

Before  
THE COMPETITION COMMISSION OF INDIA  
Suo-motu Case No.01/2011

Dated:- 10<sup>th</sup> April 2012

In Re: Rise in Onion Prices

Order under section 26(7) of the Competition Act, 2002

1. Analysis of competition in agricultural markets and the possibility of price manipulation vide cartelisation presents a challenge to competition authorities. The suo-motu case no.01/2011 regarding the price rise of onion during December 2010 is one such case of the application of competition law in agricultural markets. In 2010 there was an abnormal rise in prices of onions in different markets of Delhi, Lasalgaon and Ahmedabad. At that time there were multiple media reports alleging hoarding, price manipulation and possible cartelization by onion traders as the reason for the sharp rise in onion prices. For instance in Delhi the market price of onions suddenly surged to Rs.70/per Kg. The Competition Commission of India (CCI) took suo-motu cognizance of the matter and investigated the case. The Commission gave directions to DG for investigation, under section 26(1) of the Competition Act 2002, the causes of rise in prices and the possibility of cartelization if any, and /or abuse of dominance in agricultural markets. DG conducted the investigation submitted the report on 6.04.2011.
2. The DG collected data about the arrival of onions in mandis and about different players in the market such as 'kutcha arahtiya' (the first level agent representing the farmer) 'pucca arahtiya' (second level commission agent) commission agent or traders etc. for the relevant period and came to the conclusion that:
  - i. The rise in prices of onion during end December 2010 was more on account of unexpected rains and supply disruptions



- ii. There was no material evidence of meetings or agreements among the traders which could suggest cartelization.
3. DG opined that with large number of traders along the entire value chain from kutchra arahtiya to pucca arahtiya to wholesale trades at mandis in large cities there was no likelihood of cartelization and price manipulation. His arguments are based on the facts that: i) since transactions at mandis take place through a process of auction, manipulation of the prices at the time of auction in an organized manner is not possible; ii) collusion by commission agents was also not feasible since the agents are only facilitators of transactions between buyers and sellers at mandis and could not have raised prices at auctions on their own; and iii) the difficulty of storing onions in any attempt to manipulate prices rules out hoarding as well. Onions have a limited shelf life and surveys by the income-tax departments did not unearth significantly huge stock of onions with traders indicating hoarding by traders.
4. The majority Order has accepted the investigation report of DG and closed the case on grounds of 'lack of evidence'.
5. The conclusions of the DG are difficult to accept as they vitiate against the fundamental principle of market operations in agriculture and also of informal markets. The presence of a large number of traders, the difficulty as regards to storage and interventions by government at mandi auction tend to give the illusion of perfectly competitive markets. Sudden price rises without sufficient underlying disruptions either in market arrivals or in production, however draw attention to a tendency to either apply inappropriately economic tools of markets or to arrive at simplistic conclusions. Furthermore, it is well known that evidence of informal communications in informal markets represent a challenge suggesting that evidences in terms of agreements are either non-existent or difficult to find. In this alternate Order we raise several issues based on re-examination and re-evaluation of the data submitted by DG, which need to be considered before a summary dismissal of the case. As a suo-moto case the concerns of the Commission at the time of prima facie were genuine and require greater introspection.

#### Re-examination

6. Agricultural produce markets display characteristics of competition in terms of large number of players. Since many of these markets are under the Agricultural price



mechanisms with licensed traders and regular auctions, it is assumed that possibility of collusion is limited. Recent studies and economic evidence on markets reveal that more often than not these markets are distorted belying the belief of competitive markets in operation.

7. The primary concern is with respect to traders (agents) in the supply network for indulging in various malpractices which led to an artificial inflation of prices not explained by the underlying processes of demand and supply. Preliminary analysis was carried out by the Economics Division of the Commission on whether the price shock could be correlated with a supply shortage as suggested by the DG based on information in the public domain or that rainfall shock in July-August 2010 had destroyed standing crop in Nasik, or a demand increase resulted in a the price shock could not be matched by an equivalent supply decline, for one of the large secondary (consumption) mandi Azadpur. Prior to 2010, it was observed that quantity supplied (or arrivals in the market) had fallen sharply without a similar resultant price shock. On the demand side, NSSO data from 1997 to 2005 shows that onion is the second highest consumable vegetable after potato. However, the recall data for last 30-day household consumption of onion has been constant at around 600 grams in rural areas and at around 750 grams in urban areas over the period 1999-00 to 2004-05.
8. Agricultural markets have long supply chains, and various parts of the supply network have distinctive features. These structural features predicate the nature of competition and market outcomes that affect both the end consumers on one end and the farmer on the other. It is of particular interest to understand the role of the intermediate nodes of the supply chain and the nature of their links with each other and the terminal points in order to grasp the nature of price and quantity movements in agricultural markets. For commodities, such as onion where after the crop has been harvested and further processing is not required for consumption purposes, it is not immediately obvious the benefit of the intermediate nodes in the long supply chain between the farmers and the end consumers.
9. Onion can be stored for some months and its shelf-life depends on the time it is harvested. Typically, Kharif onion has a shorter shelf-life than the Rabi crop. A few features of onion as an agricultural commodity are listed below:
  - (a) A regression analysis of onion arrival in Lasalgaon and Pimpalgaon mandis on monthly average rainfall reveals that the onion crop requires rainfall and moisture six months prior to harvest, whereas any rainfall



three months prior to the harvest destroys standing crop. Information from the FAO also verifies this pattern of onion crop and rainfall for all varieties of onion for most parts of the world.

(b) India is the second largest onion producer in the world, after China. Within India, the Nasik region accounts for the highest onion produce. Nonetheless, it is a pan-India crop grown at various times during the year in different parts of the country.

10. A noteworthy feature of onion production and its retail prices is that despite being the second largest onion producer in the world, and despite almost constant domestic demand for onion (as discussed before), retail prices of onion have registered an increase of around 58 per cent in the last year. It is possible that to some extent this price is explained by increasing export demand. Nonetheless, competition issues with respect to the supply chain remain of current concern. The following points highlight the DG's analysis of the competition conditions of the primary and secondary mandis associated with onion trade:

(a) As the DG Report on page 15, regarding wholesale markets notes there are about 30,000 rural periodical markets of which about 15 per cent function under the ambit of regulation. The APMC bye-laws govern the functions and the nature of competition in the primary and secondary mandis.

(b) The DG finds that the sale of onion at Lasalgaon and Pimpalgaon mandis is transacted through commission agents ('kutcha arahiya' and 'pucca arahiya') who get license from the APMCs. 'kutcha arahiya's' offload the produce from the farmers and charge a commission at the rate of 4 per cent on the sale price of onions. They sort the onions and weigh them prior to the auctions and also own space in the mandi where unsold onion can be stored overnight. Pucca arahiya's buy the produce in open ascending auctions at the mandis on behalf of traders in the retail markets further downstream. For onion, the commission charged by these agents is around 1 to 2 per cent of the sale value. Additionally, the APMC charges a market fee at the rate of 1.05 per cent for each trade from the pucca arahiya's

11. The DG observes that there are a large number of participants in the auctions and based on this, it concludes that it is not possible that there is any collusion possible



among the traders in the supply chain of onion. The DG notes that the market structure replicates a competitive scenario and that price discovery through open ascending auctions are reflective of a competitive bidding process due to the large number of market participants.

12. We record our own observations in response to the conclusions drawn by the DG report based on its' investigation of the case. The first observation is regarding concentration in the market at the mandi-level in terms of shares off-loaded by the traders in monthly onion trades. This automatically indicates that price formation at the mandi-level deviates from the competitive benchmark significantly. The second set of observations considers credit inter-linkages between the farmers and the traders and how this might change the competitive price discovery at the mandi-level. Our third set of observations consider social networks (and possible collusion) between traders and truckers, which impact the onward transmission of prices and price formation at the secondary mandi and retail level prior to consumption by the end consumer. Put together, these observations illustrate that the underlying market condition at the mandi (primary and secondary levels) are quite far off from the competitive benchmark.
13. Our first observation is that the conclusion drawn by DG on the basis of sheer numbers present at the auctions is inherently flawed. Our contention is that the market at the mandi level has high level of concentration. The following observations form the basis for our conclusions:
  - i. Rather than focusing on numbers, if one looks at the share of produce procured by pucca arahtiyas one would get a better picture about the nature of competition in this market. We have not been provided complete information on market shares for all market participants in the major mandis. From the partial information available from the records of the DG, we observe that the share of M/s Saibaba Traders in Lasalgaon Mandi during the month of December 2010 varied from 7.2 per cent to 20.64 percent with an average of 12.66 per cent. While not sufficient to conclude the actual picture of market concentration, this figure is definitely indicative of the fact that a few large players dominate the overall purchases in the market with a large number of small fringe participants with no influence on prices and quantities.



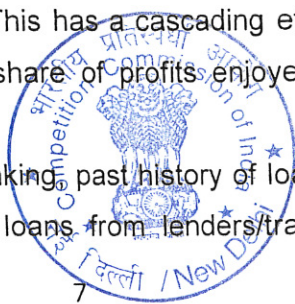
- ii. The requirement of licenses for transacting in the APMCs automatically limits the total number of market participants for any given auction of onions, be it in the primary or the secondary mandi. Further, there has not been any significant entry into the mandis in the last few years in the major APMCs.
- iii. A single trader holds multiple licenses (in different categories and for different commodities). Further, an entire family of traders (father and son) is involved at different vertical stages of the auction process (kaccha and pucca arahtiyas). Apart from these family relations, traders, by their own admission, have stated that prices in different mandis are routinely discussed among them.
- iv. Close family relations involved in different parts of the supply chain engenders a situation where collusion on prices and quantities can be easily sustained. Further, the lack of new entrants in the market and market share of the transaction for some large market participant being as large as 13 per cent on an average in a month further increases the suspicion that price manipulation is a reality in these markets.
- v. As is well known from academic literature on repeated games, collusion among markets participants is more easily sustained in standardized goods (such as onion), where there are repeated interactions and very little entry. The longer are relationship among traders, the more costly is it to deviate from a collusive outcome for a single market participant. More importantly, close family relations in the same trade makes it easy to implement collusive outcomes. The threat of deviation by a single agent falls due to such close social relations. Multi-market interactions make punishments for deviation from the collusive outcome easy to implement and therefore, they make deviation less attractive.
- vi. Evidence of collusive bidding in other agricultural markets such as basmati grains and wheat (Banerji and Meenakshi, 2001) has been recorded in India. These auctions are similar to the onion auctions in wholesale and retail mandis (with some differences in the commission amount of the agents). While the DG did not observe the actual bids in these auctions and no economic analysis has been done of the nature of bidding in the onion auctions, one can surmise that given the concentration in shares in onion purchases and close and long run relationship among traders, a similar pattern of rotation in bids indicative of



collusive rather than competitive bidding would be found in the case of onion as well.

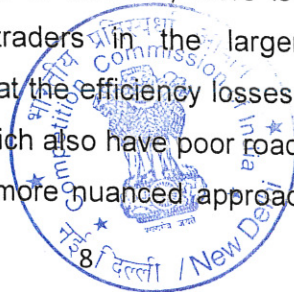
14. Our second observation is with respect to the nature of the relationship between the traders at the mandi level and the farmers at the production end of the supply chain. Shepherd (2004) notes that farmers often take credit from commission agents in order to meet their expenses. The future crop often becomes the pledged collateral on which current loans are dealt out. The immediate implication for price formation at the mandi level is that to some extent prices are no longer truly reflective of underlying supply-demand conditions. Opportunity cost of the loan to the farmer and concomitant costs of loan recovery automatically set a floor to the mandi-level prices due to this credit interlinkage between traders and farmers. Further, it undermines the bargaining power of the farmer vis-a vis the lender/trader and immiserates the actual producer of the crop, while benefitting the middle-man intermediary. This important aspect of credit linkages between traders and farmers and its impact on the prices reflected in the mandi is absent in the DG's analysis. There is no data about whether any trader gave trade credit to any farmer in the data collected by the DG, making it impossible to guess at the impact of underlying unobservable on the price formation at the mandi level itself. The following points are made as observations regarding the underlying social conditions of the Indian economy which are indicative of the widespread presence of trade-credit among farmers and traders:

- i. In India, supply of loans is determined by non-economic factors such as caste and kinship relationships. Y V Reddy (1999) notes that there are three broad types of informal financial transactions, viz., well-defined group, tied-lending/borrowing; and untied lending/borrowing activities. In the literature on well-defined groups, there are three broad types namely Rotating Savings and Credit Associations (ROSCA); Accumulated Savings and Credit Associations (ASCRA) and hybrid forms of both. There are some variations under each category. Basic characteristics of these groups are that they are voluntary in nature, usually among equals, with little or no outside support or interference. Often, members have some special bonds based on religion, caste, status, neighborhood, etc." Caste ties determine the nature and terms and conditions of informal credit. This has a cascading effect on the nature of price formation in the mandi and the share of profits enjoyed by the lender/trader and farmers.
- ii. Despite the expansion of rural banking, past history of loan relationships often imply that farmers continue to access loans from lenders/traders despite unfavourable



terms. The theory of social networks shows that bilateral lending networks can be quite stable and long-term. There are various factors, such as social ostracization, which lead to high switching costs and stability in loan relationships. Cost of switching lenders (from lender/traders to formal banks) is often exacerbated by caste and kinship ties.

- iii. Our third observation is that studying the mandi-level interaction among market participants is only a partial exercise in understanding the manner in which prices at the mandi-level translate into prices at the retail level. We believe that a broader analysis of the supply chain, which looks at a possible nexus between traders and truckers in order to explain possible instances of hoarding by the traders/truckers to benefit from the sharp rise in prices. This linkage explains the forward link in prices from the wholesale level to the retail level and there are possible anti-competitive elements in this part of the supply chain as well. In fact, there have been instances of hoarding reported by the Deputy Director (Income Tax), Kolhapur during a survey carried out u/s 133 (A) of the Income Tax Act during January 2011. Excess stock (unrecorded stock) of Rs. 75.11 lakh was revealed to the investigating agency, indicating the possibility of supply manipulation during the month of December 2010. There are bilateral and multilateral links in social networks between traders and truckers, and often this linkage explains how prices are formed at the retail level after a wholesale price discovery has already happened. Without an analysis of this interlinkage (which is absent in the DG investigation), it would be incorrect to conclude the lack of any anti-competitive behavior by agents in the supply chain.
- iv. Upto this point, the treatment of primary and secondary mandis has been homogeneous. This homogeneous treatment of primary agricultural mandis and secondary mandis in more centrally located venues, as in the DG report, is flawed. Though these mandis are a part of the same supply chain of the onion trade, small primary mandis have different competition characteristics compared to large secondary mandis. For example, Osborne (2004) notes that in her data-set drawn from rural Ethiopia, traders in a typical source market engage in imperfectly competitive behavior in purchasing from farmers, driving down the price paid to farmers approximately 3 per cent. In contrast, there is no conclusive evidence of imperfect competition among traders in the larger, more centrally located market studied." She concludes that the efficiency losses due to market structure are likely to be greatest in markets which also have poor road links and lesser volumes of marketed grain. A similar and a more nuanced approach for the onion case would

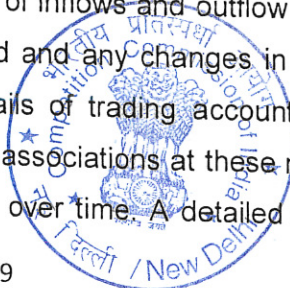




layer the analysis, controlling for the particular underlying features of a given mandi in order to characterize the nature of imperfections and anti-competitive behavior in the supply chain.

## Conclusion

15. The analysis of the data submitted by DG and based on in-depth analysis of auction markets and their behavioural pattern, it is difficult to accept the conclusion of DG that lack of evidence suggests closure of the case, a conclusion accepted by the majority Order of the Commission. The DG in his investigation by not understanding the nuances of traditional markets and the mechanisms that beget anti-competitive behavior failed to garner enough evidence of cartelization by proceeding on lines of cartel investigation as applied to modern industry cartels. Collusion as we have pointed out lies in the nature of links between the traders (kutchra and pucca arahtiyas) themselves while the form collusion varies from the primary mandi level to wholesale mandis at city centres. Analysis should start at the primary mandi level and in this case Lasalgoan or Pimpalgaon and understanding the process of price formation at these agricultural mandis thereafter proceeding on the onward transmission to secondary mandis. Social network linkages between traders and truckers and of credit inter linkages between the farmer and the traders are integral to the process of price formation and price transmission. The DG's investigation bypasses these critical aspects of market functioning and tends to look more on outwardly form such as number of players at the arahtiya or of the government representative at the auction rather than observing and gathering evidence of the network of interrelated actions influencing the formation of retail prices from the point of origin.
16. The issue therefore is whether the required evidence for proof of cartels in agricultural markets will be forthcoming or would the analysis be a purely socio-economic study. From the data gathered by the DG it is noted that there are strands of evidence which need to be further probed and then combined with critical data such as: i) time schedules, processes, modes of arrivals and outflows at mandis ( for each stage separately); ii) management of inflows and outflow how and by whom; iii) list of traders licensed and non-licensed and any changes in the list in the last ten years; iv) market fee structure; v) details of trading accounts and the accounting practice of arahtiyas; vi) details of trade associations at these mandis; vii) nature and form of auction and the bidding pattern over time. A detailed analysis of the APMC



bye-laws and measures and their impact on mandi-level participation is also to be analysed for the bye-laws vary from state to state and from mandi to mandi.

17. The market at the mandi-level is highly concentrated as noted, in terms of market share, and therefore expecting competitive price outcomes from such market functioning is more an exception. But what is significant and needs to be factored in the analysis of data on supply/demand and prices is what is a competitive market price. Given the fact that the underlying market structure of most primary and secondary mandis is not competitive (with distinct possibilities of collusive bidding in onion auctions), it would be hard to establish a competitive benchmark in order to compare the price rise in December 2010. The analysis of the DG report is based mostly on a comparison of the increased prices in December with past prices in other years in the months of November-December. This kind of a comparison requires a basic assumption that the market was competitive in the earlier time periods and only became anti-competitive during the December price rise. Given the pattern of entry and exit in most agricultural mandis, this assumption is hard to sustain. Therefore, there is no appropriate comparator (benchmark) for the December price peak, as previous prices of onion are generated in an essentially non-competitive environment. It is thus opined that an appropriate analysis of such an inherently anti-competitive market requires much more sophistication than a simple correlation of quantities arrived and of prices and making inter temporal comparison thereof.
18. At this present stage, given the data gathered by the DG, we have some definitive indications that market malfunction remained unnoticed. This reflects a limited understanding of trades in agricultural markets and more so when these markets are nodes within a long supply chain. At the same time, though we do not have direct evidence of a functioning cartel in the onion market in December 2010, we cannot rule out possible cartels existing at the time of investigation of onion prices either, and which continue to exist. Establishing cartels in informal markets require cross-evidences of both qualitative and quantitative nature as suggested above. The limited exercise based on the available data submitted by DG only suggests that further investigations need to be carried out. Inappropriate and incomplete investigation cannot be the basis for closure of the case.



## Order

Having re-examined the data submitted by the DG and taking cognizance of the various rigorous studies done on auction markets, closure of the case based on lack of evidence derived on inadequate or inappropriate functioning of agricultural markets is not appropriate. Investigation into agricultural markets and the scope for anti-competitive behavior starting with onion as a basic input to the common mans diet is imminent. This case is referred back for further investigation under **Sec 26(7)** of the Competition Act.

The Secretary may accordingly take necessary action.

Sd/-  
Member (GG)

