

BOX 4.2 Food price volatility and inflation in low-income countries

Inflation in low-income countries (LICs) increased in the run-up to, and following, the outbreak of COVID-19. The rise has been largely driven by increases in food prices and currency depreciations. Higher prices for food, which accounts for about half of consumption in LICs, threaten to increase poverty. In the near term, further rises in global agricultural prices are likely to add to inflationary pressures in LICs. Subsequently, an expected stabilization of commodity prices and moderate demand growth are likely to result in a gradual decline in consumer price inflation in these economies. A more persistent rise in agricultural commodity prices, or pressure to finance large fiscal deficits, could risk ingraining higher inflation into expectations and may warrant tighter monetary policy. In addition, attempts to lower food price inflation through price subsidies in a large number of countries, or the re-emergence of protectionist policies, could drive global prices higher and prove to be self-defeating.

Introduction

Inflation in low-income countries (LICs) has declined over the past three decades. The COVID-19 pandemic has been associated with a sharp growth slowdown in LICs, accompanied by rising consumer price inflation. The inflation pickup in 2020 predominantly reflected rising food price inflation. Rising inflation, particularly when driven by sharp increases in food prices, raises poverty, increases malnutrition, and curtails the consumption of essential services such as education and health care (IDA 2020; Laborde, Lakatos, and Martin 2019; World Bank 2011a). In addition, LICs face larger challenges in controlling inflation than other emerging market and developing economies (EMDEs) due to weaker policy frameworks and less developed financial systems; higher volatility of output and demand; and the larger influence of global commodity prices, particularly agricultural prices (Ha et al. 2019b).

The persistence of the recent rise in LIC inflation will depend upon the persistence of its drivers and the response of policy makers. The inflationary impact of one-off rises in commodity prices or currency depreciation may dissipate provided inflation expectations remain anchored and institutional credibility is sufficient. However, further upward momentum for commodity prices, or overly accommodative monetary policy, perhaps influenced by fiscal objectives, could lead to more persistent increases in inflation.

In light of these challenges, this box addresses the following questions:

- How has inflation evolved in LICs during the pandemic?
- What are the prospects for inflation in LICs?

- What are the implications of rising inflation for food security?

Recent inflation developments in LICs

Inflation before the pandemic. LICs have made large strides in price stabilization over the past three decades, lowering inflation from 25 percent in 1994 to 3.4 percent in 2019 as policy frameworks improved and demands for deficit financing on central banks were reigned in (Ha, Kose, and Ohnsorge 2019). Nevertheless, inflation has been persistently higher in LICs than in other EMDEs, at 4.4 percent since 2018, compared to just 2.7 percent in EMDEs (figure B4.2.1.A).^a Historically, higher rates of inflation in LICs have been attributed to monetary financing of deficits and frequent negative supply shocks (Baldini and Poplawski-Ribeiro 2011; Weidmann 2013). More recently, inflation in LICs accelerated ahead of the outbreak of the pandemic as a result of a sharp increase in global food price inflation that started from the second half of 2019, rising from 3.5 percent in May 2019, to 3.9 percent in January 2020, before national lockdowns became widespread.

Rising inflation in 2020 in LICs. Whereas inflation in advanced economies and EMDEs fell after the widespread implementation of restrictions on movement across the world, median inflation in LICs rose from 3.9 percent in January 2020 to a new peak at 5.6 percent in April 2020 (figure B4.2.1.B). The pickup in inflation over this period affected the majority of LICs and ranged up to 5 percentage points. Since September 2020, inflation has somewhat moderated to approximately its level in 2019. As a result, LIC inflation for 2020 as a whole increased by 1.1 percentage points from the previous year, although remains about a percentage point below its average over 2015-2019.

Note: This box was prepared by Jongrim Ha and Gene Kindberg-Hanlon. It rests on monthly data for consumer price inflation in 20 economies that have been classified as LICs at least once since 2019.

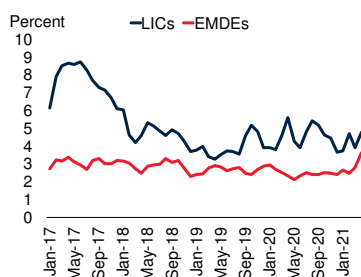
a. See World Bank (2018) for the long-term trend of inflation in LICs over the last five decades.

BOX 4.2 Food price volatility and inflation in low-income countries (continued)

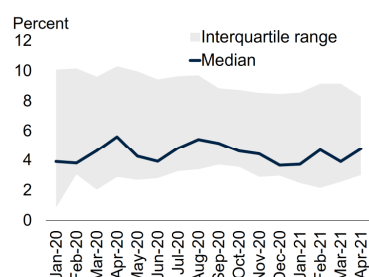
FIGURE B4.2.1 Inflation developments in LICs

Inflation has on average been higher in LICs relative to other EMDEs. In contrast to inflation in other EMDEs, inflation in LICs increased in both the months ahead of, and following, the announcement of widespread lockdown measures in March 2020. For 2020 as a whole, inflation in LICs rose by 1.1 percentage points as a result of rapid inflation of the price of food, which accounts for nearly half of consumption in LICs. A recent surge in agricultural commodity prices may add to inflationary pressures in LICs in the near term.

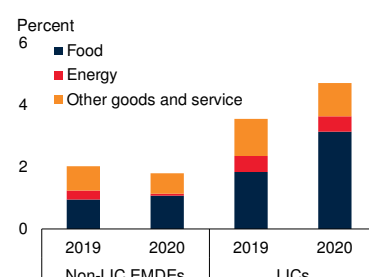
A. Median inflation in LICs and EMDEs: 2017-21



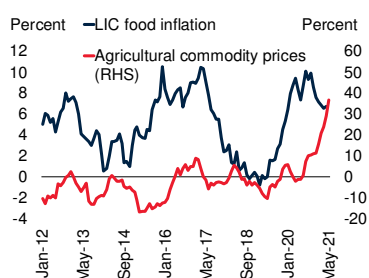
B. Inflation in LICs: 2020-21



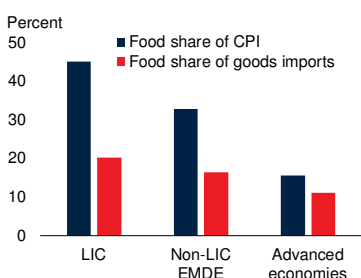
C. Contribution of food and energy prices to inflation



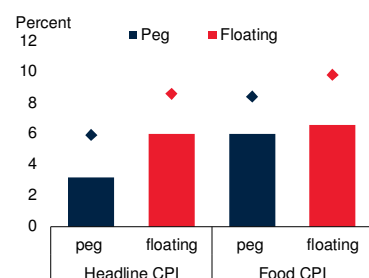
D. Agricultural commodity prices and food price inflation in LICs



E. Share of food in goods imports and consumption



F. Exchange rate adjustment and inflation



Sources: Havers Analytics; International Monetary Fund; National sources; World Bank.

Note: EMDEs = emerging market and developing economies; LICs = low-income countries.

A, B. Based on headline consumer price inflation for up to 20 LICs and 80 EMDEs.

C. Sectoral headline consumer price index (CPI) inflation rates are based on median across 111 countries in 12 sectors. Sectors are categorized following International Financial Statistics. Food indicates food and nonalcoholic beverages and alcoholic beverages, tobacco, and narcotics sectors. Energy indicates housing, water, electricity, gas and other fuels. Other goods include clothing and footwear, furnishings, household equipment and routine household maintenance sectors. Service sector includes health, transportation, communication, recreation, education, restaurants, and miscellaneous sectors.

D. Average food and nonalcoholic beverage price inflation in up to 10 LICs and annual growth in the nominal agricultural commodity price (from the World Bank's Pink Sheet).

E. Weight of food and nonalcoholic beverages in the CPI and share of total merchandise imports.

F. Bars (diamonds) indicate headline and food CPI inflation in 19 LICs based on simple median (simple average) by de facto exchange rate regime as defined in Klein and Shambaugh (2010). Peg indicates LICs with fixed exchange rates.

Rising agricultural commodity prices. One of the primary drivers of the rise in consumer prices ahead of and following the COVID-19 pandemic was rising food prices.^b In 2020, food prices contributed 1.3 percentage points to inflation in LICs, explaining most of the increase in headline inflation from 2019; this compares with an

increase in the contribution of just 0.2 percentage point in other EMDEs. In contrast, the contribution of the energy sector and other goods and services was little changed or declined in LICs in 2020 (figure B4.2.1.C).

Agricultural commodity prices rose sharply in 2020, driven largely by increasing prices of meals and oils (+16 percent) and grains (+5 percent) (figure B4.2.1.D). Strong demand, some weather-related supply disruptions, and the threat and enactment of export restrictions in some major

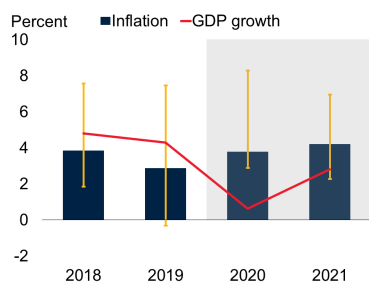
b. In April 2020, rice prices rose 32 percent above April 2019 levels. By November 2020, wheat prices were 11 percent higher, while soybean prices were 33 percent higher than in November 2019.

BOX 4.2 Food price volatility and inflation in low-income countries (continued)

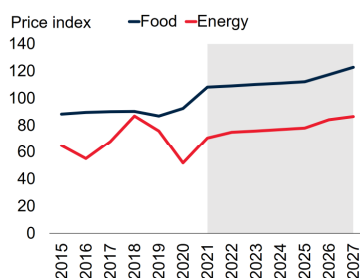
FIGURE B4.2.2 Outlook for inflation in LICs

Following a sharp slowdown in growth in 2020, LICs are expected to experience a modest recovery in 2021-23. LIC inflation is expected to rise in 2021 as a result of the recent acceleration in food prices. The dispersion of forecasts remains large, however. Global agricultural prices are forecast to remain elevated in the coming years, amid continued high demand for staples, but the pace of growth will slow as COVID-related disruption, including trade restrictions, dissipates. Inflation is subsequently likely to moderate in 2022 owing to weak domestic demand.

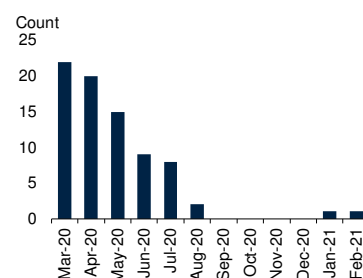
A. GDP growth and inflation forecast



B. Commodity price forecasts



C. Food export restrictions in place



Sources: International Monetary Fund; Labord, Mamun, and Parent (2020); World Bank.

A. Median and interquartile range of consumer price growth forecasts among 19 LICs in the IMF's April 2021 *World Economic Outlook* and World Bank's June 2021 *Global Economic Prospects* forecast for GDP growth in LICs.

B. Nominal commodity price forecasts in the World Bank's April 2021 *Commodity Market Outlook*.

C. Number of restrictions on the export or import of food in place. Data on announcements available to end-November 2020.

grain producers added to price pressures. In LICs, food accounts for about half of consumption baskets and 20 percent of goods imports, a larger share than in other EMDEs (figure B4.2.1.E). There is therefore a strong relationship between globally determined agricultural commodity prices and LIC inflation; the correlation between agricultural prices and food price inflation in LICs is about 40 percent.

Exchange rate depreciation. Alongside rising agricultural commodity prices, exchange rates in some LICs depreciated at the start of the pandemic. Between December 2019 and April 2020, exchange rates in LICs depreciated by between 1 and 8 percent. The pass-through of depreciation into inflation tends to be stronger in LICs than in other EMDEs (Ha et al. 2019a). Indeed, inflation in LICs with floating exchange-rate regimes was two percentage points higher than in LICs with fixed exchange rate regimes in 2020 (figure B4.2.1.F).^c

Price pressures due to conflict, and policy uncertainty. In fragile and conflict-affected LICs (including Chad and

Haiti) and those experiencing high levels of political uncertainty (Ethiopia), inflation was higher by two percentage points on average in 2020 than in other LICs. Food supply insecurity during the pandemic coincided with episodes of natural disasters and large-scale internal violence, including civil wars, in some LICs (FSIN and GNAFC 2021; WFP and FAO 2021).^d

Inflation prospects in LICs

Inflation in LICs is likely to face offsetting pressures in the future. The recovery in LICs is expected to be subdued with growth returning only to its pre-COVID average and per capita incomes still below pre-pandemic levels in 2022. On the upside in the near term, the recent pickup in global agricultural and energy prices may pass more fully through to LIC inflation in the remainder of 2021. Overall, LICs are likely to face rising aggregate and food price inflation in 2021, which is expected to subsequently gradually decline. However, the outlook is highly

c. This is based on a de facto exchange regime as defined in Klein and Shambaugh (2010).

d. Conflict is estimated to be the main driver of food insecurity for over 120 million people in 2020 (FSIN and GNAFC 2021).

BOX 4.2 Food price volatility and inflation in low-income countries (continued)

uncertain and will depend on a range of factors, including the monetary policy response.^e

Weak recovery in output. LICs are expected to experience a modest recovery in 2021–22. Until 2022, growth is expected to be weaker than average growth during 2010–19 (figure B4.2.2.A; box 1.3). In line with a weak recovery in demand, domestic price pressures are likely to remain subdued, such that inflation will decline as the effects of commodity price increases fade.

Recent rapid rise in agricultural prices. Agricultural commodity prices have grown rapidly; as of May 2021, agricultural commodity prices were 37 percent higher than a year ago, the fastest price increase since 2011. The historically rapid pass-through from commodity prices to domestic food price inflation, along with the prospect of a modest recovery in demand, and oil price increases suggests a further increase, albeit moderate, in LICs inflation in the remainder of 2021 (figure B4.2.2.B; chapter 1). Absent other shocks, a stabilization of agricultural prices later in 2021 may allow for a slowdown in LIC inflation in 2022 and beyond.

Food security: The implications of rising food prices during the pandemic

In the near term, rising food prices and accelerating aggregate inflation are likely to compound increasing food insecurity in LICs. In addition to rising food prices and inflation, lost income due to the pandemic, ongoing or intensifying conflicts or political instability has led to a surge in food insecurity in 2020 and 2021. The number of people experiencing a food shortage crisis increased from 135 million in 2019 to about 165 million people in 2020 (FSIN and GNAFC 2021; WFP and FAO 2021). Many cases of rising food insecurity are in LICs (table 4.1).

Food supply disruptions. Globally, food price inflation increased, from 2.4 percent in 2019 to 3.5 percent in 2020 reflecting higher commodity prices, domestic supply disruptions, outright hoarding, and depreciations that raised the price of imported foods. Pandemic-related restrictions on movement and labor supply damaged food production and distribution (IFPRI 2021). Export and import restrictions contributed to food supply disruptions, although most restrictions are no longer in force (figure

B4.2.2.C). Food price increases also followed previous pandemics and other natural disasters (Ebrahimy, Igan, and Peria 2020). LICs are particularly vulnerable to these disruptions, as poor transport links prevent the adaptation of supply chains, and food comprises a large share of household consumption (Bleaney and Francisco 2018; Cachia 2014; Ha, Kose, and Ohnsorge 2019). As a result, poorer households—which are more prevalent in LICs than in other EMDEs—may suffer greater welfare losses from food and other types of inflation than wealthier households. An erosion of their real incomes and assets through inflation could tip these households into extreme poverty.^f

Potential spillovers of food prices to inflation in other sectors. Higher and more volatile inflation in LICs than in other EMDEs partly reflects the poorer anchoring of inflation expectations that allow fluctuations in food prices to spill over into inflation in other sectors.^g In addition, exchange rates in LICs tend to be more volatile than those in other EMDEs, in part reflecting the greater frequency of supply shocks in LICs (World Bank 2020b). With inflation expectations poorly anchored, households in LICs are less able to protect the real value of their income and assets from the impact of persistent and elevated inflation (Ha et al. 2019b; World Bank 2020b).

Shocks to income. In addition to rising prices of staple foods, poorer households experienced a severe negative income shock due to COVID-19. The number of people living on less than \$1.90 a day is estimated to have risen by 119–124 million in 2020 (Lakner et al. 2021). In some cases, the large concentration of production in agriculture in LICs can result in boosts to household income following rises in agricultural prices. However, the net impact of higher prices has been found to result in increasing poverty among LIC households, including during the last major rise in agricultural commodity prices in 2010–11 (Ivanic and Martin 2008; Ivanic, Martin, and Zaman 2012).^h

e. This is consistent with the prospects for global and EMDE inflation based on survey-based inflation expectations and central-bank forecasts.

f. The literature provides empirical evidence that higher inflation is associated higher income inequality, or with a lower share of income held by the poor (Datt and Ravallion 1998; Siami-Namini and Hudson 2019).

g. The effectiveness of monetary policy in LICs remains limited—arising from higher economic volatility and pervasive use of administered pricing, conflicts among central bank policy objectives, and limited analytical capacity at central banks (Mishra and Monteil 2013; World Bank 2020b).

h. Longer term, rises in food prices have been found to boost wages and profits in food producers as output adjusts (Ivanic and Martin 2014).

BOX 4.2 Food price volatility and inflation in low-income countries (*continued*)

Policy options

High inflation in LICs, driven by rising food prices, COVID-related supply disruptions, and to some extent, currency depreciation, is likely to increase poverty in LICs. A key objective for policy makers could be to ensure that rising inflation rates do not lead to a de-anchoring of inflation expectations and the further erosion of real household income. Subsidies or price controls to reduce the burden of rising food prices may appear attractive but carry the risk of increased strains on the fiscal balance of highly indebted governments, and also risk adding further upward pressure on global agricultural prices.

Response to more persistent or broad-based price rises. While many LICs responded to the pandemic by cutting policy rates in 2020, some LICs (Mozambique, Tajikistan) started to raise interest rates in 2021. In LICs with large economic slack and below-target inflation, continued monetary easing and fiscal support can help the recovery gain traction and raise inflation towards the target. Furthermore, in LICs where inflation rises above target due to temporary commodity price rises but noncommodity goods and services inflation remains weak, there may be continued scope for accommodative monetary policy. In 2020, there was little evidence of a broad-based increase in non-commodity inflation in LICs, although this could rapidly change (figure B4.2.1.C). In LICs where the economic recovery from the pandemic is further advanced, or where there appears to be a broad-based or persistent increase in commodity prices, authorities could consider monetary policy tightening.

Monetary policy independence and credibility. Inflation in LICs has fallen substantially in recent decades, mirroring a broader decline in inflation in EMDEs more generally. Nevertheless, monetary policy transmission in LICs remains limited (Mishra and Montiel 2013). LICs could continue to improve monetary policy frameworks to prevent rises in inflation from becoming ingrained and persistent. By stabilizing output fluctuations that disproportionately hurt the poor, the adoption of a credible monetary policy regime that maintains low and stable inflation may help reduce poverty and inequality (Romer and Romer 1999).

In part, historical falls in inflation in LICs were achieved through reduced demand for deficit monetization as debt burdens and deficits in LICs declined after the 1980s (Ha, Kose, and Ohnsorge 2019). Rising debt burdens and fiscal deficits in LICs in the run-up to, and following, the COVID-19 pandemic may increase risks that monetization is pursued to a greater degree once again, in particular in an environment of rising global and domestic interest rates. Average debt-to-GDP ratios in LICs increased by 6 percentage points in 2020, while average debt-to-GDP ratios currently stand at nearly 70 percent. While they are expected to gradually decline from 2021 onwards, further adverse shocks could result in rising deficit financing requirements (World Bank 2021a).

Risks of food price subsidies and export restrictions. Previous food price spikes led to large increases in poverty, with the 2010-11 price spike estimated to have increased the global number of those in poverty by 8.3 million (Laborde, Lakatos, and Martin 2019). The recent increase in agricultural commodity prices, a 37 percent annual increase, is the largest since 2011 when inflation peaked at 39 percent. Even before the COVID-19 crisis, many LICs imposed price controls on food products, although the share of food subjected to controls in consumption baskets is small (Guénette 2020). Many governments have turned to subsidies and export restrictions to lower domestic food prices in previous food price spikes; however, these insulating policies can often exacerbate global price spikes, increasing the demand for food (subsidies) or reducing their supply (export restrictions). In 2011, insulating policies were estimated to have contributed 25-40 percent of the increase in global maize and wheat prices (Laborde, Lakatos, and Martin 2019). Export restrictions imposed in 2020 in South Asia contributed to logistical bottlenecks and resulted in rising prices for key food staples for the region as a whole (World Bank 2021c). Countercyclical purchases of nonperishable agricultural commodities when prices are low, and targeted, rather than blanket subsidies, are less likely to contribute to higher global food prices.

Measures to reduce food insecurity. To reduce the impact of rising food prices and the repercussion of COVID-19 for food security, a range of measures can be taken, including scaling up social safety net programs and ensuring the distribution of, and access to, food. Targeted social protection measures, such as cash and food transfers, may mitigate the impacts of the pandemic on food security with fewer adverse impacts on global food prices than price and export controls. Such measures have been substantially increased since the start of the pandemic in EMDEs and some LICs (Gentilini et al. 2020). However, LICs may face larger challenges than other EMDEs in delivering and developing sources of revenue for these transfers, requiring technical and financial assistance. International support for improved logistical capabilities and to ensure the climate resilience of local food supply can contribute to both near- and longer-term food security in LICs (IDA 2020).

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