cost of food and basic necessities for the average person is the primary source of inflation. Over the past few years, India has struggled with a high rate of inflation in general and food inflation in particular. Demand shock and supply shock are both results of the pandemic. As a result of the epidemic, both wholesale and retail inflation grew. The significant increase in commodity costs is the primary factor contributing to India's rising inflation rate. In order to boost the economy and keep manufacturing costs low, the government should implement safeguards to guarantee the nation's supply security.

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