

Impact of COVID-19 Pandemic on Consumption Expenditure

By – Shagun Singh

Supervisor – Dr. Vikram Dayal

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Introduction

The COVID-19 pandemic, an unprecedented global crisis that emerged in late 2019, has fundamentally reshaped societies and economies across the world. Beyond its immediate health implications, the pandemic has cast a spotlight on the intricate web of human behaviour and decision-making, particularly in the realm of consumption. As individuals and communities grappled with the profound disruptions brought forth by the virus, their consumption behaviours underwent a profound metamorphosis, revealing the intricate interplay of fear, necessity, resilience, and adaptation.

This seminar paper delves into the multifaceted and evolving landscape of consumption behaviour in the wake of the COVID-19 pandemic. It explores how individuals, households, and societies have responded to the crisis by re-evaluating their spending patterns, priorities, and aspirations. The pandemic acted as a catalyst, accelerating trends and instigating novel paradigms in consumption behaviour that promise to endure far beyond the era of COVID-19. COVID-19 pandemic has presented a unique laboratory for the study of consumption behaviour under extreme stress and uncertainty. Understanding how individuals and societies have adapted, coped, and reimagined their consumption patterns in the face of such a profound global event is not only academically illuminating but also essential for policymakers, businesses, and individuals seeking to navigate the uncertain path ahead.

As we embark on this journey through the transformed landscape of consumption, it becomes evident that the lessons learned during the COVID-19 pandemic extend far beyond the realm of economics; they provide profound insights into the resilience, adaptability, and collective human response to adversity.

The objectives of this paper are to quantify the impact of pandemic on consumption behaviour of consumers in India. Specifically, we want to assess whether there were any “permanent” changes in consumption behaviour such as changes in share of household expenditure on food and changes in expenditure share of households on healthy food.

Literature Review

The COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2, has had far-reaching economic consequences globally, including in India. One crucial aspect of the economic impact is the significant change in consumption expenditure patterns among Indian households. This literature review aims to provide an overview of key findings and trends in studies related to COVID-19 and consumption expenditure in India, highlighting the various dimensions of this complex relationship.

Early studies (Dholakia, 2020; Anand & S.K., 2021) observed a sharp decline in overall consumption expenditure during the initial lockdown period. This decrease was attributed to reduced income, uncertainty, and fear among households.

Bhattacharya et al. (2020) reveals that spending on essential goods, such as groceries and healthcare, remained relatively stable or increased, while discretionary spending on non-essential items, including entertainment and dining out, decreased significantly. This shift in sectoral expenditure reflects changing consumer priorities and risk perceptions.

Nidhi Kaicker in an EPW article named "*Food Consumption Expenditures and the COVID-19 Pandemic in India*" shows that "*pandemic-induced lockdowns resulted in a sharp increase in the share of food in the total expenditure across rural and urban India for all income groups and castes and religions*"

Coulthard et al. (2021) have showed that in United Kingdom Covid-19 has reduced consumers' food wastes and has increased the positive attitudes of consumers to prevent food wastage.

Sun et al. (2021) and Qi et al. (2020) found that the Covid-19 pandemic has driven consumers towards buying sustainable products and that consumers now pay more attention to the environment and the society.

Moon et al. (2020) and Safara (2020) found an increase in online shopping patterns at the expense of buying in physical stores.

Anand and Anoop S.K. (2020) in "**COVID-19 and the Consumption Collapse: Evidence from Indian Districts**" use district-level data to assess the consumption collapse and its variations across different regions in India.

S. G. Bharadwaj et al. (2020) noted that the initial response to the pandemic included panic buying and stockpiling of essential goods, leading to short-term spikes in consumption expenditure. However, this was quickly followed by a significant shift in spending patterns.

Anand and S.K. (2021) highlights the differential impact of the pandemic on various income groups. Lower-income households tend to have experienced more substantial reductions in consumption expenditure compared to their higher-income counterparts. This income disparity has exacerbated existing socio-economic inequalities and underscores the need for targeted policy interventions.

Data Sources & Description

The study uses Consumer Pyramids Household Survey (CPHS) data collected by Centre for Monitoring Indian Economy (CMIE). CPHS covers a representative sample of nearly 175,000

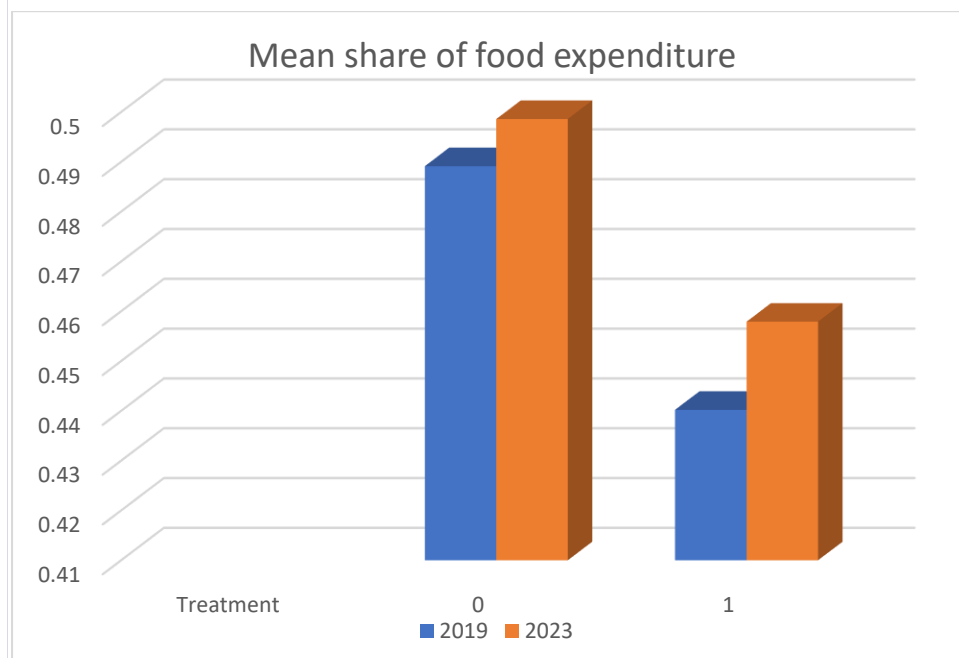
households across India. The sample is drawn based on a stratified multi-stage survey design where the primary sampling units are towns and villages from the Census 2011 data.

Each sampled household is interviewed thrice in a year in three waves where each wave spans four months. In each wave, the CPHS collects month-wise recall data on household income and money spent on 80 different goods and services (including food, health, education, utility bills, recreation, remittances, EMIs, etc.).

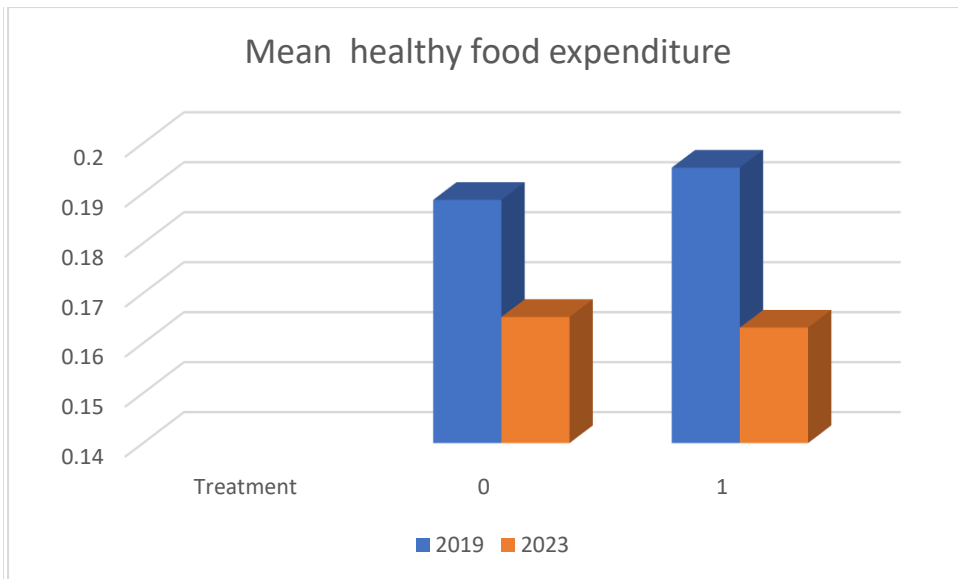
The demographic module of the CPHS has information on the age, sex, and education levels of all members of the household and the family’s caste, religion, and domicile (migrant or born in the current location).

We use two waves of CPHS data, one wave of 2019Q4 to show consumer behaviour prior to COVID-19 pandemic, while another one of 2023Q1 to captures “permanent” changes in consumer behaviour post COVID-19 pandemic.

Variation in Mean Percentage Household Expenditure on Food in “High Incidence” states and other states is shown through given graph –



Also, variation in Mean share of Household Expenditure on Healthy Food in “High Incidence” states and other states is shown –



Methodology

The equation to be estimated is as follows –

$$y_i = \alpha_0 + \alpha_1 \cdot \text{INTERACTION}_i + \alpha_2 \cdot X_{i1} + \alpha_3 \cdot X_{i2} + \dots + \alpha_k \cdot X_{ik} + \epsilon_i$$

In this equation:

- y_i represents the dependent variable for the i th observation.
- INTERACTION_i is the interaction term between two or more independent variables, capturing the effect of the interaction between those variables.

- $X_{i1}, X_{i2}, \dots, X_{ik}$ are household control variables (or any other control variables you want to include)
- α_0 is the intercept, representing the expected value of y when all independent variables are zero.
- α_1 is the coefficient for the interaction term, capturing how the effect of the interaction between the independent variables affects the dependent variable.
- $\alpha_2, \alpha_3, \dots, \alpha_k$ are the coefficients for the control variables, representing their respective effects on the dependent variable.
- ϵ_i represents the error term or the unexplained variation in y for the i th observation.

The study uses OLS methodology to quantify the impact of COVID-19 on two dependent variables –

- (i) Percentage of Household Expenditure on Food
- (ii) Percentage of Total Food Expenditure on Healthy Food Choices

Key variable of interest is “Interaction Dummy” which captures interaction between two dummy variables. While one dummy captures whether time period is pre-pandemic or post-pandemic, another dummy captures whether household unit belongs to “High Incidence” States.

There are 11 “High Incidence” states which are arrived at using mortality rates. We calculate mortality rates for every state and states with mortality rate above median are assigned “High Incidence” while those with value less than median are not.

These 11 states are –

1. Delhi
2. Goa
3. Haryana
4. Himachal Pradesh
5. Karnataka

6. Kerala
7. Maharashtra
8. Tamil Nadu
9. Uttarakhand
10. Punjab
11. Chhatisgarh

There are other control variables which are used at household levels, these are –

- (i) Education Level in Household
- (ii) Family Size
- (iii) Caste
- (iv) Religion
- (v) Gender Group, i.e. whether household is female dominated, male dominated, all females etc
- (vi) Occupation

Results

After regressing, for share of total household expenditure on food, we get the following results –

<u>VARIABLES</u>	(1) <u>perc_food</u>
Treatment_Effect	0.00533*** (0.000922)
Constant	0.524*** (0.00412)
Control for Education	Yes
Control for State	Yes
Control for Occupation	Yes
Control for Family Size	Yes
Control for Religion	Yes
Control for Gender	Yes
Control for Caste	Yes
Observations	193,095
R-squared	0.194

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

We can see in the table above, that post-pandemic, there has been on an average increase in 0.5% share of total expenditure on food in “High Incidence” states’ households as compared to other states. This result controls for other relevant household level characteristics, such as Family Size, Occupation, Education etc.

The result can be explained by lack of alternative employment opportunities, shift towards a healthy and sustainable lifestyle with high focus on natural and organic products, change in consumer preference and habits and government support.

For share of household food expenditure on healthy food choices, we get the following results –

VARIABLES	(1) healthy_food
Treatment_Effect	-0.00937*** (0.000564)
Constant	0.218*** (0.00252)
Control for Education	Yes
Control for State	Yes
Control for Occupation	Yes
Control for Family Size	Yes
Control for Religion	Yes
Control for Gender	Yes
Control for Caste	Yes
Observations	193,095
R-squared	0.075

t statistics in parentheses

* p<0.1, **p<0.05, ***p<0.01

These results show that on an average share of food expenditure on healthy food choices has decreased by 0.9% in “High Incidence States” as compared to other states.

The result can be explained by several factors, such as economic hardship such as fall in employment, supply chain disruptions causing food price inflation, panic buying, stress eating etc.

Limitations

There are several limitations inherent in the study –

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- (i) Instead of “High Incidence” states, high incidence districts can be used to more granularly analyse the results and such results can be more robust.
 - (ii) Instead of using only two waves of CMIE CPHS data, we may use continuous waves data from 2019 to 2023, so that we may changes short-term changes in consumer behaviour with each COVID wave and its subsequent impacts.
 - (iii) More household level control variables such as women autonomy may be used
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Conclusion and Policy Recommendations

Through this study, we have found that after pandemic, there was a jump in share of total food expenditure in “High Incidence” states in households. The reasons can be manifold, with reasons ranging from psychological to economic hardships. This can have subsequent impact on various other areas, such as nutritional outcomes, employment shift in Industries, growth in food processing and ancillary industries etc.

We have also found that there is a decrease in share of healthy food expenditure in “High Incidence” states in households. The reasons can be social comparison, psychological stress and economic conscious behaviour. Subsequent impacts especially on nutritional outcomes and related health measures needs to be properly investigated through more rigorous studies.

Policy recommendations include focusing on high nutritional crops in agriculture sector such as Millets, Bajra etc. Strengthening of ground level infrastructure of schemes such as PM-AAY, PDS, Anganwadi schemes so that they can be properly implemented and consumer shift towards unhealthy food can be properly addressed.

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