



भारत 2023 INDIA

वसुधैव कुटुम्बकम् | ONE EARTH • ONE FAMILY • ONE FUTURE

Macroeconomic Impacts of Food and Energy Insecurity and their Implications for the Global Economy

A G20 Report

July 2023



Contents

Executive Summary	3
I. Macroeconomic Impacts of Food and Energy Insecurity	5
A. Trends in Food and Energy Markets	5
B. Rising Food and Energy Costs Exert Pressure on Inflation, Growth and Livelihoods	6
C. Rising Energy Prices Lead to Inflation in Food Prices.....	9
D. Risks of Future Spikes in Food and Energy Costs Remain	9
II. Summary of Members' Experiences	10
III. Key Takeaways on Policy Actions	13
IV. Conclusion and the Role of the Framework Working Group going forward	15
V. References	17
VI. Annex 1: Survey on Macroeconomic Consequences of Food and Energy Insecurity: Countries' Responses	18
VII. Annex 2: Targeted fiscal support measures put in place to counter food and energy price volatility	25

List of Figures

Figure 1: Food and Energy Price Developments	6
Figure 2: Passthrough from international to domestic food prices	7
Figure 3: G20 Headline Inflation	7
Figure 4: Food Insecurity	8
Figure 5: Passthrough from Energy to International Food Prices	9
Figure 6: Elevated food and energy prices continue to drive inflation & limit fiscal space	10
Figure 7: Monetary policy tightening continues in most economies to alleviate high inflation pressures	10
Figure 8: Targeted fiscal support, including tax reliefs, helped offset the impact of high food/energy prices in most economies	11
Figure 9: Investment in infrastructure and innovation to achieve long-term food & energy security	12
Figure 10: Trade Policies dominated external sector efforts to mitigate the impact of food/energy price shocks	13

Executive Summary

The G20 Finance Ministers and Central Bank Governors in February 2023 tasked the Framework Working Group (FWG) to “*work on macroeconomic scenarios, consequences and impacts of food and energy insecurity and their implications for the global economy and in policy settings*”. Based on this mandate, the Framework Working Group has prepared the “*G20 Report on Macroeconomic impacts of food and energy insecurity and their implications for the global economy*”¹. The report is based on G20 members’ and invited countries’ experiences in dealing with the macroeconomic impacts of food and energy insecurity collected through a member survey, technical analysis by the International Monetary Fund (IMF), World Bank Group (WBG), Food and Agricultural Organization (FAO) and International Energy Agency (IEA), as well as discussions held within the FWG and related side-events².

International food and energy prices moderated from their peaks in 2022, but the potential for further volatility implies sustained macroeconomic risks for the global economy. The global shocks from the Covid-19 pandemic and the war in Ukraine led to significant supply disruptions in food and energy markets, contributing to persistent inflationary pressures and below-par global growth³. For food markets, global stocks remain tight, which could translate into increased price volatility during periods of uncertainty. Elevated food prices have negatively impacted efforts to fight poverty outcomes and continue to weigh on household budgets, with vulnerable groups being impacted the most. The interconnectedness between food and energy markets has also resulted in the pass-through of energy price inflation into food price inflation. Despite recent moderation in global food prices and considerable decline in energy prices, the potential for further price volatility remains high which could be caused by various factors, including unfavourable global economic conditions, extreme weather events, or a worsening of the geopolitical situation. There are also uncertainties corresponding to indirect effects such as the potential for fragmentation, which could further impose a drag on economic growth in the medium term.

Countries faced numerous trade-offs and limited policy room while formulating policy responses. Monetary policy in most G20 economies tightened to alleviate inflationary pressures consistent with central bank domestic mandates. Some members deemed this synchronised tightening helped curb inflationary pressures globally, including by exerting some downward pressures on certain commodity prices. At the same time, a few others pointed out that the tightening of monetary policy in response to higher inflationary pressures had spillover effects on EMDEs which further weighed on their recovery. On fiscal policy, several members reflected on the tough balancing act between providing fiscal assistance to

¹ Russia dissociated itself from the status of this document as a common outcome.

² There are several related aspects that merit further exploration – particularly with regard to structural challenges (such as income distribution), which can also contribute to food and energy insecurity. These issues, however, are outside the scope of this report but not outside the FWG mandate, especially considering the group’s priority on SSBIG.

³ There were other views and different assessments of the situation and sanctions.

vulnerable populations and maintaining medium-term fiscal sustainability. Members also implemented structural measures to achieve long-term food and energy security, primarily involving investments in infrastructure and innovation. Trade policy measures undertaken by some countries during crisis times to meet domestic food demand was deemed to have come at the expense of openness to trade.

Well-targeted fiscal measures can help manage adverse impact of volatility in food and energy markets and significantly improve welfare. Some countries have deployed digital infrastructure to help design better targeted fiscal measures. Some countries undertook temporary support measures such as one-off cash transfers, aid and allowances targeted at economically weaker households, students, small farmers and micro, small and medium enterprises (MSMEs). Countries also pursued policies specifically targeted at providing social security/pension allowances so as to benefit families at risk of food and energy insecurity. Specially designed relief measures for the lowest paid workers such as refundable tax credit and targeted support to businesses such as discounts on wholesale gas and electricity prices with a sunset clause were implemented by some countries. At the same time, the IMF analysis shows that in many economies, these measures were broad-based and untargeted.

Going forward, governments can gradually phase out existing emergency market interventions and adopt cost-efficient medium- to long-term measures for future crisis interventions. This may involve withdrawing targeted and temporary fiscal measures such as transfers to those most in need while maintaining price signals whenever necessary. Strong social security networks, together with greater digitalisation, can contribute to protecting the most vulnerable from commodity price shocks. Diversifying food and energy sources and addressing structural issues on the supply side are needed to ensure resilience to global shocks. Crop diversification, innovative and resilient farming practices, investing in sustainable infrastructure, and exploring options that encourage healthy and environment-friendly lifestyles are some of the policy approaches that countries can pursue in line with their unique circumstances.

Multilateral efforts should focus on building resilience in food and energy markets to manage high levels of market volatility, support countries in building macroeconomic policy options to counter adverse shocks in food and energy markets and improve the access to adequate food and energy supply for the poorest, especially in low-income countries (LICs) and developing economies. Macroeconomic policies to promote food and energy security should align with supporting a strong, sustainable, balanced and inclusive recovery. Financing and technology will be essential to build resilience to weather-related shocks. Multilateral financial assistance will be needed to relieve the most vulnerable segments from food insecurity. Efforts are also needed to strengthen the enabling environment for public and private investments in viable low-emissions technologies. For building resilience in the food market, efforts should focus on avoiding disruption and maintaining openness to trade in food commodities and adopting measures to improve the access to key

agricultural inputs. Coordinated global action will help economies rebalance energy supply and demand. Further progress is also needed to support the international trade policy architecture and address fragmentation risks. Given the elevated risks of further volatility in food and energy markets, the report recommends further work on the macroeconomic policy options for addressing shocks arising from high levels of volatility in food and energy markets⁴.

I. Macroeconomic Impacts of Food and Energy Insecurity

The surge in food and energy prices was one of the key factors underlying high inflation in 2021 and 2022. Even though prices have moderated since then, the potential for further price volatility remains high, given the uncertainty in the global economy, extreme weather events and the geopolitical situation. Further, the interdependence of food and energy markets means that higher energy prices drive up the cost of food production and transportation, eventually food prices. These issues are elaborated in the following section which summarises the analysis presented by international organisations (IMF, World Bank, FAO and IEA) and provides an evidence-based assessment of the macroeconomic impacts of food and energy insecurity.

A. Trends in Food and Energy Markets

International food commodity prices remain high amidst an increasingly uncertain outlook but have receded from their 2022 peaks. Global food prices were increasing even before COVID-19. The pandemic followed by the war in Ukraine and the impact of extreme weather events (including droughts) on some major food producers, worsened the situation, leading to significant supply disruptions, and record highs in the FAO's Food Price Index⁵. There has been some moderation of food prices in recent months owing to favourable weather and a strong supply-side response which has prevented market prices from returning to early 2022 levels. However, food prices remain elevated compared to January 2020 (Figure 1). Prices of some fertilizers nearly quintupled between January 2020 and their peak in April 2022, and in spite of recent declines were still four times as high in December 2022 in some cases. The uncertainty stemming from the ongoing war in Ukraine, climate change, trade policies and supply-side factors continue to pose risks to food price stability.

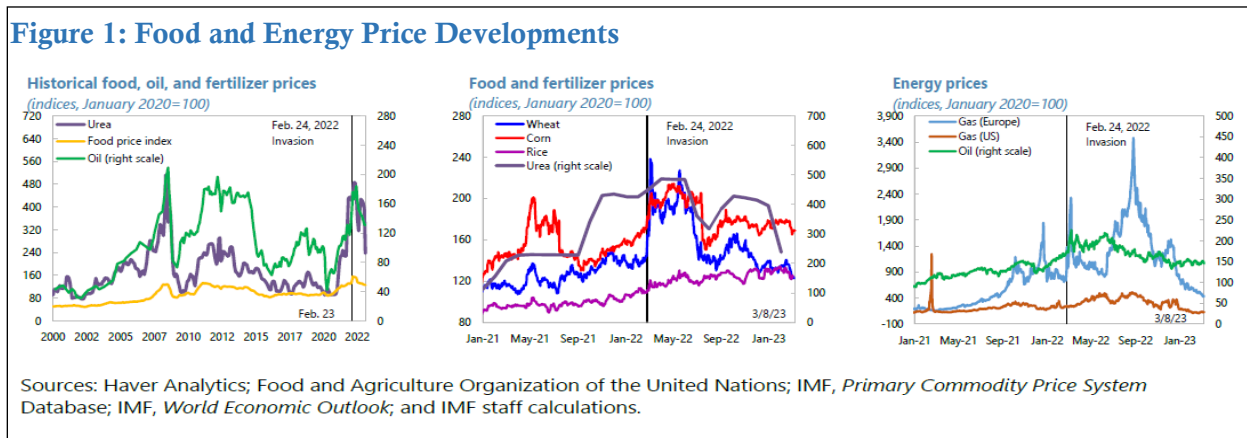
There are signs of optimism in food markets in the medium term, but the overall outlook remains mixed. Global food demand and supply are projected to increase owing to increased

⁴ The contours of this work will be discussed by the G20 members during the Fourth G20 Framework Working Group Meeting in September 2023.

⁵ The FAO Food Price Index (FFPI) averaged 129.8 points in February 2023 and reached its peak in March 2022 at 159.7 points.

contributions from low- and middle-income countries⁶. Real agricultural commodity prices⁷ over the coming decade are expected to remain broadly flat. However, the short-term outlook for food crops appears mixed amidst varied input prices⁸ and lagged effects of energy and fertiliser price spikes.

Meanwhile, global energy prices have also moderated from last year, similar to food prices, while supplies remain tight⁹. Since the COVID-19 pandemic began, international energy prices experienced a significant rise, with oil prices nearly doubling between January 2020 and their peak in March 2022 due to global shocks related to the war in Ukraine (**Figure 1**). In 2023, energy prices decreased from their peaks in 2022, and benchmark oil prices have returned to their end 2021 levels, except for diesel, which also shows a declining trend. Nonetheless, oil and natural gas supplies remain tight amid increased uncertainty due to the war in Ukraine.



B. Rising Food and Energy Costs Exert Pressure on Inflation, Growth and Livelihoods

The pass-through of high global food and energy prices to domestic markets has fuelled inflation in most economies. The economic impacts of high food and energy prices have been transmitted through multiple channels. The IMF estimates that a 1 percent increase in international food prices is associated with an 0.3 percent increase in domestic food prices approximately a year later¹⁰ (**Figure 2**), although this may be higher in the lower-income countries¹¹. For 2022, their analysis points to a rise in headline inflation across most G20 economies (**Figure 3**), largely due to the significant share of food and energy in consumption.

⁶ As per FAO 2023 analysis, global food demand is projected to increase by 1.4 percent per annum over the next decade, and global agriculture production is projected to increase by 17 percent over the coming decade.

⁷ As per FAO 2023 analysis, long-term agricultural prices in real terms of soybeans, wheat, maize, beef and pork are projected to remain broadly flat or decline slightly.

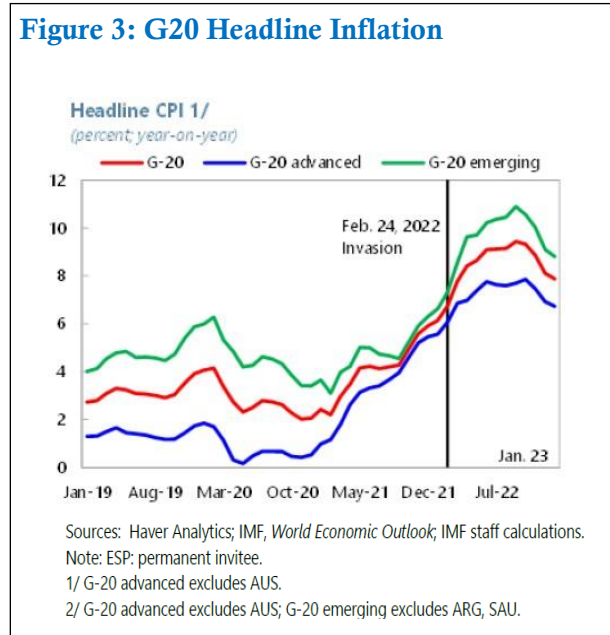
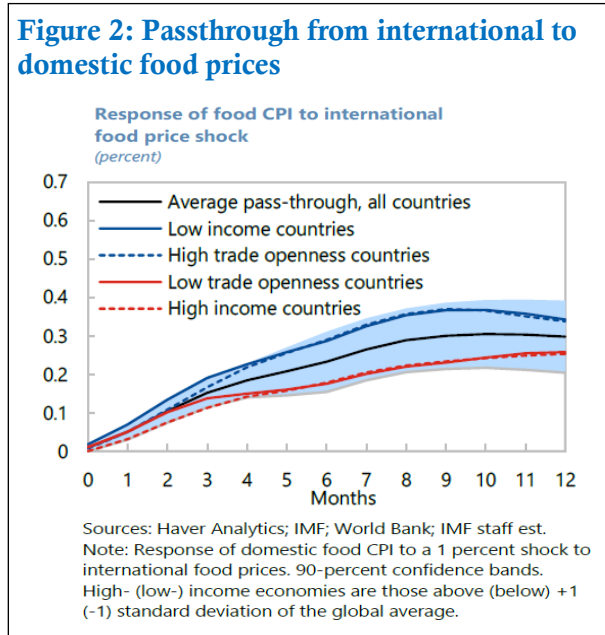
⁸ For instance, as per FAO analysis on fertilizer markets, price trends were mixed in May 2023, with ammonia and phosphate fertilizer prices showing an important decline while urea and potash prices increased.

⁹ IEA's note to FWG, March 2023 states that the global oil and gas supply remains tight while demand is exposed to high uncertainty.

¹⁰ Based on monthly data for more than 100 countries over 1991–2020.

¹¹ For example, IMF staff estimates for Sub-Saharan Africa suggest that in the case of highly imported staples, the pass-through of changes in global to local food prices is one-to-one.

In addition, the World Bank estimates that the sharp increase in oil prices contributed about one-tenth to the rise in global inflation between Q2 2021 and Q2 2022.



At the same time, elevated energy prices have slowed down global growth. World Bank simulations suggest that recent upward revisions to energy prices reduced global growth in 2022 by 0.5 percentage points¹². The same shocks could reduce global growth by a further 0.3 percentage points in 2023 if prices remained high throughout 2022 and into 2023, *ceteris paribus*.

Surging inflation has strained household budgets, more so in low-income and emerging economies. Households in LICs and Emerging Market Economies (EMEs) were disproportionately more exposed to increases in food prices, given the higher share of food in their consumption baskets. Even though energy constitutes a larger share in expenditures of high-income households, poor households were also adversely impacted¹³ by the energy price increase. This resulted in a historically large contraction in real living standards in many countries.

Increased volatility in energy and food prices continues to have adverse macroeconomic consequences in some regions and countries. Inflationary pressures from higher food prices have weighed heavily on household budgets in net food importing countries, with urban

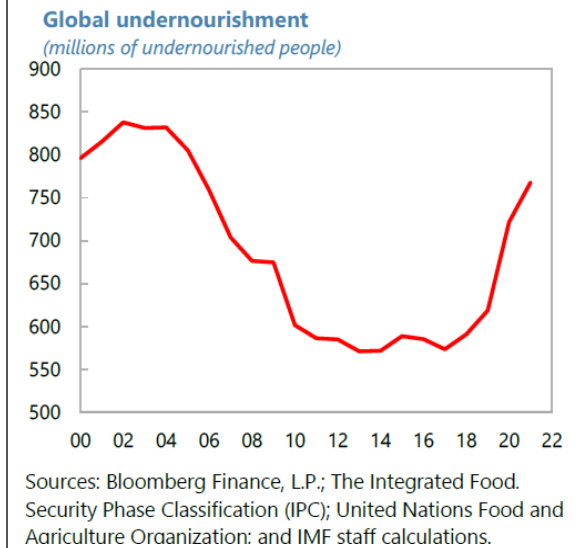
¹² World Bank has produced these simulations using the Oxford Economics Global Economic Model, which is a large-scale, cross-country, semi-structural projection model well suited to the analysis of alternative projections for the global economy. World Bank also notes that the estimated impact on global growth for 2022 is in line with the results of similar exercises conducted at that time (IMF, 2022b; OECD, 2022).

¹³ IMF report states that low-income households are also negatively impacted by energy price increases. For example, higher energy prices lead to higher prices of other goods in the supply chain and push up prices more broadly via second-round effects.



consumers and vulnerable groups impacted the most. Food security has been deteriorating since 2017 and has significantly worsened over the last few years with higher food prices being one of the key drivers. The number of people facing acute food insecurity and requiring urgent food assistance doubled between 2016 and 2022¹⁴. Further, between 2019 and 2021, the number of undernourished people globally, increased by more than 150 million (**Figure 4**). In 2022, approximately 12 percent of Sub-Saharan Africa’s population faced acute food insecurity, as staple food prices surged nearly 24 percent from 2020 to 2022¹⁵. Given that poorer segments of the population spend a larger share of their incomes on food, elevated food prices weigh disproportionately more on vulnerable segments. The World Bank report indicates that by end 2022, an estimated 685 million could be living in extreme poverty, with recent damages from natural disasters expected to compound existing challenges among the vulnerable population. Food insecurity and poverty combined worsens labour productivity, which in turn weighs on economic growth. As per World Bank’s simulations, a 40 percent rise in oil prices can lower output growth by 0.25 percentage points in oil-importing advanced economies and EMDEs in the first year, ceteris paribus., Their external and fiscal positions could deteriorate further as economic activity weakens and the cost of providing fuel subsidies rises. Meanwhile, a 40 percent rise in annual average oil prices could raise the aggregate output of oil exporting EMDEs by about 1 percent, leading to potential positive outcomes on growth, fiscal and external positions.

Figure 4: Food Insecurity



There are also uncertainties corresponding to indirect effects, which could dampen economic growth in the medium term. Persistent food and energy insecurity may stoke unrest in societies (and vice versa) which is an indirect risk for economic growth. IMF estimates indicate that social unrest can lead to significant declines in GDP - for a sample of 89 countries, the average level of GDP post-social unrest drops about 1 percent below the level before unrest and remains there for a year and a half. Unfavourable developments in inflation, including cost-of-living pressures leading to a wage price spiral, could lead to central banks hiking rates more than expected. Such hikes would result in higher borrowing costs, adding to challenges faced by vulnerable economies with elevated debt burdens. The IMF analysis flags that food insecurity can be detrimental to growth in the longer term, with malnourishment weighing on human capital development and productivity.

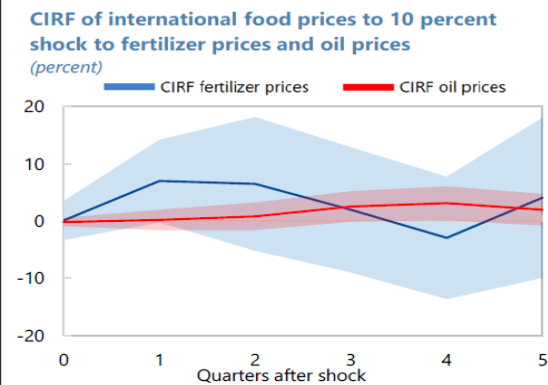
¹⁴ As per the Global Report on Food Crises 2023 available on the World Bank Global Food and Nutrition Security Dashboard.

¹⁵ “Macroeconomic impact of food and energy insecurity”, G-20 background note (Page 6), IMF, March 2023.

C. Rising Energy Prices Lead to Inflation in Food Prices

The interconnectedness between food and energy markets has resulted in a spillover of price inflation from energy to food prices. Higher energy prices can translate into increased production costs for food. As gas is the main input to nitrogen-based fertilizers and pesticides used in farming, a 10 percent increase in fertiliser prices due to higher natural gas prices is estimated to trigger a 2 percent increase in global cereal prices after three quarters. Another important pass-through is via transportation/distribution costs – higher fuel prices could raise transportation costs, thereby feeding into food costs. The IMF estimates that a negative supply shock that increases global oil prices by 10 percent could lead to an increase in global cereal prices by about 2 percent after three quarters (**Figure 5**). A sustained increase in oil prices could also lead to an increase in food prices, as the use of land for food crops is diverted towards the crops for biofuels.

Figure 5: Passthrough from Energy to International Food Prices



Sources: Haver Analytics; IMF; World Bank; [Bogmans and others, 2022](#).
Note: CIRF: cumulative impulse response function; shaded areas: 90-percent confidence bands.

D. Risks of Future Spikes in Food and Energy Costs Remain

In the near- to medium-term, the key risks to higher food and energy costs stem from several factors, including further intensification of the war in Ukraine. A harsher winter in Europe could also pose upside risks to energy demand and prices.

Geoeconomic fragmentation could further threaten food and energy security. According to the IMF¹⁶, geoeconomic fragmentation could increase geopolitical influence on FDI flows. In the event of increased concentration of FDI flows among geopolitically aligned countries, investments in food and energy infrastructure could suffer. This would be of particular concern for emerging and developing economies which are generally more vulnerable to relocation of investments due to fragmentation pressures.

In addition, climate change-induced evolutions in weather conditions can also negatively impact food security and livelihoods. Extreme weather events may affect food producing countries which could have impact on world food supply and therefore on global food prices. In some economies, many people are highly reliant on a single staple food for most of their

¹⁶ April 2023 WEO Chapter 4.

calorie intake (e.g., Afghanistan relies predominantly on wheat and Bangladesh mainly on rice) and may be particularly vulnerable to weather-related shocks to the food supply. Damages from natural disasters, which are increasing in intensity and frequency with climate change, could also compound challenges associated with food security.

II. Summary of Members' Experiences

G20 members and invited countries were surveyed for their experiences in managing the macroeconomic impact of food and energy insecurity and the implications for the global economy¹⁷. The summary of members' responses (25 countries) is provided below.

Inflation was reported as the variable impacted most by high food and energy prices, followed by external balances, public finances and growth, while consumption was cited less often (Figure 6). Most countries pointed to inflation as the macroeconomic variable most affected in the near term, adding that second-round effects of tighter monetary policy were subsequently felt on economic growth and the cost of finance. For a few countries (primarily commodity producers), the food and energy sectors either saw an improvement or were not significantly affected, although households were still exposed to high prices.

Monetary policy in most economies tightened to alleviate high inflation pressures, with policy rate hikes seen as the preferred modus operandi (Figure 7). Many countries noted that price pressures were caused primarily by energy price shocks (though food price shocks were also a contributing factor). Monetary policy response largely consisted of raising short term rates, complemented by open market operations and asset purchase reversals (in Advanced Economies (AEs)) and foreign

Figure 6: Elevated food and energy prices continue to drive inflation & limit fiscal space

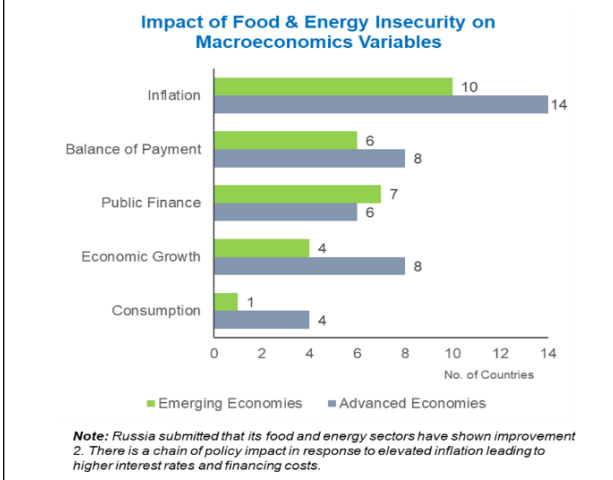
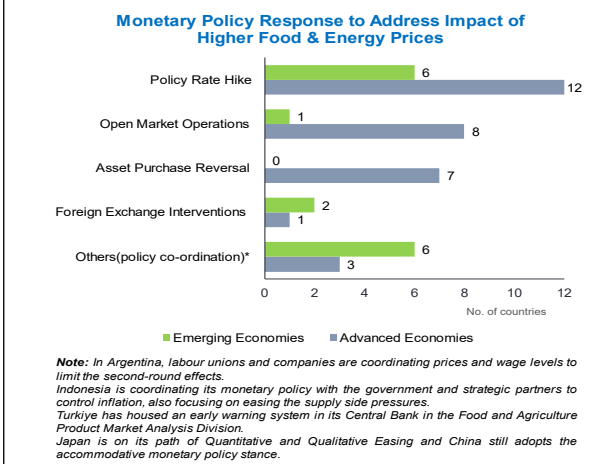


Figure 7: Monetary policy tightening continues in most economies to alleviate high inflation pressures



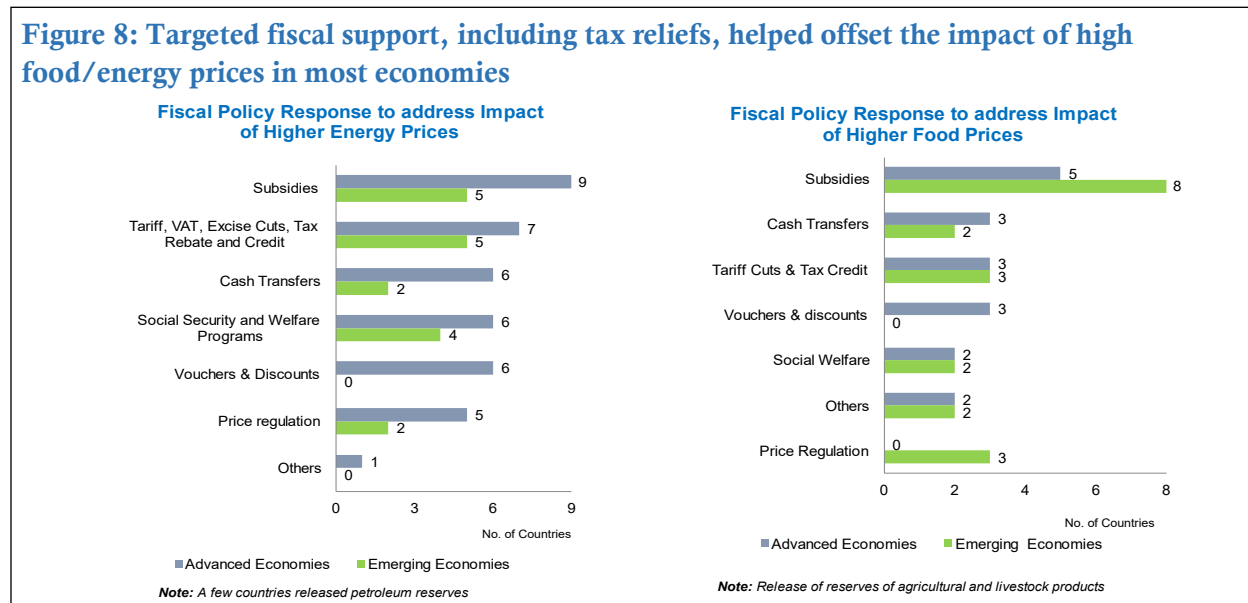
¹⁷ A snapshot of country responses may be seen in the Annex 1.



exchange intervention in a few cases. Some AEs and EMEs attempted to avoid the wage-price spiral while adjusting fiscal policy to synchronise with monetary tightening. Some countries indicated that central banks' actions globally helped curb inflationary pressures, including by exerting downward pressure on certain commodity prices.

Tightening monetary policy came with its own set of challenges, particularly for some EMDEs. A few EMDEs reported pressure on their currencies amid sharp interest rate hikes globally. This, in turn, had an inflationary effect on their domestic economies, necessitating a more aggressive monetary policy response that put further pressure on the recovery.

Most countries used targeted fiscal support to offset the impact of high and volatile food/energy prices¹⁸ (Figure 8). Subsidies, price caps and controls, and tax reliefs constituted the primary policy tools across AEs and EMEs. Some respondents indicated that temporary support measures were extended given the persistence of the cost-of-living crisis. A few countries reported that demand management policies on energy consumption have been effective in reducing energy demand. Most domestic schemes across AEs/EMEs targeted the poor and vulnerable sections. Effective targeted and temporary support measures that were undertaken by members and reported in the survey are listed in Annex 2 to facilitate cross-country policy learnings.



Members encountered several trade-offs and limited fiscal policy space while addressing the repercussions of food and energy insecurity. The difficulty of balancing fiscal assistance to vulnerable populations with maintaining medium-term fiscal sustainability was highlighted by many members. Sustaining or increasing fiscal support was closely linked to several other challenges, including avoiding further inflationary pressures, supporting monetary policy and

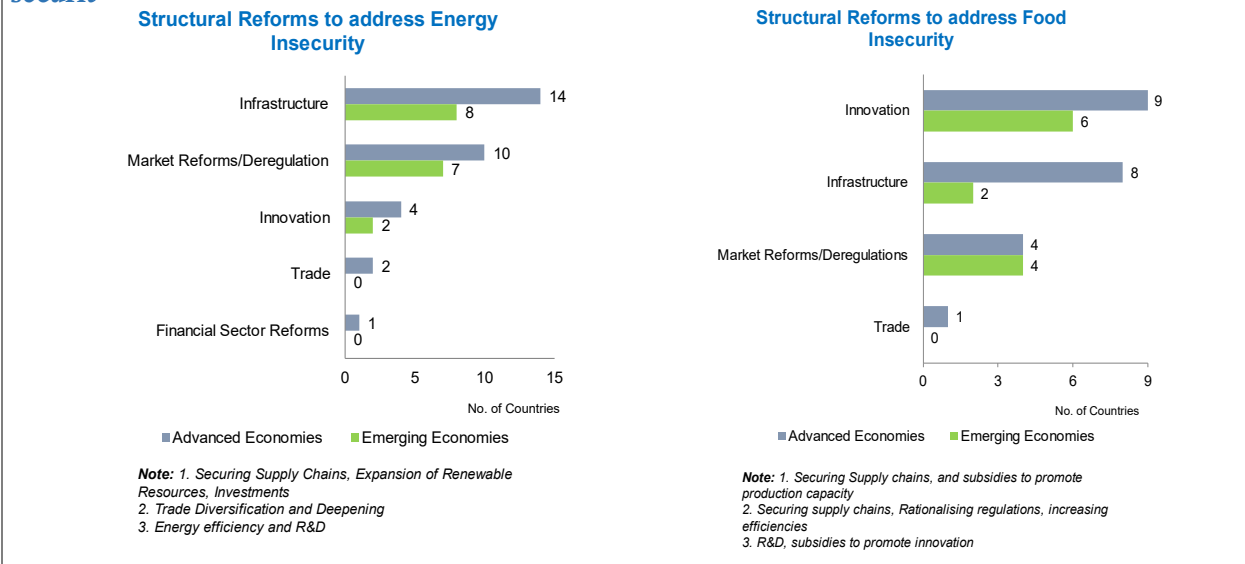
¹⁸ Some illustration of targeted fiscal support measures that countries put in place to counter food and energy price volatility is mentioned in Annex 2.



weighing distributional impacts. Enhancing fiscal support was deemed to have a procyclical effect on prices during periods of high inflation, making the decision to support the vulnerable a particularly complex one. Additionally, as the fiscal policy room continued to tighten through the crisis, countries dealt with the conundrum of withdrawing temporary support without adversely affecting the vulnerable population. Some members noted that due to limited fiscal space, supporting food and energy security sometimes diverts critical resources from other essential policies.

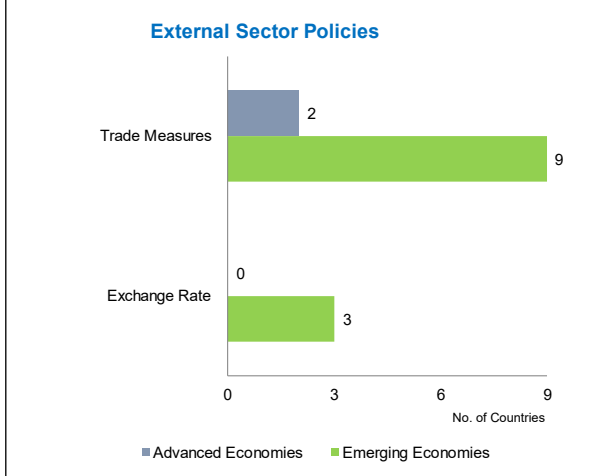
Structural measures to achieve long-term food and energy security primarily involved investments in infrastructure and innovation (Figure 9). Most countries relied on investments in infrastructure (e.g., AgriTech, expanding agriculture capacity) to boost food productivity and secure food and energy supply chains. The need for improvements in zero and low emission energy infrastructure to build resilience in the medium term was also highlighted. Several countries invested in R&D for renewable sources and in achieving energy efficiency and implemented market reforms to improve efficiencies and manage future demand (streamline transport/distribution networks, pricing mechanisms, reduce consumption etc.). Members pointed out that balancing short-term energy security and the medium-to-long-term clean-energy transition was not easy. This may persist for a protracted period for several countries.

Figure 9: Investment in infrastructure and innovation to achieve long-term food & energy security



Trade measures dominated efforts on the external front to combat food and energy price shocks (Figure 10). Countries used various trade measures, including diversifying imports, establishing strategic trade partnerships, adjusting trade barriers/tariffs, investing in foreign food infrastructure, etc. Meanwhile, a few countries used exchange rates as a monetary policy tool to ensure price stability. Most countries did not make changes to existing exchange rate policies. Some countries acknowledged that their trade policy responses to ensure domestic food security came at the expense of openness to trade.

Figure 10: Trade Policies dominated external sector efforts to mitigate the impact of food/energy price shocks



III. Key Takeaways on Policy Actions

G20 members have responded swiftly and with innovative policy solutions to tackle near- and long-term challenges arising from food and energy insecurity, either by deploying a range of available policy tools or creating new ones. This section draws on members’ experiences and technical analysis by IOs. It identifies some key takeaways on policy actions taken to deal with the macroeconomic impact of food and energy insecurity and their implications.

Strong, synchronised monetary policy tightening across most G-20 economies has helped cool demand and inflationary pressures, but risks of food price shocks persist. According to the IMF, interest rates have been raised quickly and in a synchronised manner across many G-20 countries (with a few exceptions), facilitating some moderation in demand and inflation. The full effects of policy tightening have most likely yet to play out. However, as the FAO report cautions, high concentration among food exporters means that any major policy change or conflict involving a large exporter can still have consequences for global food security and inflation.

Asynchronous fiscal policy implementation and complex policy trade-offs might have resulted in some unintended macroeconomic consequences. The member survey reveals that fighting inflation featured high on most countries' priority lists, even while fiscal support measures were also deemed essential given the need to protect the most vulnerable. As a result, fiscal policy has, at times, counteracted the tighter monetary policy stance to fight inflationary pressures. Additionally, several members noted that fiscal policy remained expansionary despite increasingly high debt levels. However, in some countries, fiscal consolidation outweighed urgent public investment needs for boosting food/energy



production capacity. Similarly, some policy responses to address near-term price shocks undermined long-term policy priorities with regard to the climate transition. Sub-optimal policy sequencing or asynchronous macroeconomic policy actions resulting from these complex policy trade-offs could have adverse consequences for fiscal health, medium-term growth potential and transition towards low-emission energy systems. As such, the IMF report notes that fiscal policy should aim for gradual tightening by unwinding broad based measures, replacing with targeted measures where appropriate, thus reducing pressure on monetary policy to act while supporting the most vulnerable. In addition, fiscal measures should leave price signals unaffected whenever possible.

External policies have created a material shift in global demand-supply dynamics of food and energy and indirectly on the energy transition. The IMF report highlights that as of September 2022, as many as 30 economies globally have imposed restrictions on food and fertiliser exports following the war in Ukraine, partly explaining why food prices remain high. Meanwhile, the IEA report points out that since the COVID-19 pandemic and the war in Ukraine there have been significant repercussions for global demand and supply of liquified natural gas (LNG). These have negatively affected not only Europe but also developing economies, notably in Asia. There were also significant impacts on energy transitions in Asia. Elevated gas prices and the stronger- than-expected recovery post-COVID have resulted in an uptick in demand for coal, with global coal production reaching an all-time high in 2022. However, the IEA predicts this gas-to-coal switching to be a short-term phenomenon and that renewables will account for over 90 percent of global electricity expansion over the next five years if countries maintain their current climate transition pledges. But the cost of the energy transition could be a determining factor especially for low-income countries, given that each country's policy mix would be based on its own circumstances.

Diversifying food and energy sources and addressing structural issues are critical to building resilience against future crises. Member survey results reveal that leading up to the cost-of-living crisis, food and energy sources for several countries were concentrated, indirectly creating vulnerabilities in global supply chains. Countries recognised that the capacity of food systems to absorb shocks could be built through increasing diversity in food sources, bringing small and medium enterprises into supply chains, developing efficient transport networks, setting up effective early warning systems, reducing trade barriers as well as reducing food loss and waste and putting in place early action plans, particularly for the poorest and most vulnerable. The FAO report adds that building domestic food production capacity through increased investment in the agriculture sector, enhancing agricultural productivity, improving climate resilience, and focusing on food systems that are not resource-intensive can facilitate the delivery of lower-cost and safe, nutritious foods affordable for all. In addition, the cultivation of crops that are both weather-resistant and relevant to the local environment holds significant importance in enhancing the resilience of food systems. Moreover, existing support measures might require recalibration to transform agrifood

systems to be sustainable and resilient to future crises. Strong social security networks, greater digitalisation and financial integration, were also recognised as contributing towards building resilience against future food and fuel price shocks.

Multilateral efforts can help reduce food insecurity, but additional efforts are necessary to make progress on the Sustainable Development Goals (SDGs) of eradicating global hunger. The IMF points out that the Black Sea Grain Initiative is an example of a helpful effort to maintain the flow of food supply. The approval of the IMF's new Food Shock Window provides additional emergency financing for countries facing balance-of-payment needs related to the global food crisis. However, the IMF also highlights that additional efforts are necessary to support food security and fight climate change. The FAO report also points out that global financial resources have not kept pace with the growing need for finance to achieve food security. This implies that these limited resources need to be judiciously used for maximum benefits - for instance, by prioritising investment in the agricultural sector. In addition, the joint mapping exercises report by FAO, World Bank and World Trade Organisation (WTO) points out that additional support in social safety programmes by development agencies and International Financial Institutions is needed for vulnerable populations, as governments in several low-income countries have limited fiscal space to respond to food price shocks. In addition, strengthening coordination among multilateral institutions is essential to address the most urgent needs, avoid further deterioration of humanitarian conditions and accelerate responsible investments in food systems. Countries can also coordinate on reducing market distortions and improving competition and food safety standards to bring efficiency to global food markets. Focus can also be given to the necessary provision of public goods, including the availability of extension and advisory services, investing in research & development, promoting access to technology and innovation, and improving infrastructure in rural areas.

Global efforts are also needed to strengthen the multilateral trade system and address geoeconomic fragmentation. Further progress is also needed to restore faith in the international trade policy architecture, including avoiding disruption to trade in food commodities and adopting measures to limit the shortage of key agricultural inputs. Global leaders committing to credible measures to keep trade open with exceptional carve-outs could be a way forward. Here, it is also important to take note that G20 FMCBGs in February 2023 reaffirmed the importance of the rules-based, non-discriminatory, fair, open, inclusive, sustainable and transparent multilateral trading system with the WTO at its core.

IV. Conclusion and the Role of the Framework Working Group going forward

The G20 Leaders at the 2022 Bali Summit committed to taking action to promote food and energy security and support the stability of markets. Subsequently, the G20 Finance Ministers and Central Bank Governors, during their first meeting under the Indian Presidency in

February 2023, mandated the FWG to “work on macroeconomic scenarios, consequences and impacts of food and energy insecurity and their implications for the global economy and in policy settings.” This report has been prepared based on this mandate.

Assessments by IOs indicate that global food and energy prices, one of the factors behind food and energy insecurity, remain high and uncertain. Global food prices were increasing even before COVID-19. The pandemic followed by the war in Ukraine worsened the situation, leading to significant supply disruptions and pushing prices to record highs. Prices have now receded from their 2022 peaks. However, the ongoing war in Ukraine, extreme weather events, trade policies and supply-side factors continue to pose risks to price stability in food and energy markets. Further, the interconnectedness between food and energy markets has resulted in direct pass-through of energy price shocks to food prices, exacerbating inflationary pressures.

The G20 FWG survey revealed that most countries’ policy responses to address volatility in food and energy markets involved tightening monetary policy and deploying targeted fiscal support measures. However, these policy measures had varying trade-offs and spillovers. Monetary tightening can create international spillovers that are particularly challenging for countries with high debt burdens. Similarly, fiscal policy trade-offs involved balancing fiscal assistance to vulnerable populations with maintaining medium-term fiscal sustainability and not exacerbating inflationary pressures. Members reported implementing structural measures to build resilience in their domestic food and energy markets against future global shocks.

Dealing with food and energy insecurity requires work on short term factors, such as commodity price volatility, as well as more structural ones, such as income distribution. Maintaining an ongoing exchange of perspectives among G20 countries will help ensure that the global conversation on evaluating the macroeconomic impacts of food and energy insecurity remains at the forefront of policymaking efforts. There is a need for the FWG to continue emphasising the macroeconomic consequences emanating from high levels of volatility in food and energy markets within the ambit of the Group’s global risk monitoring agenda. There is also growing need to understand medium term risks to food and energy security, including due to climate change. Further work under the FWG could involve leveraging the insights provided by IOs and other bodies¹⁹ based on monitoring of high-quality data on food and energy markets. This can be complemented by sharing policy experiences, countries’ initiatives/lessons learnt, identifying macro policy tools, monitoring spillovers of policy responses, and exploring policy options for effectively managing these spillovers. In this context, further work on the macroeconomic policy options for addressing shocks arising from high levels of volatility in food and energy markets could be useful²⁰.

¹⁹ Such as the Agricultural Market Information System (AMIS)-

²⁰ The contours of this work will be discussed by the G20 members during the Fourth G20 Framework Working Group Meeting in September 2023.



V. References

- “Short- and Medium-term Outlook for Global Food Markets”, Food and Agriculture Organization’s Technical Note to G20, March 2023.
- “Short- and Medium-Term Outlook for Global Energy Markets and Market Functioning” International Energy Agency Working paper to G20, March 2023.
- “The impact of Food and Energy Market Disruptions on the Global Economic Outlook”, World Bank Group Report to G20, March 2023.
- “Macroeconomic impact of food and energy insecurity”, G-20 background note, IMF, March 2023.
- ‘Rising Global Food Insecurity: Assessing Policy Responses’, FAO, WBG and WTO Report to G20, April 2023.

VI. Annex 1: Survey on Macroeconomic Consequences of Food and Energy Insecurity: Countries' Responses²¹

1. Impact of Food and Energy Insecurity on Macroeconomic Variables ²²						
S. No.	Members	Inflation	Balance of Payments	Economic Growth	Public Finance	Consumption
1	Argentina	✓	✓		✓	
2	Australia	✓				
3	Brazil	✓		✓		
4	Canada	✓	✓			
5	China	✓				
6	EU	✓	✓	✓	✓	
7	France	✓				✓
8	Germany	✓	✓	✓	✓	✓
9	India	✓	✓	✓	✓	
10	Indonesia	✓		✓		
11	Italy	✓	✓	✓	✓	✓
12	Japan	✓	✓		✓	
13	South Korea	✓	✓	✓		✓
14	Mexico	✓	✓		✓	✓
15	Netherlands	✓	✓	✓	✓	
16	Saudi Arabia	✓			✓	
17	Singapore	✓				

²¹ The Indian Presidency, along with the FWG co-chair, devised a member-led survey to complement the three areas of the G20 report, namely, assessing: a) the impact of food and energy insecurity on macroeconomic variables in member countries, b) the policy responses to mitigate the food and energy insecurity, and c) the linkages between food and energy insecurity. The survey results comprise responses from 25 countries, including G20 members and 5 invitee countries. The composition of the countries includes 14 Advanced Economies (AEs) and 11 Emerging Market Economies (EMEs). Further, Russia in its response noted that its energy/food security actually improved in 2022, and energy/food inflation was lower than headline inflation. Hence, data on Russia are not included in the tables below.

²² Question on survey: Please indicate the key macroeconomic variables (4-5 variables) in your economy that have been impacted by the food and energy insecurity crisis in the short term (1-2 years) and in the medium term (3-5 years) [e.g., Growth, Inflation, Public Finances, Employment, Balance of Payments, etc.]. Also, specify, if relevant, member experiences on the transmission of these impacts into other markets (e.g. how energy price volatility affects goods and services markets etc.).

18	South Africa	✓	✓	✓	✓	
19	Spain	✓	✓	✓		
20	Switzerland	✓				
21	Türkiye	✓	✓		✓	
22	UAE	✓	✓		✓	
23	UK	✓		✓	✓	
24	US	✓				✓

2. Monetary Policy measures to mitigate the impact of high Food and Energy prices²³

S. No.	Members	Policy Rate Hike	Open Market Operations	Asset Purchase Reversal	Foreign Exchange Interventions	Others
1	Argentina	✓	✓		✓	✓
2	Australia	✓				
3	Brazil	✓				
4	Canada	✓				✓
5	China	Accommodative Monetary Policy Stance adopted to boost economic growth.				
6	EU ²⁴	✓	✓	✓		
7	France	✓	✓	✓		
8	Germany	✓	✓	✓		
9	India	✓				
10	Indonesia	✓				✓
11	Italy	✓	✓	✓		
12	Japan	Quantitative and Qualitative Monetary Easing with Yield Curve Control.				

²³ Monetary Policy measures include policy rate changes, open market operations, asset purchase/QE programs, and foreign exchange interventions. All other measures (e.g. government/CB-led inflation-control measures) are captured under 'Other'. Question on survey: Please indicate the most relevant monetary policy/measure implemented by your Central Bank to address the impact of higher food and energy prices.

²⁴It reflects ECB monetary policy measures.



13	South Korea	✓	✓			
14	Mexico	✓				✓
15	Netherlands	✓	✓	✓		✓
16	Saudi Arabia					✓
17	Singapore					✓
18	South Africa	✓	✓			✓
19	Spain	✓	✓	✓		
20	Switzerland	✓				
21	Türkiye					✓
22	UAE				✓	
23	UK	✓				
24	US	✓	✓	✓		

3. Fiscal Policy measures (Short Term)²⁵²⁶

3.1 To mitigate impact of high food prices

S. No.	Members	Subsidies	Vouchers and Discounts	Tariff Cuts and Tax Credit	Cash Transfers	Social Welfare/Security Programs	Price Regulation	Others
1	Argentina	✓						
2	Brazil				✓			
3	Canada			✓	✓			
4	China	✓						
5	EU	✓						✓
6	France	✓	✓					
7	India	✓		✓				✓
8	Indonesia	✓			✓	✓	✓	✓
9	Japan	✓						

²⁵ Fiscal Policy measures include changes to subsidies, price regulations, tariffs, taxes, vouchers & discounts, social security programs, and direct cash transfers.

²⁶ Question on survey: Please indicate the most relevant fiscal policy recently implemented to address the impact of higher food and energy prices in the immediate to short term (up to 2 years).



10	South Korea	✓	✓	✓	✓	✓		✓
11	Mexico	✓		✓			✓	
12	Saudi Arabia	✓						
13	South Africa	✓						
14	Spain	✓		✓	✓	✓		
15	Türkiye	✓		✓				
16	UAE					✓	✓	
17	US		✓					
3.2 To mitigate impact of high energy prices								
S. No.	Members	Subsidies	Vouchers and Discounts	Tariff Cuts and Tax Credit	Cash Transfers	Social Welfare/Security	Price Regulation	Others
1	Argentina	✓					✓	
2	Australia	✓					✓	
3	Brazil			✓				
4	Canada				✓			
5	EU	✓						✓
6	France	✓	✓	✓			✓	
7	Germany	✓	✓	✓	✓	✓		
8	India	✓		✓				
9	Indonesia	✓			✓	✓		
10	Italy			✓	✓	✓		
11	Japan	✓	✓					
12	South Korea	✓	✓	✓	✓	✓		
13	Mexico			✓				
14	Netherlands	✓		✓	✓	✓	✓	
15	Saudi Arabia	✓				✓	✓	
16	South Africa			✓				

17	Spain	✓	✓	✓		✓	✓	
18	Türkiye	✓		✓	✓	✓		
19	UAE					✓		
20	UK	✓	✓	✓	✓	✓	✓	

4. Structural reforms (Long term) ²⁷²⁸							
4.1 To mitigate Food Insecurity							
S. No.	Members	Infrastructure	Market Reforms/Deregulation	Trade	Financial Sector Reforms	Innovation	
1	Canada	✓	✓	✓		✓	
2	China		✓				✓
3	EU	✓	✓				✓
4	France	✓					✓
5	Germany						
6	India	✓	✓		✓		✓
7	Indonesia	✓					✓
8	Italy	✓	✓				✓
9	Japan	✓					✓
10	South Korea	✓					✓
11	Mexico						✓
12	Singapore	✓					✓
13	Spain		✓				✓
14	Türkiye		✓				✓

²⁷ Structural policies include Infrastructure (e.g. investments to enhance production capacity), Market reforms/deregulation (e.g. measures to improve market efficiency, regulation, transport, competition, etc.), Innovation (e.g. R&D, technology), Financial Sector (e.g. capital market development, financial inclusion) and Trade (e.g. tariffs, FTAs).

²⁸ Question on survey: Please indicate the structural reform (e.g., increasing production capacity/productivity, securing supply chains, combating climate change, etc.) recently implemented or planned to be implemented to address food and energy insecurity in the medium to long-term.



15	UAE		✓		✓	✓
16	UK	✓				
17	US					✓
4.2 To mitigate Energy Insecurity						
S. No.	Members	Infrastructure	Market Reforms/Deregulation	Trade	Financial Sector Reforms	Innovation
1	Argentina	✓				
2	Australia	✓				
3	Brazil	✓	✓			
4	Canada	✓	✓			✓
5	China	✓	✓			
6	EU	✓	✓			✓
7	France	✓	✓			
8	Germany	✓		✓		✓
9	India	✓	✓			
10	Indonesia	✓				✓
11	Italy	✓	✓		✓	✓
12	Japan	✓				
13	South Korea	✓	✓			
14	Mexico	✓				✓
15	Netherlands	✓	✓			
16	Saudi Arabia	✓	✓			
17	Singapore	✓				
18	South Africa		✓			
19	Spain	✓	✓			
20	Switzerland	✓	✓	✓		
21	Türkiye	✓	✓			

22	UAE		✓		
23	UK	✓	✓		
24	US		✓		

5. External Sector ²⁹³⁰			
S.	Members	Exchange Rate	Trade Measures
1	Argentina	✓	✓
2	Brazil		✓
3	China		✓
4	EU		
5	India	✓	✓
6	Indonesia		✓
7	South Korea		✓
8	Mexico		✓
9	South Africa		✓
10	Switzerland		✓
11	Türkiye		✓
12	UAE	✓	✓

²⁹ External Sector Policy measures include trade measures (e.g. FTAs, export/import policies), capital flow management measures and exchange rate policies.

³⁰ Question on survey: Please indicate specific external sector policies (1-2 policies) implemented to mitigate the impact of food and energy price shocks (e.g., trade policy, exchange rate and foreign exchange reserves policy, capital flow management, etc.).



VII. Annex 2: Targeted fiscal support measures put in place to counter food and energy price volatility

S. No.	Country	Policy Practices and their impacts ³¹
1.	Germany	<p>Policy Description</p> <ul style="list-style-type: none"> • Energy price brakes for gas, heat and electricity – smart design makes relief similar to individualised lump-sum transfers (non-price suppressing measure). • Targeted at households and companies . • Operational until April 30, 2024. <p>Outcome/Impact</p> <ul style="list-style-type: none"> • Has helped support disposable income without overcompensation. • Marginal costs and savings incentives remain unaffected. • Stabilization of expectations for households/ companies. • Fiscal costs dependent on actual prices (i.e. potentially lower than initial forecast). • Carefully designed to avoid (price) externalities on EU wholesale markets.
2.	France	<p>Policy Description</p> <ul style="list-style-type: none"> • An exceptional distribution of emergency food vouchers (approx. €100 in average), in Spring 2020. Exceptional energy vouchers & wood energy vouchers to 12 M and 2.6 M households respectively from the end of 2022. • For scholarship students, a €1 meal in university restaurants since August 2020 and extended to 2023. • An exceptional back-to-school aid of €100 for the most modest 8M eligible households. • €100 Fuel allowance targeted on the poorest households (10M eligible). <p>Impact</p>

³¹ Question on survey: A general view emerging from the FWG discussion indicates that policymakers may be faced with significant tradeoffs while designing macroeconomic and structural policies in response to volatilities in global food and energy markets. What are the most important policy trade-offs/challenges in the near term that you envisage for ensuring food and energy security in your country? (e.g., rising spending needs, difficulties in raising extra revenue, elevated debt levels, etc.).

		<ul style="list-style-type: none"> • Emergency aids helped to preserve purchasing power of the most vulnerable households. • Also helped limit the increase in inequalities in times of crises. • Energy support measures helped limit the transmission of rising energy prices to sales prices. • Reduced inflation by more than 2 ppts over 2022.
3.	Italy	<p>Policy Description</p> <ul style="list-style-type: none"> • Temporary repeal of fixed charges on electricity bills. • Increase in pension allowances, a social bonus in favour of families at risk of energy poverty. • One-off cash transfers to support middle and low-income households. • Reductions in social security contributions for payroll employees with an income up to € 35000. • Windfall profit tax on energy companies – to boost government chests. <p>Impact</p> <ul style="list-style-type: none"> • Muted impact of inflation on households' expenditure, was particularly lower for lower-income households.
4.	Mexico	<p>Policy Description</p> <ul style="list-style-type: none"> • Within its ongoing anti-inflationary programme (PACIC and APECIC) that was launched in May, 2022, increased support for small farmers with fertilizers and regulatory agreements with retailers on food prices. <p>Impact</p> <ul style="list-style-type: none"> • Lessened consumers' pass-through and helped stabilise the price of 24 essential food items.
5.	UAE	<p>Policy Description</p> <ul style="list-style-type: none"> • Restructured the social support programme for low-income citizens, in 2022. • Inflation Allowances introduced within the social welfare program to subsidise households for their food, energy and water costs.

		<ul style="list-style-type: none"> • A subsidy scheme to support fishermen. • Fuel subsidies as a short-term assistance to fishermen. <p>Impact</p> <ul style="list-style-type: none"> • Muted inflationary impact for low-income families and cushioned fishermen against surging fuel prices.
6.	Argentina	<p>Policy Description</p> <ul style="list-style-type: none"> • Fair Prices (Precios Justos); aimed at reducing inflationary expectations and attaining price stability in short term. • Establishes an average monthly price guideline of 3.2 percent until June 30, 2023 for 15 sectors of the economy. • Alimentary Allowance; monetary transfer to ensure access to healthy food for vulnerable population (currently, 4M beneficiaries). • Regulated lower price increases for fuel, electricity and gas for households and MSMEs. • Energy subsidies according to the economic capacity of households. <p>Impact</p> <ul style="list-style-type: none"> • Policy generated reference prices and price increase paths that will progressively allow for inflation deceleration. • Ensured food security for vulnerable families.
7.	Australia	<p>Policy Description</p> <ul style="list-style-type: none"> • A temporary \$12 per gigajoule gas price cap, applying to new wholesale gas contracts and gas sourced from developed fields. • Energy Bill Relief Fund worth up to \$3 billion to deliver targeted, temporary relief on energy bills to eligible Australian households and small businesses. <p>Impact</p> <ul style="list-style-type: none"> • Expected to reduce forecast gas and electricity price increases.
8.	Brazil	<p>Policy Description</p>

		<ul style="list-style-type: none"> • Cash-transfer program- “Bolsa Família” recreated in 2023 – enables transfer if additional BRL 200 to families in social and economic vulnerability situation • Reduced federal and state taxes to mitigate inflationary impacts of rising food and electricity prices. • In January 2023, a Provisional Measure, extended the exemption from federal fuel taxes until 31/12/2023 for diesel oil, biodiesel, liquefied petroleum gas and until 28/02/2023 for alcohol, aviation kerosene, vehicular natural gas, and gasoline. <p>Impact</p> <ul style="list-style-type: none"> • Kept inflation in check and increased disposable income of people.
9.	Canada	<p>Policy Description</p> <ul style="list-style-type: none"> • Doubled the Goods and Services Tax Credit for 6 months – provided approximately 11M low- and modest-income families an additional GST credit payment. • A one-time, direct tax-free payment of \$500 to 1.8 M low-income renters. • Refundable tax credit that tops up the income of about 3 M of the lowest-paid workers. <p>Impact</p> <ul style="list-style-type: none"> • Supported disposable income of households.
10.	Singapore	<p>Policy Description</p> <ul style="list-style-type: none"> • Implemented various cost-of-living support packages to provide targeted cost-of-living support, especially to those most in need including utilities rebates. <p>Impact</p> <ul style="list-style-type: none"> • Helped defray increases in households’ living expenses.
11.	UK	<p>Policy Description</p> <ul style="list-style-type: none"> • In the 2022-23, millions of the most vulnerable households are receiving £1200 of support through the £400 Energy Bill Support Scheme (EBSS). The Energy

		<p>Price Guarantee has also provided a support rate discount to all households with a domestic gas and/or electricity contract.</p> <ul style="list-style-type: none"> • £150 Council Tax rebate and one-off £650 cost of living payments for those on means-tested benefits, with additional targeted support of £300 for pensioners and £150 for individuals claiming disability benefits. • Support given to businesses, including Energy Bill Relief Scheme (EBRS) which provides a discount on wholesale gas and electricity prices until 31 March 2023. This was replaced by the Energy Bills Discount Scheme will provide eligible businesses with a discount on high energy bills until 31 March 2024, with businesses in sectors with particularly high levels of energy use and trade intensity receiving a higher level of support. <p>Impact</p> <ul style="list-style-type: none"> • Cushioned against inflation and secured disposable income.
12.	South Africa	<p>Policy Description</p> <ul style="list-style-type: none"> • Implemented the COVID-19 social relief of distress grant, extended to 31 March 2024 to support vulnerable households. • Reduction of the fuel levy announced for April and May 2022, extended to June and July 2022. <p>Impact</p> <ul style="list-style-type: none"> • Assisted households facing high food and energy prices. • Limited fuel price increases.
13.	EU	<p>Policy Description</p> <ul style="list-style-type: none"> • Increased support to regions and population groups most affected by food insecurity, pledging at least €2.5 billion for nutrition for 2021-2024. • Implemented set of measures, aiming at: reducing electricity demand, and collecting and redistributing the energy sector's excessive revenues to households and small- and medium-enterprises; introducing a new benchmark to increase transparency on gas prices, measures containing intra-day price

		<p>volatility, increasing liquidity for energy trades and enhancing solidarity gas rules among EU countries; ensuring delivery of electricity.</p> <ul style="list-style-type: none"> • € 500 mn in national allocations to directly support farmers most affected by higher input costs and closure of export markets. <p>Impact</p> <ul style="list-style-type: none"> • Reduced our gas consumption by around 15 percent. • Safeguarding food security for the most vulnerable groups.
14.	Indonesia	<p>Policy Description</p> <ul style="list-style-type: none"> • Subsidy (fertilizers) and social assistances for the targeted (poor and vulnerable groups). <p>Impact</p> <ul style="list-style-type: none"> • Might prevent increasing poverty.
15.	China	<p>Policy Description</p> <ul style="list-style-type: none"> • Since 2021, the Chinese government has allocated about 20 billion RMB (approximately 2.9 billion dollars) to provide a one-time subsidy for farmers to stabilize their income.
16.	Korea	<p>Policy Description</p> <ul style="list-style-type: none"> • Imposed zero tariffs on 7 major foodstuff imports including cooking oil and pork. • Provided KRW 30k max discount coupons for agro-fishery and livestock goods for each person to ease burden on households caused by soaring food prices. • Implemented the Emergency Livelihood Stabilization Subsidy and scaled up energy vouchers to prop up crisis response. • The Korean government expanded the benefits of the National Basic Living Security. • Fuel tax cut to maximum legal cap (-37 percent, e.g. gasoline price slash from KRW 820 to KRW 516 per litre). • More than doubled energy vouchers.

		<ul style="list-style-type: none"> • Tripled gas price cut for vulnerable groups such as the disabled, and persons of distinguished services to the state. <p>Impact</p> <ul style="list-style-type: none"> • Increase in household disposable income and stronger protection for vulnerable households. • Alleviated inflationary pressure.
17.	Saudi Arabia	<p>Policies description:</p> <ul style="list-style-type: none"> • In July 2021, The Kingdom announced a price cap policy for gasoline prices to maintain inflation levels and curb fluctuations in energy prices. • In July 2022, the Kingdom allocated about 20 billion riyals (around 5.3 Billion USD), of which 8 billion riyals (around 2.13 Billion USD) as an additional financial support for the beneficiaries of the Citizen Account Program. <p>Impact:</p> <ul style="list-style-type: none"> • Sustainability of prices in the energy sector. • Increase the purchasing power of individuals. • Supporting the Kingdom's economic growth while maintaining reasonable inflation rates. According to the IMF Statement of the 2023 Article IV Mission. Saudi Arabia was the fastest growing among the G20 economies, while During 2023, headline inflation will be contained, with the consumer price index averaging 2.8 percent.
18.	Türkiye	<p>Policy Description</p> <ul style="list-style-type: none"> • A subsidy policy has been implemented to protect households and SMEs from rising energy costs. <ul style="list-style-type: none"> ○ In 2022, around 80 percent of natural gas bills for households and 69 percent of natural gas bills for SMEs were subsidized by the state. Electricity was delivered to households below cost by about 55 percent in 2022.

		<ul style="list-style-type: none"> ○ In addition, Türkiye has a social program that provides support for electricity bills. The program has started in 2019. It is calculated based on the number of people in the household. Maximum support is 150 kWh. The beneficiaries of this aid are low-income people over the age of 65, and the disabled or elderly pension recipients. ○ Moreover, natural gas aid was started at the beginning of 2022. The beneficiaries of this aid are also low-income people. The amount of support is between 900 TRY and 2.500 TRY and is paid twice a year. ○ Lastly, taxes on electricity bills have been declined. At the beginning of 2022, the 2percent Turkish Radio and Television Corporation (TRT) share and 0.7 percent Energy Fund Fee collected from the electricity bill were abolished to support the consumer. VAT rates for electricity used in residences and electricity used by our farmers for irrigation were reduced from 18 percent to 8 percent in 2022. ● A subsidy policy has been implemented to protect households from rising food prices. <ul style="list-style-type: none"> ○ Bread wheat, barley and corn are sold by Turkish Grain Board (TMO) to sustain prices of bread, meat and milk at an acceptable level. The total budget allocated to the Board was raised to nearly 23 billion TRY in 2022. ● A support program has been implemented to protect agricultural producers from rising agricultural input costs. <ul style="list-style-type: none"> ○ To decrease the burden of the cost of agricultural inputs on agricultural producers, to minimize the effects of global input price increases and to prevent yield loss and supply-related inflation total budget for agricultural supports in 2022, which was initially 25,8 Billion TRY, was raised to 39,7 Billion TRY and will be 55,5 Billion TRY in 2023 with a raise of 115 percent compared to 2022. <p>Impact</p>
--	--	--

		<ul style="list-style-type: none"> • Protection of households and producers facing high food and energy prices • Limited fuel price increases
19.	India	<p>Policy Description</p> <ul style="list-style-type: none"> • Implemented phased reduction in excise duty of petrol and diesel twice during Nov 2021 and May 2022. • Subsidies on Kerosene and cooking gas, for example, Ujjwala 2.0. • Additional subsidies to poor and vulnerable households. • ‘Pradhan Mantri Garib Kalyan Ann Yojana’ on 1 January 2023 to provide free food grains to more than 800 million beneficiaries. <p>Outcome</p> <ul style="list-style-type: none"> • Diesel prices in India between December 2021 and December 2022 rose by only 3 percent. • Under Ujjwala 2.0 scheme, 16 million connections have been released through 24 November 2022. • Protection for vulnerable households.