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Impact of Inflation on Electoral Outcomes in India

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Abstract

The established wisdom is that inflation and prices play a significant role in Indian voter behaviour. That the average voter will be hurt by rising prices and demonstrate her disappointment at the polling booth is a well accepted narrative among political scientists, economists, observers, commentators and the political class themselves. This seems like a reasonable expectation, borne out through various voter surveys, too.

We test this hypothesis by using actual electoral data and not surveys. We analysed whether voters expressed anger against their ruling party during times of high inflation and vice versa. Our analysis across 38 elections (3 Lok Sabha and 35 State Assembly elections) for the period 2000-2014 comprising of roughly 2.5 billion voter choices illustrates that it is not possible to draw a direct correlation between inflation and voter behavior. This is merely a hypothesis test and not a model to explain electoral outcomes.

Introduction

There is a general consensus among economists and political scientists on the impact of inflation on voter behavior in India. Many surveys in the past have shown that prices of household commodities are a key determinant of voter choices. We test this hypothesis using actual electoral data of revealed voter preferences rather than surveys. This analysis is not an attempt to explain electoral outcomes or to prove causation effects. This is merely a test of the relationship between inflation and voter behavior.

Analysis

To do this test, we use the Consumer Price Index (CPI) data set. There has been a change in the CPI methodology recently and this analysis incorporates both the data sets – the old and the new. The twelve largest states in India (Uttar Pradesh, Maharashtra, West Bengal, Bihar, Tamil Nadu, undivided Andhra Pradesh, Madhya Pradesh, Gujarat, Karnataka, Rajasthan, Orissa and Kerala) account for more than 80% of registered voters, 81% of all seats in Parliament, 76% of national GDP and 72% of all state legislature seats. We focused our analysis on voter choices in these 12 states that are fairly representative of the Indian voter population. The analysis is for the period 2000 – 2014, a span of 14 years. Roughly 2.5 billion voters exercised their votes across these 12 states in 38 different state and federal elections in this time period. In the absence of state wise CPI data for this period of time, we

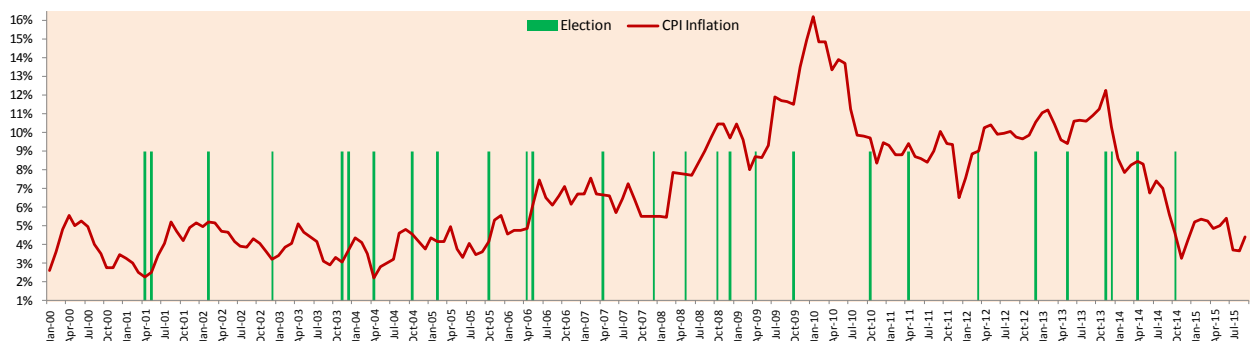
rely on national CPI data, thus unable to test for state specific patterns, if any.

Contrary to the seemingly plausible expectation of inflation affecting voter behavior, this analysis shows that there is no significant relationship between CPI and voter behavior. We define voter behavior as voter choices expressed towards their ruling party. We test both the electoral outcome as well as change in contested vote share for the ruling party in each election. In other words, we tested whether voters expressed anger against their current government in elections held during times of high inflation versus otherwise. The result, according to this analysis, is that they did not.

However, this analysis does not prove conclusively that price rise does not matter to the Indian voter. It merely postulates that the relationship between the two is unproven. There could be prices of select commodities or goods that affect households much more than a basket of goods, as determined by CPI. Also, this is not a forward looking analysis, i.e., it tests for actual price rise in the month of elections versus a past time frame and does not capture future expectations of inflation by households.

Of the 38 elections analysed, 35 were assembly elections to the state and 3 were Lok Sabha elections – 2004, 2009 and 2014. In 15 of these elections, the incumbent ruling party won re-election and lost in 23. Since electoral outcomes are usually a function of various complex factors, the analysis also tested contested vote share swing for incumbent party, i.e., when presented with a choice of a candidate from the ruling party did more or less people vote for her during times of low and high inflation. In 9 of these 38

elections, the incumbent ruling party increased its vote share vis-à-vis the previous election and in the remaining 29, fewer people voted for the ruling party. Recall, a ruling party can still win re-election with a lower vote share. The chart below presents monthly CPI inflation (Y/Y) and months in which elections were held. (*Simultaneous elections to multiple states are shown as just one.*)



Inflation effects were tested using the following frameworks

1. Average annual inflation in the election year
2. Average inflation in the previous 5 year period during which the ruling party was in power.
3. Rolling average of quarterly change in CPI index over the previous quarter.
4. Rolling average of six month change in CPI index over the previous six months
5. Change in price in election month vis-à-vis previous 12 months
6. Rate of change of inflation year over year.
7. Rate of change of inflation quarter over quarter.
8. Change in inflation in election month over the previous 12 month average

inflation.

These parameters measure how recent the inflation impact should be, in order to influence voting preferences. We test for short-term memory impact (for instance, rolling 3 month price change, rolling 6 month price change) versus long-term memory impact on voter behaviour (for instance, inflation in the previous 12 months, average 5 year inflation)¹.

We find no relationship between an incumbent's electoral outcome or vote share and inflation as determined by any of the eight frameworks.

CPI Inflation	Incumbent Party			
	Won	Lost	Higher vote share	Lower vote share
# of elections	15	23	9	29
Avg Annual Inflation	7.6%	6.4%	7.3%	6.8%
Avg 5 year Inflation	6.6%	6.5%	6.5%	6.6%
Rolling 3 month price change	1.7%	0.7%	1.7%	0.9%
Rolling 6 month price change	3.8%	3.0%	3.4%	3.3%
Price deviation from prev 12 month	4.0%	2.6%	3.8%	2.9%
Avg Y/Y Inflation Change	5.7%	9.0%	9.1%	-7.0%
Avg Q/Q Inflation Change	6.4%	1.9%	4.7%	-6.3%
Inflation Deviation from prev 12 month	0.0%	0.3%	-0.1%	-0.2%

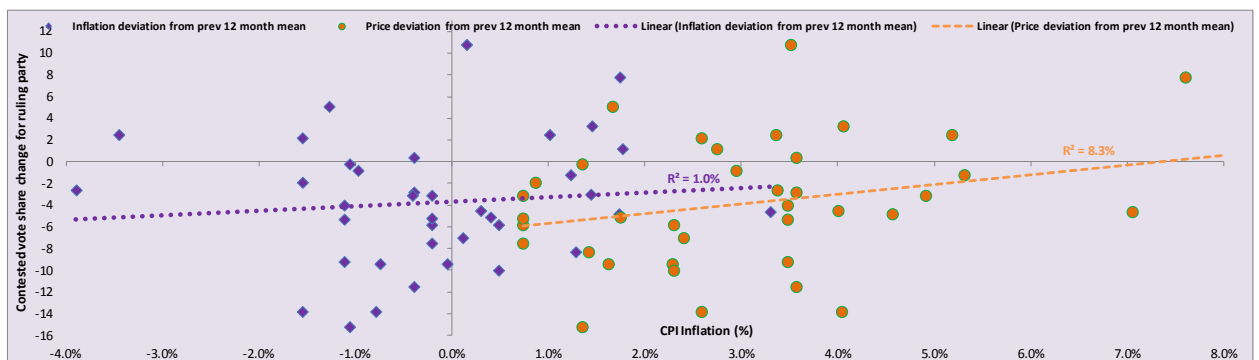
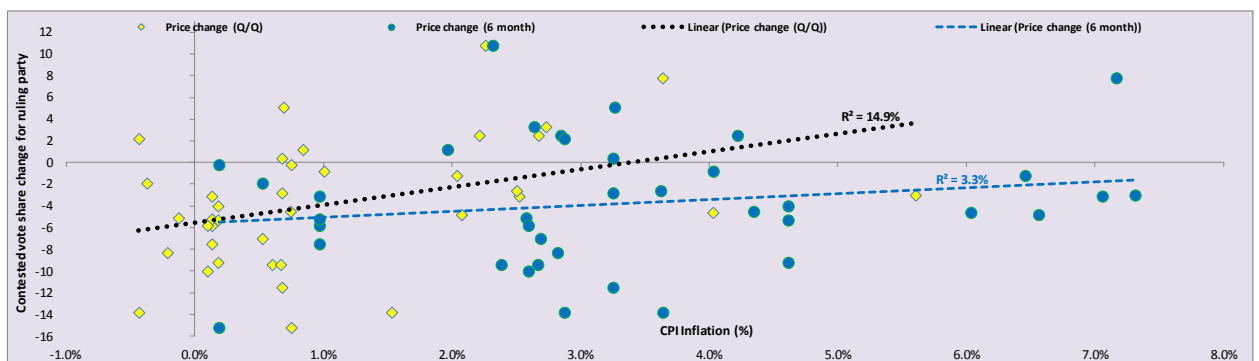
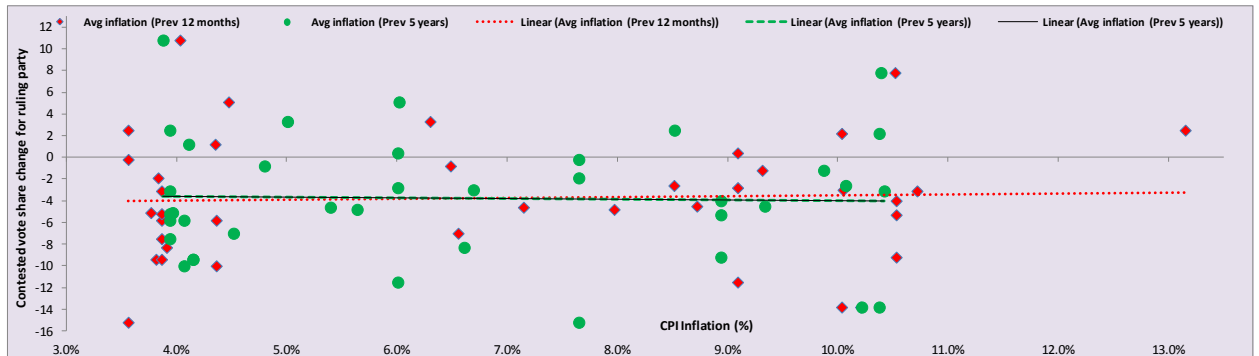
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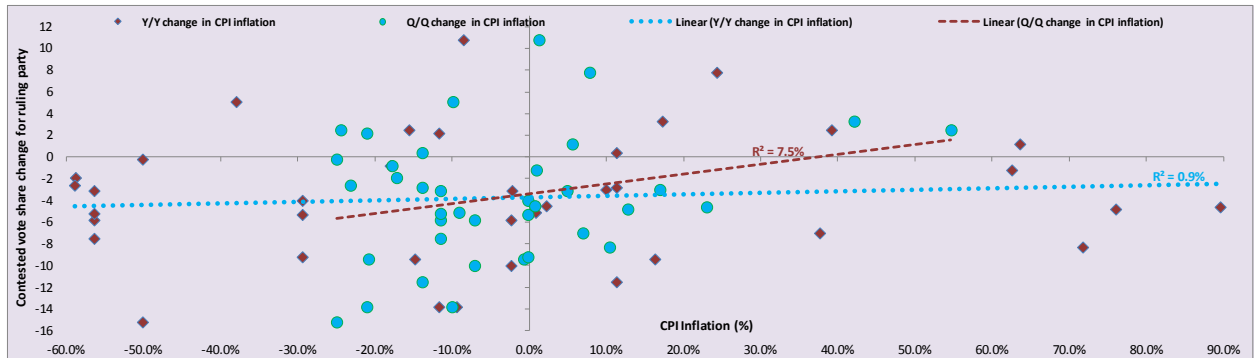
¹ Refer to the Appendix to see an illustration of the 8 parameters using the case of 2012 Gujarat State Assembly Elections

As evident from the table, inflation parameters in cases where the incumbent party won are sometimes higher and sometimes lower than inflation in cases where incumbent party lost its re-election. Similarly, in cases where the ruling party had a higher vote share showed no specific trend of inflation vis-à-vis cases where the ruling party lost vote share. Specifically, in the 2004 Lok Sabha elections where the ruling NDA lost, inflation parameters were lower than in 2009 when the ruling UPA won re-election with a significantly higher vote share. In the 2014 general elections, inflation parameters were higher than in 2009 and the ruling UPA lost the election with a drastic reduction in vote share. In state elections, Uttar Pradesh, Tamil Nadu, Karnataka, Kerala and Rajasthan have consistently rejected the ruling party in every election, irrespective of inflation characteristics. Gujarat, Orissa, Bihar and Madhya Pradesh have consistently re-elected the incumbent ruling party, again immaterial of inflation. This analysis was also expanded to test for parameters such as inflation momentum and month over month changes. There is no observed voter anger against the ruling political party over inflation as measured by CPI.

Simple relationship tests between contested vote share swing for the ruling party vis-à-vis each of the 8 inflation frameworks are shown in the charts below. The strongest relationship we find with an R^2 of 15% is between quarterly price change (CPI index) in the quarter in which elections were held vs. the previous quarter. This is a single variable relationship test between CPI inflation and voter behavior and does not control for other

factors. But this is also not an attempt to explain or determine causality of electoral outcomes. Admittedly, this analysis can get lot richer and perhaps even produce a contrary result with more granular state and district wise inflation numbers since electoral data is available down to the village level. Unfortunately, inflation data is not available yet at the district level.





It is perhaps not hard to fathom this lack of correlation between inflation and voter anger at the ruling party. To the astute observer of Indian elections, it is evident that voter behavior is yet not as issue driven as it is by identity and sentiment. A recent study by the Centre for Developmental Studies (CSDS) showed that 43% of voters in India tend to vote on “hawa” – a sentiment based on who they perceive is the winning party. 45% preferred to vote along identity lines. So, if 88% of surveyed voters revealed identity or sentiment as their primary determinant of voting, it is then not surprising that while inflation may be a vicious assault on households’ income, it does not yet translate into a significant determinant of electoral outcomes. A panoply of identity/sentiment based voting, extremely plural society and vagaries of the first-past-the-post electoral system ensures supposedly reasonable explanations of voter behavior and electoral verdicts remain mere unproven narratives. Just as scholarly economists cannot seem to explain causes of inflation in India, electoral outcomes are perhaps as inexplicable.

APPENDIX - Illustration of the 8 parameters to test inflation impact on voter behavior in 2012 Gujarat State Assembly Elections

In the Gujarat state elections held in December 2012, CPI inflation was 10.5%. The then ruling party, BJP, was re-elected. Its contested vote-share dropped from 49.1% in the 2007 elections to 47.9% in the 2012 elections, a drop of 1.2 % points. (*Contested vote-share is votes polled by the BJP as a percentage of overall votes cast ONLY in those constituencies that had a BJP candidate and not any other candidate from its alliance partner. This methodology neutralises effects of pre-poll alliances and its changes across elections*)

- a) Average annual inflation (CPI Index year-on-year)² in the election year:
Average inflation in the previous year i.e., December 2011 to November 2012 was 9.3%

- b) Average inflation in the previous 5-year period during which the ruling party was in power: Between 2007 (time of the previous election) to 2012, average inflation was 9.9%. In 2012, BJP's contested vote-share decreased by 1.2 % points.

- c) Rolling average of quarterly change in CPI index over the previous quarter: Change in average **price rise** in the current quarter (October

² CPI % Year on Year (YOY) measures the change in CPI Index against the same time period in the previous year

to December, 2012) v/s average **price rise** in the previous quarter (July to September, 2012) was 2%.

- d) Rolling average of six-month change in CPI index over the previous six months: Change in average **price rise** between July to December, 2012 over the previous six-months (January to June, 2012) was 6.5%.
- e) Change in price in election month over the previous 12 months: The difference between price in December, 2012 (104) and average price in the previous 12 months (99) was 5.3%
- f) Rate of change of inflation year over year: Between December 2011 and December 2012, inflation increased by 62.5%.
- g) Rate of change of inflation quarter over quarter: The average **inflation** in the current quarter (October to December, 2012) v/s average **inflation** in the previous quarter (July to September, 2012) increased by 0.9%.
- h) Change in inflation in election month vis-à-vis previous 12 months average inflation: The difference between inflation in December, 2012 (10.5%) and average inflation in the previous 12 months (9.3%) was 1.2%.