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Taming Inflation

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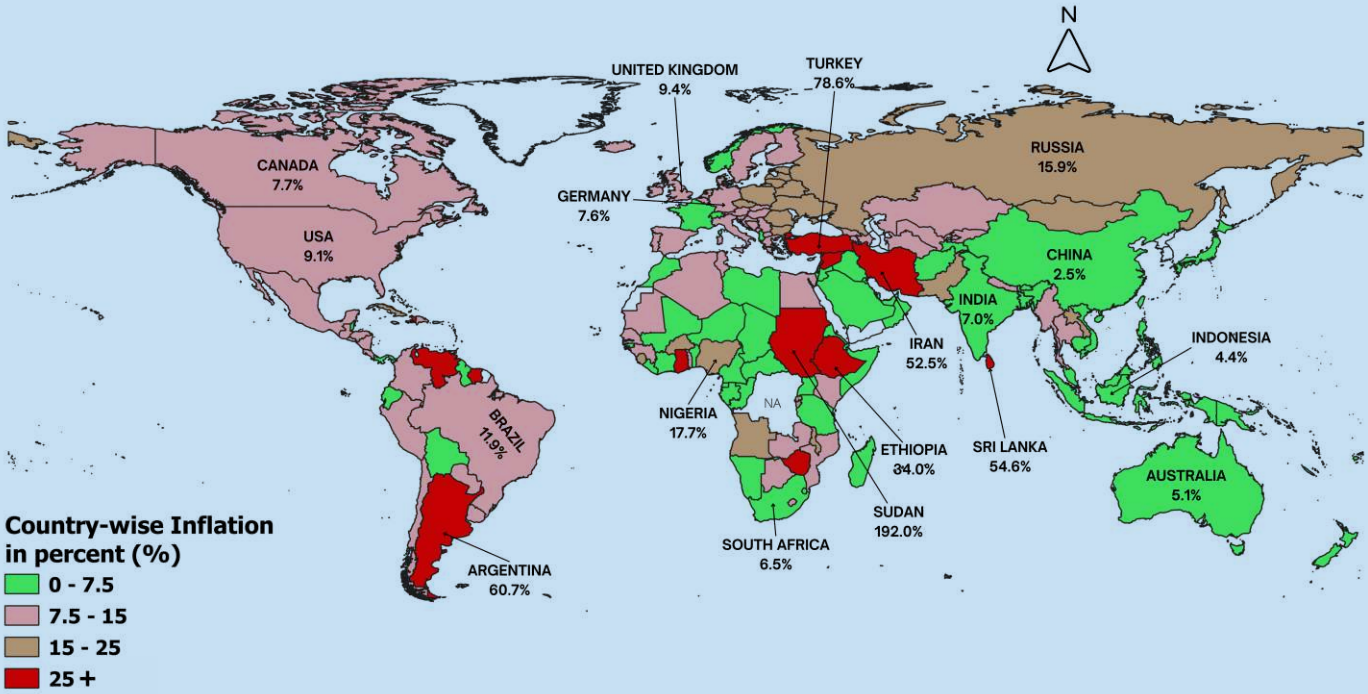

Global Inflation is Back

Taming Inflation in India: Is Monetary Tightening Enough?

Wheat, Heat and Worries

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One Year Journey of APSI Quarterly Bulletin 'AF-TAB'

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From the Director's Desk

Congratulations to ICRIER's Agriculture Policy, Sustainability and Innovation (APSI) team for the one-year anniversary of our quarterly publication: Agri-Food Trends and Analytics Bulletin (AF-TAB). Living up to its name, AFTAB has shed light on many critical issues facing India's agriculture sector. The 24 articles published in the first four issues have been disseminated to more than 11,000 recipients, have seen thousands of hits and at least 10 of these articles have been republished in various books, magazines and newspapers. Quite an achievement for an economic bulletin!

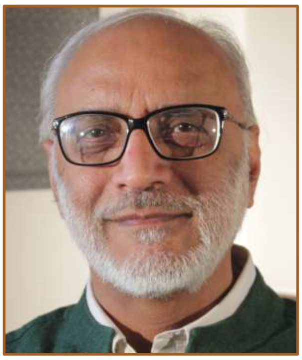
Just over two years after COVID-19 pandemic hit the world and instability over took, global economic prospects have worsened once again. This time it is facing high inflation coupled with feeble growth. As of June 2022, headline inflation (price of all goods and services) is significantly above the inflation target in most advanced and several emerging economies. For example, in the USA, inflation has touched 9.1 percent against an official target of 2 percent. And global growth is trending downward, thus, raising the risk of stagflation, with potentially harmful consequences for middle- and low-income economies alike. The World Bank in its latest Global Economic Prospects has predicted inevitability of recession in several countries.

Against this challenging backdrop of rising inflation and declining growth, research findings in this issue indicate the need for urgent and decisive policy actions to tame inflation. It involves vigorous supply responses at the national level and refraining from adopting restrictive trade policies such as export bans and price controls, etc. that could exacerbate the pressure on global trade and fuel commodity prices. Tightening of monetary policies using higher interest rates without reining in on fiscal deficit is similar to accelerating and braking a vehicle at the same time. Prudent fiscal policy is equally important to effectively tame inflation. On food and agriculture front, investment in high yielding, climate resilient crops and environmentally sustainable practices is the need of the hour.

As rightly pointed out by many economists 'Inflation must be tamed before it dampens consumption and growth', an analytical publication like this one is very timely. I hope the readers will gain useful insights from these articles and enjoy reading them.

Deepak Mishra
Director & Chief Executive
ICRIER

From the Chief Editor's Desk



Global inflation has been surging since the beginning of 2022, putting policymakers across economies in an uncomfortable situation. While India reported 7.01 percent CPI inflation in June 2022, it is much lower than a record 41-year high inflation of 9.1 percent in USA, 78.6 percent in Turkey, 11.9 percent in Brazil, 8.6 percent in Euro Zone and 9.4 percent in UK. Food inflation is rising even faster with Food and Agriculture Organization (FAO)'s Food Price Index (2014-16=100) increasing at 23.1 percent in June 2022 over June 2021. All this is happening at a time when economies are recovering from the COVID-19 induced recession. The geo-political scenario amid the Russia-Ukraine war has further escalated the inflation rates with fuel prices driving up the logistics and freight costs. Given this backdrop, this issue of AF-TAB titled **"Taming Inflation",** focusses on global and domestic inflation and commodity specific articles on wheat, edible oils and tomatoes.

The first article on "*Global Inflation is Back*" illustrates that around 90 percent of emerging market economies experienced food inflation greater than 5 percent between January 2022 to June 2022, with many registering double-digit rates of inflation. In 77 percent of the countries including India, food price inflation exceeded overall inflation. The second article on "*Taming Inflation in India: Is Monetary Tightening Enough?*" shows while WPI inflation was in double digits since Jan 2022 and recorded at 15.18 percent, CPI based retail inflation and food inflation in India was 7.01 percent and 7.75 percent, respectively in June 2022. The article argues whether monetary policy is the only solution in taming inflation in India. Both the articles suggest a combination of right monetary policy, prudent fiscal policies and liberal trade policies to control inflation.

The next three pieces look at inflation in specific commodities: wheat, edible oils and tomatoes. While wheat is the most important cereal crop in the world that is facing price surge both at the global and home front, inflation in edible oils is an imported one and in case of tomatoes, it was basically supply shortage due to climate vagaries and lesser acreage planted by farmers.

Article on "*Wheat, Heat and Worries*", highlights government's sudden ban of wheat exports in May 2022 in the face of heat waves that impacted wheat production and procurement in India. On the other hand, the article on "*Trade Policy to Tackle Soaring Edible Oils Prices*" critically evaluates the changes in import duty structure of edible oil in India and its impact on the domestic edible oils prices. The article suggests dovetailing of trade policy with pricing structure and increasing acreage under palm oil to help tackle soaring edible oil prices in the country. With 158.8 percent year on year inflation, tomatoes saw the highest inflation among all agricultural commodities in June 2022. It had a contribution of 8.9 percent in overall CPI. The last article on "*Tomato Tremors*" argues that inflation in tomatoes is inevitable due to price-production cob-web phenomenon, and advocates for promoting use of processed products of tomatoes such as tomato puree.

Taming food inflation is not an easy task. It requires medium to long term measures as illustrated in the five articles of this AF-TAB issue. Monetary and fiscal policies alone cannot curb inflationary pressures, it requires liberal trade policies, investments in agri-infrastructure and productivity enhancement through climate resilient technologies and innovative methods of cultivation. This would help stabilize inflation ensuring higher returns for farmers and affordable food for consumers.

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Global Inflation is Back

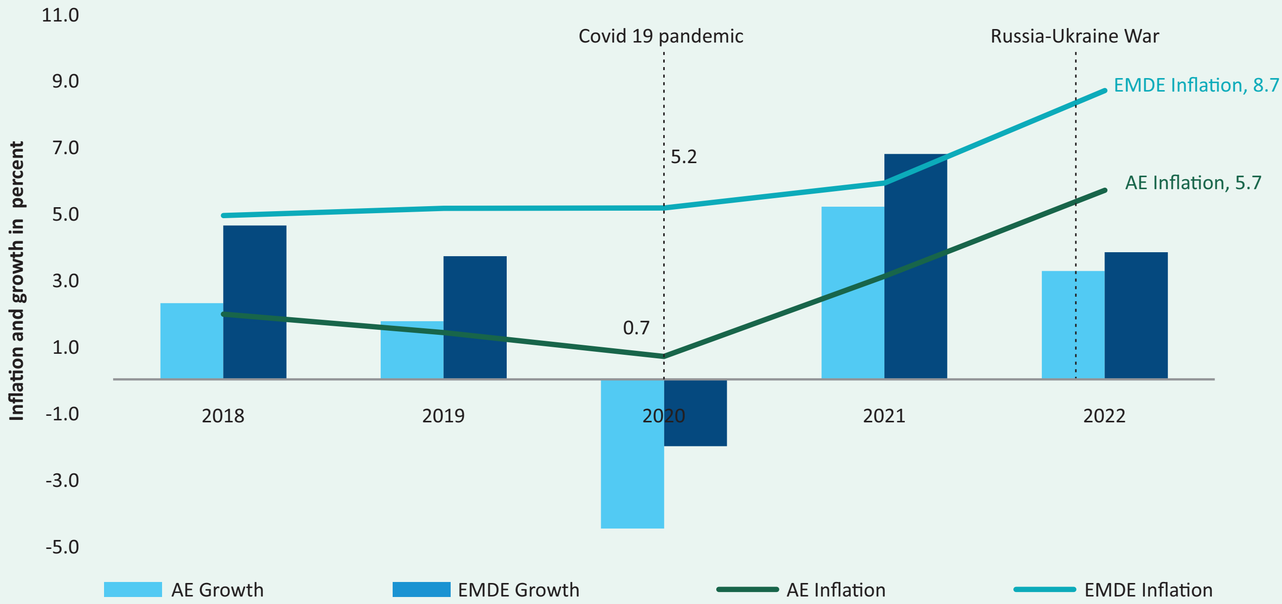
Sanchit Gupta and Ashok Gulati

Right combination of fiscal and monetary policy is needed for a soft landing as sustained and steep hikes in interest rates will affect the momentum of growth in the short term.

Food Inflation up globally

After a prolonged period of low prices, inflation has escalated across economies irrespective of their level of development (Figure 1). At the same time, global food inflation, which remained low or moderate during 2011-12 to 2019-20 not with standing rising food demand, has also escalated post 2020. Between January 2022 and June 2022, close to 90 percent of emerging market and developing economies (EMDEs) experienced food price inflation greater than 5 percent, with many registering double-digit rates of inflation. In 77 percent of the 160 countries worldwide, food price inflation exceeded overall inflation during February - June 2022 (World Bank, Food Security Update, 2022a). As of June 2022, year-on-year (y-o-y) food inflation based on the Food and Agriculture Organisation (FAO) food price index, is at 23.1 percent, down from 40.6 percent in May 2021 which was the highest since the second quarter of 2011 (FAO, 2022). In the United States and the European Union, the food inflation has been continuously on the rise since June 2021 and is at 10.4 percent and 9.9 percent respectively, while food inflation in India (CFPI) is at 7.75 percent as of June 2022.

Figure 1: GDP growth rate and inflation trends: Global



Note: AE stands for Advanced Economies and EMDE stands for Emerging Market and Developing Economies; Inflation rate is annual average of year-on-year(y-o-y) increase in consumer prices; Growth rate is y-o-y increase in real GDP; In CY; Projections for 2022 The group of emerging market and developing economies(156) includes all those that are not classified as advanced economies(40).

Source: IMF World Economic Outlook Database April 2022

In case of several commodities, surge in global prices is unprecedented. For example, from their June 2020 level, crude brent prices are up by 201 percent, natural gas by 689 percent, palm oil by 129 percent, wheat by 132 percent, chicken meat by 134 percent and urea prices by 242 percent in June 2022 (World Bank, Latest Commodity Prices Published, 2022b). High energy costs increase input costs for commodities inflating prices for consumer basket. Today, the governments and central banks around the world are dealing with the balancing task of maintaining growth after the pandemic recession and controlling inflation.

Drivers of global food inflation

Food inflation has been rising since the Covid-19 pandemic induced economic lockdowns and global supply chains disruptions. The FAO food price index showed an average increase of 6 percent in 2020-21 against 30.1 percent for 2021-22 (FAO, 2022). The major reasons for the surge in food prices in 2021 were primarily increased food demand with economic recovery from the pandemic and temporary disruptions in logistics rather than severe food supply disruptions (Vos et al. 2022). However, with the Russia-Ukraine war, food prices have further elevated to a much higher level than the pandemic levels.

Russia and Ukraine together contribute to over 25 percent of total global wheat exports on which many least developed countries are heavily dependent. Both the countries are also major exporters of edible oils. The international prices of edible oils were already high even before the war started and are now building up on an already higher base. During the last two years from February 2020 to February 2022, the palm oil prices had increased by 109 percent, soybean oil by 99 percent, rapeseed oil by 93 percent and sunflower oil by 82 percent. (Although palm oil and other edible oil prices have started dropping since June 2022. Additionally, the economic sanctions imposed on Russia by the West have further added to the higher food prices, as the country is one of the major supplier of natural gas and crude oil driving up the costs of fertilisers as well.[1] This subsequently will increase the cost of cultivation for the upcoming crop seasons further culminating into higher consumer prices. In India, it will translate into much higher fertiliser subsidy bill for the government elevating the already high fiscal deficit. Another reason that aggravates the price surge in such supply deficient situations is adoption of protectionist trade policies by individual governments like Indonesia's ban on palm oil exports and India's wheat export ban. Such policy reactions help little in solving the domestic inflation but inflicts much bigger harm to importing countries that could otherwise be avoided or distributed.

In the wake of the pandemic and the recession that followed, the AEs and EMDEs adopted a slew of macroeconomic measures that included loose fiscal and monetary policies to help their economies recover. These expansionary measures created excess liquidity in the economy where more money was chasing few goods, resulting in excess demand, leading to rise in prices. In advanced economies where interest rates were already close to zero, their central banks also relied on asset purchases while EMDEs relied on interest rates adjustments and reserve requirements (Figure 2).

Apart from monetary policies, the governments across globe also adopted expansionary fiscal policies in the form of guarantees, grants, tax reliefs, tax deferrals, equity participations and public loans. The size of fiscal measures was significantly large in AEs than EMDEs (Kirti et al. 2022) (Figure 3). These Keynesian measures quite successfully sparked much needed growth worldwide as evident by the growth numbers. As a result, the world's GDP growth increased from -3.1 percent to 6.1 percent between 2020 and 2021, albeit, the pace of recovery varied across advanced and developing economies (Figure 1). However, this economic recovery has partially come at the cost of high inflation which is now eroding away real capital and disportionately affecting the disadvantaged economies. The central banks have now realised the problem of excess liquidity and are in damage control mode.

Consequently, the US Fed has hiked its interest rate by 150 basis points since March 2022 attempting to control the surging inflation. Other central banks have followed suit with Reserve Bank of India raising its repo rate by 90 basis points within five weeks and Bank of England raising its interest rate from 0.1 percent in Novemeber 2021 to 1.25 percent in June 2022. The central banks have remained behind the

[1] Natural gas is the primary raw material for manufacturing fertilisers.

curve in taking tightening measures to control inflation. However, it is an ongoing debate on how effective is monetary tightening in controlling food inflation in the shorter term (Bhattacharya, 2017). These tightening measures may take more than a year to effectively bring down demand and consequently prices.

Figure 2: Monetary response through bank rates

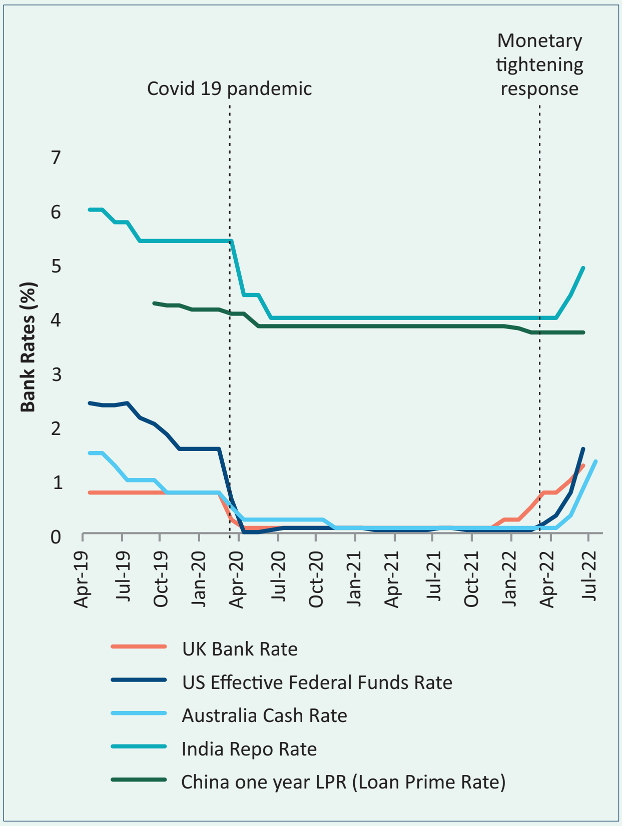
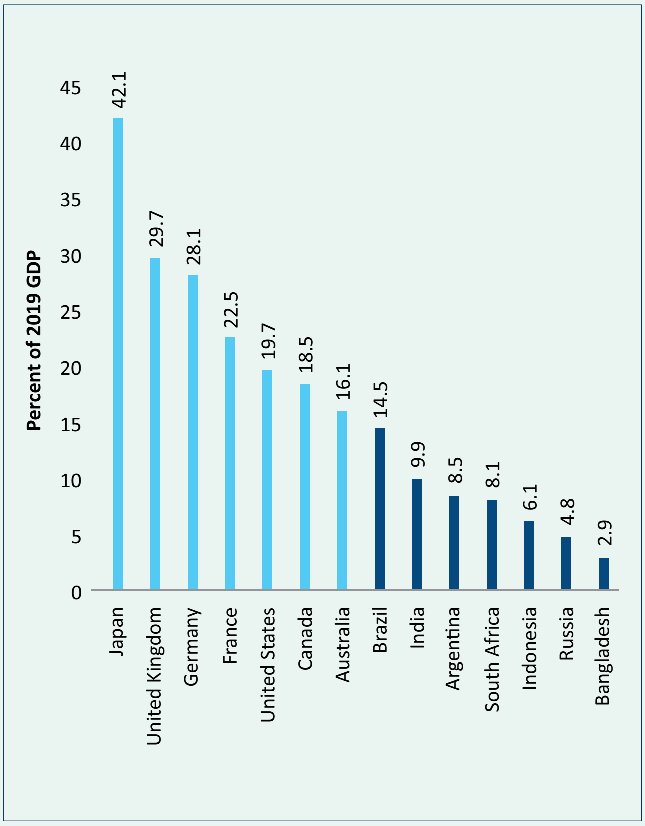


Figure 3: Broad fiscal responses in 2020 as percent of 2019 GDP



Source: Kirti, Liu, Peria, Mishra, & Strasky (2022)

High inflation in an economy acts as an implicit tax on the consumers especially in EMDEs and low-income countries (LICs) where household spends most of its income on consumer goods, and the burden of inflation falls disproportionately on the poorer households. High inflation erodes the real wages and purchasing powers of the consumers especially when the wages are not indexed to inflation. At the same time, interest rates on deposits which are below the inflation rate translate into negative savings rates, hitting them further. Persistent high inflation further aggravates inequality in an economy and also has serious spill-over effects on nutritional intake of poor households.

Potential solutions

Now that the economies are more or less out of the covid recession, respective governments and the central banks need to get their policies right. First, the monetary policy needs to be further tightened and central banks around the world need to get back to their optimal pre-covid rates to drain surplus liquidity from the economy. As independent institutions, their primary goal should be of inflation targeting through sustained interest rate hikes in order to lower inflation expectations. If lower inflation is expected in the medium term, the demand for higher wages will be modest, keeping actual inflation low and avoiding the virtuous cycle of demand for higher wages and subsequently higher prices.

Second, a right combination of fiscal and monetary policy is needed for a soft landing and not a harsh one as sustained and steep hikes in interest rates will surely affect the momentum of growth in the short term. This is the standard Phillips curve relationship that the economy faces. Lower inflation is achieved at the cost of growth and employment. Hence, adopting prudential fiscal policies is critical. The governments should now optimize their expenditures in the direction of increasing productivity and steer away from populist actions without compromising on essential welfare measures.

Third, open and liberal trade policies needs to be propagated across countries. Adopting rational trade policies will help avoid concentration of global inflationary pressures in disadvanatged economies and distribute the amplitude of the future food inflationary spikes. Apart from liberal trade policies, supply-side frictions can further be smoothened by increasing productivity through investments in research and development in agriculture. The wealthy countries should further aid the EMDEs and LICs in augmenting their agricultural productivities through technology and knowledge transfers. This will increase overall food security globally providing cushion to such supply shocks in the future.

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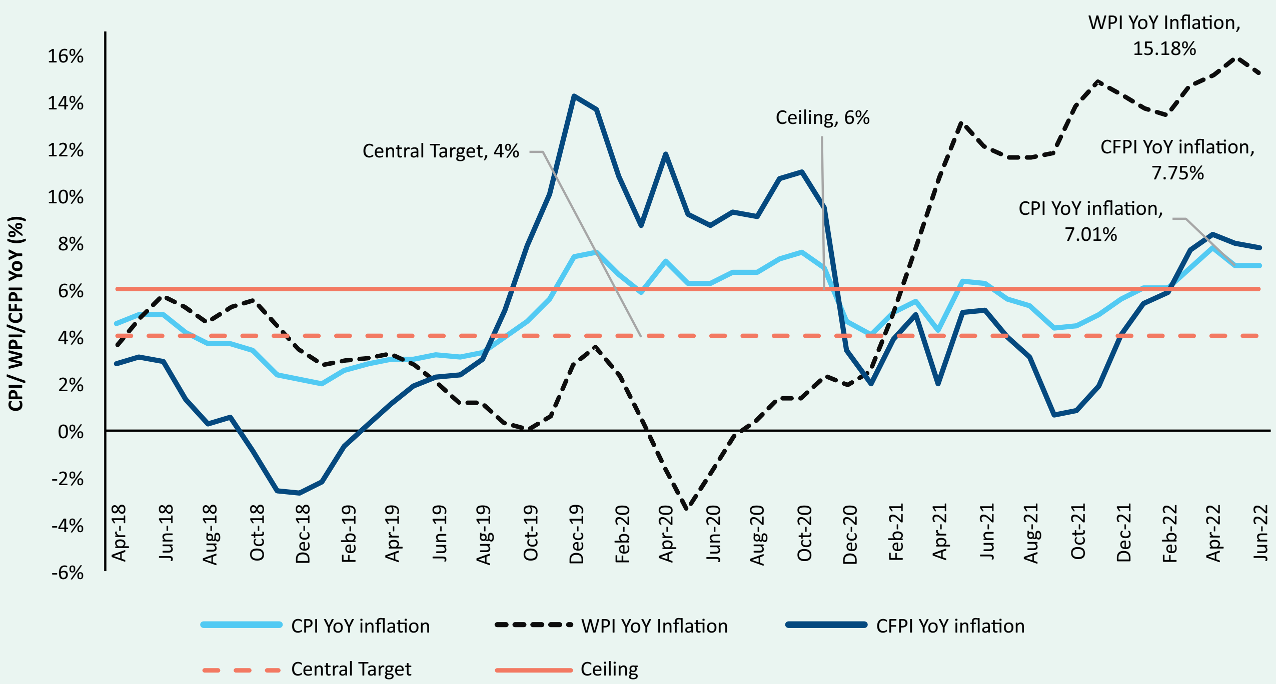
Taming Inflation in India: Is Monetary Tightening Enough?

Shyma Jose, Manish Kumar Prasad, and Ashok Gulati

Monetary policy alone cannot be the panacea to control inflation, rather prudent tightening on the fiscal front is also required

The country has been in the midst of inflationary pressure both at wholesale and retail ends consistently since 2021. Inflation rate based on wholesale price index (WPI) has been in double digits for almost a year and touched 15.18 percent in June 2022 (OEA, 2022), whereas consumer price index (CPI) inflation has been on a rise since October 2021 and was reported at 7.01 percent in June 2022 (MoSPI, 2022). In fact, the CPI inflation has breached the Reserve Bank of India (RBI)'s upper tolerance level of 6 percent for six consecutive months (January 2022 to June 2022), which many experts believe is the failure of RBI to maintain price stability in the economy. This is because, since 2016, RBI has adopted the flexible inflation targeting (FIT) framework with a medium-term inflation target of 4 percent, with a band of +/- 2 percent to maintain price stability (MPC, RBI, 2022).

Figure 1: Retail and wholesale inflation along with food inflation (y-o-y)



Source: MoSPI and OEA, MoCI

Consumer food price index (CFPI) inflation, which tracks retail food inflation, was reported as 7.75 percent year-on-year and about 0.99 percent month-on-month in June 2022. CFPI which constitutes 39.06 percent of the CPI basket in India, is susceptible to supply shocks and monsoon and its impact on agricultural production and therefore, poses a major challenge in inflation targeting. Much of the inflationary pressure at the retail end is explained by food and 'fuel and light' sub-groups, which together contributed to more than half of the retail inflation in June 2022 (Figure 2). Within CFPI, "vegetables" contributed the highest share of 33.3 percent, followed by "oil and fat" (12.5 percent), "cereals and products" (16.4 percent), "milk and products" (12.8 percent), "meat and fish" (12.8 percent) and spices (9.5 percent) (Figure 3). Within the total CPI headline inflation, vegetables contributed 14.6 percent whereas cereal and products along with oil and fats contributed 7.2 percent and 5.5 percent, respectively.

Figure 2: Contribution to CPI inflation June 2022

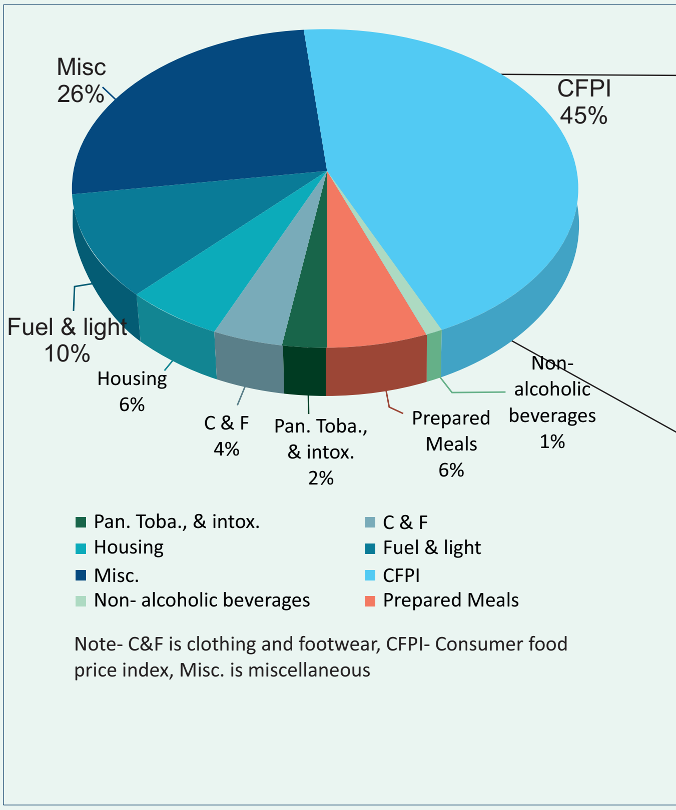
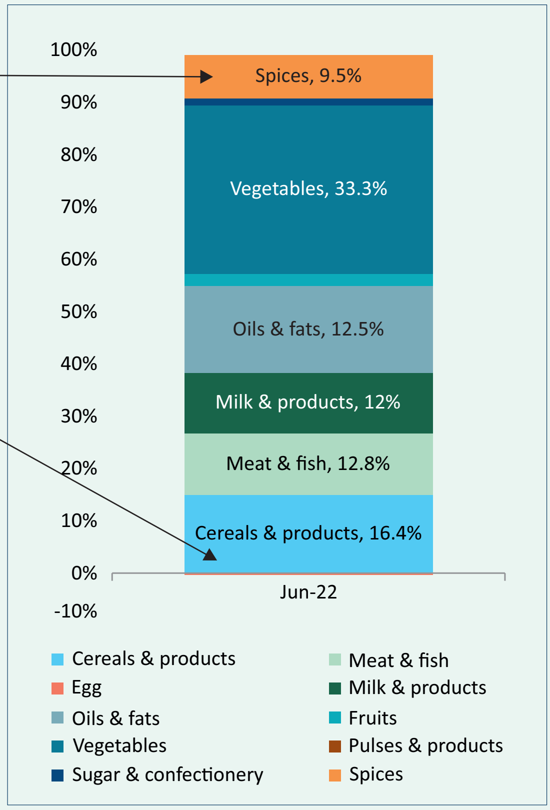


Figure 3: Sub-Groups Contribution to CFPI inflation June 2022



Source: Authors' calculations using data from MoSPI

With a tense geopolitical scenario amid the Russia-Ukraine war, coupled with heatwave and drastic climate change, and elevated commodity prices, the discussion on how to ensure the availability of food items at 'affordable' prices has never become more relevant, than now.

What is causing higher food inflation: Is it the demand or supply side factors?

Within vegetables which contributed the highest share to food inflation (CFPI) in June 2022, tomatoes registered the highest retail inflation of 158.8 percent (y-o-y). Low price realization in tomatoes forced farmers to shift acreage to other crops in many states last year, resulting in lower availability. The supply was further shortened due to unseasonal rains and heatwaves in major tomatoes producing states. Moreover, higher freight costs with the increasing crude prices also added to the cost-push inflationary pressure on tomatoes along with other food crops. Currently, the global crude brent prices are hovering around USD 120.1/bbl with inflation of 64.3 percent y-o-y in June 2022.

Cereals and products, with the highest weight in the CFPI basket, are also under price pressure. Within this sub-group, wheat registered the highest inflation at 10.1 percent in June 2022 (y-o-y) due to low availability on account of (i) lower production estimates of 106.4 million metric tonnes (MMT) in the 2021-22 crop year from the earlier projections of 111.3 MMT (DES, 2022), and (ii) lower wheat procurement of only 18.8 MMT in the 2022-23 Rabi marketing season by government agencies till July 4th, 2022 against a record 43.3 MMT of procurement last year.

Unlike vegetables and cereals groups where supply side factors were responsible for inflation, in the case of oils and fats (9.4 percent y-o-y in June 2022), inflation was largely imported, as the country's 55 to 60 percent of the edible oil demand is met through imports. As a result of the Russia-Ukraine war, supply disruptions, and an impulsive export ban on crude palm oil by Indonesia (which was lifted later on), global edible oil prices remained elevated in the past few months.

What are the policies required to control inflation in the country?

Surging inflationary pressure needs urgent attention from policymakers as it affects household purchasing power, especially among poor consumers who spend a major portion of their income on food. Hence, a critical question arises - what are the plausible measures to control and stabilise surging headline inflation, especially food inflation without trading-off growth revival of the economy?

First is through monetary policy. Like other countries, in the wake of the global pandemic, India too adopted a loose monetary and fiscal policy to revive the sluggish economy. However, excess money supply in the economy led to elevated inflationary pressures. In February 2022, the RBI had projected headline inflation to be around 4.5 percent for 2022-23 which was revised upwards to 5.7 percent in April 2022 and later to 6.7 percent in June 2022 (MPC, RBI, 2022), much above the upper tolerance level. RBI has recognised that it has been way behind the curve for long, and needs to raise repo rates quickly and significantly and bring it to the pre-covid period by the end of this fiscal year. Therefore, RBI, in subsequent meetings, hiked the policy rate by 90 basis points, raising the repo rate to 4.9 percent (June 2022).

However, the effectiveness of tightening the money supply remains limited in curbing food inflation as it is largely driven by global inflationary pressures and supply-side bottlenecks rather than excessive demand in the economy. Largely, such measures may only contain the second-round effect of headline inflation and deter long-term inflation expectations from moving on the higher side, impacting the revival of GDP growth which has been projected to be 7.2 percent for 2022-23 by the RBI. Our assessment for inflation and GDP growth rates also ranges between 6.5 to 7.5 percent for this fiscal year.

Second, it is important to note that monetary policy alone cannot be the panacea to control inflation, rather prudent tightening on the fiscal front is also required. During the pandemic, high food and fertiliser subsidy (accounting for about 40 percent of the Union Government's tax revenue) along with various other sops such as corporate tax concessions resulted in increased fiscal deficit at around 9.2 percent of the GDP in 2020-21 compared to 6.7 percent during 2021-22 (CGA, 2022). While the government expects the fiscal deficit to be 6.4 percent of GDP for 2022-23, it is unlikely that this targeted level will be maintained unless tax revenues improve substantially. This is because the volatile geopolitical tensions, costlier imports, and weakened rupee escalating subsidy bills along with a cut in taxes on diesel and petrol will cost the exchequer close to INR 3 trillion, more than the budgeted amount (Gulati, 2022). For medium-term, a roadmap for fiscal consolidation is needed which rationalises non-capital expenditure (thus protecting growth and augmenting capital expenditure) but not at the cost of revenue expenditure directed towards providing meaningful and effective social safety nets (Rangarajan and Srivastava, 2022).

Third, a prudent policy to curb food inflation would be liberalising the trade policy. In contrast, the Indian government banned wheat exports and restricted sugar exports. These trade restrictions, in the wake of a sudden spike in global prices and supply-side shocks, are adding to a spate of rising protectionism in the global agricultural market. Rather than an outright export ban, a better solution would be to filter exports through a gradual process of minimum export prices and transparent export duties for shorter durations (Gulati, 2022). Similar ad-hoc restrictions on the domestic front such as invoking the Essential Commodities Act, imposing stocking limits on pulses, and restricting yellow pea imports create an environment of uncertainty that will not only dampen trade sentiments but may also harm farmers' interest in pulses cultivation in the long run.

Additionally, India needs to rationalise its import regime through a reduction in tariffs and duties across the board. For instance, as mentioned earlier, inflation in edible oil has been very high. Consequently, India has reduced the effective duty on crude palm oil (at 5.5 percent in February, 2022), and made crude soybean oil, and sunflower oil duty free (subject to 2 MMT tariff rate quota till FY 2024) (Gazette of India, 2022). However, the import duty on crude rapeseed and cottonseed oil still remains high at 38.5 percent and 49.5 percent for refined. In pulses, too, the government extended the import of tur and urad under the free category till March 2023 to increase domestic availability and ensure affordable prices for consumers (PIB, 2022).

Fourth, the contribution of crude oil to cost-push inflation in agriculture can be stabilised by increasing investments in ethanol production from sugarcane on a sustainable basis, particularly in eastern Uttar Pradesh and northern Bihar with conducive agro-climatic zones. This will also help the country achieve 20 percent of ethanol blending by 2025, saving an import bill of INR 300 billion of foreign exchange per year (NITI Aayog, 2021).

The current inflationary pressure is not transient and hence, requires medium to long-term measures such as investments in agri-infrastructure and technologies that can augment agricultural productivity and stabilise price volatility caused due to structural and supply-side factors.

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Wheat, Heat and Worries

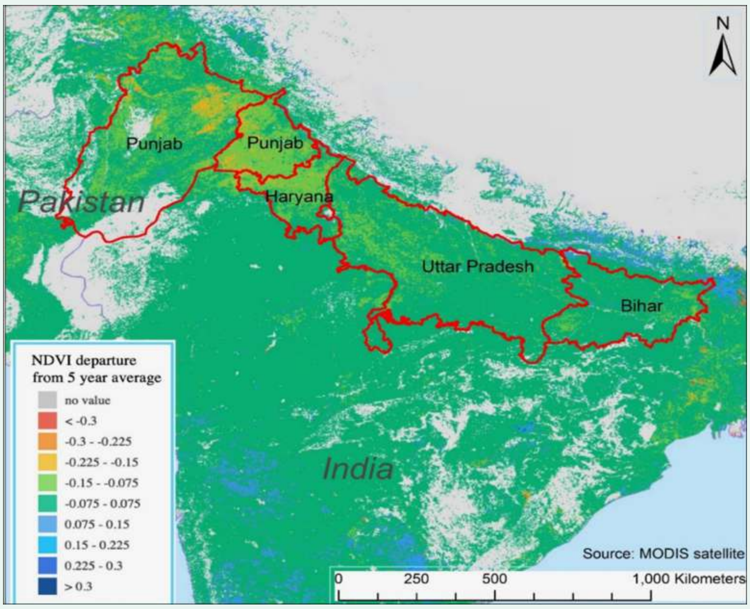
Ritika Juneja and Ashok Gulati

Can India rein in inflation by banning wheat exports, which contributes only 3.3 percent to the country's overall CPI inflation?

Temperatures in north western plains, widely recognized as the food basket of India, soared to a record 122 year high during March and April months in 2022 (IMD, 2022). Further, adding the number of days that various states of India reported heatwaves during March 11 - May 18, 2022, the total number of heatwave days across states comes out to be 280 - highest ever in the past 12 years (CSE, 2022). Impact of these unprecedented heatwaves have been significantly felt on wheat, which is one of the most temperature sensitive crop. Statistics from CIMMYT's on-field experiments found a yield loss of 15-20 percent in wheat in the north-western region of the country (Bentley, et al., 2022). While, Birthal at al. (2021) had earlier predicted that under moderate greenhouse representative concentration pathway (RCP)[1] 4.5, wheat yields would be lower by 3 percent in the medium-term (2041-2060) and by 8.5 percent in the long-term (2061-2080) whereas under RCP 8.5 (i.e., severe climate change), wheat yields would fall by 7-18 percent in the medium to long term (Birthal, 2022). This implies that severe impact of climate change on Indian agriculture is inevitable in the years to come!

Figure 1 captures the departure of the normalized difference vegetation index (NDVI) during March 22, 2022 to April 7, 2022 from the average of last 5 years. This index basically measures the leaf area and the greenness of vegetation. The yellow areas in Punjab and Haryana indicate that wheat matured earlier than what it usually takes amid rise in temperature above normal level throughout the harvesting period.

Figure 1: Impact of heat wave on Indian wheat fields



Source: MODIS satellite, NASA[2]

[1]According to IPCC, RCP or Representative Concentration Pathway means greenhouse gas concentration (not emissions) trajectory. These pathways basically predict different climate futures, based on the volume of greenhouse gases (GHG) emitted in the years to come.
[2]The image is adapted from a study conducted by CIMMYT on "Wheat vs. Heat: Current temperature extremes threaten wheat production in South Asia" by (Bentley, et al., 2022).

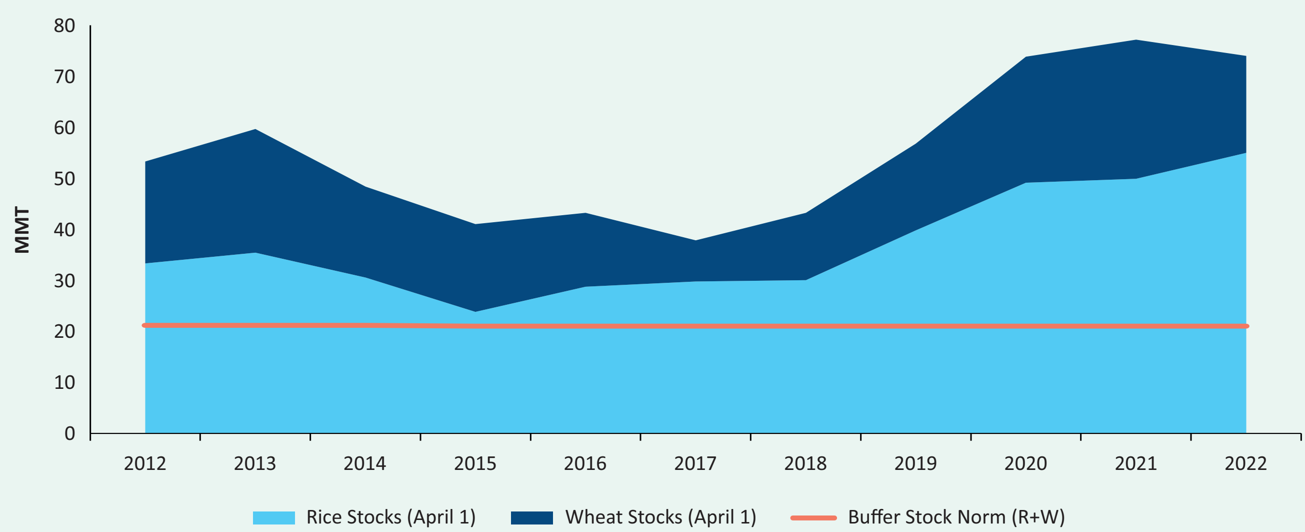
Wheat production estimates by the Ministry of Agriculture and Farmers Welfare for the crop year 2021-22 was revised from 111.3 million metric tonnes (MMT) in the first advance estimates to 106.4 MMT in the third advance estimates, which is a decline of about 5 percent (MoA&FW 2022). Bigger issue, however, is the collapse of wheat procurement from an estimated 44.4 MMT in Rabi Marketing Season (RMS 2022-23) to 18.8 MMT as on July 4, 2022, a decline of more than 50 percent compared to last year's procurement (43.3 MMT) (FCI, 2022a; Government of India, 2022). The decline in wheat procurement is mainly because farmers flocked to private markets for selling their produce as wheat prices were ruling higher than MSP by 10-12 percent. This pushed up domestic wheat prices and wheat exports increased by fourfold from USD 0.56 billion (or 2 MMT) in 2021-22 to USD 2.1 billion (or 7.8 MMT) in 2021-22 (DGCIS, 2022). As on June 2022, wheat inflation accounts to 10.1 percent year on year (y-o-y) (MOSPI, 2022). This raised concerns whether India will be able to feed the beneficiaries under Public Distribution System (PDS) and Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) which has already been extended till September 2022, while maintaining a strategic reserves of grains. To avoid this concern, government banned wheat exports on May 13, 2022 (DGCIS, 2022).

This abrupt reaction, however, raises a critical question - can India rein in inflation by banning wheat exports, which contributes only 3.3 percent to the country's overall CPI inflation? The simple answer is 'No'. This is because inflation is a global phenomenon and has been in motion even before the Russia-Ukraine war started, hence India cannot remain insulated from the impacts of global inflation. As per FAO's food price index (2014-16=100), global food inflation in June 2022 was recorded at 23.1 percent (y-o-y) (FAO, 2022), while in India, food inflation based on Consumer Food Price Index (CFPI) was at 7.75 percent in June 2022 (y-o-y) (MOSPI, 2022). It is important to note here that cereals contributed only 16.4 percent share in CPFI in June 2022 compared to vegetables which contributed 33.3 percent (MOSPI, 2022). Also, government pressed the panic button and imposed export ban when wheat output was already speculated to be low at 95 MMT, raising serious questions on the credibility of production assessment by the Ministry of Agriculture and Farmers Welfare and delay in estimating crop loss in the wake of scorching heat waves. However, the sudden outright ban severely affects India's image as a credible nation which is responsible for providing food to the poorer sections of the society amid the protracted Russia-Ukraine war and supply chain disruptions.

The wheat export ban was also due to government's commitment to distribute almost free food to 800 million plus Indians, through PDS and PMGKAY. This reflects a consumer bias in India's trade policies which implicitly taxes the farmers by supressing domestic prices and devoid farmers from any export earnings. According to the latest OECD estimates (2022), India has implicitly net taxed its farmers to the tune of 6 percent of gross farm receipts during 2016-17 and 2020-21 (OECD, 2022). This raises serious doubts whether the government is willing to let its farmers get the benefits of improved market conditions when market prices are ruling higher than MSP?

On the supply side, there is already an overflowing of grain stocks of wheat and rice at 74 MMT as on April 1, 2022 (FCI, 2022b), over and above the buffer stocking norms of 21.04 MMT as on April 1 (Figure 2). This implies an "excess stock" of at least 53 MMT of

Figure 2: Grain stocks in the Central Pool and Buffer Stock Norm as on April 1



Source: FCI (2022a)

wheat and rice, imposing heavy costs of about INR. 1.85 trillion[3], both in terms of the locking in of resources as well as high cost of carrying stocks (Gulati & Juneja, 2022). This is also incurring huge cost on food subsidy bill of FCI, likely to cross INR. 2.8 trillion in 2022-23 (FCI, 2022b).

Mitigation strategies and policy actions needed

In the wake of extreme climate change events, lower production, and yield loss, it is high time to spur investments in agriculture R&D and develop heat-tolerant seeds through crop breeding as well as innovate climate-smart technologies and practices. Adjustments of sowing and planting dates, inter-cultural operations, no-till sowing with surface retention of crop residues, coupled with mulching etc. are some of the agronomic management practices with good adaptation benefits against climate change (Birthal, 2022). Sapkota et al. (2015) found no-till sowing of wheat is capable of providing an effective solution to terminal heat stress. Crop diversification is another adaptation strategy to develop resilience of agriculture to excess temperature as well as deficit rainfall. By diversifying portfolio of crops, farmers can compensate the loss in their incomes due to extreme events by the gain in income from another crop that can better survive that climatic shock (Birthal, 2022).

To rein in overall inflation, India needs to have a more predictable and rational trade policy, rather than a haphazard one and not based on knee jerk reactions. Abrupt export bans inflict high costs on poorer nations. If India wants to be a globally credible player, it should keep its borders open and avoid sudden bans. If need be, filter it through transparent export taxes to recover its large subsidies on power and fertilizers.

On the price and procurement policy front, immediate need is to reform the National Food Security Act (NFSA) to make it more targeted and prudent. Instead of providing free food grains to 67 percent of the population, government can give direct income support to the beneficiaries, which will give them a wider choice for purchasing more nutritious food like pulses, eggs, milk, meat or fish. By doing so, government can control leakages in free food distribution system on one hand and can save on the burgeoning food subsidy bill on the other.

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[3] Estimation is based on economic costs and FCI stocks of wheat and rice

Trade Policy to Tackle Soaring Edible Oil Prices

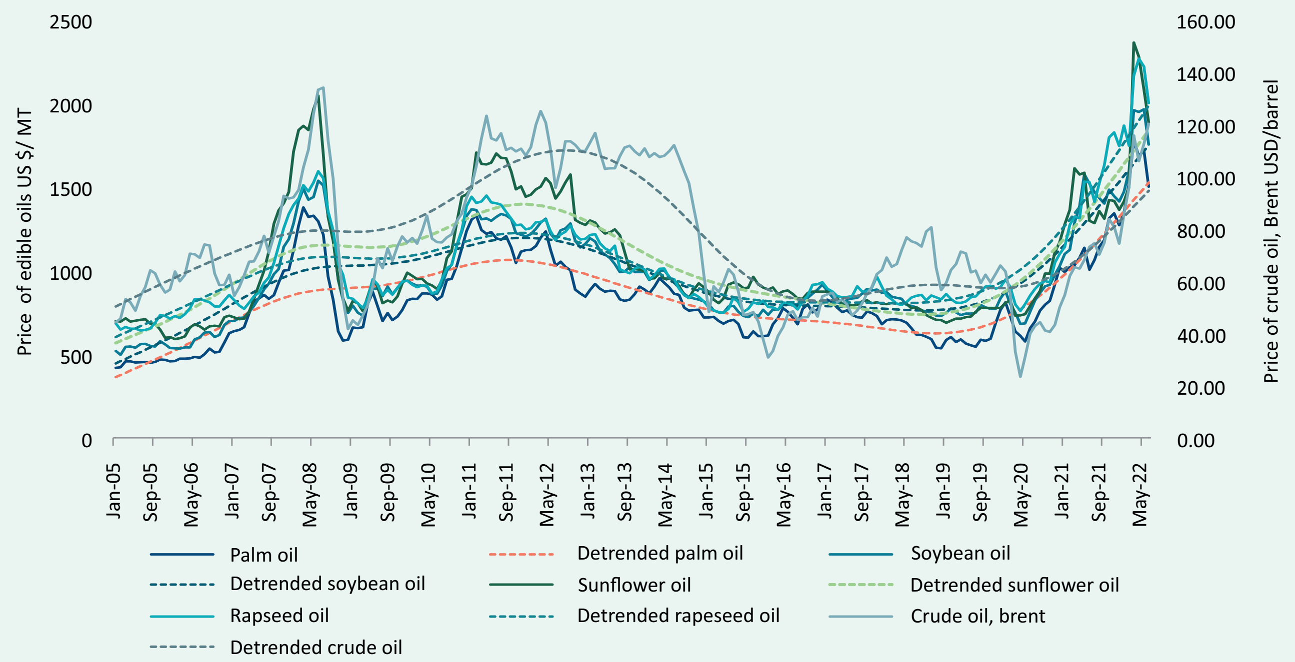
Raya Das and Ashok Gulati

Dovetailing of trade policy with pricing structure and increasing home production of palm oil by sustainable cropping practices would help tackle soaring edible oil prices.

Why the price of edible oil is surging?

Global edible oil market has contracted amid COVID-19 pandemic due to production shortages and supply disruptions. The FAO's edible oil price index has witnessed an increase of 125 percent between January 2019 to January 2022 (FAO, 2022). This surge in global edible oil prices hit the Indian markets hard, as 55 to 60 percent of India's domestic consumption of edible oil (of 22 million metric tonnes (MMT)) is imported (SEA, 2020-21). Soaring edible oil market has been driven by the rise of crude oil prices[1], climate change induced lower production in Latin American countries and Canada, labour shortage in the Malaysian palm oil sector, and export ban on palm oil by the Indonesian government (USDA, 2022). As edible oil markets are intertwined based on consumer substitution theory, an increase in the price of one edible oil increases the demand of other edible oils, inducing supply shortage because of high cross-price elasticity (Figure 1).

Figure 1: Monthly global edible oil prices 2005-2022



Source: World bank Pink Sheet, 2022

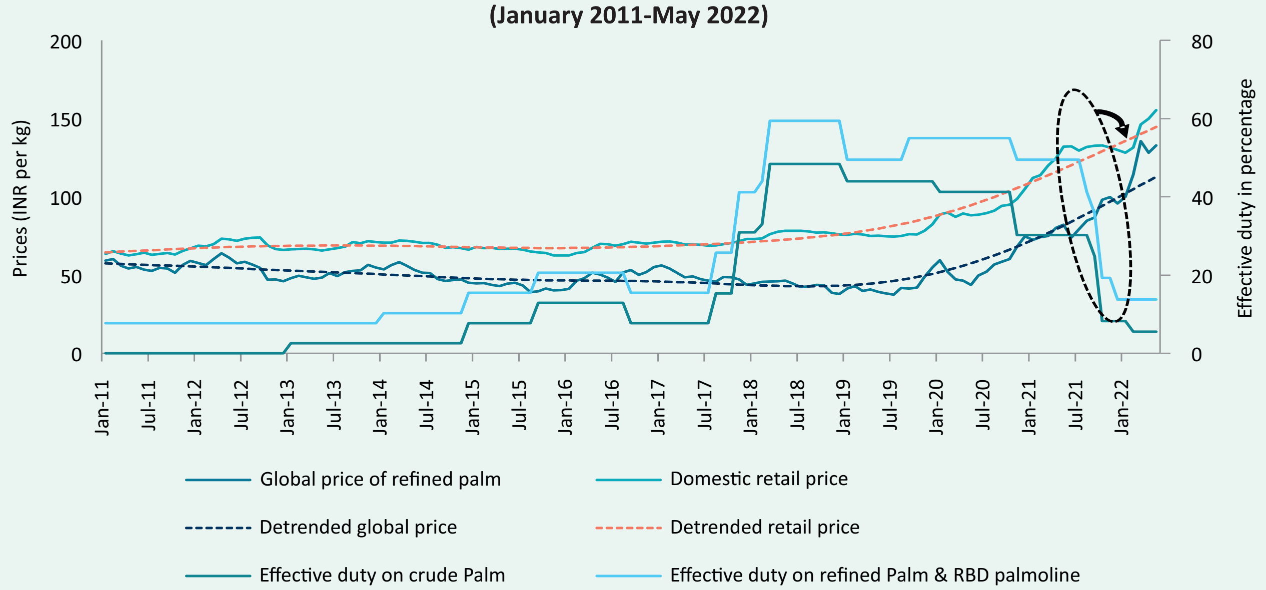
[1]Crude oil price touched all time high at USD 112 per barrel at Brent in May 2022.

India imports palm oil from Indonesia and Malaysia, soybean oil from Argentina, sunflower from Russia and Ukraine, and rapeseed from the EU and Canada. During the financial year (FY) 2022, India imported 14 MMT of edible oils worth USD 19.16 billion, wherein palm oil accounted for the highest share of 54 percent (at USD 10.2 billion), followed by soybean oil (29 percent) and sunflower oil (15 percent). To rein in the transmission of global inflation, Government of India (GoI) intervened by successive revisions of import duty structure on edible oils. Consequently, the inflation rate of edible oils eased to 10.11 percent in June, 2022 from an average of 22.70 percent in the last quarter of FY2022. Against this backdrop, the article critically evaluates the changes in import duty structure of edible oil in India and its impact on the domestic edible oil prices, particularly focusing on the period of recent price surge.

Trade policy to tame inflation in India

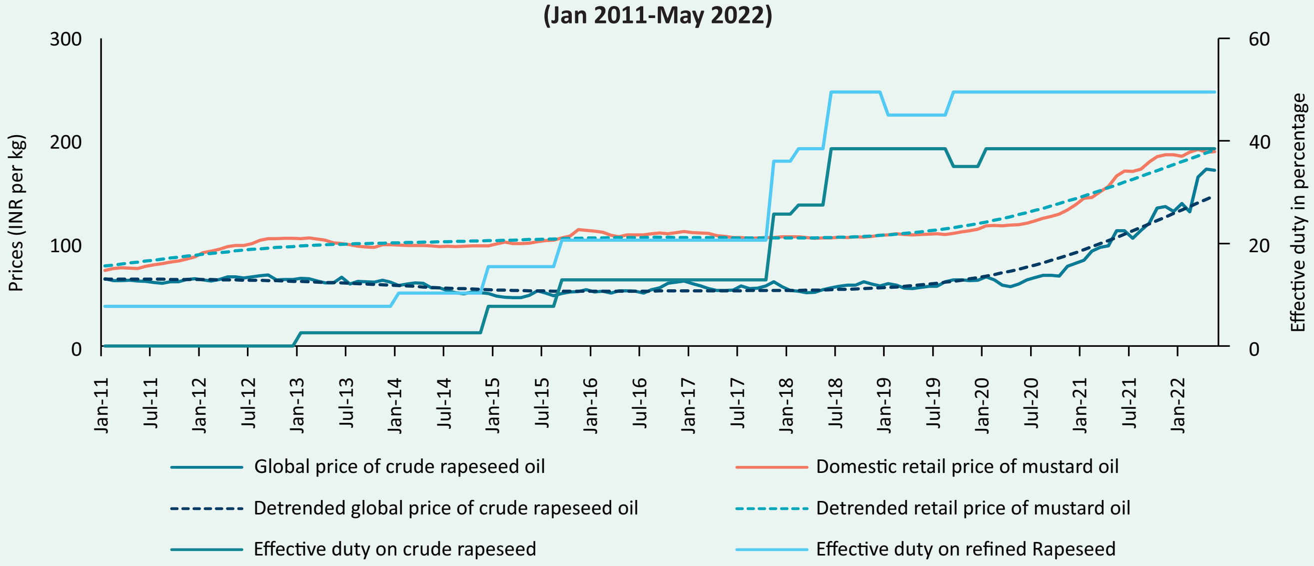
Trade policies for edible oils must take into account the consumers, price realization of farmers, domestic refineries, and foreign reserve (Lahiri Committee Report, 2006). To do that, import duty structure should be countercyclical to control inflation in the domestic market. The first import duty reduction since

Figure 2: Impact of import duty reduction on domestic retail price of palm oil (January 2011-May 2022)



Source: World Bank, SEA data bank, Agmarknet, GoI. Effective duty includes basic custom duty, agri. cess and social welfare cess from SEA databank.

Figure 3: Global and domestic price trend of mustard/rapeseed oil and import duty (Jan 2011-May 2022)



Source: World Bank, SEA data bank, Agmarknet, GoI the price surge in the last three years was for CPO (Crude Palm Oil) to 30.25 percent in November 2020 from 41.25 percent in November 2019 as import parity of CPO had risen from USD 517.56 per tonne to USD 766.14 per tonne during the same period. The effective import duty on crude sunflower oil and crude soybean oil were also reduced from 30.25 percent to 5.50 percent between August-October, 2021, and currently both the oils became duty-free with each receiving a 2 MMT tariff-rate quota for the coming two financial years (with effect from May 25, 2022, Gazette of India). As a result, the relative difference between the domestic retail price and the global price of sunflower oil dropped to 6 percent in April 2022 from 30 percent in February 2022.

The timely reduction in import duty shows softening palm oil prices as well. The effective import duty on CPO dropped from 30.25 percent in August 2021 to 5.5 percent in February 2022 (Figure 2). However, mustard oil has not received any modifications in import duty despite its surging prices in domestic market (Figure 3). It is clear from this analysis that slashing down of import duties has proven to be an effective instrument in taming edible oil inflation, especially when global prices are on an upswing.

Can India achieve self-reliance in edible oil production?

Self-reliance in edible oil production is the need of the hour but it should not be backed by high tariff walls of 40 percent or so. Any political upheaval might create a price surge in the international market of edible oil causing burden on foreign reserves in India (Chand, Jha, & Mittal, 2004). To develop core-competency, it is critical to improve yields from the current levels of just 360 kg per hectare with existing complex of oilseeds[2]. With current yields, India would need about 39 million hectares of additional area under oilseeds to avoid any imports of edible oils which crossed 14 MMT in FY22. While increasing productivity of existing oilseed complex is a continuous endeavour, the solution may lie in developing oil palm sector in the country, which has potential to give as much as 4 tonnes of oil per hectare. On the trade policy front, Vishandass & Gulati (2012) has recommended a benchmark import price of USD 800 per tonne for palm oil, estimated by long term price trend, to be used as an import duty trigger. If the international prices go over this cap price, automatically the import duty should be reduced. Overtime, government has undertaken several initiatives to expand the acreage under oil palm which got momentum with an allocation of INR 11,040 crores under the National Mission on Oilseeds and Oil Palm (NMOOP) scheme since 2021. While this is a step in the right direction, a long gestation period of 5 to 6 years for investment, will be challenging for small farmers. Thereby, dovetailing of trade policy with pricing structure in domestic market and increasing domestic production of palm oil by sustainable cropping practices would help tackle the soaring edible oil prices in the country.

Acknowledgement

We would like to thank Mr. BV Mehta (Executive Director, SEA) for providing access to SEA's compilation of the import duty structure of edible oils for the last decade released by Ministry of Finance, GoI.

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[2]Authors' calculation using weighted mean of area and conversion ratio under different oilseeds (Agriculture Statistics at a Glance, 2021).

Tomato Tremors

Harsh Wardhan and Ranjana Roy

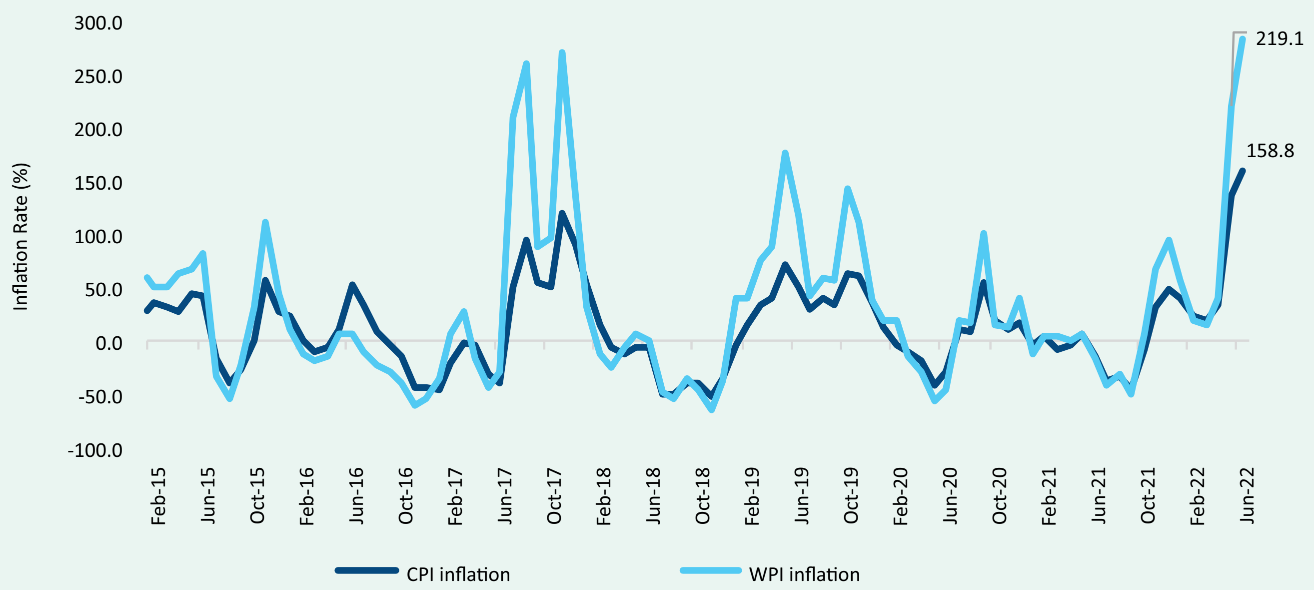
Unlike onion and potato, tomato cannot be stored for long, hence keeping tomato in the processed form as buffer stock is the way to tame tomato inflation.

Tomato inflation in India touched new heights with 158.8 percent year-on-year (y-o-y) inflation based on consumer price index (CPI) and 281.1 percent inflation based on wholesale price index (WPI) recorded for June 2022 (Figure 1) (MoSPI, 2022) (MoC&I, 2022). At 8.9 percent, tomato had the largest contribution among 299 commodities in the CPI basket; whereas in WPI, it had a contribution of 5.7 percent, highest among all agricultural commodities. Although, the average retail price of tomato in June 2022 was hovering around INR 52 per kg at all India level (DoCA, 2022), it had shot up to INR 100 per kg in several urban markets of India.

Figure 2 shows how tomato prices follow a cyclical phenomenon, a clear case of price-production cobweb with same situation arising every alternate year. In 2021, tomato had negative inflation with tomato wholesale prices touching as low as INR 2-3 per kg (Agmarknet, 2022). The steep decline in tomato prices resulted in huge losses for the small and marginal farmers such that many of them could not afford to cultivate the crop in the following months. According to market intelligence, due to low price realisation, farmers planted lesser area under tomatoes last year and shifted towards crops like soya, cotton and corn. As tomato is a short duration crop, the impact of supply shortages got transferred to prices in the next 2-3 months.

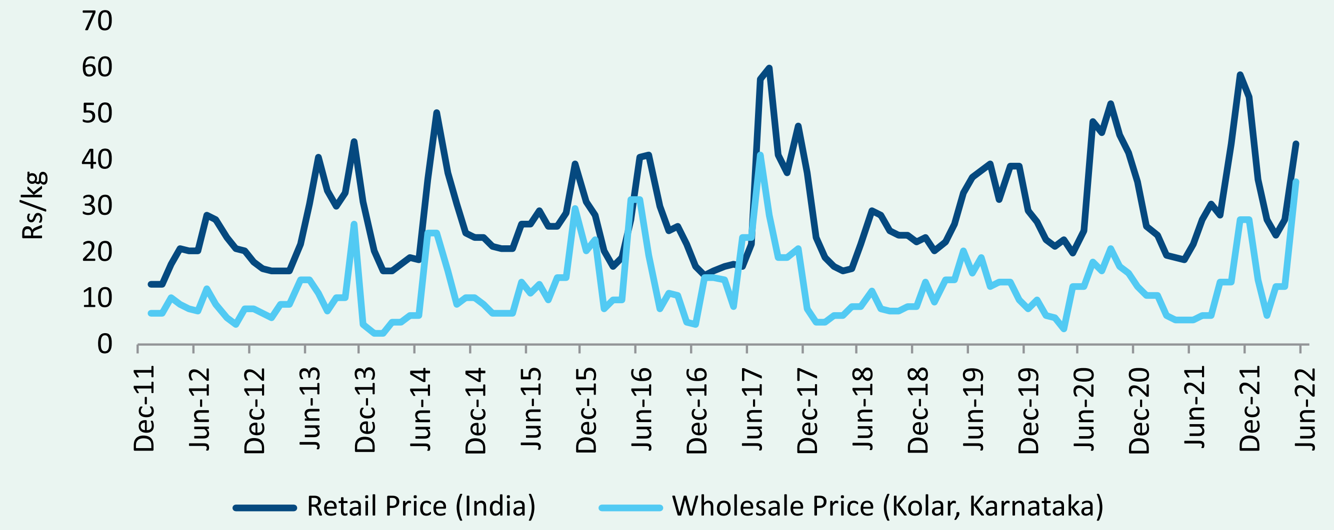
Besides this, heatwave in northern India and unseasonal rain and cyclone in Karnataka resulted in diminished tomato yields and damaged the crop in these areas. Resultantly, production estimated for 2021-22 came down to 20.3 million metric tonne (MMT) from 21.2 MMT produced during the previous year (2020-21) (MoA&FW, 2022a). Hot spell in northern India also forced farmers to delay plucking of the crops resulting in lesser crop in the markets.

Figure 1: Tomato Inflation Rates in India (WPI and CPI)



Source: MoSPI, 2022 and MoC&I, 2022

Figure 2: Wholesale and Retail Prices of Tomato



Source: DoCA, 2022 and Agmarknet, 2022

Besides tomatoes, potato prices are also on boil, while onion prices are stable, but all three TOP crops: tomato, onion and potato face similar issues with respect to price volatility. One of the critical reasons behind this is fragmented markets and inefficient value chain system in place. The presence of large number of intermediaries between farmers and consumers further swells up consumer prices and reduces farmers' share in consumer rupee. Gulati et. al (2022) estimated that farmers' share in consumer's rupee for tomato is only 32 percent. However, unlike potatoes and onions, tomatoes are highly perishable and hence cannot be stored.

Although produced throughout the year, tomato's production is regionally concentrated in states of Andhra Pradesh, Madhya Pradesh, Karnataka, Odisha and Gujarat, accounting for 47 percent of the total production of the country in 2021-22 (MoA&FW, 2022b). In addition, tomato yields in India at 25 tonnes per hectare (t/ha) is very low compared to the global average of 37 t/ha. However, most European countries have yields as high as 400 t/ha (FAOSTAT, 2022), where tomatoes are cultivated in greenhouses and polyhouses under controlled environment. This helps to produce indeterminate crops, harvesting of which takes place the entire year (Gulati, et. al., 2022). With less than 1 percent of production being exported, India has a meagre export market for tomatoes and majority of the production is used to fulfil domestic demand.

Government of India undertook a major step in this direction by launching "Operation Green-TOP" in the 2018 budget with a financial outlay of INR 500 crores. The objective was to build value chains of TOP on the lines of "Operation Flood" in milk in such a way that it reduces price volatility in TOP and ensures higher farmers' share in consumer's rupee (MoFPI, 2019). The Ministry of Food Processing Industries had also extended the scheme from Tomato, Onion and Potato (TOP) to all fruits and vegetables (TOTAL) for a period of six months on pilot basis as part of the *Aatmanirbhar Bharat Abhiyan* w.e.f. June 2020 (MoFPI, 2020). The objective was to protect the growers of fruits and vegetables from making distress sale in lockdown and reduce the post-harvest losses. Unfortunately, progress in taming tomato inflation and ensuring cultivators a reasonable return has remained unsatisfactory.

In order to ensure that tomato prices remain stable for farmers as well as consumers, government should undertake following measures:

First, promote the use of processed products like tomato paste and puree through massive campaigns for creating market demand. Also, processing capacity has to be enhanced in a way that at least 10 percent of tomato production goes for processing. This will help excess supply to be processed during peak season which can be stored and consumed during lean season. Unlike onion and potato, tomato cannot be stored for long, hence keeping tomato in the processed form as buffer stock is perhaps the best way to tame its inflation. To promote processing, goods and services tax (GST) for processed tomato should be reduced from current 12 percent to 5 percent, making it affordable. Fresh agricultural produce, milk and most milk products attract 0 to 5 percent GST (CBITC, 2022).

Second, reforms in Agriculture Produce Marketing Committee (APMC) will allow large buyers to directly purchase from farmers and Farmer Producer Organizations (FPOs), surpassing the mandi system. For a commodity to move from one state to another, several levels of mandi fees and commission gets added without any value addition or increased benefit to farmers, but escalating the prices for consumers. Reforming APMC laws should focus on infrastructure makeover of current APMCs, opening up private mandis, bringing competition and lowering of commission and mandi charges.

Third, in order to enhance tomato yields in the country, government should promote polyhouse cultivation at a large scale. It will help create a continuous cycle of crop and protect crop from pest attacks and further help to stabilize prices. To help farmers and FPOs adopt such technology, government can subsidize them as these are capital intensive.

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ICRIER - NSE Conference

Getting Agricultural Markets Right

Session 1

Session 2

ICRIER and NSE hosted a joint Conference on "**Getting Agricultural Markets Right**" on **July 6, 2022** in phygital mode at Gulmohar Hall, India Habitat Centre, Delhi as well as on Zoom. Sh ri Narendra Singh Tomar Ji, Hon'ble Minister of Agriculture & Farmers Welfare was the chief guest and delivered the Inaugural Address. The panelists featured some very eminent speakers from the government, academia, industry and business.

The agenda of the conference was to deliberate on the policies and the legal and regulatory framework that govern agricultural markets in India and the emerging role of agri-tech start-ups and FPOs in agricultural marketing field, with a view to augment farmers' income. The overall objective was to find an ecosystem as well as introduce technology that enables the farmers

- to get the best price possible for their produce,
- to have an optimal price discovery across space and time, and
- to minimize the price risk.

The conference was spread over two sessions:

***Session 1: Creating an Ecosystem for Getting Markets Right for Optimal Price Discovery and Risk Management* (Moderated by Dr. Ashok Gulati, ICRIER)**

The first session started with Mr. Harsh Wardhan, Fellow, ICRIER giving a key presentation on the ongoing work on Getting Agriculture Markets Right. He focused on the miniscule share of crops sold under public procurement system and discussed other marketing channels including futures, options, as an alternative to Minimum Support Price (MSP) regime. The key questions raised in the presentation was followed by a panel discussion. The eminent panelists included Prof. Ramesh Chand, Member, NITI Aayog; Mr. Ashish Bahuguna, Chairman and Public Interest Director, NCDEX; Dr. Purvi Mehta, Deputy Director, Global Growth and Opportunities, Bill and Melinda Gates Foundation; Mr. S. Sivakumar, Group Head, Agri. And IT Businesses, ITC; and Prof. Gopal Naik, Professor IIM Bangalore. Prof. Chand stressed that MSP can be given to farmers through other means like Price Deficiency Payment, considering the cost of procurement. The panel also suggested on the expansion of the future markets and need to incorporate multiple market instruments for better price realization by farmers.

***Session 2: Innovations to Get Agricultural Markets Right: Role of Agri-tech Start-ups and FPOs,* (Moderated by Mr. Om Routray, Sourcetrade)**

The second session started with a presentation by Dr. Manasi Phadke and Ms. Bhushana Karandikar, Senior Consultants, ICRIER on the role of innovations in agricultural marketing. The distinguished panelists included Mr. Prasanna Rao, Co-founder and CEO, Arya.ag; Mr. Emmanuel Murray, Investment Director, Caspian; and Mr. Vilas Shinde, CEO and Managing Director, Sahyadri Farms. The panel discussed the issues of working capital of FPOs and the need to build an ecosystem with FPOs and agri-tech start-ups for technological development of post-harvest agriculture.

1 Year of

AF-TAB

AGRI-FOOD TRENDS AND ANALYTICS BULLETIN

4	24	21	10	11K
Issues	**Articles**	**Contributors**	**Re-publications**	**Dissemination**

I found it very instructive to our own endeavours to revitalize Zimbabwe's agricultural sector.

- G. M. Chipare, Ambassador, Embassy of Zimbabwe

Thank you for sharing these important analyses. I have asked my team to place a link to the PARI Website, as this is very relevant for our research cooperation with you, which we want to continue.

- Joachim von Braun, Director, University of Bonn

Congratulations to the APSI team! This is wonderful!.

- Nisha Taneja, Professor, ICRIER

My heartiest congratulations to you on the launch of the Quarterly Bulletin AF-TAB. The topics covered therein are indeed very relevant.

- Rakesh Kapur, Jt. Managing Director, IFFCO

It is an excellent bulletin, and I would read it with great interest. I look forward to receiving further editions of the bulletin.

- Vibha Dhawan, Director General, TERI

Thank you very much for sharing the fourth issue of Quarterly Bulletin AF-TAB. I would certainly go through it.

- Atul Sarma, Distinguished Professor, CSD

Congratulations to you and the entire AF-TAB Team. The articles are crisp and clear and nicely motivated by data and figures. Well done!

- Deepak Mishra, Director & CE, ICRIER

I read it with interest! Lot of good work from an excellent team! Congratulations!.

- Arpita Mukherjee, Professor, ICRIER

Heartiest Congratulations on the launch of Quarterly Bulletin AF-TAB. I look forward to reading it with great interest. This bulletin will indeed be very useful.

- Uma Kapila, Editorial Director, Academic Foundation

Thank you for sharing your Quarterly Bulletin and emphasizing on important issues of Indian Agriculture. It is a pleasure to read your articles as usual.

- Basanta Sahu, Professor, IIFT

Congrats on this insightful issue!

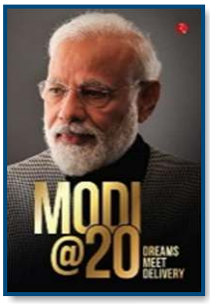
- Kym Anderson AC, Professor, University of Adelaide

Thank you for sharing this important (and very timely) issue of AF-TAB on what India can and must do to address the climate crisis in its agriculture. We will surely read all the articles in detail.

- Ramesh Deshpande, Convener, IAAG International

Activities by APSI Team during April – June quarter

Book Chapters:



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