



POST COVID-19 RURAL MARKET CHANGING SCENARIO: ON PRICING AND DISTRIBUTION SYSTEM

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ABSTRACT

The Covid-19 pandemic has been causing havoc on every sector of the economy, including the food sector. The lockdown imposed since the last week of March, this year has reportedly caused massive distortion in the operation of food supply chain in a way that has put the food security of the nation at greater risks than ever. Against this backdrop, using secondary data from the Department of Consumers Affairs, Government of India, this study makes an attempt to examine the trend of average monthly wholesale and retail price movements of a few essential food items consumed predominantly by Indian households over a year to understand what could possibly emerge in the coming days and hence arrive at some possible solution. We find evidence of supply chain disruption in case of most of the food items, as their retail prices and wholesale prices show an increasing trend since the lockdown phase, while at the same time showing some signs of recovery as and when the lockdown has been made somewhat flexible. What now stands as a challenge before the policymakers is to stabilize the economy which is already performing poorly in terms of GDP growth, employment and eradicating hunger.

KEYWORDS: *Corona virus; rural market; GDP.*

INTRODUCTION

The Covid-19 pandemic and its associated lockdown has led the world economy to some kind of 'de-globalization' or 'reverse globalisation', a phenomenon whereby countries and regions within countries have been compelled to lock down their borders in order to contain the spread of the virus, at least temporarily. This has led to a disruption in the normal flow of goods and services, and factors of production including labour and capital. The exodus of millions of migrant workers to their homes who were supplying their valuable labour service in smooth operation of the food supply chains (FSCs) in urban areas has led to disruption in the operation of the supply chain mechanism² (Dev & Sengupta, 2020; Sharma et al., 2020). The food supply chain has many stages that operate right from initial production to

reaching to the ultimate consumers. If there arises a problem in any of these stages, the entire chain is broken and in the process the goods cannot reach out to the consumers. In the current scenario, this has created a mismatch between demand and supply of commodities, and hence fluctuations in the price level. The two most important factors cited for the food price inflation are the limits on supply due to restricted mobility induced by the sudden lockdown and the unexpected shift in consumer behaviour as can be seen from their panic-buying or hoarding of essential commodities.³ According to a report from OECD, 'the biggest risk to food security is not with food availability but with consumers' access to food'. The pandemic has put a threat to food security. There are primarily two reasons for this. First, of the total food consumed in India, 92% is purchased. Of this, the



government (public sector) has the responsibility to distribute only a meagre 5% via the public distribution system (PDS) and the rest is sold by private players (Reardon et al., 2020). At this crucial period where prices of the essential commodities are reported to have increased, the burden of inflation is likely to fall on the vulnerable and poor people, most of whom were employed in informal sector in rural and urban areas and have no formal safety nets. And the loss of millions of jobs has reduced their real income so much so that they have nothing left to sustain themselves. Second, even before this crisis came about, the Indian economy has been witnessing a lower GDP growth rate with unemployment rate at its highest in the last 45 years. The pandemic is only expected to aggravate the economic downturn all the more (Dev & Sengupta, 2020; Mishra & Rampal, 2020).

In its recent move to deregulate the excessive regulation in the agricultural markets, the government announced an amendment to the earlier Essential Commodities Act (1955) 5th June this year. This act was aimed at increasing farmers' income and make this sector competitive. Under the amended Act, agricultural food stuffs can only be regulated under extraordinary circumstances such as war, famine, extraordinary price rise, and natural calamity. On the other hand, imposing stock limit of any item will be based on its current price rise.⁴ Considering the current situation, some points need special mention. The amendment is expected to benefit the farmers, who form an essential component of the supply chain. At the same time, it must protect the interest of the consumers who happen to be the final components in the supply chain. And majority of Indian consumers belong to lower income strata. So, striking a balance between them remains a key challenge in the days to come.

Since we are still in the initial stages of the pandemic, it might seem too early to discuss the impact of Covid-19 on the food economy. Nevertheless, it is important at this point to examine the trend in prevailing prices of some of the essential food items mostly consumed in India using real world data available at hand. It would enable us to not only look at the observed effects of the lock down but also provide insight on what could possibly emerge in the coming days. To be specific, we look at the trend in variation of average daily wholesale prices and retail prices of a few essential food items for the country spread over a period of twelve months. This would facilitate comparison between the trends before and after the pandemic. The wholesale prices are charged by producers to retailers, while the retail prices are charged by retailers to the ultimate consumers. The

rationale behind considering the two types of prices arises from the link between them: i) The first possibility is that if only the wholesale price increases, it reflects that there is some shortage (cut) in production so that the producers charge higher prices than before to the retailers. This is a supply side increase in prices, ii) However, this is not a realistic situation because any increase in wholesale prices is always passed on to the final consumers via a more than proportionate increase in retail prices, due to relatively inelastic demand for essential commodities (Pindyk & Rubinfeld, 2013). Thus, the second case is the possibility that both are increasing, iii) The third and final case is when only the retail prices are rising. This could be because there are bottlenecks in transportation so that by the time it reaches the consumers, the prices rise. Or it could also be driven by sudden hoarding by consumers and it reflects a demand side hike in prices. In the backdrop, we examine for a few selected commodities, how the prices are behaving and thus get insight on how the supply chain has been disrupted and to what extent. To our knowledge, this is the first study to explore this issue in a comprehensive manner.

RELATED LITERATURES

There have been a few studies discussing on the what repercussions the pandemic has had initially and is expected to have on the existing supply chain. Reardon et al. (2020) mentions that India's food supply chain has been facing uncertainty due to Covid-19, because 92% of food consumed is purchased from the private sector consisting of the so-called Food Supply Chains (FSCs). Of this, as high as 95% is sold by the private sector, while government supplies the rest 5% via the public distribution system. As the authors hypothesize, the rising prices will signal impending shortages, and this is likely to further increase the price level, ensuring that the vicious circle is in operation. Given the contagious nature of the virus, the government's move to reduce contact will only throw many out of employment who have so far been involved in different stages of operation of the supply chain. Mishra & Rampal (2020) voice their concern over the negative impact of the pandemic on hunger and food security in India. While the GDP of the nation has been declining since the last few years with the latest reporting a low 4.7% in 2019, the unemployment rate recording the highest in the last 45 years, and India performing very poorly in the hunger statistics, one can imagine how the economy is going to be affected in the long run. The authors emphasize that the need of the



hour is to carefully combine governmental and non-governmental interventions to stabilize the economy. Efforts should be directed towards short run, medium run and long run policies. For example, direct cash support would ensure food availability in the short run. A medium run policy could be the central government coming in partnerships with state and local governments and with other agencies working on food security. In the long run, the employment guarantee acts should be boosted and survival of micro, small medium enterprises (MSMEs) be ensured. Dev & Sengupta (2020) suggest that the supply chain is unlikely to restore to normalcy soon due to exodus of millions of migrant workers from urban areas and shipment and travel related restrictions imposed by nearly all affected countries. With this comes the health risk associated with the spread of the virus to the rural areas also because it can spread to the farmers, agricultural labourers and other workers working throughout the food supply chains. Various reports suggest the concern that agriculture sector, which provides employment to majority fraction of the population is badly hit due to disruption in supply chain induced by the pandemic. There are reports which point to some recovery in the supply chain, which was affected in the initial phases of lockdown. As per Lowe & Roth (26/06/2020), supply of food fell by more than 60% on average across 1804 wholesale mandis in India but steadily recovered since April and seem to have fully recovered by the end of May. However, their analysis remains silent on the distributional aspect of the recovery, i.e, to whom the food actually reached after the supply picked up. It has to be borne in mind that the food supply chain relates to a heterogeneous basket of food items, ranging from cereals, pulses, edible oils, beverages to perishable stuffs like fruits and vegetables. While there are studies and reports on the overall supply chain, a disaggregated analysis would be more comprehensive. For instance, the supply chain of perishable items would be affected in a much different way than that of non-perishable and easily storable items.

This study makes an attempt to a) examine the nature of price movements of a few essential food items consumed predominantly by Indian households. We look at the average monthly percentage variation in wholesale price and retail price of these commodities spread over a period of last twelve months and b) based on the observed trend in price movements, we put forward some possible policy prescriptions that might be helpful in ensuring a smooth operation of the supply chain in a manner that food security is not

compromised and also safety of everyone involved in the supply chain is ensured.

METHODOLOGY

Data source

For this study, researcher resort to the price data provided by the Department of Consumers Affairs, Government of India. The price monitoring division in this department is in charge of monitoring daily prices of 22 essential commodities based on data collected from 114 market centres spread across India.

METHOD

This study includes 13 essential food items in our study: Rice, Wheat, Wheat Atta, Masoor dal, Moong dal, Salt pack (iodised), Sugar, Milk, Tea (loose), Mustard oil (packed), Onion Potato and Tomato. This selection is made based on the fact that these items are most commonly consumed by a typical Indian household. The department provides information on daily prices. We consider average daily price over a month for each of the items. The last date considered is up to 13th of July, 2020. We consider a period of one year (twelve months) to compare the prices before and after the pandemic. Thus, we have the following twelve months for the study: 2nd July-2nd August, 3rd August-3rd September, 4th September-4th October, 5th October-5th November, 6th November-6th December, 7th December-7th January, 8th January-8th February, 9th February-9th March, 10th March-10th April, 11th April-11th May, 12th May-12th June and 13th June-13th July. We compare the variation in wholesale and retail prices to understand if the ongoing price fluctuations are due to demand and/or supply side factors.

DISCUSSION ON FINDINGS

The figures below present the price movements of each single commodity. The time period is measured along the horizontal axis while the change in price is plotted in the vertical axis. A point above the horizontal axis reflects an increase in price and anything below it denotes a fall in the price relative to the previous period of the commodity concerned. The wholesale price and retail price are represented by the blue line and orange line respectively.

Rice, Wheat and Wheat Atta

Starting from July to December last year, the prices have been sometimes increasing and then decreasing before finally taking up. The prices have shown the largest decline during the first week of



January to first week of February. The trend is not definite before the lockdown was in place. But since it was announced, the prices have been increasing continuously during April to July, although at different rates. The pattern is more or less similar for both wholesale and retail prices. The rate of increase was relatively smaller in the later period, which could be because the strict lockdown was somewhat eased. However, as compared with the pre pandemic period, the larger price increase reflects some distortion in the operation of supply chain of rice. It may be due to an initial cut in production, or transport restrictions while reaching to consumers, or due to panic-buying on part of the consumers.

The variation in wholesale and retail prices of wheat does not follow a definite trend throughout the period considered. Even after the lockdown were announced, the prices were falling, then picked up during the second week of April to second week of May, again followed by a decline and then finally increased during the last month. This reflects a temporary shock in supply or demand side factors. For instance, the price hike could be driven by hoarding by consumers or due to restriction in mobility. On the other hand, the decline in prices may be due to stockpiles being utilized to make these available to consumers. This is a tentative argument that follows from the figure.

The retail prices of Atta have been increasing continuously after the lockdown, i.e., from 11th April to 13th July. The hike was much pronounced immediately after the lockdown. This must be driven by consumers suddenly hoarding this commodity. The wholesale prices also saw a hike but it is much less than increase in retail prices in the initial phase of lockdown. Thus, the distortion in production (supply side) is not much reflected. One argument could be that the earlier stocks were available which did not increase the wholesale prices much, but rising demand led to increase in retail prices. During the last months, the pattern is more or less similar for both the prices.

Dal (Moong and Masoor)

In case of moong dal, the wholesale and retail prices have been increasing since August last year, at different rates. During 10th March-10th April, the hike was the highest and the rate and for the first time the prices fell by a small amount during 12th May-12th June. This was followed by a slight increase in the last month. For masoor dal, the prices have been increasing continuously since the lockdown phase, with the rate of increase becoming smaller in the subsequent months probably due to easing of lockdown restrictions. The

pattern is almost similar for retail and wholesale prices. In case of both the commodities, the very large hike in prices in the initial lockdown phase clearly reflects some disruption in the supply chain, as reflected from wholesale prices rising. This could be due to restrictions in transporting the items from producers to retailers. The increase in wholesale prices has been shifted to the retail prices almost proportionately. This is further matched by an increase in consumer demand.

Mustard Oil, Salt and Sugar

The wholesale price and retail price of mustard oil show a clearly increasing pattern since the second week of April till the second week of July. The fact that it has continued to increase since the time of initial lockdown reflects distortion in the supply chain, which could arise due to supply as well as demand side factors mentioned above.

The sugar prices follow no definite pattern throughout the period concerned. However, compared with the initial few months (July-October), the percentage variation in the price have been lower during October-March. But the lockdown was followed by a huge spike in the prices during 10th March-10th April, which was again followed by a small decline, then finally increasing in the last month. Interestingly, it reflects a temporary rather than a consistent breakdown in the supply chain. What appears is that supply side factors are responsible, say for instance, when sugarcane was in its pre harvest phase and there was insufficient stock to meet the sudden demand, the prices had risen. However, following the harvest in this Rabi season, the prices may have shown a downward trend.

The salt prices show no clear pattern of price movement since the beginning. The wholesale prices increased sharply during the second week of March to April, then declined by a huge amount immediately after lockdown, from 11th April-11th May. The next month saw an increase and towards the last month it fell slightly. The retail prices too have followed a similar trend, except that the last month saw a meagre increase. This reflects a temporary disruption in supply chain operation.

Tea and Milk

The wholesale price of tea has a fluctuating trend since the last one year. It is important to note that the prices have fallen during the lockdown phase 10th March-10th April to 11th April-11th May. However, the prices have increased in the last two months. It could be argued that the impact on supply chain was not felt immediately, but got reflected in the later



period. So far as the retail price is concerned, it has been increasing continuously after the lockdown, starting from 11th April-11th May to 13th June-13th July, at slightly different rates. It is evident that sudden hoarding by consumers have led to increase in the retail prices immediately after the lockdown were announced, whereas in the same period 11th April-11th May, the wholesale prices have fallen. In the last two months, the increase in wholesale prices were matched by increase in the retail prices. This reflects some distortion in the supply chain.

In case of milk, both the wholesale and retail prices have fallen drastically during 9th Feb-9th March. However, since the lockdown the prices have been increasing. It is important to note that the percentage increase in the retail prices have been smaller in the last two months. It is likely due the fact that lockdown has eased eventually and hence the distortion in the supply chain.

The retail price and wholesale price of potato have increased drastically during second week of March to April, followed by a very small increase during the next month, which is the period immediately after lockdown. The prices have increased by a high amount during the last two months. Following the harvest in Rabi season recently, the production and so supply has increased. Thus, potato prices only reflect a temporary disruption in supply chain.

The wholesale and retail prices have fallen slightly after the lockdown were announced, but have increased continuously during the second week of May to second week of July. While we have had a harvest season recently, the prices should have fallen. But again, this could be because transportation restrictions have prevented supply to desired locations. Also, there are reports suggesting that there has been considerable decline in demand from hotels and restaurants for such food items. All of these show the adverse effects the pandemic has had on the supply chain.

From the trend in wholesale price and retail price of tomato, no clear evidence of supply chain distortion is found. This is because the prices have declined since the period of lockdown from March to June. Only in the last month the prices have increased. The last period hike might be due to cut in production, or due to mobility restriction from producers to retailers and finally from retailers to consumers. The case is similar to that of tomato.

The discussion above reveals that price of most of the essential food items, viz., rice, atta and dal have increased considerably after the lockdown was in place. The wholesale and retail prices of mustard oil have been continuously increasing since then. Potato and

tomato prices have been on the rise during May to July. Milk and tea prices have increased not immediately but sometime after the lockdown. So far as salt and sugar prices are concerned, no clear pattern of price increase can be seen, and reflects temporary distortion in the supply chain. Same holds for wheat prices. The onion prices have been falling since the beginning of this year, only increased in the last month, 13th June-13th July.

The gap between the retail and wholesale prices is negligible for most of the commodities. For atta, the retail prices increased more than the wholesale prices in the month immediately after the lockdown (11th April-11th May) and coincided thereafter. The retail price of mustard oil has increased more than the wholesale price immediately after the initial phase of lockdown, while the rate of increase was smaller in the last two months (12th May-12th June to 13th June-13th July). For tea, the wholesale price has increased more than retail price in the last two months.

In case of milk, the increase in wholesale price has been more than that in retail price during the entire phase of lockdown. The difference in variation between the two reflects whether demand or supply side factors are responsible for the increase. In case of mustard oil and atta, the retail price increasing more than wholesale price reflects that it must be driven more by increase in consumers' demand when the lockdown started. On the other hand, when wholesale prices are increasing more than retail prices, it suggests that supply side issues are more than demand side factors. For instance, restriction in mobility can distort the process of transporting the commodity from one stage to the other in the supply chain, before eventually reaching to ultimate consumers.

CONCLUDING REMARKS AND SOME WAY FORWARD

The Covid-19 pandemic has been causing havoc on every sector of the economy, including the food sector. The lockdown imposed since the last week of March, this year has reportedly caused wide spread distortion in the food supply chain operation in a way that has put the food security of the nation at greater risks than ever. Against this backdrop, this study makes an attempt to examine the trend of average monthly price movements of a few essential food items consumed predominantly by Indian households for a period of a year in order to understand what could possibly emerge in the coming years and hence arrive at some possible solution. We do find evidence of supply side disruption in case of most of the food



items, as their retail prices and wholesale prices show an increasing trend since the lockdown phase, while at the same time showing some signs of recovery as and when the lockdown has been made somewhat flexible. What now stands as a challenge before the policymakers is to stabilize the economy which is already performing poorly in terms of GDP growth, employment and eradicating hunger (Dev & Sengupta, 2020; Mishra & Rampal, 2020).

According to some reports (Chaudhy, 26/03/2020), the availability of cereals and pulses should not be a problem because of the adequate supply in India. Coming to perishable items like potato, tomato and onion, the reduced demand from hotels and restaurants and transport and export restrictions have led to their wastage on large scale and brought losses to Indian farmers in the initial phases of lockdown. Edible oils (e.g., mustard oil) which are mostly imported have faced supply shortage leading to very high prices. Evidence from local markets shows that demand for non-vegetarian food items (fish, meat etc.) have been considerably reduced as consumers have shifted to other (vegetarian) sources of protein like pulses and soyabean. This has led to a demand side hike in prices of these items. Following the harvest in the current Rabi season, supply of some of the food items have increased. These include wheat, pulses, sugarcane, onion and potato. No doubt, we can take comfort in the fact that the production of many of the essential commodities will not be much hampered. But, a major and serious concern for the country at large is how to make the available production accessible to everyone. Firstly, the existing warehousing and cold storage facilities should be upgraded. Provision for accommodating more and more items should be made. This would ensure that the production do not go into waste and reach more people who really need it. Secondly, many migrant workers have returned to their local places after the initial lockdown was uplifted some time back. Some of them were engaged in the supply chain operation, be it in the initial production stage or in the processing industry or involved with logistics. These people have lost their employment and have no means of earning left. As a matter of fact, many organizations and educational institutions have taken up the responsibility of distributing essential items to people in their respective locality or by targeted approach. It is also reported that the government has initiated direct cash transfers to accounts of poor and vulnerable groups. However, these efforts have not been enough, because government has control over only 5% of total food purchased to distribute via public distribution system.

A feasible way out could be that if these people are absorbed in the local food supply chain, then it would be a long run solution to unemployment. Direct cash transfers are temporary measures to prevent hunger and hence not sustainable. Thirdly, government intervention in the share of food item distribution should be enhanced. Whereas private FSCs are enjoying 95% of the share, it can be inferred that every section of the society, especially the vulnerable segment will hardly be reached. The problem is not with whether public or private agencies are dominating the food supply chain, but the outcome should be ensuring food for all (food security). Fourthly, consumers now prefer safety over cost and convenience. E-commerce platforms can take the lead in supply chain operation. For instance, in retail and restaurant delivery. This would minimize human contact in the most feasible way. Lastly, the recently announced 'Essential Commodities (Amendment) Ordinance, 2020' is a first of its kind government initiative to ensure higher incomes to farmers while protecting interest of the consumers. The current food price inflation may benefit one section of the supply chain (the producers/farmers) at the cost of the others (intermediate agents and the final consumers). Uncertainties remain as to when normacy will prevail. Therefore, to what extent these acts are beneficial will be reflected in due course of time.

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