

Abrupt surges in the prices of food, energy, and other basic necessities have become a recurring source of economic and social stress across countries. As the global economy becomes more exposed to geopolitical tensions, climate-related disruptions, and other supply shocks, policymakers are increasingly confronted with difficult trade-offs among protecting vulnerable households, preserving price signals, maintaining fiscal sustainability, and safeguarding macroeconomic stability. This chapter examines the anatomy of cost-of-living crises, the policy responses adopted in past crisis episodes, and the lessons they offer for a more shock-prone world. The analysis shows that these crises can have disproportionately large consequences for lower-income households. Targeted and temporary transfers are the most effective way of protecting the most vulnerable from a spike in the cost of basic necessities while facilitating the necessary demand adjustment and preserving fiscal space. Providing the same protection through measures that suppress prices can require between 3 and 22 times the amount of fiscal resources, and the measures can become ineffective when fiscal space is limited or when many countries implement subsidies simultaneously.

Introduction

The rising cost of living has emerged as a major concern for households across much of the world in recent years (EP 2023; OECD 2023; Ipsos 2026). Central to this concern have been abrupt increases in the prices of basic necessities—food, transport, and housing-related expenses, including energy utilities—following major disruptions to global commodity markets, including those since Russia’s invasion of Ukraine

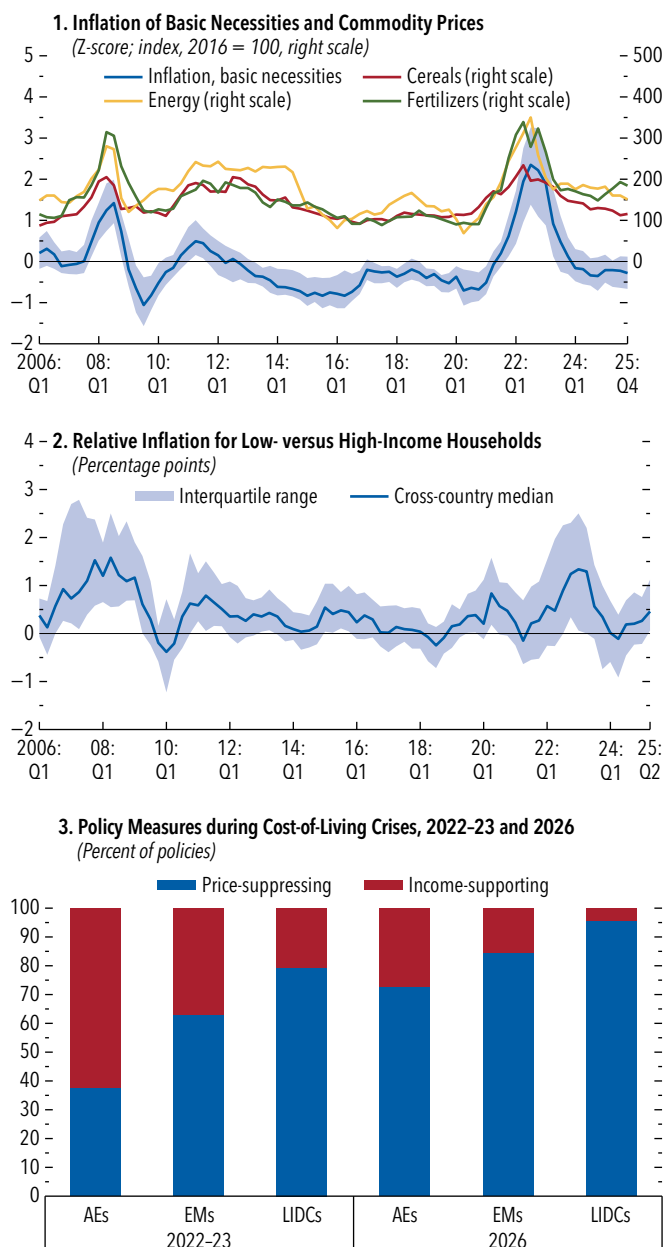
The authors of this chapter are Marijn A. Bolhuis, Braulio Britos, Bertrand Gruss (co-lead), Chiara Maggi (co-lead), Galip Kemal Ozhan, and Sihwan Yang, with support from Maryam Abdou, Owen Russell Desberg, Riya Varghese, and Yarou Xu. Adeleke Hakeem Adeyemi provided technical and computational assistance. The work in this chapter is partly supported by the Macroeconomic Research in Low-Income Countries program of the United Kingdom’s Foreign, Commonwealth and Development Office (FCDO) and the Macroeconomic Research on Climate Change and Emerging Risks in Asia program of the Ministry of Economy and Finance of the government of the Republic of Korea.

in 2022 and during the conflict in the Middle East in 2026. Events marked by severe surges in the prices of basic household necessities have been relatively infrequent but are not unprecedented, with the global food crisis in 2007–08 being a notable earlier episode (Figure 2.1, panel 1). Because demand for the goods and services that are considered basic needs for households is highly inelastic, even temporary spikes in the prices of those goods and services can impose substantial welfare losses when households cannot borrow or draw on liquid savings to smooth consumption. Moreover, these losses fall disproportionately on lower-income households, which devote a larger share of their spending to basic necessities and therefore must deal with significantly stronger cost-of-living pressures during such episodes (Figure 2.1, panel 2). These events also threaten macroeconomic stability and create difficult policy trade-offs through their effects on headline inflation, inflation expectations, and economic sentiment.

As a result, these cost-of-living crises are highly salient social and political events that often precipitate costly ad hoc policy interventions, even when fiscal space is already limited. During the 2022–23 cost-of-living crisis, for example, many countries complemented monetary tightening with a range of measures, including transfers to households, price caps, subsidies, tax cuts, and export restrictions (Arregui and others 2022; Amaglobeli and others 2023; Sgaravatti and others 2023). These interventions were frequently introduced rapidly, came amid mounting political pressure and protests (Hossain and Hallock 2022), and consisted largely of broad-based and untargeted measures—at odds with standard policy recommendations (Amaglobeli and others 2022).¹ Policy actions observed so far in 2026 point to a similar pattern (Amaglobeli and others 2026; Dabla-Norris and others 2026; Figure 2.1, panel 3). Beyond political pressure and distributional concerns, policymakers have also justified intervention on macroeconomic grounds,

¹For analysis of the effectiveness of policies during the 2022–23 episode, see, for instance, Dao and others (2023), Auclert and others (2024), Erceg and others (2024), and Lemoine, Petronevich, and Zhutova (2024).

Figure 2.1. Surges in Cost of Basic Necessities over Time and across Income Quintiles, and Policy Responses



Sources: Amaglobeli and others 2023; Eurostat, Household Budget Surveys; IMF, Primary Commodity Prices database; IMF, Consumer Price Index dataset; IMF Global Policy Tracker; Kpodar and Liu 2022; Luxembourg Income Study Database; national sources; and IMF staff calculations.

Note: In panel 1, the blue line represents the median z-score of inflation in the prices of basic necessities across countries and the shaded area the interquartile range. Basic necessities include Classification of Individual Consumption According to Purpose (COICOP) categories "Food and non-alcoholic beverages," "Housing, water, electricity, gas, and other fuels," and "Transport." Panel 2 shows the cross-country distribution of the difference between year-over-year consumer price index inflation experienced by households in the lowest and highest income quintiles. Panel 3 shows the relative share of "price-suppressing" and "income-supporting" policies implemented by country income group. Information on policies in 2026 is updated until June 2026. See Online Annex 2.1 for details on the sample composition. AEs = advanced economies; EMs = emerging markets; LDCs = low-income developing countries.

arguing that sharp increases in salient prices could de-anchor inflation expectations, trigger second-round effects, and weigh on consumer sentiment (Bénassy-Quéré 2024).

As the global economy becomes more prone to shocks (Georgieva 2022; Gopinath 2024), it is increasingly important to understand how policymakers should respond to cost-of-living crises. Taking as given that policymakers seek to respond to episodes of such crises, this chapter examines how different macroeconomic stabilization policies can help economies cope with sudden and acute increases in the cost of basic necessities while balancing the trade-offs among preserving price signals, which encourage the demand adjustment needed to restore market balance; protecting vulnerable households; maintaining fiscal sustainability; and safeguarding macroeconomic stability. To achieve this objective, the chapter seeks to address the following questions:

- *Anatomy of cost-of-living crises.* How widespread, frequent, and heterogeneous have cost-of-living crises been across countries and over time? What have been their main drivers? How have key macroeconomic variables evolved, and how have outcomes for different segments of the population varied during episodes of such crises?
- *Policy responses and their effectiveness.* What measures have policymakers used to respond to cost-of-living crises? How have their responses differed across episodes and country groups, and how effective have they been in reaching affected households?
- *Toolkit for a shock-prone world.* Looking ahead, how should policymakers prioritize their available fiscal policy tools when responding to cost-of-living crises? Under what circumstances are different fiscal interventions warranted, and what trade-offs do they entail?

To answer these questions, the chapter employs an array of empirical evidence and model-based analysis. It begins by examining the prevalence, drivers, and macroeconomic and distributional consequences of cost-of-living crises over the past two decades. It then documents the policy measures deployed during these episodes and assesses the effectiveness of those measures in influencing macroeconomic outcomes and the role of the measures in cushioning the impact of the crises on affected households. Finally, the chapter uses a novel model framework to evaluate the effectiveness and costs of fiscal measures employed in past crisis episodes and draw lessons for how these interventions

should be prioritized when a response is deemed necessary to protect vulnerable households.²

The chapter's main findings are as follows:

- *Cost-of-living crises are infrequent but can severely affect households and threaten macroeconomic stability.* Typically triggered by shocks that disrupt global commodity markets, episodes of such crises are characterized by sustained increases in the relative prices of basic necessities and declines in real wages. Inflation expectations, even at medium-term horizons, also increase persistently, creating difficult policy trade-offs.
- *The burden of cost-of-living crises falls disproportionately on lower-income households.* Because low-income households devote a larger share of spending to basic necessities, they experience significantly higher inflation during cost-of-living crises relative to higher-income households. Accounting for the inflation experienced by poorer households also suggests that substantially more people fell below the poverty line in emerging market and developing economies during 2021–24 than implied by measures based on aggregate inflation.
- *Fiscal policy can help cushion the impact of cost-of-living crises on the most vulnerable households, but the design of support measures requires careful consideration.* During past episodes, countries—particularly emerging market economies and low-income developing countries—relied heavily on broad-based price-suppressing interventions, including reductions in consumption taxes, price subsidies, and price controls. When income-supporting measures were deployed, they often relied on broad rather than targeted instruments. The chapter shows that targeted transfers are the most cost-effective way of supporting vulnerable households. They preserve price signals, facilitate necessary adjustment in demand, and safeguard critical fiscal space. Achieving a comparable degree of protection through price-suppressing measures can require between 3 and 22 times the fiscal resources, depending on the country characteristics and the source of the shock. Although subsidies can provide support in the near term, their benefits for low-income households are generally outweighed by subsequent fiscal consolidation costs. Moreover, the effectiveness of subsidies declines

when fiscal space is limited, and they can become counterproductive when many countries deploy them simultaneously.

- *Emerging market and developing economies face starker policy trade-offs than advanced economies.* Because food and other basic necessities account for a larger share of household spending, providing support to vulnerable households can be particularly costly in these economies, underscoring the importance of targeted interventions. When countries have limited fiscal space to respond, the relative cost-effectiveness of targeted transfers is magnified, and the fiscal burden associated with broad-based subsidies can ultimately outweigh their near-term benefits for vulnerable households. In past episodes, however, these economies—particularly low-income developing countries—relied extensively on broad-based interventions, likely reflecting limitations in their social protection infrastructure.

Cost-of-Living Crises: A Primer

This chapter defines *cost-of-living crises* as episodes in which the prices of basic necessities rise sharply and abruptly, outpacing both the prices of other goods and services and nominal wage growth. Such episodes are typically triggered by adverse supply shocks that raise the relative price of necessities, whether those shocks are global in nature—such as extreme weather events affecting major agricultural producers, geopolitical tensions, wars, or supply-chain disruptions—or country specific, such as local weather shocks.

Two characteristics can make cost-of-living crises more consequential and distinguish them from other inflationary episodes. First, demand for basic necessities is highly inelastic, as consumers cannot easily substitute for these goods and services or wait for their prices to fall. Second, basic necessities account for a large share of household spending, especially among lower-income households. In the median advanced economy, these necessities represent about 50 percent of total consumption for high-income households and 70 percent for low-income households. In the median low-income developing country, the corresponding shares are about 70 and 80 percent, respectively (Online Annex Figure 2.2.2).³ Together, these characteristics suggest that cost-of-living crises can have greater welfare and distributional consequences than shocks that raise the

²See Chapter 2 of the October 2024 *World Economic Outlook* for a discussion of how the interaction of demand pressures with supply bottlenecks affected the trade-offs faced by monetary policy during the 2022–23 inflationary episode.

³All online annexes are available at www.imf.org/en/Publications/WEO.

relative price of nonessential goods and services or inflationary episodes driven by demand pressures.

A supply shock that drives a surge in the relative prices of basic necessities ultimately requires some adjustment in demand to restore market balance. Policy interventions cannot eliminate the need for this adjustment and should instead seek to facilitate it while cushioning the impact on vulnerable households and preventing broader macroeconomic instability. Regarding monetary policy, the textbook prescription is to look through temporary spikes in headline inflation caused by supply shocks while remaining ready to tighten the policy stance if inflation expectations begin to drift upward or risks of second-round effects emerge (Humpage 2008; Borio and others 2021; Gopinath 2024). Addressing the distributional consequences of these shocks is primarily the role of fiscal policy. Automatic stabilizers and social safety nets would be the first line of defense for protecting households amid supply shocks within the range of historical experience. However, social protection systems may be underdeveloped in some countries and, even where well developed, may not be well equipped to absorb exceptionally severe and disruptive shocks. In practice, policymakers have often resorted to ad hoc discretionary interventions when sharp increases in the prices of basic necessities have threatened food security, social cohesion, or macroeconomic stability. Even when the risks associated with such developments may warrant some discretionary measures, fiscal support at odds with initial monetary conditions (notably when inflation is above target and inflation expectations are drifting) could jeopardize disinflation efforts, accentuating cost-of-living pressures (see, for instance, Chapter 2 of the April 2023 *Fiscal Monitor*).

For the purposes of this chapter, *basic necessities* comprise food, transport, and housing-related expenses, including utilities such as electricity, gas, and other fuels.⁴ Some consumption categories are also important for household well-being but are not the focus of this chapter. Although a deep dive into housing markets is beyond the scope of the chapter, Box 2.1 analyzes the evolution of rents during cost-

of-living crises, the distributional implications of this evolution, and its relationship with monetary policy. Health care, childcare, and education are likewise important for household welfare, and their relative prices may exhibit persistent upward trends, the strength of which may vary across countries. However, these sectors are generally less susceptible to sudden and sharp price surges, partly because the prices of their underlying goods and services are often shaped by public provision or regulation, and so are not included among the basic necessities considered in this chapter. More broadly, this chapter focuses on abrupt and transitory shocks to the cost of basic necessities rather than on slow-moving increases arising from structural factors, such as restrictive regulations, limited competition, demographic trends, or chronically high inflation. Although these forces can also have important welfare and distributional consequences, they typically require structural reforms and durable policy adjustments rather than emergency support measures.

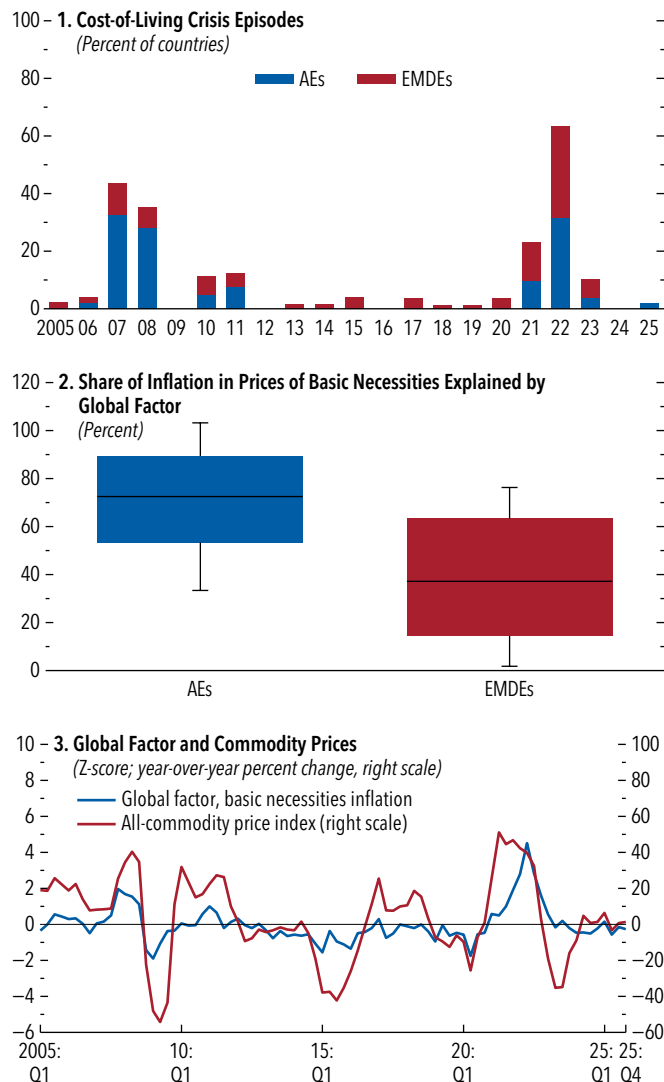
Anatomy of Cost-of-Living Crises

An operational definition of cost-of-living crises uses disaggregated consumer price indexes for 85 advanced and emerging market and developing economies over 2005–25 to identify the onset of crisis episodes at the country level. More precisely, a country is considered to have entered a cost-of-living crisis when the quarter-over-quarter increase in the prices of basic necessities is two standard deviations above its country-specific mean and the increase in the prices of other goods and services, as well as the quarter-over-quarter growth rate of nominal wages, is below that threshold and remains below it for two subsequent quarters (see Online Annex 2.2.1).⁵

Most economies (75 out of the 85 studied) experienced at least one cost-of-living crisis between 2005 and 2025, with 46 percent experiencing at least two episodes and 13 percent more than two. Significant clustering of episodes occurred around 2007–08, during the food price shock that preceded the global financial crisis; in 2022–23; and to a lesser extent in 2010–11 (Figure 2.2,

⁴In terms of national price statistics, the categories considered basic necessities in the chapter encompass three Classification of Individual Consumption According to Purpose (COICOP) divisions used in calculating the consumer price index: Food and non-alcoholic beverages (COICOP 1), Housing, water, electricity, gas, and other fuels (COICOP 4), and Transport (COICOP 7). They largely overlap with categories excluded from core inflation, with the exception of some housing costs (for example, rents and water) and nonenergy transport goods and services (for example, public transit).

⁵Since domestic prices can reflect policies introduced precisely to shield households and preexisting practices (for example, how administered prices are adjusted), an alternative approach combines global commodity prices with country-specific consumer price index weights and constructs a counterfactual price index of basic necessities—akin to a Bartik-style instrument—to identify cost-of-living crisis episodes. The dynamics of macroeconomic variables around cost-of-living crises are robust to this alternative approach (Online Annex 2.2).

Figure 2.2. Cost-of-Living Crisis Episodes and Their Drivers

Sources: Eurostat, Household Budget Surveys; IMF, Primary Commodity Prices database; IMF, Consumer Price Index dataset; Kpodar and Liu 2022; Luxembourg Income Study Database; national sources; and IMF staff calculations.

Note: Panel 1 shows the share of countries identified as entering a cost-of-living crisis in any quarter of the years shown, and panel 2 shows the share of inflation in the prices of basic necessities during those episodes that is explained by a common factor across countries, based on estimates from a dynamic factor model. The edges of the boxes represent the interquartile range, the line inside each box indicates the median, and the whiskers denote the 10th and 90th percentiles, respectively. Panel 3 plots the evolution of the estimated global factor and the year-over-year percent change in the all-commodity price index (IMF Primary Commodity Price System). See Online Annex 2.1 for details on the sample composition. AEs = advanced economies; EMDEs = emerging market and developing economies.

panel 1). Outside of these windows, a handful of countries, mostly emerging market and developing economies, experienced cost-of-living crises.

What have been the main drivers of cost-of-living crises in different countries? Analysis based on a dynamic factor model suggests that a large fraction of

the inflation in the prices of basic necessities experienced during cost-of-living crises can be accounted for by a global factor that generates common dynamics across countries.⁶

For the median advanced economy, this global factor accounts for about 70 percent of the inflation in the prices of basic necessities recorded during cost-of-living crises (Figure 2.2, panel 2). For the median emerging market and developing economy, the global factor accounts for slightly less than 40 percent of the inflation in the prices of basic necessities during these episodes. The larger role of country-specific forces could reflect a larger incidence of local shocks (for example, weather shocks driving food prices) or domestic factors such as persistent price subsidies—or their abrupt removal—which may have weakened the link between global shocks and domestic prices.

The common factor that accounts for most of the variation in the prices of basic necessities during cost-of-living crises is closely linked to global commodity price movements (Figure 2.2, panel 3). A composite commodity price index explains roughly half of the variation in the global factor.

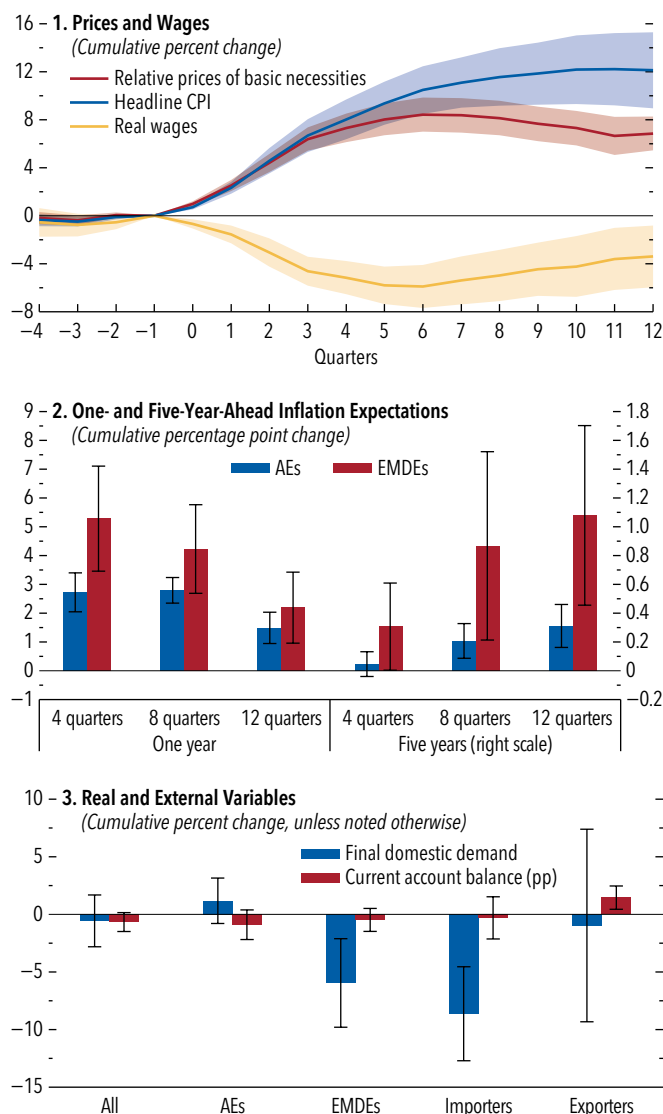
Macroeconomic Dynamics around Cost-of-Living Crises

How do key macroeconomic variables evolve around cost-of-living crises? To address this question, a set of local-projection regressions traces the evolution of key macroeconomic variables around the onset of identified crisis episodes (Online Annex 2.2.3).⁷ By definition, the episodes are marked by a spike in the relative prices of basic necessities. On average, however, the relative prices of basic necessities continue to increase for several quarters and peak only 1½ years after the onset of a crisis (Figure 2.3, panel 1). Moreover, the drift in relative prices is highly persistent, with the prices of basic necessities remaining, on average, about 7 percent higher than the prices of other goods and services, even three years after the start of a cost-of-living crisis.

The headline consumer price index (CPI), initially bolstered by the surge in the prices of basic necessities, continues to increase for longer and throughout the

⁶The dynamic factor model assumes that the behavior of domestic inflation in the prices of basic necessities can be explained by a global common factor (reflecting global demand or supply shocks) and idiosyncratic shocks (reflecting country-specific events); see Online Annex 2.2.2 for details.

⁷Since the variable capturing the onset of identified episodes is binary, quantitative interpretation of the results requires caution.

Figure 2.3. Macroeconomic Dynamics around Cost-of-Living Crises

Sources: Consensus Economics; Haver Analytics; IMF, Balance of Payments statistics; IMF, Consumer Price Index dataset; IMF, *World Economic Outlook*; and IMF staff calculations.

Note: The figure reports difference-in-differences local-projection estimates from a quarterly panel of countries over 2005–25 with country fixed effects; quarter 0 denotes the onset of a cost-of-living crisis. Shaded areas and whiskers indicate 90 percent confidence intervals based on country-clustered standard errors. In panel 1, the relative prices of basic necessities are measured as the CPI for food, transport, and housing-related expenses including utilities relative to the CPI for all other items; real wages are nominal wages deflated by headline CPI. Panel 2 reports cumulative responses of inflation forecasts after 4, 8, and 12 quarters. Panel 3 reports cumulative response of domestic demand (percent change) and current account balance over GDP (percentage points) four quarters after the onset of a crisis for the full sample, by income group and by net energy-trading position. See Online Annex 2.1 for details on the sample composition. AEs = advanced economies; CPI = consumer price index; EMDEs = emerging market and developing economies; pp = percentage points.

third year, reaching an average cumulative increase across countries and episodes of about 13 percent. Although by definition nominal wages lag prices at the onset of cost-of-living crises, the fall in real wages is very persistent. Three years after the onset of a crisis episode, real wages remain about 3 percent below their precrisis path.⁸

The sustained increase in the headline CPI beyond the peak in the relative prices of basic necessities likely reflects not only important first-round effects, but also sizable second-round effects. Indeed, both near- and medium-term inflation expectations increase significantly during cost-of-living crisis episodes (Figure 2.3, panel 2). One-year-ahead expectations remain about 2.7 percentage points higher in advanced economies four quarters after the onset of a cost-of-living crisis and 5.3 percentage points higher in emerging market and developing economies. Although expectations ease thereafter, they remain significantly above their precrisis level even three years after crisis onset. Strikingly, medium-term inflation expectations also register a significant drift. Five-year-ahead inflation expectations increase modestly initially, but three years after the onset of a crisis episode they are, on average, about 0.3 percentage point higher in advanced economies and about 1.1 percentage points higher in emerging market and developing economies. This suggests that cost-of-living crises may contribute to some de-anchoring of inflation expectations.

In regard to real and external variables, final domestic demand falls in the year following crisis onset by about 6 percent in emerging market and developing economies and by 8 percent in net energy importers while remaining broadly resilient in advanced economies and net energy exporters (Figure 2.3, panel 3). The current account balance strengthens for net energy exporters by about 1.5 percentage points of GDP over the same period while remaining broadly unchanged in other country groups.

The estimates in this section describe conditional moments around episodes rather than causal effects, and the identified episodes could reflect both demand and supply shocks. However, the dynamics of macroeconomic aggregates are broadly comparable with those arising when cost-of-living crisis episodes are detected using global commodity prices, or when exogenous oil supply shocks (Känzig 2021) are

⁸By contrast, additional exercises suggest that losses in real wages are much smaller and less persistent following demand-driven inflationary shocks (Online Annex 2.2.3).

employed in the local-projection regressions (Online Annex 2.2.3). Together, the evidence suggests that the identified episodes largely capture global supply shocks, although it does not allow other types of shocks to be ruled out.

Distributional Implications

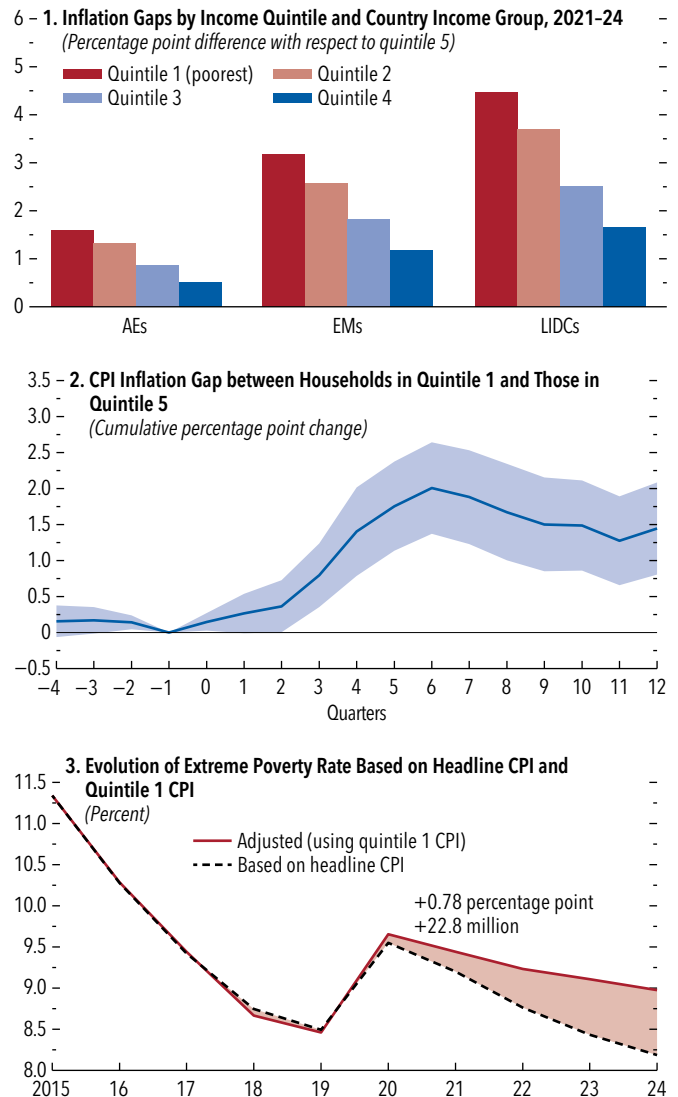
How do outcomes for different segments of the population vary during cost-of-living crises? To answer this question, the analysis combines household budget survey data with disaggregated price indexes to construct income-specific consumption price indexes (following Lokshin, Sajaia, and Torre 2025 and Jaravel 2026). The results reveal substantial inflation inequality during cost-of-living crises, with inflation for low-income households markedly higher than inflation for high-income households. These disparities are particularly pronounced in emerging market and developing economies. The cumulative inflation gap between the bottom and top income quintiles reached 1.6 percentage points in the median advanced economy over 2021–24, 3.2 percentage points in the median emerging market economy, and 4.5 percentage points in the median low-income developing country (Figure 2.4, panel 1).

Local-projection estimates using the full sample confirm that low-income households have experienced significantly higher inflation than high-income households during cost-of-living crisis episodes.⁹ On average across countries and episodes, households in the bottom income quintile experienced nearly 2 percentage points more cumulative inflation than households in the top quintile about 1½ years after the onset of a cost-of-living crisis. The inflation gap remained above 1 percentage point even three years later (Figure 2.4, panel 2). Consistent with this evidence, well-identified oil supply shocks also generate persistent increases in the inflation gap between lower- and higher-income households (Online Annex 2.2.3). By contrast, demand-driven inflationary shocks, proxied by monetary policy surprises, do not produce a similar widening in income-specific consumer price indexes.¹⁰

⁹The estimated significant increase in the inflation differential during cost-of-living crises should be interpreted as in addition to the trend differential observed in noncrisis periods (see, for instance, evidence for the United States in Jaravel 2021).

¹⁰These results are also consistent with those of Argente and Lee (2021), who find that the gap in inflation experienced by lower- and higher-income households narrows during business cycle expansions, when broad-based inflationary pressures are stronger.

Figure 2.4. Distributional Dynamics around Cost-of-Living Crises



Sources: Eurostat, Household Budget Surveys; IMF, Consumer Price Index dataset; Kpodar and Liu 2022; Luxembourg Income Study Database; national sources; World Bank; and IMF staff calculations.

Note: Panel 1 presents the difference between the inflation experienced by households in the first four income quintiles relative to that experienced by the fifth quintile over 2021–24 in the median country in each group. Panel 2 plots difference-in-differences local-projection estimates of quarterly distributional CPI (CPI of quintile 1 divided by CPI of quintile 5) over 2005–25; quarter 0 denotes the onset of a cost-of-living crisis. Shaded areas represent 90 percent confidence intervals (country-clustered standard errors). In panel 3, the extreme poverty rate is based on \$2.15 a day at 2017 purchasing power parity for a sample of 37 emerging markets and 25 low-income developing countries. See Online Annex 2.1 for details on the sample composition. AEs = advanced economies; CPI = consumer price index; EMs = emerging markets; LIDCs = low-income developing countries.

To further assess the distributional consequences of cost-of-living crises, a second exercise examines the implications of such crises for poverty when low-income households face persistently higher inflation than the population average. Specifically, it constructs adjusted poverty rates using income-specific consumption price indexes instead of aggregate CPI (Lokshin, Sajaia, and Torre 2025; Jaravel 2026) for a sample of 37 emerging markets and 25 low-income developing countries over 2015–24. Although the adjusted poverty rate tracks the standard metric closely up to 2020, a sizable gap emerges during 2021–24 (Figure 2.4, panel 3). By 2024, the extreme poverty rate—the share of people living on less than \$2.15 a day in 2017 purchasing-power-parity terms—is, on average across countries, about 0.8 percentage point higher when adjusted poverty thresholds are used than when poverty is measured using aggregate CPI. For the sample of countries considered, this represents almost 23 million more people living in extreme poverty.

Taken together, the evidence in this section highlights the distinct policy challenges around cost-of-living crises. The spike in the cost of basic necessities during episodes of such crises is highly persistent, eroding real wages, weighing on domestic demand, and pushing medium-term inflation expectations upward. Low-income households face persistently higher inflation than higher-income households, with important distributional and poverty implications.

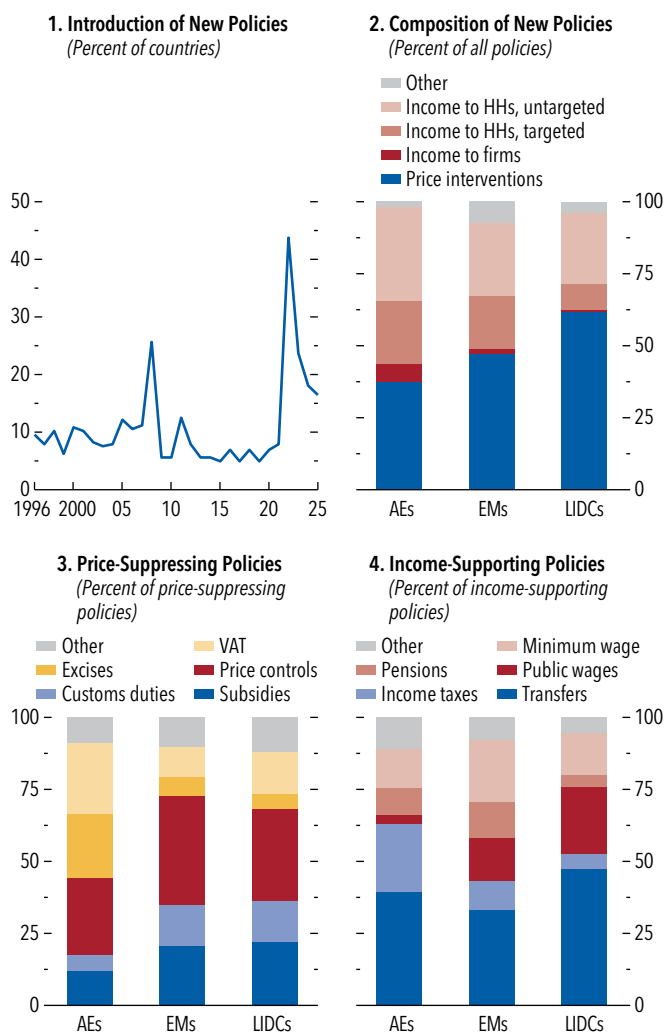
Policy Responses in Past Crises

How have policymakers responded to past cost-of-living crises, and how effective were their interventions? To answer this question, this chapter constructs a novel narrative database of policy interventions aimed at supporting households' purchasing power amid rising food and energy costs. More precisely, it uses text analysis of quarterly Economist Intelligence Unit reports spanning 26 advanced economies, 36 emerging markets, and 14 low-income developing countries between 1996 and 2025.¹¹

The introduction of policy measures in response to cost-of-living crises spiked in 2007–08 and 2022–23 (Figure 2.5, panel 1). At the peak of the price surge

¹¹In the narrative database, episodes of rising food and energy prices are identified from textual references in quarterly Economist Intelligence Unit reports starting in 1996. Consequently, the classification of fiscal policy interventions as responses to cost-of-living pressures relies exclusively on the narrative evidence in these reports and does not use the episodes identified in the previous section, which are available only from 2005 onward (Figure 2.2, panel 1).

Figure 2.5. Policy Interventions in Response to Cost-of-Living Crises



Sources: Economist Intelligence Unit; and IMF staff calculations.

Note: Panel 1 shows the share of countries implementing a new policy intervention in response to a cost-of-living crisis. Results are based on a narrative database of policy interventions in cost-of-living crises from quarterly Economist Intelligence Unit reports for 76 countries between 1996 and 2025. See Online Annex 2.1 for details on the sample composition. AEs = advanced economies; EMs = emerging markets; HHs = households; LIDCs = low-income developing countries; VAT = value-added tax.

following Russia's invasion of Ukraine, for instance, nearly half of the countries in the sample introduced at least one new measure to mitigate the impact of rising prices.

In general, countries have relied extensively on price interventions (Figure 2.5, panel 2), but the characteristics of past policy responses differ markedly across country groups (Figure 2.5, panels 2–4):

- Advanced economies relied somewhat more on income-supporting measures, which accounted for roughly 60 percent of interventions during crisis

periods. Low-income developing countries instead made greater use of price-suppressing measures, likely reflecting more limited social protection infrastructure (IMF 2024).

- The composition of price-suppressing measures varied across countries. Advanced economies used mainly value-added tax and excise tax reductions, which directly reduce consumer prices, whereas emerging market and developing economies, with larger informal sectors, relied more often on producer subsidies, price controls, and reductions in customs duties to curb costs that feed through production and distribution chains before reaching households (Figure 2.5, panel 3).
- Among income-supporting measures, advanced economies implemented largely changes to income taxes and transfers, half of which were targeted to specific groups of people, based on income or age (Figure 2.5, panel 4). Emerging markets and low-income developing countries instead relied more heavily on adjustments to minimum wages, public sector wages, and pensions.

The mix of price-suppressing and income-supporting measures adopted by policymakers often reflects the need to deliver rapid temporary support within the constraints of the country's social safety net infrastructure.¹² But have these interventions been effective in stabilizing macroeconomic outcomes and protecting the most vulnerable households?

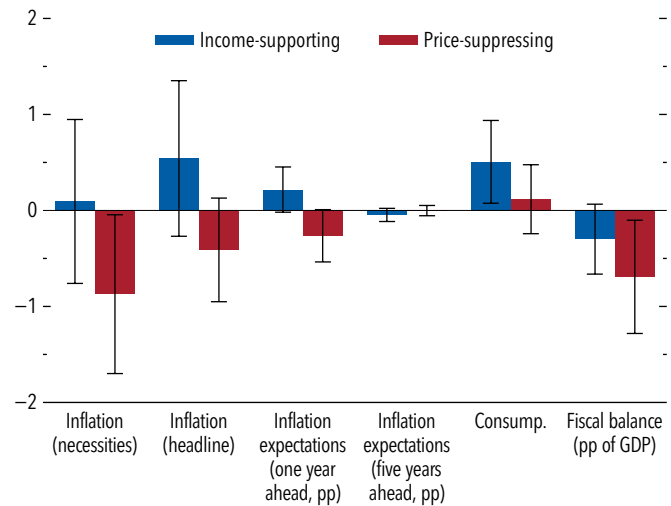
Macroeconomic Effectiveness of Policy Interventions

To assess the effectiveness of policy interventions in stabilizing aggregate macroeconomic variables, the analysis estimates a series of difference-in-differences regressions that trace the effects of new policy measures.¹³ The results point to important differences

¹²Although assessing policy duration in the narrative database is difficult, evidence from the political economy of energy subsidy reforms suggests that fuel price interventions often prove persistent, as temporary subsidies can become politically entrenched and difficult to remove once introduced (Inchauste and Victor 2017).

¹³To mitigate endogeneity concerns, the analysis relies on an augmented inverse propensity weighted estimator (see details in Online Annex 2.3.2). One caveat to our treatment variables, though, is that cost-of-living-related measures may be introduced as part of broader policy packages (such as loan guarantees, credit support, regulatory relief, or payment deferrals). Another caveat is that the treatment variable captures the use of a policy instrument rather than the size of the intervention. Subsequent model analysis addresses these limitations by explicitly calibrating the size of specific policy measures.

Figure 2.6. Macroeconomic Impact of Fiscal Policy Interventions during Cost-of-Living Crises
(Percent, unless noted otherwise)



Sources: Consensus Economics; Economist Intelligence Unit; IMF, Consumer Price Index dataset; IMF, *World Economic Outlook*; national sources; and IMF staff calculations.

Note: The figure shows augmented inverse propensity weighted (AIPW) estimates from a quarterly panel of 75 countries between 1995 and 2025. Results refer to four quarters after policy introduction. The whiskers indicate 90 percent confidence intervals based on country-clustered standard errors. See Online Annex 2.1 for details on the sample composition. Consump. = consumption; pp = percentage points.

in the average effects of income-supporting and price-suppressing measures on macroeconomic outcomes (Figure 2.6):

- Income-supporting measures appear effective at cushioning aggregate consumption. Although they support domestic demand, they do not lead, on average, to statistically significant changes in aggregate inflation dynamics or inflation expectations. Their impact on a country's fiscal balance is not statistically significant, which could, however, reflect the fact that the overall cost of these measures can remain contained when they are duly targeted (as shown later in the chapter with model simulations) but also offset reductions in other spending.
- By contrast, price-suppressing measures have, on average, a statistically significant effect on the inflation in prices of basic necessities, as intended. They reduce near-term inflation expectations slightly, but do not have a significant effect on longer horizons. They do not seem to have a significant effect on aggregate consumption but do have a significant negative effect on fiscal balances. Moreover, the fiscal cost of price-suppressing measures may be larger than estimated here. In particular, price-suppressing measures can generate contingent liabilities, arrears, and losses in state-owned enterprises, whose

consequences in regard to the fiscal balance would materialize only with a lag.

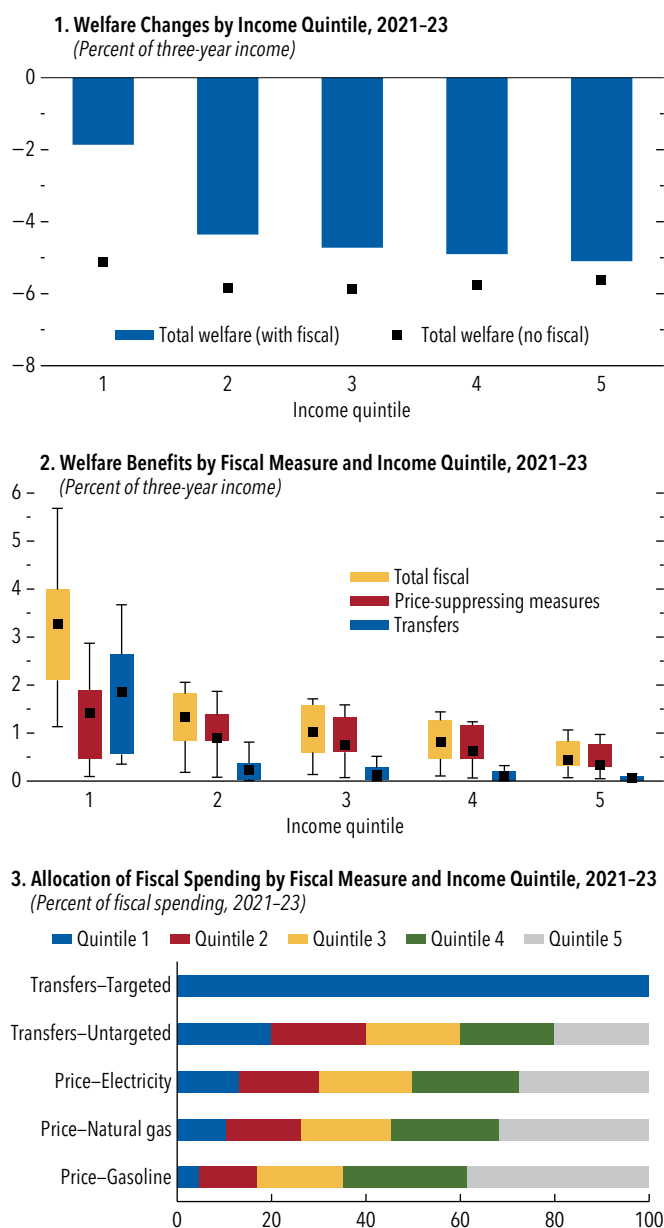
Distributional Effectiveness of Policy Interventions

To assess how effectively fiscal interventions have protected vulnerable households during past cost-of-living crises, this section uses a theoretical framework that captures heterogeneity in households' exposure to crisis episodes, reflecting differences in their consumption baskets, income, and asset and liability holdings (Cardoso and others 2022; April 2023 *Fiscal Monitor*, Chapter 2; Pallotti and others 2024; Del Canto and others 2025; see Online Annex 2.4 for details). Using detailed information on policy interventions, the framework is used to evaluate how alternative fiscal measures have affected welfare across household groups, distinguishing between various price-suppressing measures and targeted or untargeted transfers.¹⁴

Results for a sample of 18 European countries during 2021–23 show that absent policy support, households across all income quintiles would have experienced welfare losses between 5 and 6 percent of their income over the three years (Figure 2.7, panel 1).¹⁵ Fiscal interventions significantly cushioned these losses, particularly for lower-income households. After policy support is accounted for, welfare losses for the bottom quintile amounted to less than 2 percent of income in that period, compared with more than 4 percent for higher-income households.

Decomposing these gains by policy instrument reveals important differences across the income distribution (Figure 2.7, panel 2). Low-income households benefited equally from income-supporting and price-suppressing measures, whereas most of the gains accruing to higher-income households stemmed from price-suppressing interventions. Fiscal interventions, however, can be costly. In environments

Figure 2.7. Impact of Policy Interventions across Households during 2021–23



Sources: Consensus Economics; European Central Bank, Household Finance and Consumption Survey; European Commission, *Weekly Oil Bulletin*; Eurostat, Household Budget Surveys; national sources; Sgaravatti and others 2023; and IMF staff calculations.

Note: The results in the figure are based on a sample of 18 European countries between 2021 and 2023. Panel 1 displays the average welfare impact in 2021–23 across countries (weighted by 2019 GDP at purchasing power parity), expressed as a share of households' three-year income, by household income quintile (Online Annex 2.4). Panel 2 shows the cross-country distribution of welfare changes (as a share of three-year income) due to policy interventions during 2021–23, by household income quintiles (overall and by type of policy instrument). The edges of the boxes represent the interquartile range, the black square inside each box indicates the median country, and the whiskers denote the 10th and 90th percentiles of the cross-country distribution. Panel 3 displays the allocation across income quintiles of fiscal spending on transfers and on measures suppressing the prices of electricity, natural gas, and gasoline. See Online Annex 2.1 for details on the sample composition.

¹⁴Counterfactual price and income series without policies are constructed from the intervention-level database in Sgaravatti and others (2023). See Online Annex 2.4 for details.

¹⁵Despite being disproportionately exposed to increases in the cost of basic necessities, lower-income households can benefit from the erosion of the real value of nominal debt. In this sample of European countries, the resulting debt relief more than offsets the additional losses arising from the composition of these households' consumption basket, leading to broadly similar pre-fiscal-intervention welfare losses across income quintiles (Figure 2.7, panel 1 and Online Annex Figure 2.4.1). However, the importance of this channel is likely much smaller in emerging market economies and low-income developing countries with more limited access to financial markets.

with limited fiscal space, policymakers face a trade-off between the magnitude of support and its targeting. Figure 2.7, panel 3, relates the welfare gains received by each income quintile to the fiscal resources devoted to each policy instrument. Not surprisingly, lower-income households received the full amount of benefits from targeted transfers. However, the benefits of price-suppressing measures accrued mostly to higher-income households. For each euro spent on price-suppressing measures for electricity, gasoline, and natural gas, lower-income households received less than 20 cents. In the case of measures on gasoline, the top income quintile of the population received about 40 cents per euro spent.

Overall, the results suggest that although broad-based price interventions and untar­geted transfers do provide some support to vulnerable households, they do so at a substantially higher fiscal cost than well-tar­geted income transfers.

Looking Ahead: Adjusting the Toolkit for a Shock-Prone World

The previous sections show that policymakers have deployed a broad set of income-supporting and price-suppressing measures to contain the impact of cost-of-living crises. The empirical evidence suggests that income-supporting measures may have been more effective in protecting the most vulnerable while preserving fiscal space. Given the difficulties of isolating the source of a crisis and identifying the causal effect of policies empirically, this section complements the empirical evidence with simulations from a novel global model with features that are critical for assessing policy trade-offs in the context of specific supply shocks that can trigger cost-of-living crises (see details in Online Annex 2.5).¹⁶

- **Heterogeneous households.** The model features low-income households (LIHHs) and high-income households (HIHHs) in each economy that differ in their exposure to the shock and in their access to financial markets.¹⁷ In line with empirical evidence, LIHHs are assumed to devote a larger share of their

expenditure to basic necessities than HIHHs and to lack access to financial markets.¹⁸

- **Production network.** The model includes 12 production sectors in both the home economy and the rest of the world, featuring sectoral linkages within and across countries, and heterogeneous price stickiness across sectors.
- **Cost-of-living crises.** In the model, such crises are triggered by transitory shocks to the global supply of *energy* (an exogenous drop in total factor productivity in the mining and quarrying sector, affecting the supply of crude oil and natural gas) or *food* (affecting the agricultural sector and therefore the availability of basic staples). The shocks are calibrated such that the relevant global commodity price increases by about two standard deviations (close to 70 percent for energy prices, akin to the surge in the oil price at the onset of the conflict in the Middle East, and about 45 percent in the case of food prices). They have a half-life of two quarters, so about 80 percent of the initial price increase is reversed one year after the shock.
- **Country coverage.** Households' expenditure patterns, production structures, and import dependence on energy and food, as well as fiscal space, vary significantly across countries. To assess how these differences affect policy trade-offs, the model is calibrated separately for a representative advanced economy, a representative emerging market economy, and a representative low-income developing country. All three representative economies are assumed to be net energy importers, but low-income developing countries are assumed to be net food exporters (Online Annex Table 2.5.4).
- **Monetary policy.** The model assumes monetary policy follows a Taylor rule focused on headline CPI with a positive weight on projected inflation, so that a country's central bank partly looks through temporary shocks to headline inflation.
- **Fiscal policy.** Inspired by the policy interventions documented in previous sections, the model includes both income-supporting and price-suppressing measures. Regarding the former, it includes *targeted transfers* to LIHHs and *untargeted transfers*

¹⁶The model is an extension of the Global Dynamic Network Model used in Chapter 2 of the October 2024 *World Economic Outlook* to draw lessons for monetary policy in the aftermath of the COVID-19 pandemic and documented in Ozhan and others (2026).

¹⁷See Passadore and others (2025) for a model with household heterogeneity in a price-taking small open economy with no effects on global aggregates, rather than in a two-region setting as in this chapter.

¹⁸*Low-income households* are defined as households in the bottom income quintile in the model calibration for advanced economies, but as households in the bottom two income quintiles in the model calibration for emerging market economies and low-income developing countries, reflecting evidence that a larger share of households in these economies exhibit hand-to-mouth behavior (Bracco and others 2026, for example).

(distributed evenly across all households). In terms of price measures, the model includes *consumer subsidies*, which are akin to cuts to value-added or excise taxes used in practice, and *producer subsidies*, which reduce the cost of inputs for firms that are exposed to the subsidized sector (such as refineries and utility firms in the case of shocks to energy prices).¹⁹ When fiscal measures are deployed, the model assumes lump-sum taxes on all households are increased over the medium term such that debt reverts to the preshock level, with a half-life of four to five years.

Costly Supply Shocks with Important Distributional Implications

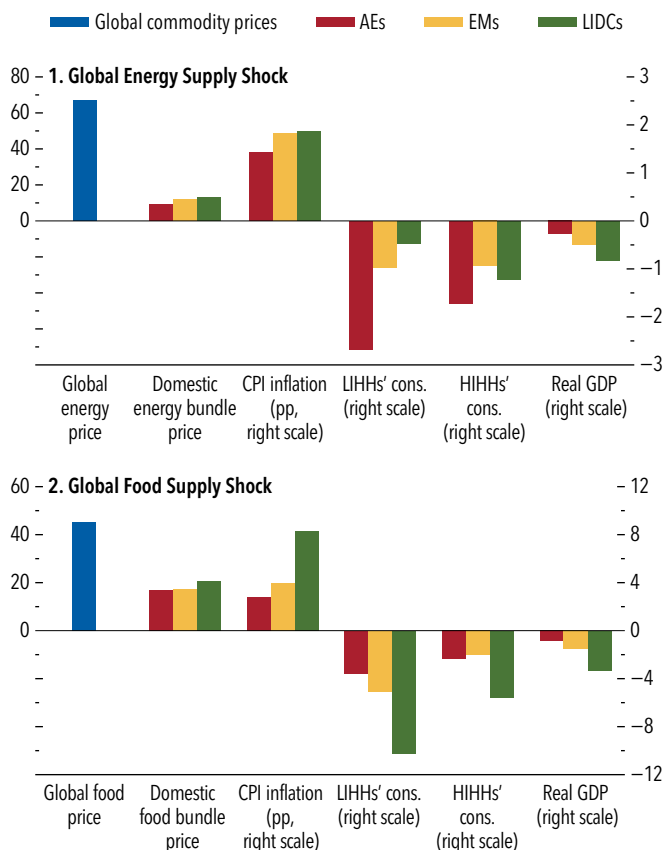
Before the chapter turns to the role of fiscal policies, this subsection documents the effects of cost-of-living shocks in the model's no-policy baseline simulations. In energy-importing advanced economies, a temporary shock that pushes global *energy* prices upward by close to 70 percent on impact leads to an increase in domestic consumer prices of all energy-related products (including, for example, fuel, electricity, and transport) by about 10 percent (Figure 2.8, panel 1). Annual consumer price inflation peaks at 1½ percentage points above target, and private consumption falls by close to 2 percent. The fall in consumption among LIHHs is almost 60 percent larger than among HIHHs, reflecting the higher exposure of LIHHs to energy-related products in advanced economies and their inability to borrow. Higher energy input costs, weaker household consumption, and tighter monetary policy weigh on output, with exchange rate depreciation mitigating part of the decline in activity.

The impact of a global energy shock on activity in emerging markets and low-income developing countries is larger than that in advanced economies. However, households are generally less exposed to energy prices, and aggregate consumption falls by less than it does in advanced economies. In emerging markets, the decline in consumption among LIHHs is comparable to that among HIHHs, and in low-income developing countries, it is actually smaller. This reflects the smaller share of expenditure on energy-related goods and services (such as electricity and heating

¹⁹Many economies, notably emerging market and developing economies, resorted to cuts to customs duties in past cost-of-living crises. In the model, producer subsidies are akin to reductions in customs duties.

Figure 2.8. Impact of Global Supply Shock to Energy and Food Sectors: Model Simulations

(Deviation from steady state, percent, unless noted otherwise)



Source: IMF staff calculations.

Note: The figure shows the peak response of selected variables from model simulations in response to global supply shocks in the energy and food sectors. The shocks in each sector are calibrated to match a response in the corresponding global commodity prices of energy (crude oil, natural gas, coal) and cereals of about two standard deviations in historical data over 1992–2025. AEs = advanced economies; cons. = consumption; CPI = consumer price index; EMs = emerging markets; HIHHs = high-income households; LIDCs = low-income developing countries; LIHHs = low-income households; pp = percentage points.

fuels) among LIHHs relative to that among HIHHs in less-developed economies (Online Annex Figure 2.2.2).

A global *food* shock of comparable severity has substantially larger effects, especially in low-income developing countries (Figure 2.8, panel 2). A 45 percent increase in global food prices raises the domestic food bundle price by about 20 percent in those countries, reflecting the much larger weight of food in consumption baskets. The resulting decline in household consumption in low-income developing countries (about 7½ percent) is considerably larger than that in emerging markets (about 3.2 percent) and advanced economies (about 2.6 percent), with LIHHs

experiencing disproportionately large losses (about 80 percent larger than those of HHHs), given their heavy exposure to food expenditures. Although low-income developing countries in the model benefit from an improvement in their terms of trade as net food exporters, the direct hit to agricultural production, together with weaker household purchasing power and domestic demand, more than offsets these gains.

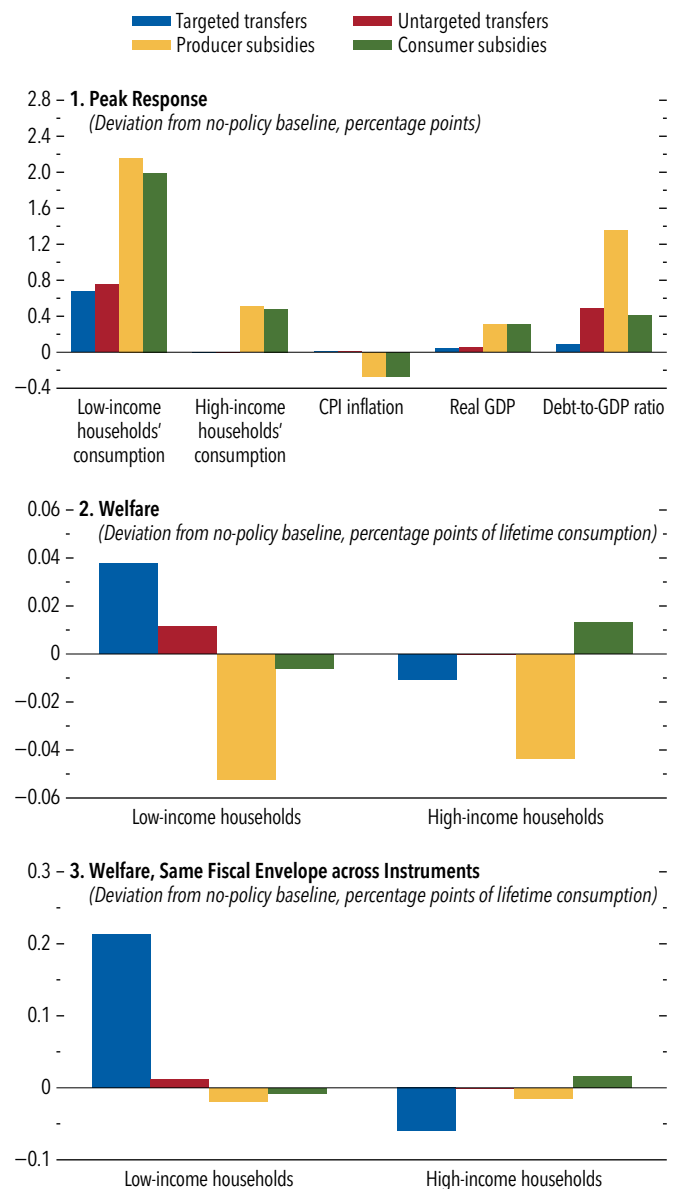
The Role of Well-Targeted and Temporary Fiscal Measures

Each type of income and price intervention used in past cost-of-living crises affects incentives differently for firms and for households across the income distribution. They also entail different trade-offs between near-term support and future consolidation efforts. To provide a comprehensive comparison of the relative merits of different tools across circumstances, the analysis in this section focuses both on how policies affect the peak response of macroeconomic aggregates during a crisis and on the implications for households' lifetime welfare (which incorporates the cost of future fiscal consolidation). To ensure comparability across fiscal tools, the first exercise in the subsection assumes that the policy objective is to contain the impact on households from higher consumer prices at half of what it would otherwise have been: Subsidies are set such that the pass-through from global to domestic prices of the related consumption bundle (energy- or food-related products) is 50 percent of what it would have been in the absence of interventions, thus preserving price signals to some extent; transfers are set to 50 percent of the additional cost households face for purchasing, at the new prices, the same quantities of the energy and food bundles they consumed before the shock.²⁰

Price-Suppressing Measures Can Protect Consumers but Are Highly Inefficient

With respect to price interventions, which have been used extensively in the past, the results for advanced economies during an *energy* shock show that *consumer subsidies* contain the impact on headline inflation (Figure 2.9, panel 1). As a result, monetary policy does not need to be tightened as much, easing the drop in output. With a smaller increase in consumer prices and

Figure 2.9. Impact of Fiscal Measures in Response to Energy Price Shock, Advanced Economies



Source: IMF staff calculations.

Note: Panel 1 reports peak deviations from the steady state when the policies shown are in place, minus the peak response under the no-policy baseline. Panel 2 reports the welfare impact of each fiscal instrument, relative to the no-policy baseline, corresponding to the interventions in panel 1. In panel 3, the amount spent on each instrument is the same and equal to that of untargeted transfers in panel 1. CPI = consumer price index.

stronger activity, fiscal intervention attenuates the drop in consumption, especially among LIHHs. Although the shock is short-lived and the subsidy aims at limiting the pass-through only by half (containing the spike in domestic energy prices at 5 percent instead of

²⁰In the model, the introduction of fiscal measures follows a shock that hits an economy in its steady state, when inflation is at target and the output gap closed. The results should be interpreted with this assumption in mind.

10 percent), the impact on public debt is meaningful, at about ½ percentage point of GDP.

Although *producer subsidies* lead to very similar outcomes for the peak response of inflation, output, and household consumption, they also drive a strong expansion of exports in downstream sectors benefiting from lower input prices, relative to the no-policy baseline (Online Annex Figure 2.5.2). As a result, the intensity of the intervention to achieve a given pass-through to domestic retail prices is much larger than in the case of *consumer subsidies*, with an increase in public debt that is more than three times larger (close to 1½ percentage points of GDP).²¹ Moreover, the fiscal cost of subsidies can increase significantly if a shock is more persistent—or in a context of recurrent short-lived shocks. In a scenario in which only 40 percent of the initial price spike in a crisis is reversed by the end of the first year (instead of 80 percent), the cost of producer subsidies would push debt upward by close to 3½ percentage points of GDP (Online Annex Figure 2.5.3).

The higher fiscal effort needed to contain the effect on consumers using *producer subsidies* also entails costs from larger consolidation needs over the medium term.²² Indeed, Figure 2.9, panel 2, shows that once the whole path for consumption and the future cost of fiscal adjustment are taken into account, all households face larger welfare losses under *producer subsidies* than in the no-intervention baseline. *Consumer subsidies* attenuate the decline in consumption in the short term, but the welfare gains from such subsidies accrue only to HIHHs; LIHHs remain worse off despite the near-term support.

De-anchored inflation expectations. Empirical evidence shows that temporary shocks to retail fuel and grocery prices have a significant effect on inflation expectations and one that is disproportionately large

compared with their weight in consumption baskets (Coibion and Gorodnichenko 2015; D’Acunto and others 2021; Jo and Klopach 2025). Related concerns may help explain the widespread use of price-suppressing measures during past cost-of-living crises. To assess the implications of de-anchored inflation expectations, an illustrative exercise assumes that surging retail energy prices push inflation expectations upward significantly, leading inflation in nonenergy sectors to increase by about 0.85 percentage point more than when expectations are assumed to remain anchored.²³ In this extreme case, *consumer subsidies* further reduce the need for monetary policy tightening by mechanically containing the increase in retail energy prices and in inflation expectations. The lower persistence of inflation leads to welfare gains among LIHHs roughly comparable to those under *targeted transfers* (Online Annex Figure 2.5.4), rather than leading to losses, as when expectations are anchored (Figure 2.9). However, the empirical results in earlier sections suggest that, on average, past price-suppressing interventions did not have a significant impact on medium-term inflation expectations despite some near-term relief on the prices of basic necessities (Figure 2.6).

Spillovers to global prices. Subsidies attenuate the price signal that consumers receive related to the global scarcity of supply, leading to smaller demand compression. Although the effect on global demand from a small economy introducing subsidies would be negligible, multiple countries introducing subsidies at the same time would have spillovers to global prices. Indeed, model simulations from a scenario in which all countries introduce consumer subsidies aimed at containing the pass-through to retail prices to one-half of what it would otherwise have been show that global oil prices increase by about 3 percentage points more (Online Annex Figure 2.5.5), in line with results in Auclert and others (2024) and Erceg and others (2024). Thus, even when the risk of de-anchored inflation expectations provides a rationale for temporary *consumer subsidies*, the effectiveness of those subsidies falls sharply when many countries adopt them simultaneously, as the smaller adjustment of demand puts further upward pressure on global commodity prices

²¹To preserve viable productive capacity, providing liquidity support through, for instance, temporary credit lines and deferred tax and social security payments is likely to be more effective than through price-suppressing measures (Ari and others 2023; Gourinchas and others 2026).

²²The model assumes that policies are removed as soon as a shock dissipates, whereas in practice, removing measures, notably subsidies, has often proved politically challenging. Moreover, simulations do not include any increase in risk premiums, as public debt rises as a result of the support package. Finally, the model assumes lump-sum (rather than distortionary) taxes are used for fiscal consolidation after a crisis. Therefore, the welfare costs associated with the needed fiscal consolidation could be interpreted as a lower bound, especially in cases in which higher initial debt would lead to a higher sensitivity of interest rates to additional borrowing needs.

²³In this illustrative scenario, a shock that raises energy prices by nearly 70 percent causes inflation expectations to increase by about 84 basis points. This compares with an estimated average increase of about 40 basis points in medium-term inflation expectations following a similarly sized oil-price shock induced by the oil-supply disturbances identified in Känzig (2021) for the countries in Online Annex Figure 2.2.1.

(Online Annex Figure 2.5.4), which can disproportionately affect low-income developing countries (as shown later in the chapter for a global food supply shock).

Targeted Transfers Are the Most Cost-Effective Fiscal Intervention

Transfers support household consumption while preserving price signals, encouraging households to conserve energy and producers to boost supply. *Untargeted transfers* do support consumption of LIHHs relative to that in the no-policy baseline but have little impact on HHHs' consumption (Figure 2.9, panel 1): The latter have access to financial markets and save most of the additional income. The impact on debt is comparable to that of *consumer subsidies*, as they are uniformly distributed to all households.

When *targeted transfers* are used instead, the impact on households' consumption is comparable to that of *untargeted transfers*. However, the cost is significantly lower, because only LIHHs receive support.²⁴ The peak increase in public debt is about one-fifth of the increase under *untargeted transfers* or *consumer subsidies* and about one-sixteenth of that under *producer subsidies*. In other words, achieving a similar degree of protection for vulnerable households through subsidies requires between 5 and 16 times the fiscal resources.²⁵ Although LIHHs do face higher taxes over the medium term to bring debt back to its preshock level, the burden of fiscal consolidation falls on all households. On balance, LIHHs are better off when transfers are used than in the absence of fiscal intervention (Figure 2.9, panel 2).

Holding the fiscal envelope constant across instruments. To compare the cost-effectiveness of different fiscal measures more directly, an alternative exercise assumes the fiscal effort is the same across instruments and equal to the cost of *untargeted transfers* in the previous exercise. By channeling all support to LIHHs, which have a larger propensity to consume additional income than HHHs, *targeted transfers* support aggregate

demand and attenuate the drop in output, with little effect on inflation (Online Annex Figure 2.5.6). They also deliver the largest welfare gains for LIHHs, financed in part through redistribution from HHHs (Figure 2.9, panel 3).

Although *consumer subsidies* generate a similar increase in LIHHs' consumption under the same fiscal envelope, they fail to improve welfare and instead result in net welfare losses. Moreover, the advantage of *targeted transfers* becomes even larger when the shock is more persistent (Online Annex Figure 2.5.3).

Emerging Market and Developing Economies Face Stark Policy Trade-Offs

How different are policy trade-offs among emerging market and developing economies? The model simulations suggest that they are considerably sharper in low-income developing countries, where basic necessities account for a larger share of household spending and fiscal resources are more limited.

Producer subsidies are particularly costly and inefficient. In low-income developing countries, containing the pass-through from global to domestic *energy* prices, through producer subsidies, at one-half of what it would otherwise have been would increase public debt by roughly 22 times as much as under targeted transfers (Online Annex Figure 2.5.8), compared with about 16 times as much in advanced economies (Figure 2.9) and 14 times as much in emerging markets (Online Annex Figure 2.5.9).

Consumer subsidies are less costly than *producer subsidies* but still represent an expensive way of protecting vulnerable households. In the case of the short-lived global *food* shock shown in Figure 2.8, simulations suggest that using *consumer subsidies* in low-income developing countries to contain the pass-through to domestic food prices to one-half of what it would otherwise have been reduces the surge in inflation by close to 4 percentage points and limits the decline in LIHHs' consumption by 5.5 percentage points (Figure 2.10, panel 1). However, this comes at a sizable fiscal cost, with debt increasing by about 7½ percentage points of GDP. This is significantly larger than the corresponding increase in debt in emerging markets (close to 4 percentage points of GDP) and especially that in advanced economies (about 1½ percentage points) facing the same shock (Online Annex Figures 2.5.7 and 2.5.10).

By contrast, *targeted transfers* deliver a similar improvement in LIHHs' consumption at roughly

²⁴The model assumes complete take-up of untargeted transfers and abstracts from potential implementation challenges for targeted transfers (such as bunching around eligibility thresholds), which can affect the relative performance of targeted versus untargeted transfers.

²⁵Although the inflationary impact of a comparable global shock to food prices is larger (Figure 2.8, panel 2), the relative cost-effectiveness of alternative policy interventions remains unchanged. Containing the pass-through from global to domestic food prices in advanced economies, through *consumer subsidies*, to one-half of what it would otherwise have been would entail a fiscal cost almost seven times as large as that under *targeted transfers* (Online Annex Figure 2.5.7).

one-sixth of the fiscal cost, implying that consumer subsidies are about six times as expensive for achieving a similar degree of protection. Moreover, simulations confirm that once the future costs of debt consolidation are accounted for, *targeted transfers* are by far the most cost-effective way to support low-income households in emerging markets and low-income developing countries (Figure 2.10, panel 2; Online Annex Figures 2.5.8, 2.5.9, and 2.5.10).²⁶

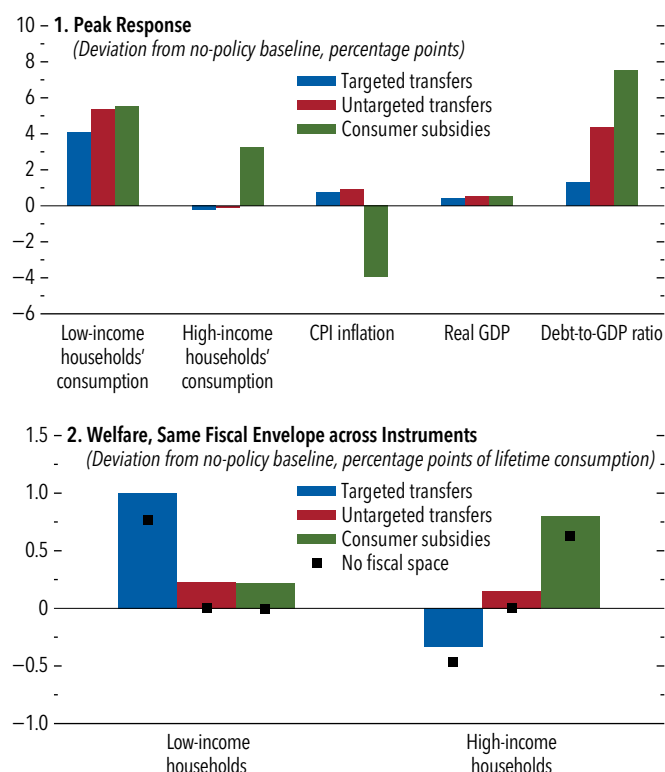
Limited fiscal space. Initial conditions, particularly the availability of fiscal space, can shape the ability of low-income developing countries to respond to cost-of-living crises. How do policy trade-offs change when governments cannot borrow and must instead finance support through higher taxes or expenditure reallocation? To address this question, an alternative set of simulations for low-income developing countries assumes their fiscal deficits cannot increase and all additional support is financed through higher taxes.²⁷ The results suggest that *targeted transfers* remain effective even when fiscal space is exhausted. Although part of the transfer is offset by the higher tax burden borne by all households, vulnerable households remain better off overall (the markers in Figure 2.10, panel 2). By contrast, *consumer subsidies* cease to generate welfare gains for LIHHs once the subsidies must be financed contemporaneously rather than through additional borrowing.

Spillovers from price subsidies can be particularly costly for low-income developing countries. Results from a scenario in which all other countries use *consumer*

²⁶In the model, low-income developing countries are assumed to be net exporters of agricultural and manufactured food products (Online Annex Table 2.5.4), so the improvement in the terms of trade partly cushions the effect of a shock on aggregate demand and activity. If low-income developing countries were instead assumed to have a smaller agricultural sector and be net food importers, the food shock would be associated with a deterioration in the terms of trade, weighing on domestic demand and output, but the direct impact of the shock on GDP would be smaller. The results for emerging markets (Online Annex Figure 2.5.10) suggest the relative performance of the different fiscal instruments would remain unchanged if low-income developing countries were assumed to be net food importers.

²⁷Although in practice countries can also reorient spending to finance emergency support packages, spending in the model is assumed to be wasteful, so reducing it to fund transfers or subsidies would mechanically bias the results in favor of the intervention. However, the model also assumes financing through lump-sum taxes, which are less distortive than taxes used in reality. More broadly, mobilizing domestic revenue in low-income developing countries can be challenging, especially in the context of a large shock to the prices of basic necessities, while other financing options used in practice, including monetary financing, could entail worse outcomes. Taken together, these assumptions imply that the welfare impact of fiscal interventions in the limited-fiscal-space scenario should be interpreted as an upper bound.

Figure 2.10. Impact of Fiscal Measures in Response to Food Price Shock, Low-Income Developing Countries



Source: IMF staff calculations.

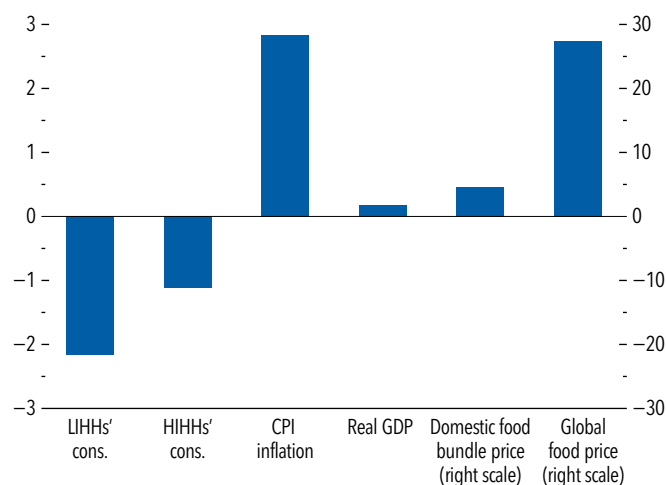
Note: Panel 1 reports peak deviations from the steady state when the policies shown are in place, minus the peak response under the no-policy baseline. Panel 2 reports the welfare impact of each fiscal instrument, relative to the no-policy baseline, when the amount spent on each instrument is the same and equal to that of untargeted transfers in panel 1. The black squares report results when measures are financed with taxes rather than debt.

subsidies in response to a global food supply shock, while low-income developing countries do not, suggest that global food prices would rise by an additional 25 percentage points, and domestic food prices in low-income developing countries would increase by almost 5 percentage points more, relative to a scenario in which no country uses subsidies (Figure 2.11). Although low-income developing countries benefit from an improvement in their terms of trade as net food exporters, which provides some support to aggregate activity, the increase in domestic food prices disproportionately hurts vulnerable households.

Consequently, the decline in LIHHs' consumption is 2.2 percentage points larger than in a scenario without spillovers. The results suggest that when many countries deploy subsidies simultaneously, the resulting increase in global prices can worsen outcomes for vulnerable households in countries that lack the fiscal space to respond.

Figure 2.11. Impact of Price Spillovers from Consumer Subsidies in Low-Income Developing Countries

(Deviation from no-policy baseline, percentage points)



Source: IMF staff calculations.

Note: The figure reports the peak deviation from the steady state in low-income developing countries when other economies use consumer subsidies in the context of a shock to global food supply, minus the peak response under the no-policy baseline. cons. = consumption; CPI = consumer price index; HIHHs = high-income households; LIHHs = low-income households.

In summary. When the objective is to shield vulnerable households from a spike in the cost of basic necessities, the model simulations confirm that *targeted transfers*, which preserve price signals, provide adequate protection at a significantly lower cost than alternative measures (Table 2.1). Depending on the instrument, the shock, and the economy, achieving a comparable degree of protection for vulnerable households through broad-based price interventions can require between 3 and 22 times the fiscal resources as *targeted transfers*. Once the cost of subsequent fiscal adjustment

is taken into account, subsidies can reduce the welfare of low-income households despite cushioning their consumption in the near term. Moreover, the relative performance of subsidies deteriorates further as fiscal space becomes more constrained and when multiple countries deploy them simultaneously.

Conclusions and Policy Implications

This chapter shows that abrupt surges in the prices of basic necessities, such as food and energy, can impose substantial economic and social costs, with particularly large welfare losses for lower-income households, which are more exposed to the cost of basic necessities. Moreover, surges in the price of highly salient goods and services increase the risk of inflation expectations becoming de-anchored, amplifying the economic costs of a shock.

An appropriate first line of defense against temporary supply shocks that raise the relative prices of basic necessities relies on monetary policy geared toward delivering low and stable inflation, alongside social protection systems that allow automatic stabilizers to support vulnerable households. Cost-of-living crises, however, have often prompted policymakers to go beyond this standard policy framework, with the mix of instruments deployed varying substantially across countries.

In the past, policymakers have relied extensively on broad-based untargeted measures, but with important differences across countries. Advanced economies have tended to rely more on price measures that are closer in the value chain to final consumers, such as temporary value-added tax or excise tax cuts, and on direct income support through transfers and tax measures.

Table 2.1. Model Simulations: Relative Performance of Policy Instruments

(Percentage points)

	Energy Shock						Food Shock					
	AEs		EMs		LIDCs		AEs		EMs		LIDCs	
	Welfare	Debt	Welfare	Debt	Welfare	Debt	Welfare	Debt	Welfare	Debt	Welfare	Debt
Targeted Transfers	0.04	0.09	0.01	0.17	0.02	0.09	0.09	0.21	0.06	0.87	0.32	1.31
Untargeted Transfers	0.01	0.49	0.00	0.65	0.02	0.40	0.03	1.28	0.01	2.74	0.23	4.34
Consumer Subsidies	-0.01	0.41	-0.02	0.53	-0.01	0.31	-0.01	1.40	-0.06	3.85	0.32	7.55
Producer Subsidies	-0.05	1.35	-0.07	2.35	-0.11	2.09						

Source: IMF staff calculations.

Note: The table reports the effect of the policy instruments shown, relative to the corresponding no-policy baseline, on the welfare of low-income households (measured as percentage points of lifetime consumption) and on public debt (measured as the peak deviation of the debt-to-GDP ratio from the corresponding no-policy baseline over the first three years after a shock). Each instrument is calibrated to contain by half the impact on households from higher consumer prices, so debt differences reflect the fiscal cost of delivering the same degree of protection. Color scales are set separately by metric and by sector of the shock, spanning all instruments and country groups. Producer subsidies are not considered for the food shock. AEs = advanced economies; EMs = emerging markets; LIDCs = low-income developing countries.

Emerging market economies and low-income developing countries, by contrast, have relied more heavily on producer subsidies, price controls, and reductions in customs duties, as well as on broad-based increases in wages and pensions. These differences likely reflect more limited capacity in the latter group of countries to identify and reach vulnerable households through targeted transfer systems (IMF 2024).

The analysis in this chapter shows that broad-based price-suppressing measures are a costly and inefficient way of protecting households during cost-of-living crises. Subsidies can alleviate trade-offs for monetary policy in the near term by preventing an overshooting in headline inflation and containing second-round effects when inflation expectations are poorly anchored. However, much of the benefit accrues to households that need little support, requiring a substantial fiscal effort to contain the effect on consumers. Depending on the nature of the shock, the instrument used, and the type of economy, achieving a comparable degree of protection for vulnerable households through price-suppressing measures can require between 3 and 22 times the fiscal resources as targeted income support. For low-income households, the short-term welfare gains from lower prices generally fail to offset the medium-term costs associated with higher public debt and subsequent fiscal adjustment. Producer subsidies are particularly inefficient, because part of their benefit leaks abroad through lower export prices for downstream industries.

Moreover, the efficiency of price interventions declines significantly if many countries deploy them simultaneously, as reduced demand adjustment puts further upward pressure on global commodity prices, underscoring the potential gains from greater international coordination in responding to global shocks that trigger cost-of-living crises. In practice, once introduced, subsidies are politically difficult to remove, aggravating the fiscal burden and price distortions associated with the policy interventions (Amaglobeli and others 2026), and they can create fiscal vulnerabilities that go beyond their up-front budgetary cost.

When fiscal space is limited, the cost-effectiveness of targeted income support becomes even more important. Model simulations suggest that targeted transfers can still provide adequate protection to vulnerable households when low-income developing countries are unable to issue debt and must finance support through

higher domestic revenue. By contrast, allocating the same fiscal resources to consumer subsidies yields few or no welfare gains.

The results in this chapter have clear implications for the design and sequencing of measures when intervention is deemed necessary to protect vulnerable households (see also Amaglobeli and others 2022). When faced with a large supply shock that raises food or energy prices significantly, policymakers should seek to preserve price signals to encourage the demand adjustment needed to restore market balance. Assistance, when warranted, should be temporary and delivered primarily through income-support measures directed at the most vulnerable households, ideally using existing social protection systems that can be scaled up rapidly.

Because broad-based measures are considerably more costly than targeted support, they should be reserved for exceptional circumstances, when shocks become particularly severe and disruptive, and only when fiscal space permits. For instance, when food security concerns and risks of social unrest are acute, identifying vulnerable households is difficult, and capacity constraints make the use of targeted support unfeasible or excessively costly, support may need to extend beyond the poorest households and rely on broader tools (Gourinchas and others 2026). Even then, support should remain as targeted as possible and calibrated to the temporary component of a particular price increase rather than to permanently higher prices. Moreover, the generosity of assistance should remain anchored to the average impact of the shock on lower-income households. When price measures are deemed unavoidable, they should be narrowly focused on the goods and services consumed disproportionately by vulnerable households and designed to preserve as much of the underlying price signals as possible. In all cases, interventions should be temporary and accompanied by well-communicated sunset clauses.

In a more shock-prone world, where cost-of-living crises may become both more frequent and more widespread, the results in this chapter underscore the growing importance of investing in the fiscal infrastructure needed to deliver targeted support. Stronger social protection systems can increase the effectiveness of crisis responses, reduce reliance on costly and poorly targeted emergency measures, and preserve the fiscal space needed to respond to future crises.

Box 2.1. Cost-of-Living Crises, Rents, and Monetary Policy

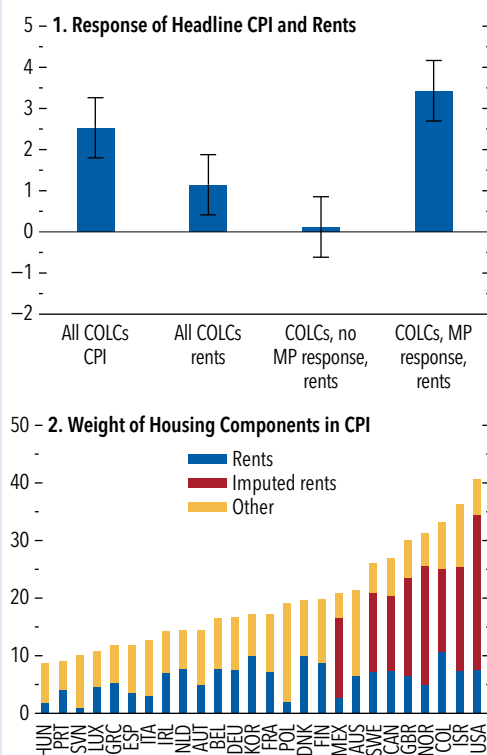
Within the broader category of housing costs, the chapter focuses on energy-related expenditures—such as electricity, gas, and other utility bills—which are particularly prone to abrupt price surges during cost-of-living crises. This box instead examines the behavior of rents during episodes of such crises, the interaction of rents with monetary policy, and their distributional implications across households.

During cost-of-living crises, rents increase on average by 1 percentage point: 1.5 percentage points less than the overall consumer price index (CPI) basket (Figure 2.1.1, panel 1). However, the increase in rents occurs only when crisis episodes are accompanied by an increase in policy rates. This is consistent with evidence that higher interest rates can hinder transitions into first-time homeownership, generating a rental demand shock that can push rent prices upward in the short term (Dias and Duarte 2019, 2022; Abramson, De Llanos, and Han 2025; De Stefani 2025). In countries where rents and owner-equivalent imputed rents

are a large component of the CPI basket (Figure 2.1.1, panel 2), this channel can work against the disinflationary effects of monetary tightening following the onset of cost-of-living crises.

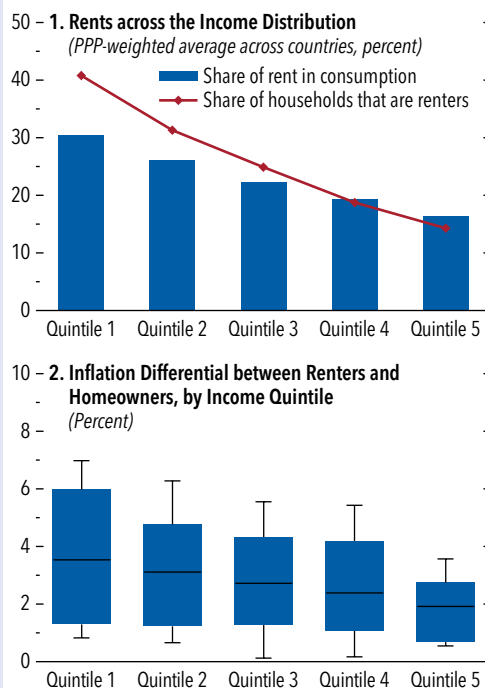
The dynamics of rents during cost-of-living crises—and the dependence of rents on central banks' responses—also have regressive distributional implications, since renters tend to fall into the lower income quintiles (Figure 2.1.2, panel 1). Homeowners—particularly in countries where fixed-rate mortgages prevail—are largely shielded from rising shelter costs induced by monetary tightening. Renters instead face the pass-through of rental costs, exacerbated by the large weight of rents in their consumption basket (Figure 2.1.2, panel 1). Indeed, during 2021–24, renters experienced higher total inflation relative to homeowners in the same income bracket (Figure 2.1.2, panel 2). Although relevant from a distributional standpoint, these implications remain, of course, outside the mandate of an inflation-targeting central bank, whose primary objective is to anchor aggregate price stability and expectations.

The authors of this box are Alessia De Stefani and Giovanni Sciacovelli.

Box 2.1 (continued)**Figure 2.1.1. Response of Rents during Cost-of-Living Crises**
(Percent)

Sources: Eurostat; Haver Analytics; IMF, *World Economic Outlook*; and IMF staff calculations.

Note: Panel 1 shows cumulative responses eight quarters after the onset of a cost-of-living crisis based on a local-projection framework estimated over 2001–22. Cost-of-living crises are identified from the change in food, transportation, and fuel costs and exclude housing costs. The monetary policy (MP) response is a dummy taking value 1 if policy rates increase in the quarter following the onset of a crisis and 0 otherwise. Controls include three lags of changes in the dependent variable, house prices and GDP, and country fixed effects. Whiskers represent 90 percent confidence intervals based on standard errors clustered at the quarter level. Panel 2 plots the average weight of rents, owner-equivalent imputed rents, and other housing costs (for example, utilities) in CPI across the same set of countries included in the regression analysis reported in panel 1. Data labels in the figure use International Organization for Standardization (ISO) country codes. COLCs = cost-of-living crises; CPI = consumer price index; MP = monetary policy.

Figure 2.1.2. Distributional Implications of Rents during Cost-of-Living Crises

Sources: Eurostat, Household Budget Surveys; Luxembourg Income Study Database; and IMF staff calculations.

Note: Panel 1 shows rents as a share of total household consumption for renters and the share of renters, by income quintile and averaged across countries (using 2026 PPP GDP weights). Panel 2 shows the difference in overall inflation experienced by renters and homeowners over 2021–24, by income quintile. Owner-equivalent imputed rents are excluded from the calculation. Boxes represent the interquartile ranges; horizontal lines in the middle of the boxes represent the medians; whiskers represent the 10th and 90th percentiles, respectively. The sample includes Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Germany, Greece, Finland, France, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, the Slovak Republic, Slovenia, and Spain. PPP = purchasing power parity.

References

- Abramson, Boaz, Pablo De Llanos, and Lu Han. 2025. "Monetary Policy and Rents." Working Paper, Columbia Business School, Columbia University, New York.
- Amaglobeli, David, Simon Black, Oya Celasun, and Frederik Toscani. 2026. "Europe's Second Energy Shock: Avoiding the Mistakes of 2022." *Intereconomics* 61 (3): 189–90.
- Amaglobeli, David, Mengfei Gu, Emine Hanedar, Gee Hee Hong, and Céline Thévenot. 2023. "Policy Responses to High Energy and Food Prices." IMF Working Paper 23/074, International Monetary Fund, Washington, DC.
- Amaglobeli, David, Emine Hanedar, Gee Hee Hong, and Céline Thévenot. 2022. "Fiscal Policy for Mitigating the Social Impact of High Energy and Food Prices." IMF Note 22/001, International Monetary Fund, Washington, DC.
- Argente, David, and Munseob Lee. 2021. "Cost of Living Inequality during the Great Recession." *Journal of the European Economic Association* 19 (2): 913–52.
- Ari, Anil, Philipp Engler, Manasa Patman, and Laura Valderama. 2023. "Energy Support for Firms in Europe: Best Practice Considerations and Recent Experience." IMF Working Paper 23/197, International Monetary Fund, Washington, DC.
- Arregui, Nicolas, Oya Celasun, Dora M. Iakova, Aiko Mineshima, Victor Mylonas, Frederik G. Toscani, Yu Ching Wong, Li Zeng, and Jing Zhou. 2022. "Targeted, Implementable, and Practical Energy Relief Measures for Households in Europe." IMF Working Paper 22/262, International Monetary Fund, Washington, DC.
- Auclert, Adrien, Hugo Monneray, Matthew Rognlie, and Ludwig Straub. 2024. "Managing an Energy Shock: Fiscal and Monetary Policy." In *Heterogeneity in Macroeconomics: Implications for Monetary Policy*, edited by Sofia Bauducco, Andrés Fernández, and Giovanni L. Violante, 39–108. Santiago: Central Bank of Chile.
- Bénassy-Quéré, Agnès. 2024. "The Policy Mix in a World of Supply Shocks." Speech delivered at the University of Bordeaux, Talence, France, October 3.
- Borio, Claudio, Piti Disyatat, Dora Xia, and Egon Zakrajšek. 2021. "Monetary Policy, Relative Prices and Inflation Control: Flexibility Born out of Success." *BIS Quarterly Review* (September): 15–29.
- Bracco, Jessica, Luciana Galeano, Pedro Juarros, Daniel Riera-Crichton, and Guillermo Vuletin. 2026. "Social Transfer Multipliers in Developed and Emerging Countries: The Role of Hand-to-Mouth Consumers." *World Bank Economic Review*, July 17.
- Cardoso, Miguel, Clodomiro Ferreira, José Miguel Leiva, Galo Nuño, Álvaro Ortiz, and Tomasa Rodrigo. 2022. "The Heterogeneous Impact of Inflation on Households' Balance Sheets." Working Paper 176, Red Nacional de Investigadores en Economía (RedNIE).
- Coibion, Olivier, and Yuriy Gorodnichenko. 2015. "Is the Phillips Curve Alive and Well after All? Inflation Expectations and the Missing Disinflation." *American Economic Journal: Macroeconomics* 7 (1): 197–232.
- D'Acunto, Francesco, Ulrike Malmendier, Juan Ospina, and Michael Weber. 2021. "Exposure to Grocery Prices and Inflation Expectations." *Journal of Political Economy* 129 (5): 1615–39.
- Dabla-Norris, Era, Christian Mumssen, Rodrigo Valdés, and Daria Zakharova. 2026. "The Energy Shock Is Testing Government Budgets." *IMF Blog*, June 18. <https://www.imf.org/en/blogs/articles/2026/06/18/the-energy-shock-is-testing-government-budgets>.
- Dao, Mai, Allan Dizioli, Chris Jackson, Pierre-Olivier Gourinchas, and Daniel Leigh. 2023. "Unconventional Fiscal Policy in Times of High Inflation." IMF Working Paper 23/178, International Monetary Fund, Washington, DC.
- De Stefani, Alessia. 2025. "Missing Home-Buyers and Rent Inflation: The Role of Interest Rates and Mortgage Underwriting Standards." IMF Working Paper 25/90, International Monetary Fund, Washington, DC.
- Del Canto, Felipe, John Grigsby, Eric Qian, and Conor Walsh. 2025. "Are Inflationary Shocks Regressive? A Feasible Set Approach." *Quarterly Journal of Economics* 140 (4): 2685–747.
- Dias, Daniel A., and João B. Duarte. 2019. "Monetary Policy, Housing Rents, and Inflation Dynamics." *Journal of Applied Econometrics* 34 (5): 673–87.
- Dias, Daniel A., and João B. Duarte. 2022. "Monetary Policy and Homeownership: Empirical Evidence, Theory, and Policy Implications." International Finance Discussion Paper 1344, Board of Governors of the Federal Reserve System, Washington, DC.
- Erceg, Christopher J., Marcin Kolasa, Jesper Lindé, and Andrea Pescatori. 2024. "Can Energy Subsidies Help Slay Inflation?" IMF Working Paper 24/81, International Monetary Fund, Washington, DC.
- European Parliament (EP). 2023. "Special Eurobarometer EB042EP: EP Autumn 2022 Survey: Parliament." Dataset. http://data.europa.eu/88u/dataset/S2932_98_1_EB042EP_ENG.
- Georgieva, Kristalina. 2022. "The IMF's Role in a More Shock-Prone World." Speech delivered at the Plenary Meeting of the 2022 IMF–World Bank Annual Meetings, Washington, DC, October 14.
- Gopinath, Gita. 2024. "Navigating Fragmentation, Conflict, and Large Shocks." Remarks delivered at the National Bank of Ukraine–Narodowy Bank Polski Annual Research Conference, Kyiv, Ukraine, June 21.
- Gourinchas, Pierre-Olivier, Borja Gracia, Delphine Prady, and Rodrigo Valdés. 2026. "Responding to the Energy and Food Price Shock: Getting the Policy Details Right." *IMF Blog*, May 20.

- Hossain, Naomi, and Jeffrey Hallock. 2022. "Food, Energy and Cost of Living Protests, 2022." Friedrich-Ebert-Stiftung, New York.
- Humpage, Owen F. 2008. "Rising Relative Prices or Inflation: Why Knowing the Difference Matters." *Economic Commentary*, June 1, Federal Reserve Bank of Cleveland.
- Inchauste, Gabriela, and David G. Victor, eds. 2017. *The Political Economy of Energy Subsidy Reform*. Directions in Development: Public Sector Governance. Washington, DC: World Bank.
- International Monetary Fund (IMF). 2024. "Macroeconomic Developments and Prospects for Low-Income Countries—2024." IMF Policy Paper 24/011, Washington, DC. <https://doi.org/10.5089/9798400272400.007>.
- Ipsos. 2026. "What Worries the World?" April report, New York. <https://resources.ipsos.com/rs/297-CXJ-795/images/What-Worries-the-World-april-2026.pdf>.
- Jaravel, Xavier. 2021. "Inflation Inequality: Measurement, Causes, and Policy Implications." *Annual Review of Economics* 13: 599–629.
- Jaravel, Xavier. 2026. "Distributional Consumer Price Indices." https://www.xavierjaravel.com/_files/ugd/bacd2d_40a5d2231f0847e1a2e20f6ca4031c7d.pdf.
- Jo, Yoon Joo, and Ben Klopach. 2025. "Fueling Expectations: The Causal Impact of Gas Prices on Inflation Expectations." *Journal of Monetary Economics* 153: 103797.
- Känzig, Diego R. 2021. "The Macroeconomic Effects of Oil Supply News: Evidence from OPEC Announcements." *American Economic Review* 111 (4): 1092–125.
- Kpodar, Kangni, and Boya Liu. 2022. "The Distributional Implications of the Impact of Fuel Price Increases on Inflation." *Energy Economics* 108: 105909.
- Lemoine, Matthieu, Anna Petronevich, and Anastasia Zhutova. 2024. "Bouclier tarifaire sur les prix de l'énergie en France: quel bilan?" [Energy Tariff Shield in France: What Is the Outcome?] *Bulletin de la Banque de France* 253 (4).
- Lokshin, Michael, Zurab Sajaia, and Iván Torre. 2025. "Who Suffers the Most from the Cost of Living Crisis?" *Review of Income and Wealth* 71 (1): e70009.
- Organisation for Economic Co-operation and Development (OECD). 2023. "Worries about Affording Essentials in a High-Inflation Environment." OECD Policy Brief, Paris.
- Ozhan, Galip Kemal, Nick Sander, Sebastian Wende, and Sihwan Yang. 2026. "Monetary Policy under Network-Level Bottlenecks." Unpublished, International Monetary Fund, Washington, DC.
- Pallotti, Filippo, Gonzalo Paz-Pardo, Jiri Slacalek, Oreste Tristani, and Giovanni L. Violante. 2024. "Who Bears the Costs of Inflation? Euro Area Households and the 2021–2023 Shock." *Journal of Monetary Economics* 148 (Suppl., November): 103671.
- Passadore, Juan, Giovanni Sciacovelli, Filiz Unsal, and Carlos van Hombecck. 2025. "External Shocks and Monetary Policy Trade-Offs in Low-Income Countries." IMF Working Paper 25/204, International Monetary Fund, Washington, DC.
- Sgaravatti, Giovanni, Simone Tagliapietra, Cecilia Trasi, and Georg Zachmann. 2023. "National Policies to Shield Consumers from Rising Energy Prices." Dataset, June 26. <https://www.bruegel.org/dataset/national-policies-shield-consumers-rising-energy-prices>.