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United Nations Development Programme
1 UN Plaza, New York, NY 10017, USA

Online ISSN: 3005-3307

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Abstract

Extreme poverty has been rising in Mozambique for the past decade[2]—a trend that our analysis suggests has been aggravated by the cost-of-living crisis induced by the onset of the war in Ukraine in early 2022. We estimate that, compared to December 2021, 1 million additional Mozambicans lived in extreme poverty as of December 2022 due to the soaring food, energy and transport inflation, with 60% of these individuals being concentrated in urban areas. Our analysis underscores the limited mitigation potential of tax measures, such as the reduction in Value Added Tax (VAT) implemented by the Mozambican government in December 2022. We find that alternative policies, such as cash transfers, have nearly three times greater mitigation potential. While this is a national analysis, this paper includes important policy implications for countries with significant shares of subsistence farmers, economies that have implemented or considered implementing a VAT reduction to mitigate income or consumption shocks, and countries facing compound shocks through the cost-of-living crisis, extreme weather events and armed conflict.

[2] For a detailed poverty assessment of Mozambique since 2014, please see The World Bank, Poverty Reduction Setback in Times of Compounding Shocks: Mozambique Poverty Assessment (Washington, DC, The World Bank, 2023).

Context

1

The eruption of the war in Ukraine in February 2022 disrupted post-pandemic economic recovery by triggering a sharp rise in global commodity prices, leading to a global cost-of-living crisis. With the war curtailing the supply of essential commodities, such as corn, wheat, sunflower oil, crude oil and natural gas, both food and energy prices soared in the initial months of the conflict and have remained high since. As a result, poverty has risen worldwide, amplifying the strain on household finances that were already weakened by the pandemic.

Following UNDP's global assessment of the cost-of-living crisis' poverty effect,[3] this paper provides a deep dive into the situation in Mozambique as an example of a national cost-of-living crisis study, paying close attention to the domestic and subnational context. Findings from the Mozambican case are interesting at a global level for several reasons. First, Mozambique's household survey data allows us to assess the diverging effects of Ukraine war-induced inflation on subsistence farmers. With more than a quarter of the world's population being subsistence farmers, and with this group constituting a significant share of the extremely poor,[4] it is crucial to understand how the cost-of-living crisis and potential policies aiming to mitigate it affect subsistence farmers. Second, like Mozambique, nearly a third of all countries globally have implemented VAT reductions in response to the polycrisis.[5] Assessing the mitigation potential of such policy, the paper at hand suggests that VAT reductions tend to disadvantage poorer individuals while also having an unequal gender impact. These findings have important implications for countries that have executed or plan to execute VAT reduction policies aiming to mitigate income or consumption shocks. Lastly, Mozambique's case illustrates the compound but regionalised effect of the cost-of-living crisis, extreme weather events and armed conflict. The analysis at hand highlights how a targeted policy response can address multiple crises from different sources simultaneously, which is essential in times of polycrisis.

This paper proceeds by providing an overview of the local context in Mozambique in the remainder of this section. Subsequent sections outline the methodology, the estimates of how the cost-of-living crisis has affected poverty in Mozambique and an assessment of the mitigation potential of the VAT reduction and proposed cash transfers to the poor. The last section concludes with national as well as globally transferable policy implications.

Earlier analyses have found that poorer households are disproportionately affected by price hikes in essential commodities, given that such commodities—especially food and energy—constitute a relatively higher share of their expenses. This is also reflected in the finding that, in contrast to high- and middle-income countries, poverty in low-income countries has yet to return to pre-pandemic levels.[6] The price of global commodities peaked on average in June 2022 and moderately decreased within the following six months (see Figure 1, left panel). In contrast, food, household energy and transport inflation in Mozambique increased with the rising commodity prices, but then continued their upward trajectory even when global commodity prices decreased (Figure 1, right panel). Thus, while global markets cooled down after the first months of the Ukraine war, inflationary pressures on Mozambican households' finances kept rising during 2022.

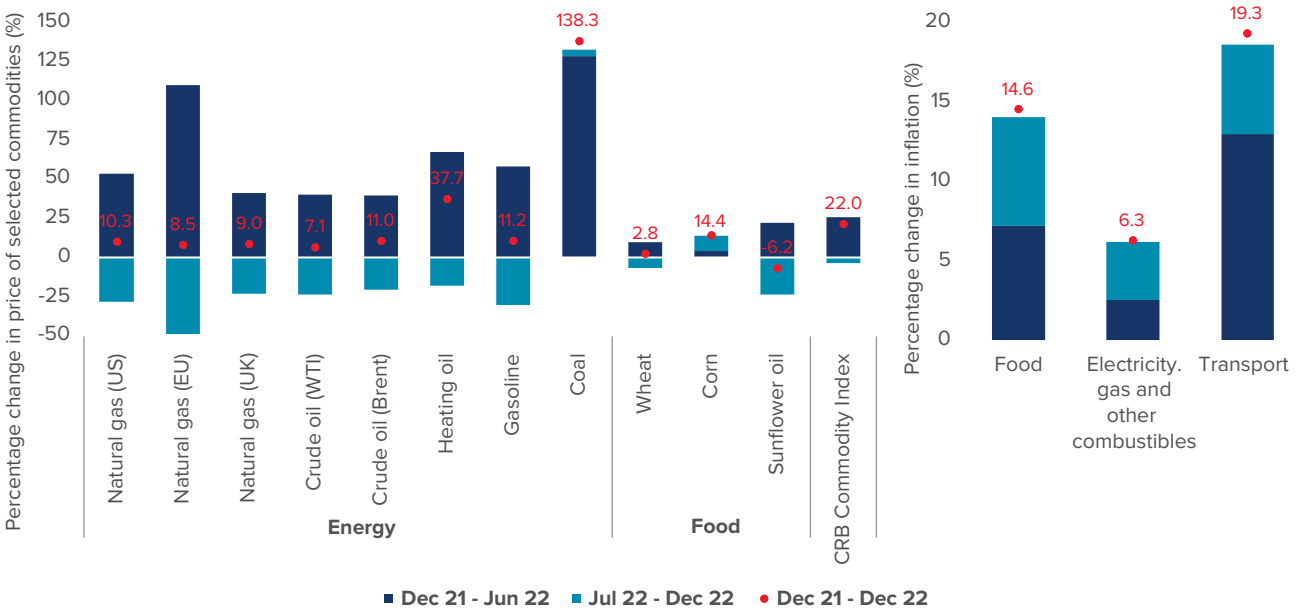
[3] For a global perspective on the effect of soaring food and energy prices on poverty and vulnerability in the first months of the war in Ukraine, please see George Gray Molina, Maria Montoya-Aguirre and Eduardo Ortiz-Juarez, *Addressing the Cost-of-Living Crisis in Developing Countries: Poverty and Vulnerability Projections and Policy Responses* (New York, United Nations Development Programme, 2022).

[4] To better understand smallholders' specific challenges, please see The World Bank, *A Year in the Lives of Smallholder Farmers* (2016) and UNCTAD, *Commodities and Development Report: Smallholder Farmers and Sustainable Commodity Development* (Geneva, United Nations Conference on Trade and Development, 2015).

[5] For VAT reductions in response to the COVID-19 pandemic, see the World Bank's Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 pandemic. For VAT reductions aiming to mitigate the effect of inflationary shocks, please see Gentilini and others, *Tracking Global Social Protection Responses to Price Shocks. Living paper v.3 (September 23, 2022)* (Washington, DC, The World Bank, 2022).

[6] For more details on post-pandemic poverty trends by income groups, please see Nishant Yonzan, Daniel Gerszon Mahler and Christoph Lakner, "Poverty is back to pre-COVID levels globally, but not for low-income countries", World Bank Blogs, 3 October 2023.

Figure 1. Percentage change in the global price of selected commodities over the 12-month period ending December 2022 (left panel) and in inflation of selected goods and services in Mozambique (right panel)

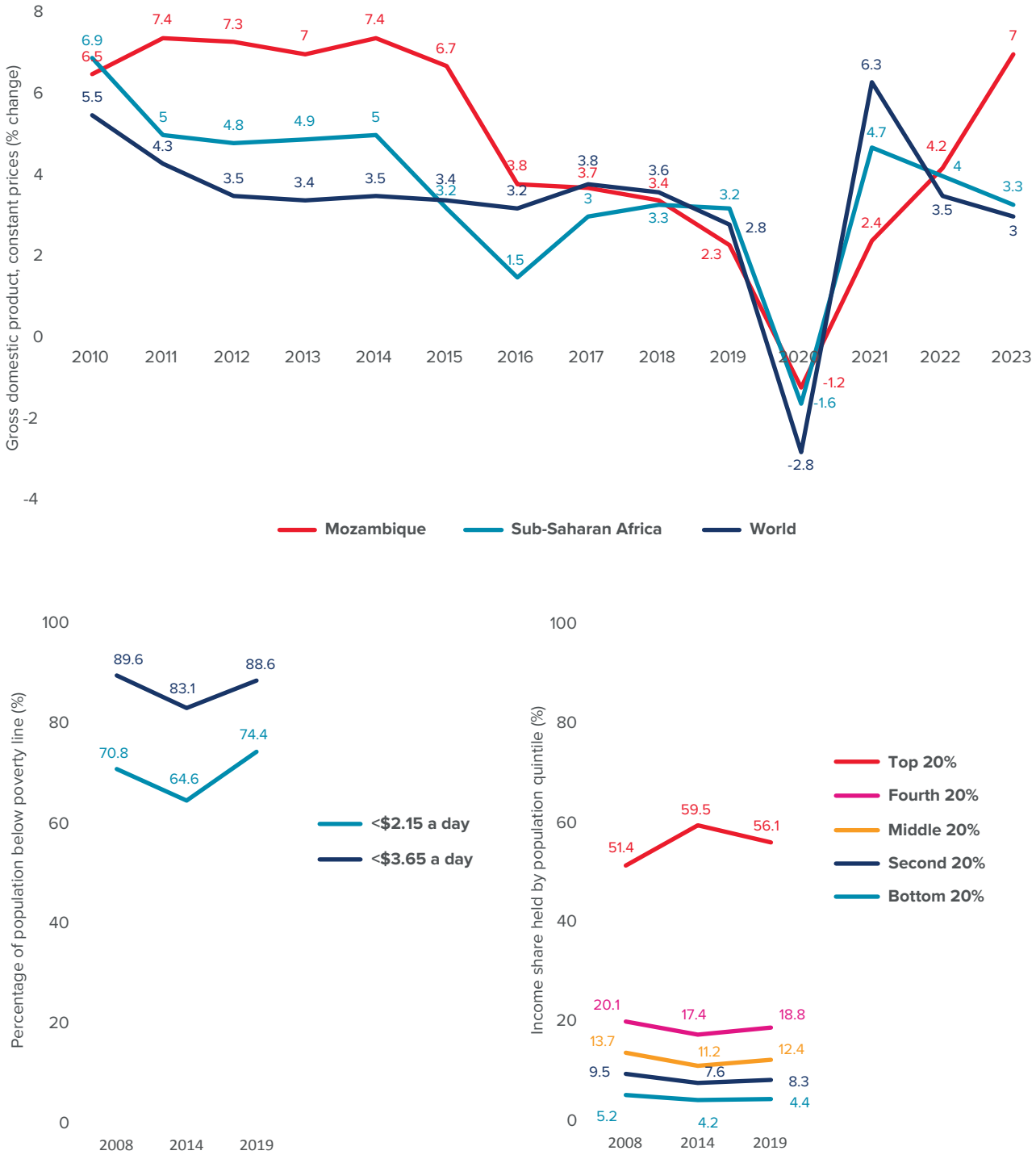


Source: Authors' elaboration based on daily prices from Trading Economics. Notes: Figures at the top of each dot represent the percentage change over the 12-month period, with each bar showing the change over the respective six-month period. The Commodity Research Bureau (CRB) Index includes 19 commodities: aluminium, cocoa, coffee, copper, corn, cotton, crude oil, gold, heating oil, lean hogs, live cattle, natural gas, nickel, orange juice, RBOB gasoline, silver, soybeans, sugar and wheat.

Up until 2015, Mozambique ranked among the 10 fastest-growing economies worldwide, attracting between 10% and 15% of all foreign direct investment (FDI) in Sub-Saharan Africa.[7] The country's average annual gross domestic product (GDP) growth exceeded 7% during this time, mostly driven by the impact of mega-projects in extractive industries and, more generally, the natural resources sector. However, the effect of this growth on poverty reduction was moderate, with the growth primarily benefiting the richest 20% of the population. In fact, during this period, the income share held by the poorest 80% of the population declined, exacerbating inequality in what stands as one of Sub-Saharan Africa's most unequal countries (Figure 2, bottom panels).

[7] For more information on Mozambique's hidden debt scandal and the country's economic situation before and after this crisis, see Fiseha Haile Gebregziabher and Albert Pijuan Sala, "Mozambique's 'hidden debts': turning a crisis into an opportunity for reform", World Bank Blogs, 19 April 2022.

Figure 2: Annual percentage change of gross domestic product (GDP) in Mozambique, Sub-Saharan Africa and the world, 2010–2023 (top panel); poverty rates and income share per quintile in Mozambique in 2008, 2014 and 2019 (bottom panels)



Source: Authors' elaboration based on IMF's World Economic Outlook (October 2023) for GDP and on World Bank World Development Indicators for poverty rates and income shares. Notes: GDP figures for 2023 are estimates. Poverty rates and income shares are based on the latest household surveys in 2008, 2014 and 2019 and thus are not available for in-between years or after 2019. Poverty lines are expressed in 2017 purchasing power parity (PPP).

In the aftermath of Mozambique's hidden debt crisis of 2016 and coinciding with the end of the global commodity super-cycle of the 2000s, the country's GDP growth declined sharply. This crisis caused FDI and budget support to dry up, the currency to depreciate and inflation to soar. Thereafter, economic growth averaged just above 3% annually until the onset of the COVID-19 pandemic in 2020.

Despite post-2015 growth being only marginally below the world average, it again did not translate into poverty reduction. Instead, extreme poverty (<$2.15 a day, 2017 PPP) rose by almost 10 percentage points between 2014 and 2019, affecting nearly three-quarters of the population before the pandemic (see Figure 2, bottom left panel). Poverty at higher thresholds also rose, with 88.6% of the population living below $3.65 a day (2017 PPP) in 2019. This left most of the population highly vulnerable to the shocks subsequently induced by the pandemic and the Ukraine war.

Post-pandemic economic recovery was initially slow but accelerated in 2022. However, the limited impact that growth has had on poverty reduction in the past, together with the lack of effective poverty reduction measures in recent years, suggests that poverty is likely to have increased throughout 2022 in the face of inflationary pressures faced by Mozambique because of the global cost-of-living crisis. This is especially so given the probable depletion of household savings during the pandemic.

Exacerbating the challenges induced by the inflationary shocks is Mozambique's high vulnerability to the impacts of climate change,[8] as well as the impact of the conflict affecting the northernmost province of Cabo Delgado. Thus, by the end of 2022, 1 to 2.5 million people in Mozambique required food aid due to internal displacement, conflict, tropical storms and droughts leading to below-average 2022 harvests and diminished household food stocks.[9]

Lastly, Mozambique's high dependence on imports of basic goods—with 12% of the country's imports in 2022 consisting of food and 19% of fuel[10]—creates further complications. It not only creates potential supply-chain issues that may prompt shortages and thus increase poverty, but also leads to higher exchange rate pass-through, thereby increasing inflation. Due to different triggers, this kind of inflation requires policy tools other than demand-pull inflation, thus creating a complex environment for policies to address. Additionally, Mozambique's import dependence has significant implications for foreign debt. The country's gross government debt stood at 104.5% of its GDP in 2022,[11] which is more than double the average of low-income developing countries (LIDCs). More than two-thirds of the total debt is foreign debt,[12] which bears greater macroeconomic risks than domestic debt due to exchange rate uncertainty, possibility of default and lower credit ratings. Furthermore, given that external debt acts as a drain on foreign exchange reserves, it reduces the country's resilience in the face of future shocks. Mozambique's external debt servicing amounted to 32.8% of its GDP in 2022,[13] which is again more than double that of the average LIDC country. This heavy debt burden is reflected in Mozambique's credit rating in the "substantial risk"[14] category and has led the World Bank and IMF to conclude in the latest Debt Sustainability Assessment that the country is "in debt distress."[12]

[8] The Global Climate Risk Index ranks Mozambique as the country most impacted by extreme weather events globally in 2019, the most recent year the index is available, and as the fifth-most affected country since 2000. For more information, see David Eckstein, Vera Künzel and Laura Schäfer, *Global Climate Risk Index 2021: Who Suffers Most from Extreme Weather Events? Weather-Related Loss Events in 2019 and 2000–2019*. Briefing Paper. (Bonn and Berlin, Germanwatch, 2021).

[9] For more details on Mozambique's food emergency due to the double crisis of extreme weather events and the conflict in Cabo Delgado Province, please see USAID, *Mozambique: Complex Emergency and Tropical Cyclone*. Fact Sheet #1. (Washington, DC, United States Agency for International Development, 2022).

[10] The import shares are based on the food and fuel imports (% of merchandise imports) indicated in the World Bank's World Development Indicators.

[11] The gross government debt (% of GDP) in 2022 is based on the IMF's World Economic Outlook from April 2023.

[12] For the share of foreign debt in Mozambique's gross government debt and the IMF's and World Bank's Debt Sustainability Analysis for Mozambique, please see IMF, *Republic of Mozambique: Third Review under the Three-year Arrangement under the Extended Credit Facility, Requests for Modification of the Monetary Policy Consultation Clause, Waiver of Nonobservance of Quantitative Performance Criterion, Financing Assurances Review – Debt Sustainability Analysis* (Washington, DC, International Monetary Fund, 2023).

[13] The external debt servicing as a share of GDP is based on the World Bank's World Development Indicators.

[14] All three major rating agencies—S&P, Moody's and Fitch—classified Mozambique's credit rating as in the "substantial risk" category in 2022.

Microsimulation of the potential short-term effects on poverty

2

Against this background, our analysis estimates how inflation in food, energy and transport induced by the war in Ukraine has affected households' consumption and poverty in Mozambique up to December 2022. To this end, we build on household consumption data from Mozambique's Household Budget Survey (IOF, for its acronym in Portuguese) of 2019/2020.[15] The design of the IOF 2019/2020 survey allows the identification of household expenses in the categories of interest for this paper: food and non-alcoholic beverages, energy[16] and transport,[17] as well as any remaining non-food goods and services. The survey also details the value of food, alcohol, water and energy production for a household's own consumption.

Using an arithmetic microsimulation, we assess the reduction in overall consumption induced by soaring food, energy and transport prices in 2022 and the subsequent short-term effect on poverty. The simulation then considers the possible offsetting effects of a reduction of VAT and two alternative cash transfer schemes.

Our analysis considers different tiers of poverty. A household is defined as poor if its per capita consumption falls below the international extreme poverty line of $2.15 a day (2017 PPP), or as vulnerable to poverty if its per capita consumption ranges between $2.15 and $3.65 a day (2017 PPP).[18]

This analysis has three major limitations. First, as an arithmetic, static simulation, it assesses the magnitude of additional expenses necessary to consume the same amount of food, energy and transport items under higher price levels and the consequent reduction of consumption in other categories. However, it does not account for possible changes in consumption behavior as a strategy to cope with rising prices, such as purchasing cheaper substitute products.

Second, the IOF 2019/2020 data do not allow the simulation to account for net seller households. A household is defined as a net seller if the amount of goods produced for sale exceeds the amount of the same goods produced for the household's consumption and if the excess is then sold in the market. Such net sellers experience positive effects on their economic well-being if the price of the goods they are selling increases.

Third, data for the IOF 2019/2020 survey were collected by the Mozambican National Institute of Statistics (INE) over a period of 12 months, starting in December 2019. This means data collection occurred partly during the COVID-19 pandemic, which may introduce several estimation biases. For instance, the consumption levels of households interviewed after the first national lockdown implemented in March 2020 may underestimate actual consumption in this analysis, given that the 2022 estimates are based on consumption that was contracted during the lockdown. At the same time, the estimated 2022 consumption

[15] Newer data sources, such as the IOF 2022, could not be made available at the time of writing. Using data from 2019/2020 may affect the accuracy of the presented estimates given that the underlying data do not reflect the consequences of the entire COVID-19 pandemic and the subsequent economic recovery. However, a significant share of the IOF 2019/2020 data were collected once the COVID-19 pandemic was already underway, suggesting its effect is partly recorded in the survey data. Additionally, the forward projection aims to capture the post-pandemic recovery by using regional economic growth rates as recorded in Mozambique's National Accounts.

[16] Expenditure on energy includes spending on piped or bottled gas, oil, coal, electricity and firewood.

[17] Expenditure on transport includes the purchase, rental and repair of vehicles and vehicle parts; gasoline for vehicles; land, sea and air travel; driving licenses; as well as parking and car guarding, among others.

[18] The international extreme poverty line, defined as $2.15 per person a day (in 2017 PPP), represents the mean of the national poverty lines of 28 low-income countries (LICs) and is thus the most relevant line for Mozambique as an LIC. The $3.65 per person a day (2017 PPP) threshold constitutes the average of the national poverty lines of lower-middle-income countries (Jolliffe et al., 2022). In the context of this paper, the latter line is used to measure vulnerability to extreme poverty. For more information on the international poverty lines, see Dean Jolliffe and others, *Assessing the Impact of the 2017 PPPs on the International Poverty Line and Global Poverty*. Policy Research Working Paper, no. 9941 (Washington, DC, World Bank, 2022).

levels of households interviewed before the lockdown may overestimate actual consumption, given that households may not yet have succeeded in returning to pre-lockdown consumption levels due to all of the subsequent shocks. Thus, the consumption levels that consider the lockdown contraction may be more accurate. However, such underestimations or overestimations of consumption may be counterbalanced by the cash transfers through the COVID-19 Social Protection Response Plan in 2020 and 2021, which could not be considered in this simulation since beneficiary households cannot be identified in the IOF 2019/2020 data.[19] Nearly 1.6 million households (equivalent to 25% of the population in 2021) were supposed to benefit from these cash transfers.

2.1. Estimation approach

Our analysis follows a five-step approach to estimate the poverty effect of the inflationary shocks affecting food, energy and transport prices in Mozambique throughout 2022.

First, based on the IOF 2019/2020, total monthly household aggregate consumption per capita is computed.[20] Additionally, the total per capita aggregate is split into five categories: the three expenditure categories of interest (food, energy, transport), remaining expenditure on other non-food goods and services, and auto-consumption. The latter captures the consumption value of food, energy, water and alcohol produced for households' own consumption. Auto-consumption is considered as a separate category, as it is not directly affected by food price dynamics. This is particularly important in the Mozambican context, given that approximately 79% of the Mozambican labour force are subsistence farmers for whom auto-consumption is common and who are thus likely to be less affected by food price hikes.[21]

Second, per capita expenditure per category is then projected forward to the end of 2021 as a baseline at the onset of the war in Ukraine using the GDP per capita growth rate by province between 2020 and 2021, as recorded in Mozambique's National Accounts (INE, 2023).[22] This projection assumes the standard 85% pass-through rate[23] and distribution-neutral growth, meaning it is assumed that the expenditure of all households has been growing at 85% of the GDP per capita growth rates recorded at the provincial level and that all households have benefitted from the same growth rate irrespective of their position in the province's consumption distribution. The forward-projected household per capita expenditure is adjusted for the 10.2% accumulated national inflation experienced between March 2020 and December 2021, as

[19] For more details on Mozambique's social protection response to COVID-19 and its proposed 2021 budget for Social Protection programmes, see ILO, *Reaching the Most Vulnerable in the Social Protection Response to the COVID-19 Crises in Mozambique: Opportunities and Challenges* (Geneva, International Labour Organization, 2020).

[20] The process of computing aggregate consumption included the following steps. First, given that data for the IOF were collected over 12 months, the consumption values collected in the last three quarters of 2020 were temporally adjusted to the first quarter using Mozambique's National Institute of Statistics (INE)'s Consumer Price Index (CPI) by categories according to the Classification of Individual Consumption According to Purpose (COICOP). As INE only shared the quarter of the data collection, a more precise temporal adjustment was not possible. Second, the temporally adjusted consumption values per category were transformed from the IOF reference period (daily, weekly, monthly, quarterly or yearly) to correspond to monthly consumption. Third, summing up the total temporally adjusted monthly consumption yields the total aggregate consumption, and then dividing this figure by the number of household members generates the per capita value. The food, energy, transport and other non-food goods and services expenditure as well as food and energy auto-consumption aggregates are the results of only totaling the temporally adjusted monthly consumption in the respective category.

[21] In 2017, 79% of Mozambique's labour force was engaged in agriculture, with 99.6% of those cultivating farms below 10 hectares and 72% below 2 hectares, producing mostly for subsistence with little purchased inputs. Subsistence farmers may be affected by changes in prices of fertilizer. However, in 2014/2015, only 3.8% of Mozambique's smallholder farmers used fertilizer, according to the nationally representative Integrated Agricultural Survey (IAI), which is why this analysis assumes a limited effect of fertilizer price increases on auto-consumption in Mozambique. For more details on subsistence farming, see CIAT, The World Bank, *Climate-Smart Agriculture in Mozambique*, CSA Country Profiles for Africa Series (Washington, DC, International Center for Tropical Agriculture [CIAT], The World Bank, 2017). For more information on fertilizer use, see Helder Zavale and others, "Dynamics of the Fertilizer Value Chain in Mozambique", *Sustainability*, vol. 12, No. 11 (2020).

[22] In terms of GDP per capita between 2020 and 2021, Niassa Province recorded 2.19% growth, Cabo Delgado Province 0.11%, Nampula Province 6.74%, Zambézia Province 3.67%, Tete Province 9.43%, Manica Province 2.63%, Sofala Province 4.55%, Inhambane Province 8.38%, Gaza Province 5.57%, Maputo Province 2.31% and Maputo City 4.13%. Auto-consumption values remain unchanged since it is unlikely that subsistence farming is affected by economic growth or contraction in the same way that household income and expenditure are. For more information on Mozambique's provincial GDP per capita growth, please see INE, *Produto Interno Bruto por província. Preliminar, 2022* (Maputo, Instituto Nacional de Estatística, 2023).

[23] The 85% pass-through rate is a global average, which likely varies across countries. However, there is no rate specified for Mozambique. Assuming an 85% pass-through rate is a frequently employed standard in forward projections, which is why no sensitivity analysis was undertaken to assess the impact of this assumption. For further information regarding the estimation of the value of the pass-through rate, see Christoph Lakner and others, "How Much Does Reducing Inequality Matter for Global Poverty?" *The Journal of Economic Inequality*, vol. 20: 559–585 (2022).

recorded in INE's Consumer Price Index (CPI),[24] obtaining an estimate of the real total per capita expenditure in December 2021. While these simplifying assumptions prevent us from gaining a better understanding of the distributional effects of price hikes, they provide a robust lower-bound estimate of the poverty impact. In this sense, the impact of the cost-of-living crisis on poverty would likely be higher if we factored in distributional effects.

Third, using provincial GDP per capita growth rates between 2021 and 2022 recorded in Mozambique's National Accounts (INE, 2023),[25] aggregate household per capita expenditure (i.e. all expenditure excluding auto-consumption) is projected forward to the end of 2022, again assuming an 85% pass-through rate and distribution-neutral growth. The forward-projected per capita household expenditure is adjusted for national inflation as per the Classification of Individual Consumption by Purpose (COICOP) categories[26] between December 2021 and December 2022 to make amounts comparable to those from 2021. This yields an estimate of the real total December 2022 per capita expenditure had the inflationary shocks not occurred, therefore providing a counterfactual.

Fourth, food, energy and transport expenditure from December 2021 is subjected to the inflationary shocks that occurred between December 2021 and December 2022, as recorded by INE, which are:

- 14.6% for food
- 6.3% for energy[27]
- 19.3% for transport.

This yields the additional expenditure necessary in 2022 to purchase the same amounts of food, energy and transport as a household purchased in 2021. Importantly, those inflationary shocks are only applied to purchased food and energy items but not to auto-consumption, given that subsistence farming is likely less significantly affected by price changes. Thus, auto-consumption values remain unchanged.

Lastly, the additional expenditure on food, energy and transport is subtracted from the forward-projected household per capita expenditure in 2022 to estimate how much a household could consume in total in 2022 assuming it maintains its food, energy and transport consumption levels of 2021, despite the inflationary shocks.[28] This leads to a reduction in available means to spend on other non-food goods and services. This subtraction yields the estimated real total per capita expenditure in 2022. Combined with auto-consumption, this yields the total per capita consumption in 2022, which is then used to compute poverty headcounts.

[24] The total CPI, rather than the CPI provided by COICOP categories, is used to maintain the consumption shares of each consumption category throughout the process of forward projection. INE does not report a provincial CPI, which is why the national CPI is employed. Given that the IOF data were adjusted to prices in the first quarter of 2020 (see footnote 20), the inflationary adjustment in this step accounted for inflation post-March 2020 and expressed values in March 2020 prices.

[25] Regarding GDP per capita between 2021 and 2022, Niassa Province recorded 5.5% growth, Cabo Delgado Province 5.2%, Nampula Province 4.6%, Zambézia Province 7.3%, Tete Province 11.1%, Manica Province 6.4%, Sofala Province 8.3%, Inhambane Province 8.5%, Gaza Province 10.1%, Maputo Province 11.4% and Maputo City 12.1%. For more information on Mozambique's provincial GDP per capita growth, please see INE, *Produto Interno Bruto por província*. Preliminar, 2022 (Maputo, Instituto Nacional de Estatística, 2023).

[26] COICOP is a reference classification by the United Nations Statistical Division.

[27] Energy inflation increased again by 5.5% within only one month between December 2022 and January 2023, with prices remaining at high levels throughout 2023. Consequently, negative effects of energy inflation on household consumption and poverty were likely aggravated after the period considered in this paper. However, due to data constraints, 2023 cannot be included in the analysis at hand.

[28] This subtraction may seem counterintuitive at first. However, the higher expenditure value does not indicate that the household consumes more, but instead represents the higher costs necessary for the household to be able to consume the same amounts.

Findings

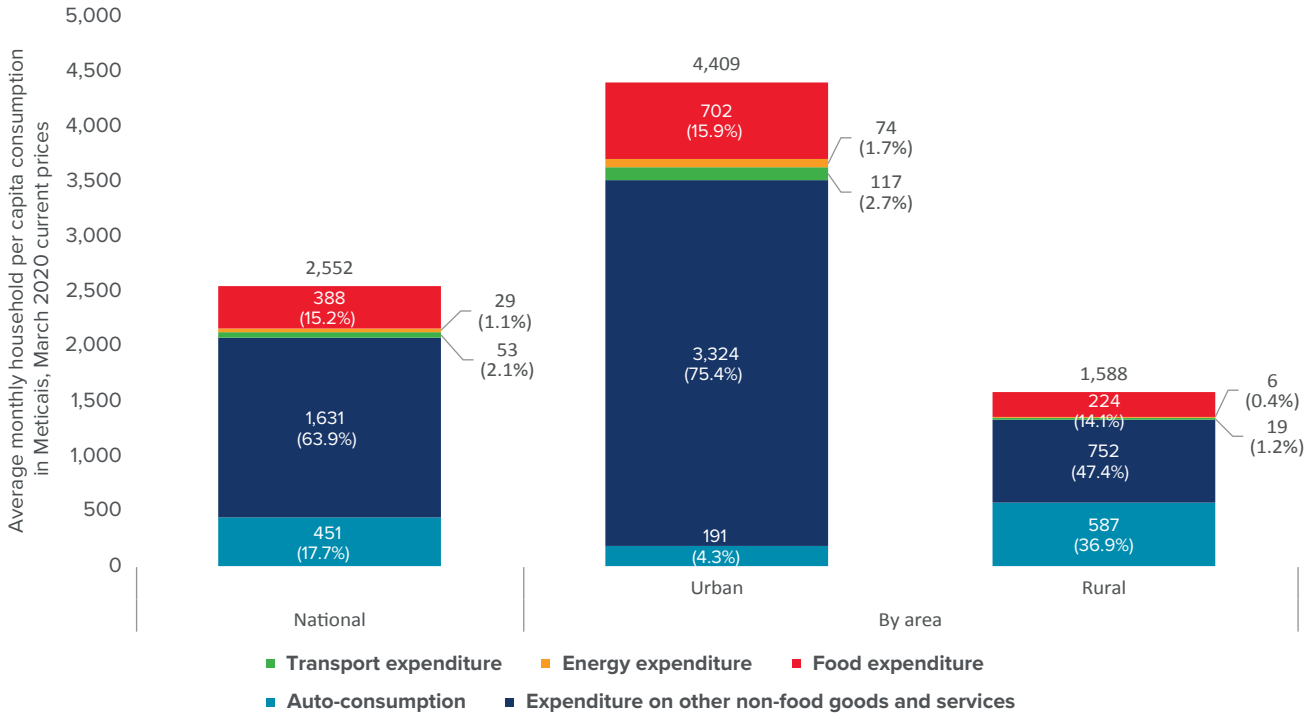
3

3.1. Preliminary considerations

Our consumption estimates for 2021 indicate that the average household in Mozambique devoted 18.4% of its average consumption to the purchase of items heavily affected by the 2022 cost-of-living crisis: 15.2% to food, 1.1% to energy and 2.1% to transport (see Figure 3). This constitutes a significant share of household consumption, pointing to high levels of vulnerability to price shocks such as those experienced in 2022.

These shares are similar for both urban and rural households. However, it is important to note that urban households' monthly per capita consumption is nearly three times larger than that of rural ones: over MT 4,400 (approximately US$70) for urban households, versus nearly MT 1,600 (approximately US$25) for rural ones. Consequently, given their much higher average consumption and the fact that transport and energy expenses account for a relatively small share of overall consumption, urban households may have had more capacity to absorb the price shocks experienced in 2022 than rural ones. Having said this, it is also important to note that, on average, a third of rural households' overall consumption is auto-consumption and therefore not purchased but produced by the households themselves (versus only 4.3% in urban areas), with more than 85% of that being food cultivated for households' own consumption. Thus, on this account, rural households might have been better able to mitigate soaring food prices than urban ones.

Figure 3: Total average monthly household per capita consumption and its components in 2021 at the national (left panel), urban (centre panel) and rural level (right panel)

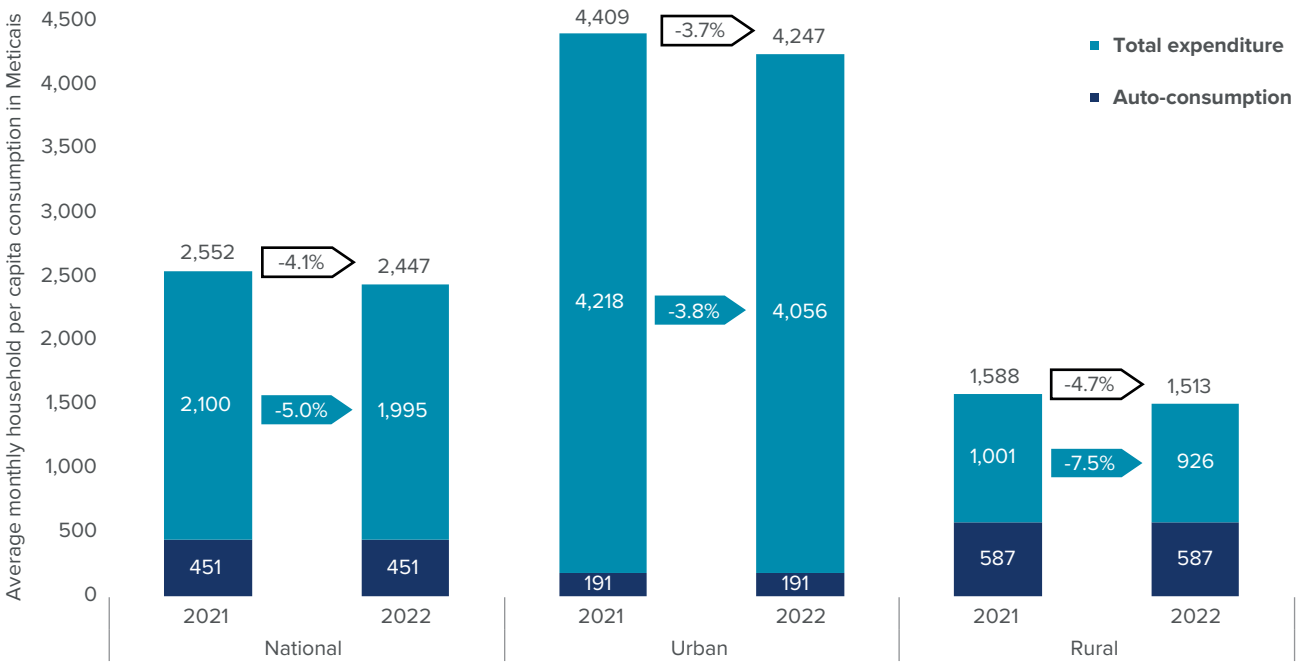


Source: Authors' computation based on IOF 2019/2020. Notes: Total consumption on top of the bars, relative shares of consumption components in brackets. Expenditure on other non-food goods and services includes spending on alcoholic beverages and tobacco, clothing, rent or imputed rent, house maintenance, water, imputed use value of durable goods, health, communications, recreation, education, hotels and restaurants, and diverse goods and services. Nationally, auto-consumption consists, on average, to 78.7% of food, 12.7% of water, 7.6% of energy and 1.0% of alcohol. In urban areas, food on average accounts for 52.3% of auto-consumption, water 11.2%, energy 32.4% and alcohol 4.0%. In rural areas, on average 85.4% of auto-consumption is food, 13.1% water, 1.3% energy and 0.2% alcohol. Figure A2 in the Annex illustrates the average monthly per capita consumption and its components in 2021 by gender of the household head.

3.2. Decreasing consumption

Our estimates indicate that real total household per capita expenditure dropped by 5% between 2021 and 2022 as a result of soaring food, energy and transport prices, despite nominal GDP per capita growing by over 8% in Mozambique during this same period. On the other hand, real total household per capita consumption, which includes auto-consumption, fell by 4.1%. In urban areas, with higher average purchasing power compared to rural communities, average expenditure fell by an estimated 3.8% and total consumption by 3.7%. In rural areas, with a higher food expenditure share, total average expenditure fell by an estimated 7.5% due to higher costs, decreasing total consumption by 4.7% (see Figure 4).

Figure 4: Total average monthly household per capita consumption, expenditure and auto-consumption in 2021 and 2022 at the national (left panel), urban (centre panel) and rural level (right panel)

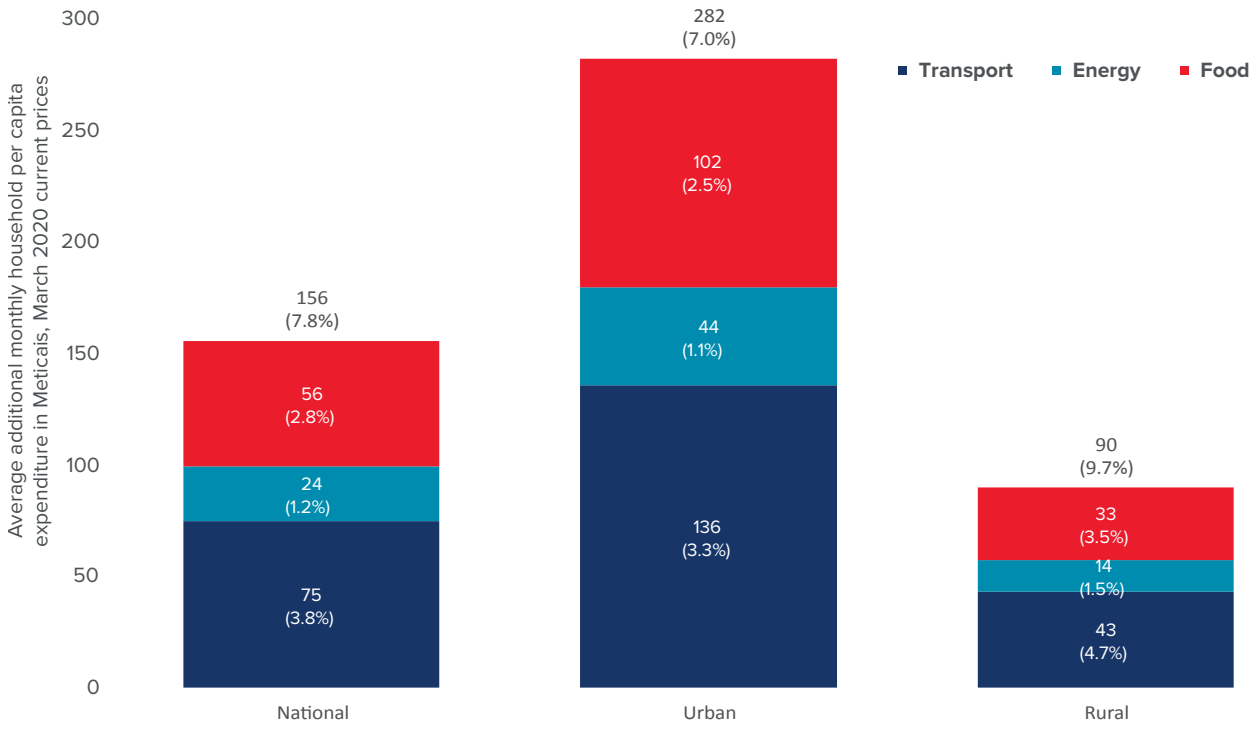


Source: Authors' computation based on IOF 2019/2020. Notes: Total consumption on top of the bars, relative reduction between 2021 and 2022 in arrows. Expenditure includes spending on food, energy and transport, as well as other non-food goods and services, including alcoholic beverages and tobacco, clothing, rent, household maintenance, water, furniture and other household items, health, communications, recreation, education, hotels and restaurants, and diverse goods and services. Auto-consumption comprises food, water, energy and alcohol produced for households' consumption.

To purchase the same amount of food, energy and transport items in 2022 as they did in 2021, it is estimated that the average urban household had to spend nearly MT 300 (approximately US$4.40) more per month for each household member, which represents 7% of their entire monthly per capita expenditure in 2022 (see Figure 5).

Transport accounts for nearly half the additional expenditure. For rural households, the additional monthly per capita expenditure on food, energy and transport sums up to an average of MT 90 per person (approximately US$1.40), which represents nearly 10% of their overall per capita expenditure in 2022 (see Figure 5).

Figure 5: Average additional monthly household per capita expenditure on food, energy and transport necessary to maintain consumption levels of 2021 in these three categories in 2022 at the national (left panel), urban (centre panel) and rural level (right panel)



Source: Authors' computation based on IOF 2019/2020. Notes: Total additional expenditure on top of the bars, relative share of overall per capita expenditure in 2022 in brackets.

3.3. Rising poverty at the national level

Based on the estimation methodology outlined above, in this section we estimate the poverty impact of the cost-of-living crisis, both in terms of headcount rates and absolute numbers, using the World Bank's international poverty lines of $2.15 and $3.65 per person a day (2017 PPP).

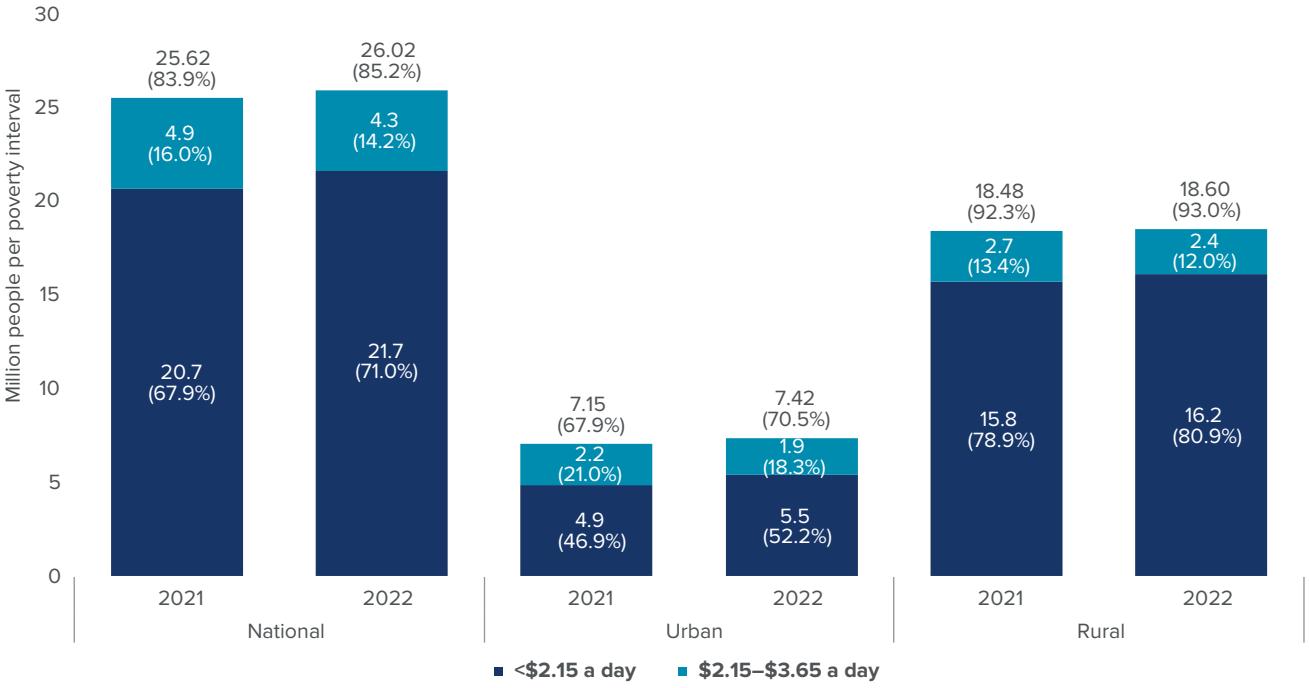
Our estimates put extreme poverty (<$2.15 a day) as affecting 20.7 million people, equivalent to 67.9% of the Mozambican population, by the end of 2021, before the beginning of the Ukraine war and the cost-of-living crisis. While extreme poverty was particularly high in rural areas, affecting 78.9% of the rural population in Mozambique, it was still significant in urban Mozambique, affecting 46.9% of the urban population.

At the national level, an estimated 1 million additional people—or 3.3% of Mozambique's population—moved into living in extreme poverty in 2022 due to higher food, energy and transport costs (see Figures 6 and 7). This represents a 4.6% increase in extreme poverty rates in Mozambique during this period, up to 71% by the end of 2022.

Of those new extreme poor, nearly 60% (550,000 people) lived in urban areas, suggesting that the higher auto-consumption share helped rural subsistence farmers cope with the shock. In urban areas, extreme poverty increased by 12.2%, putting the poverty incidence at 52.2%, up from 46.9% in 2021. In this sense, policy responses to the cost-of-living crisis would ideally support urban new poor while strengthening rural farmers' resilience.

In total, according to our estimates, 71% of Mozambique's population, or 21.7 million people, lived in extreme poverty in 2022 (see Figure 6). This figure is likely to be a lower-bound estimate, given it only factors in the additional costs incurred by households due to the inflationary shocks induced by the war in Ukraine, but not the downward pressure exerted on affected households' finances by extreme weather events and conflicts occurring in 2022. Additionally, these estimates do not account for demographic changes between 2020 and 2022, meaning the absolute headcount of the extreme poor is likely higher.

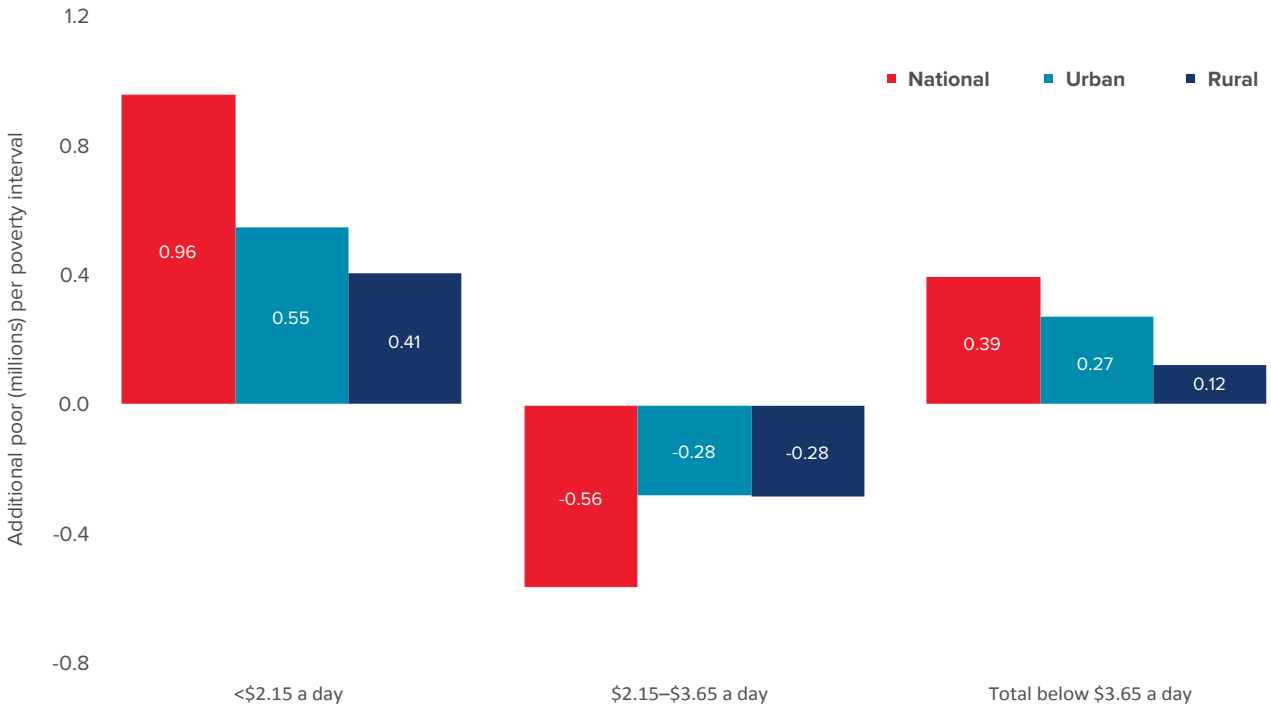
Figure 6: Million people living in extreme poverty (<$2.15 per person a day, 2017 PPP) and in vulnerability to extreme poverty ($2.15–$3.65 a day) in 2021 and 2022 at the national (left panel), urban (centre panel) and rural level (right panel)



Source: Authors' computation based on IOF 2019/2020. Notes: Total poor below $3.65 a day on top of bars, relative share of each poverty interval in brackets. The poor and vulnerable urban and rural population adds up to the total national number of poor and vulnerable people in that year. Figure A1 in the Annex shows the number of extreme poor and vulnerable by gender of the household head.

At the higher poverty line of $3.65 a day, no negative impact of the food, transport and energy inflation crisis can be observed. In fact, at this level, poverty headcounts and rates declined at the national, urban and rural levels (see Figure 6). This suggests two things. First, inflationary shocks affected the poorest individuals the most. This is a reasonable assumption, given the significantly higher share of food in poor households' overall consumption. This calls for a policy response targeting the poorest segments of the Mozambican population. Second, these findings imply that a significant share of the Mozambican population who were not formally in extreme poverty already lived just above the $2.15 threshold before the war in Ukraine—likely because of depleted savings due to the pandemic—and were thus highly vulnerable to be pushed into extreme poverty in the face of another shock, such as the cost-of-living crisis.

Figure 7: Change in millions of people living in extreme poverty (<$2.15 per person a day, 2017 PPP) and vulnerability to extreme poverty ($2.15–$3.65 a day) from 2021 to 2022 at the national, urban and rural level



Source: Own computation based on IOF 2019/2020.

3.4. Differential impact at the province level

At the province level, stark differences are evident in the magnitude of the inflationary shocks' impact on poverty in Mozambique. Nampula is by far the hardest hit province, with more than 300,000 new extreme poor at the end of 2022, which constitutes 5% of the province's population (see Figure 8). It is important to note that Nampula was already one of the provinces hardest hit by Cyclone Gombe in March 2022, and that by the end of 2022 it was also hosting nearly 90,000 internally displaced people fleeing from the conflict affecting the neighboring province of Cabo Delgado.[29] Additionally, the province is home to Mozambique's third-largest city, Nampula, which is experiencing high unemployment and fast, unplanned urbanization, mostly driven by poor rural migrants. All these findings underline the high levels of vulnerability of the population of Nampula Province, which was already the poorest province in the country in 2019/2020 before the inflationary shocks.[30]

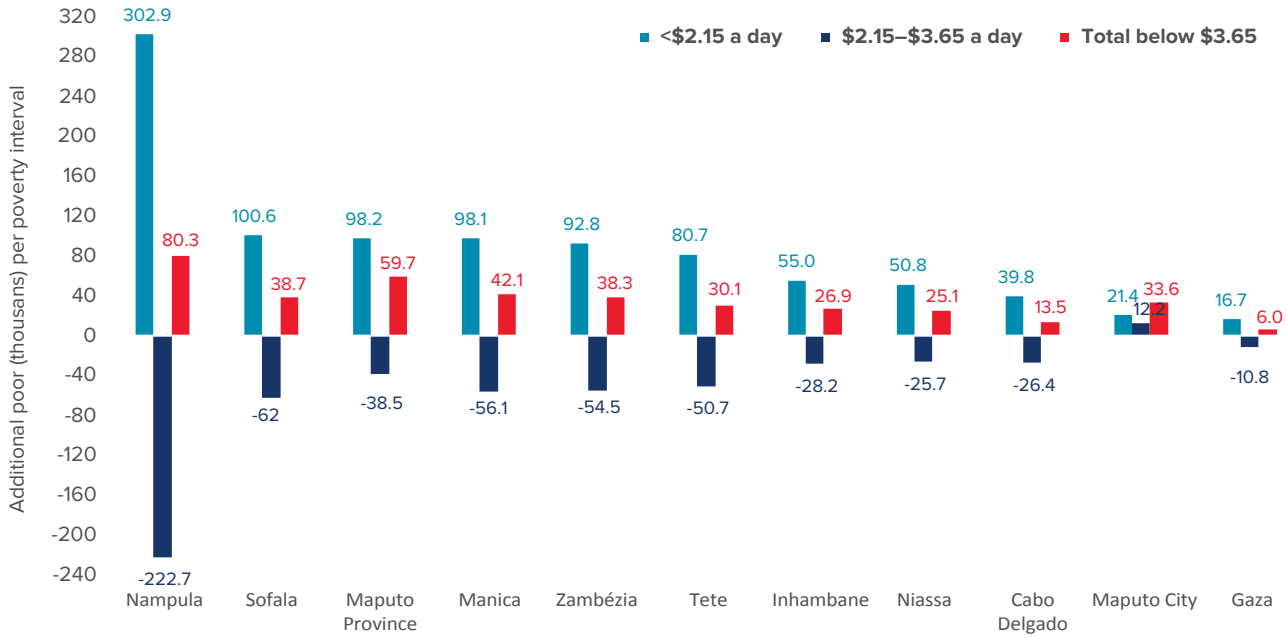
With Nampula Province having registered an increase in absolute extreme poverty three times larger than that of the next most-affected province, Sofala, and accounting for nearly a third of the entire national increase in the extreme poverty headcount, such stark regional differences in the poverty impact of the cost-of-living crisis suggest that regionally targeted policy responses may be required.

[29] For more information about those internally displaced due to the insurgency in Cabo Delgado Province, please see OCHA, *Mozambique: Cabo Delgado, Nampula & Niassa Humanitarian Snapshot* (New York, United Nations Office for the Coordination of Humanitarian Affairs [OCHA], 2023).

[30] Nampula Province recorded the highest poverty rate in Mozambique in 2019/2020, with 81% of its population living below the national poverty line. For more details on poverty rates by province before the cost-of-living crisis, please see The World Bank, *Poverty Reduction Setback in Times of Compounding Shocks: Mozambique Poverty Assessment* (Washington, DC, The World Bank, 2023).

The other outlier in our analysis is Maputo Province, which is the only province where poverty increased for both poverty lines used in our analysis ($2.15 and $3.65 a day), albeit moderately: an additional 21,000 people living with less than $2.15 per day and an additional 12,000 people living on less than $3.65 per day (both in 2017 PPP). In all other provinces, the negative impact was limited to increases in extreme poverty (<$2.15 a day), accompanied by reductions in the poverty headcount at the higher threshold of $3.65 per day. This suggests that price increases in Maputo Province were so severe that they did not only affect the poorest households but also made somewhat better-off households vulnerable to extreme poverty.

Figure 8: Change in thousands of people living in extreme poverty (<$2.15 per person a day, 2017 PPP) and in vulnerability to extreme poverty ($2.15–$3.65 a day) from 2021 to 2022 by province



Source: Authors' computation based on IOF 2019/2020.

Potential mitigation policy responses: VAT reduction versus cash transfers

4

Having examined the impact of the cost-of-living crisis on poverty in Mozambique, this section now turns to examining possible policy responses. We explore two options: a reduction in VAT, such as the one introduced by the Mozambican government at the end of 2022, and two alternative hypothetical cash-transfer programs targeting the poor.

4.1. VAT reduction

In December 2022, the government of Mozambique introduced a one percentage point (pp) reduction in VAT from 17% to 16%, as part of its Economic Acceleration Package (PAE, for its acronym in Portuguese), aimed at "stimulating the economy and improving the purchasing power of families."[31] While not explicitly introduced in response to the cost-of-living crisis, it did coincide in time and was seen by most analysts as partly responding to the soaring inflation the country was facing at the time of implementation as a result of the war in Ukraine. In any case, it provides a good benchmark to examine its potential to mitigate the poverty impact of the cost-of-living crisis.

Our analysis suggests that this one pp reduction in VAT, at an estimated monthly cost of MT 373.7 million, or MT 4.5 billion annually (approximately $US5.9 million and $US70.2 million, respectively), lifted an estimated 38,000 individuals out of poverty (see Figure 10, left panel)—a relatively small number. Consequently, the effectiveness of this reduction in VAT to mitigate the poverty impact of price rises is somewhat limited, at least in comparison to other policy options. Additionally, its distributional impact is suboptimal.

There are a number of reasons for this limited effectiveness, including the design of the VAT. Specifically, essential expenditure items, such as food, fertilizer, domestic gas, fuel and public transport services—i.e. those most affected by increasing prices during the 2022 cost-of-living crisis—are exempt from VAT.[32] Consequently, the purchase of these goods is not impacted by the reduction in VAT, and households' additional expenditure on these items is thus not mitigated.

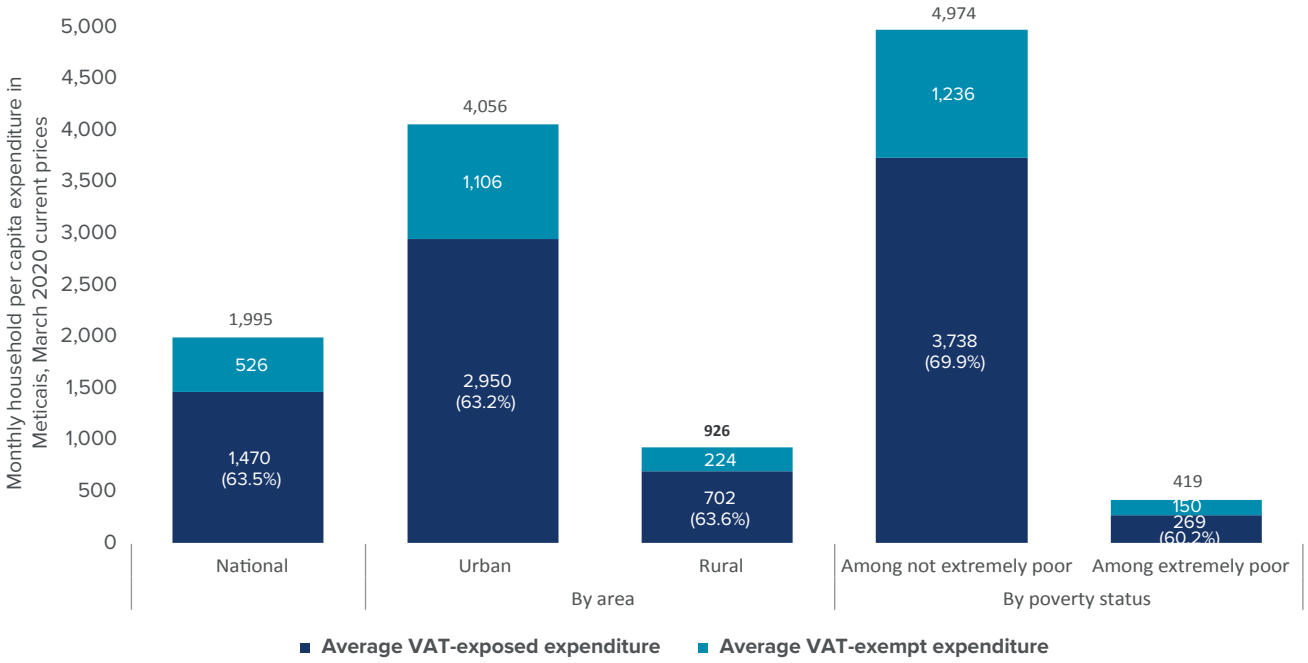
In this sense, in the Mozambican context, the reduction of VAT is likely to disproportionately benefit those with higher expenditure, as VAT proportionally tends to be applied to goods that are consumed in larger amounts by better-off households. Indeed, only about 60% of the total expenditure of extremely poor households is exposed to VAT (and can thus benefit from the VAT reduction), compared to 70% for non-extreme poor households (see Figure 9). In other words, this VAT reduction does not target the segment of the population that has suffered most from the impact of inflation, which this analysis identifies as households at the lower end of the consumption distribution, i.e. those living in extreme poverty.

[31] For more details on the Economic Acceleration Package, and specifically the one percentage point VAT reduction that Mozambique passed in December 2022, please see Republic of Mozambique, Ministry of Economy and Finance, *Pacote de Medidas de Aceleração Económica (English)* (Maputo, Republic of Mozambique, Ministry of Economy and Finance, 2022).

[32] For more information regarding Mozambique's VAT regulation, including exempt items, please see Boletim da República, 3.° Suplemento, *Boletim da República, 52* (Dec 31, 2007).

Moreover, given that VAT is applied only to goods purchased in the market, this policy measure provides less benefit to those households with high shares of auto-consumption, which tend to be poor rural subsistence households. While the share of VAT-exposed expenditure of total expenditure is comparable between urban and rural communities, the absolute VAT-exposed expenditure of urban households is on average more than four times larger than that of rural households (approximately MT 2,950 versus MT 700; see Figure 9). Consequently, urban households' potential to save in absolute terms due to the VAT reduction is four times larger than that of rural households. However, given that extreme poverty is concentrated in rural areas (75% of extreme poor lived in rural areas in 2022; see Figure 6), the mitigation policy ideally should not disfavor them.

Figure 9: Monthly household per capita expenditure that is exposed to and exempt from Value Added Tax (VAT) in 2022



Source: Authors' computation based on IOF 2019/2020. Notes: Total household per capita expenditure on top of bars, share of VAT-exposed expenditure of total expenditure in brackets. The shares are not equal to dividing the average VAT-exposed expenditure by the total expenditure of the respective group, given that the shares are the weighted averages of each household's share. Figure A3 in the Annex shows household per capita VAT-exposed and -exempt expenditure by gender of the household head.

4.2. Cash transfer to the poor

An alternative policy option that could be considered to mitigate the impact of the cost-of-living crisis on the most vulnerable segments of the Mozambican population is a cash transfer programme targeting the extreme poor. In this section, we present the results of a simulation of such a programme of similar fiscal cost to that of the VAT reduction introduced by the government of Mozambique in late 2022.

Based on the experience of similar programs implemented in Sub-Saharan Africa, we assume in our simulation that operational costs of running such a cash transfer scheme amount to 26% of overall costs.[33] This would leave around MT 291.2 million (approximately $US4.6 million) to be paid out to beneficiaries on a monthly basis as part of a cash transfer programme. We then examined different cash transfer designs as part of our analysis.

Our most effective cash transfer design targets nearly 980,000 highly vulnerable individuals[34] in urban areas of the poorest provinces of the country (Nampula, Cabo Delgado, Zambézia, Gaza and Niassa), who would receive a monthly cash transfer of MT 1,650 per household (approximately $US26). This amount would nearly compensate for the monthly additional expenses that the average targeted urban household with six members faced due to the inflationary shocks of 2022 (see per capita additional costs in Figure 5, multiplied by the average household size of six among the targeted population). Additionally, the suggested cash transfer amount represents approximately 40% of the average monthly food basket cost in 2022 in Mozambique.

This cash transfer design has emerged as a more effective way to reduce extreme poverty than other options examined, including schemes supporting more households with a smaller cash transfer amount, programs targeting a different mix of provinces, or cash transfer designs expanding their focus to also include rural households. It is important to note that the five targeted provinces in our most effective cash transfer design were already the poorest before the inflationary shocks,[35] again suggesting that inflation-mitigating measures should focus on the poorest to be most effective.

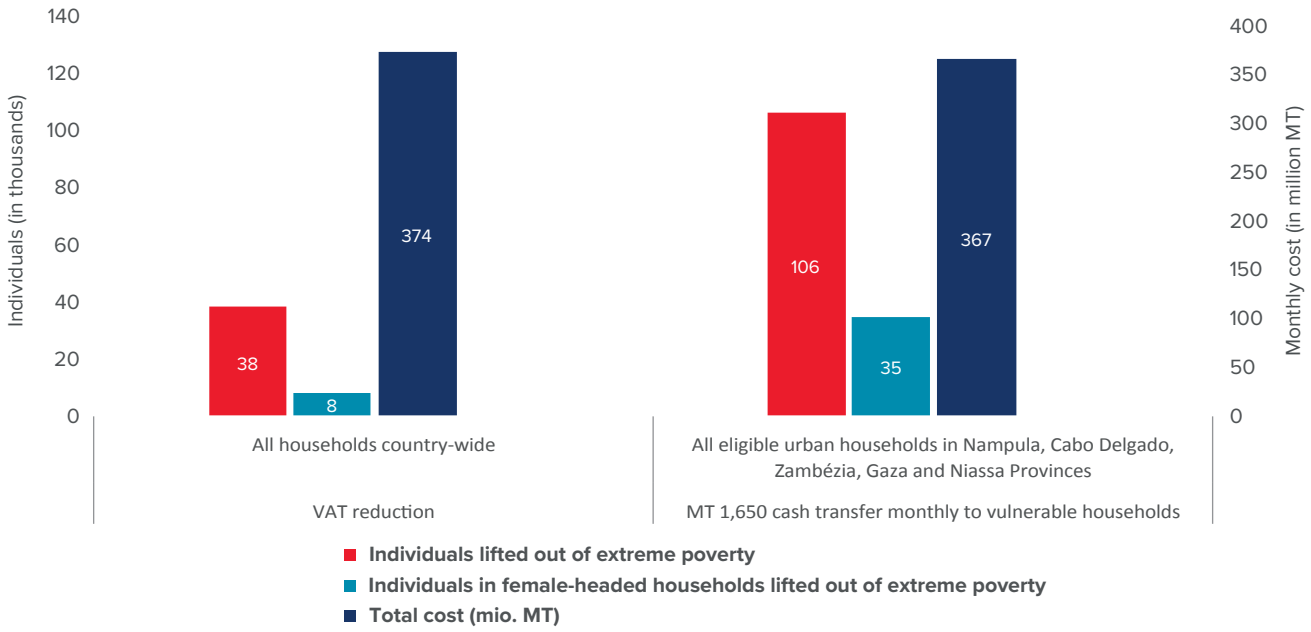
Altogether, our best cash transfer design would be nearly three times more effective at lifting individuals out of extreme poverty than the one pp VAT reduction discussed in the previous section (compare the right and left panels in Figure 10). Specifically, the cash transfer scheme has the potential to mitigate 11% of the poverty impact of the inflationary shock for each month it is implemented, reducing the number of new extreme poor by more than 106,000 (see Figure 10, right panel).

[33] There are limited studies on the administrative costs of cash transfer schemes, and most are older than a decade and do not include many LICs like Mozambique, where the costs may be higher due to limited administrative capacities. Furthermore, the costs of targeted cash transfer programmes in particular tend to fall significantly within the first years of implementation, after the completion of high-cost elements like the identification of beneficiaries and procurement of supplies to support delivery. For instance, the administrative costs of Mexico's PROGRESA programme reduced from 51% to 6% of the total budget within the first seven years of implementation (see Ortiz and others, *Universal Social Protection Floors: Costing Estimates and Affordability in 57 Lower Income Countries* [Geneva, International Labour Organization, 2017]). Given that Mozambique is a LIC and administers mostly electronic cash transfers, the study at hand assumes administrative costs of 26% of overall programme expenditure. This percentage is based on the average administrative costs found in O'Brien, Hove and Smith's 2013 study of seven e-transfer studies in Kenya (a LIC up to 2014) and Somalia. For more information, please see Clare O'Brien, Fidelis Hove and Gabrielle Smith, *Factors Affecting the Cost-efficiency of Electronic Transfers in Humanitarian Programmes* (Oxford, Oxford Policy Management, 2013).

[34] This analysis applied the same vulnerability criteria that Mozambique's COVID-19 emergency response used (see p. 23 of this report). However, due to data limitations, criteria II, IV and V could not be considered in the targeting underlying this analysis.

[35] For more details on poverty rates by province before the cost-of-living crisis, please see The World Bank, *Poverty Reduction Setback in Times of Compounding Shocks: Mozambique Poverty Assessment* (Washington, DC, The World Bank, 2023).

Figure 10: Efficacy (in terms of individuals lifted out of extreme poverty) and cost of VAT reduction policy and cash transfer scheme of similar cost



Source: Authors' computation based on IOF 2019/2020.

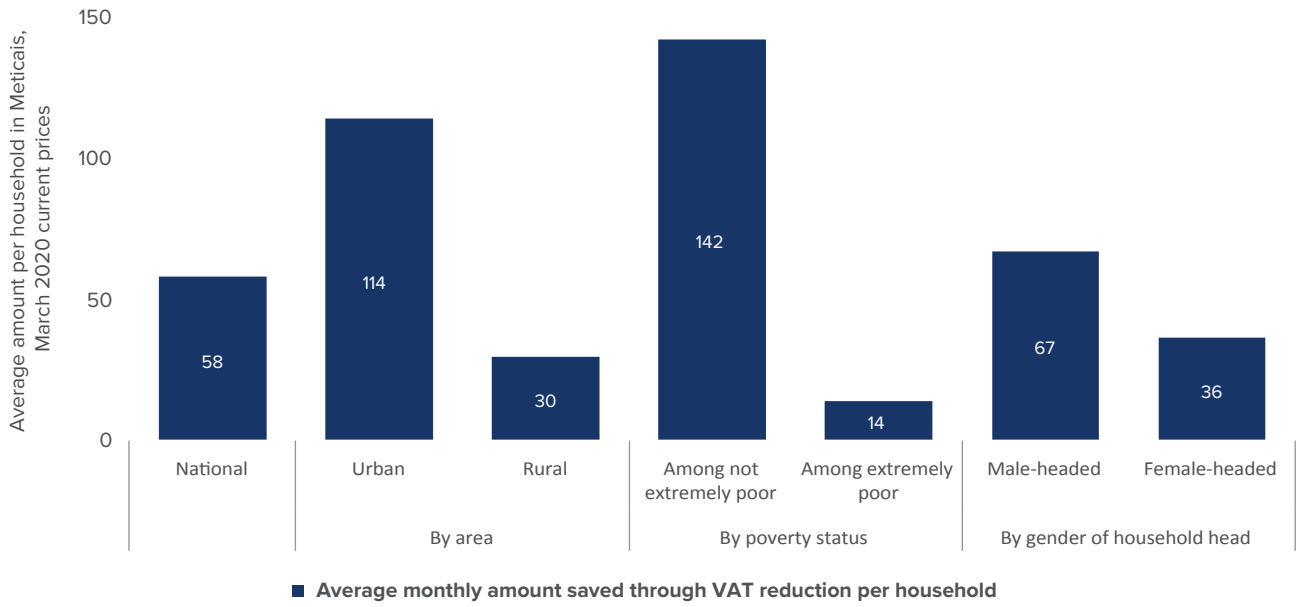
Additionally, such a cash transfer scheme targeting the most vulnerable would have a greater gender impact: while the VAT reduction lifts approximately 8,000 individuals who are living in female-headed households out of extreme poverty, the discussed cash transfer of a similar total cost would increase this same number more than four-fold, to nearly 35,000 (see Figure 10).

This discrepancy arises because the VAT reduction inadvertently disadvantages female-headed households due to their typical consumption patterns. Female-headed households rely more heavily on auto-consumption and VAT-exempt essential goods than male-headed households (see Figures A2 and A3 in the Annex). This pattern seems to reflect consumption choices rather than a higher extreme poverty rate among female-headed households, as the estimated extreme poverty rate among female- and male-headed households was nearly the same in 2022: 71.2% versus 70.9% (see Figure A1 in the Annex).

Consequently, the outlined one pp reduction in VAT disproportionately benefits male-headed households, resulting in nearly double the savings. Specifically, the average monthly savings for male-headed households is MT 67 compared to only MT 36 for female-headed households (see Figure 11).

Examining the average monthly savings from the VAT reduction also highlights that the policy does not provide sufficient relief to extremely poor households for them to move out of poverty. On average, an extremely poor household would have saved only MT 14 per month through the VAT reduction in 2022 (see Figure 11). In comparison, the proposed cash transfer of MT 1,650 per household is nearly 120 times higher, making it much more effective in reducing extreme poverty, at an equivalent overall cost.

Figure 11: Average monthly amount households could have saved through reduction in Value Added Tax (VAT) in 2022



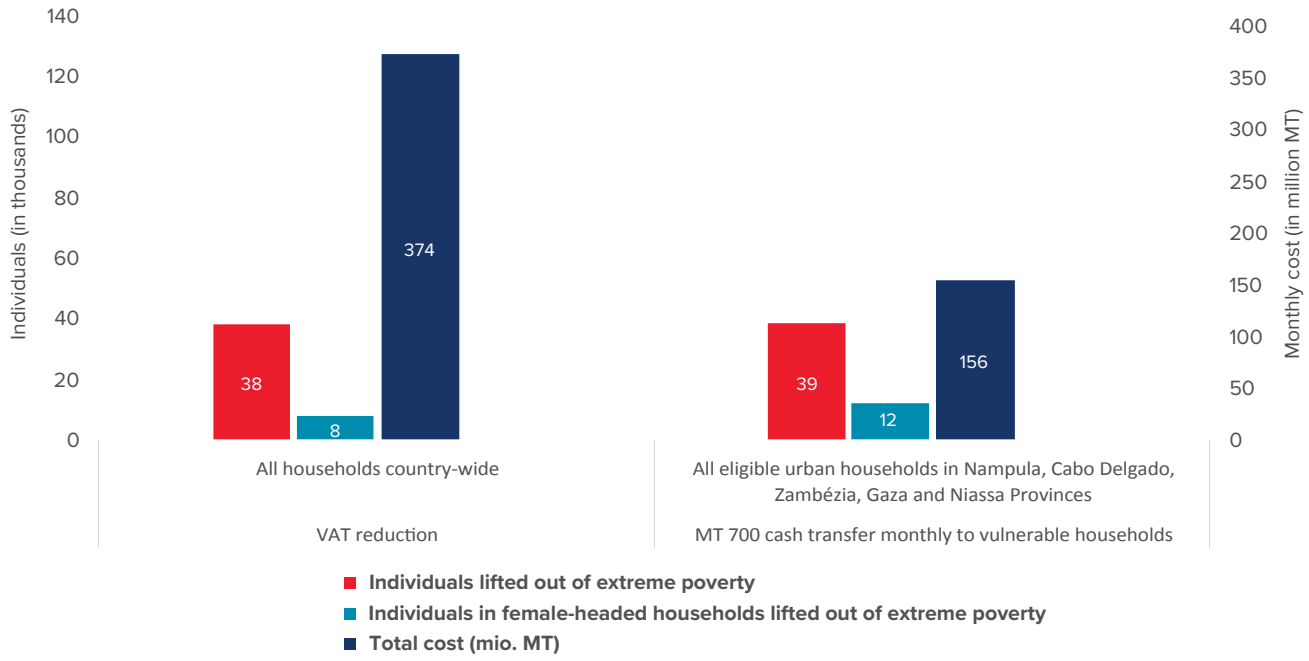
Source: Authors' computation based on IOF 2019/2020.

In fiscal terms, the total monthly cost of the VAT reduction policy and the simulated cash transfer (including administrative costs) amount to 8.3% and 8.1%, respectively, of Mozambique's proposed yearly budget for Social Protection Programs for 2021, and 3.9% and 3.8%, respectively, of the budget if the proposed budget from external donors is also considered.[36] However, as already mentioned, the cash transfer programme is far more cost effective, providing greater value for the money from a budget effectiveness or taxpayers' perspective.

To illustrate this, we simulated a second cash transfer, this time of similar efficacy to the VAT reduction in terms of individuals lifted out of extreme poverty. A monthly transfer of only MT 700 (approximately $US11) to the same beneficiary households as in the previously simulated cash transfer could achieve the same decrease in the incidence of extreme poverty as the one pp VAT reduction, yet only at 42% of the cost, therefore providing significant fiscal savings (see Figure 12).

[36] For more details on Mozambique's social protection response to COVID-19 and its proposed 2021 budget for Social Protection programmes, see ILO, *Reaching the Most Vulnerable in the Social Protection Response to the COVID-19 Crises in Mozambique: Opportunities and Challenges* (Geneva, International Labour Organization, 2020).

Figure 12: Cost of VAT reduction policy and cash transfer scheme of similar efficacy (in terms of individuals lifted out of extreme poverty)



Source: Authors' computation based on IOF 2019/2020.

Operationally, the implementation of a cash transfer programme such as the one proposed here could build on existing institutional mechanisms to reduce costs and the time required to set up such a scheme, therefore maximizing its impact. It is important to note, in this respect, that albeit limited in scope, Mozambique has a robust social protection system. Even before the COVID-19 pandemic, Mozambique's social protection system was already covering nearly 600,000 beneficiary households, accounting for roughly 10% of the population and 14% of the estimated extreme poor in 2022. This social protection system permits a rapid expansion in cases of new emergencies, which could be used to design a response to the cost-of-living inflationary shocks.[37]

To maximize the impact of such a cash transfer scheme, the government could target highly vulnerable households exposed not only to the 2022 cost-of-living crisis, but also to other shocks the country has recently experienced, such as the impact of Cyclone Gombe or the conflict affecting Cabo Delgado and its impact on internal displacement movements throughout the northern region of the country. Such triangulation of vulnerabilities would suggest a regional focus on Nampula Province for a cash transfer scheme. A significant share of other potential beneficiaries of such a cash transfer programme should also reside in the Cabo Delgado and Niassa Provinces, given that the food basket cost in the northern provinces was on average 12% and 14% higher than in the central and southern regions, respectively.[38] Since 60% of

[37] Mozambique's basic social protection system consists of four permanent programmes: (i) the Basic Social Subsidy Programme (PSSB), an unconditional cash transfer programme for those who are extremely poor or who are labour constrained due to old age, disability, chronic illness or an otherwise incapacitating condition, covered 445,085 households in 2019, offering transfers varying between MT 540 and MT 1,000 per month, depending on household size; (ii) the cash for work Productive Social Action Programme (PASP), for those who are not labour constrained, supported 121,557 households with MT 1,050 per month regardless of household size; (iii) the Direct Social Action Programme (PASD) provided 18,438 households that are child-headed or have sick, malnourished and food-insecure members with food parcels; and (iv) the Social Assistance Services (PAUS) supported 7,099 individuals with institutional care, targeting the elderly, abandoned children, victims of violence and homeless individuals. Beyond those permanent programmes, Mozambique has a temporary emergency programme, the Direct Social Support Programme – Post Emergency (PASD-PE), which can be activated rapidly after extreme weather events or other crises to provide beneficiary households with a monthly payment of MT 1,500 for six months. For more information on social welfare programmes in Mozambique, see Pedro Lara de Arruda, *Mozambique's Social Protection System*. Working Paper Number 173 (Brasília, International Policy Centre for Inclusive Growth, 2018) and Ruth Castel-Branco and Rubén Vicente Andrés, *Rumo a Uma Seguarança Social Universal Para a Pessoa Idosa Em Moçambique* (Maputo, International Labour Organization, 2019).

[38] For more information on the regional food basket costs in Mozambique in 2022, please see WFP, *WFP Mozambique: Food Price Bulletin* (Maputo, World Food Programme Mozambique, 2023).

the newly extreme poor are urban dwellers, ideally a similar share of beneficiaries of such a cash transfer programme should reside in urban and peri-urban areas.[39]

To reduce additional administration and planning costs, the same eligibility criteria based on high vulnerability could be applied to an inflationary shock cash transfer response as were used for the pandemic response:

I. Female-headed households with children below 12 years of age, seniors and chronically ill or disabled members.

II. Households headed by pregnant women with no source of income.

III. Households headed by a person unable to work due to old age or an incapacitating condition.

IV. Seasonal workers with daily incomes below MT 100.

V. Households hosting internally displaced persons.

VI. Households with five or more dependents.

[39] Additionally, to be able to support individuals heavily affected by Ukraine war-induced inflation in Mozambique, it would be valuable to assess which economic sectors were particularly affected and how this translates into employment and income effects across different population segments. This paper opted against such analysis given that a sector-specific lens is not directly relevant for the discussed policy options. This is because the eligibility criteria of existing cash transfer schemes in Mozambique, which are suggested to be used for a potential further cash transfer scheme, do not include unemployment or recent loss of employment. Including the latter as a criterion would further complicate targeting and likely increase administrative costs.

Conclusion and policy implications

5

In summary, our analysis suggests that an additional 1 million people have fallen into extreme poverty in Mozambique due to soaring food, energy and transport inflation in 2022. In this context, the VAT reduction introduced in December 2022 has likely had a limited impact, mitigating only an estimated 3.8% of the inflationary shock-induced increase in extreme poverty, at a very high monthly cost of about 8.3% of Mozambique's suggested annual Social Protection Budget for 2021. Alternative policy responses, such as a monthly cash transfer targeted at vulnerable urban households in the five poorest provinces, would be nearly three times more effective, with the potential to mitigate about 11% of the surge in extreme poverty at the same cost as the VAT reduction.

We have shown that 60% of the new extremely poor are concentrated in urban areas, while subsistence farmers demonstrate a relatively higher capacity to cope with soaring food, energy and transport inflation. Additionally, cash transfer designs targeting exclusively the extremely poor in urban areas proved to be more effective, both in terms of individuals lifted out of poverty and the overall cost, compared to cash transfers targeting both rural and urban demographics. These findings underscore that policies aiming to mitigate inflationary shocks should ideally support urban new poor while strengthening rural farmers' resilience.

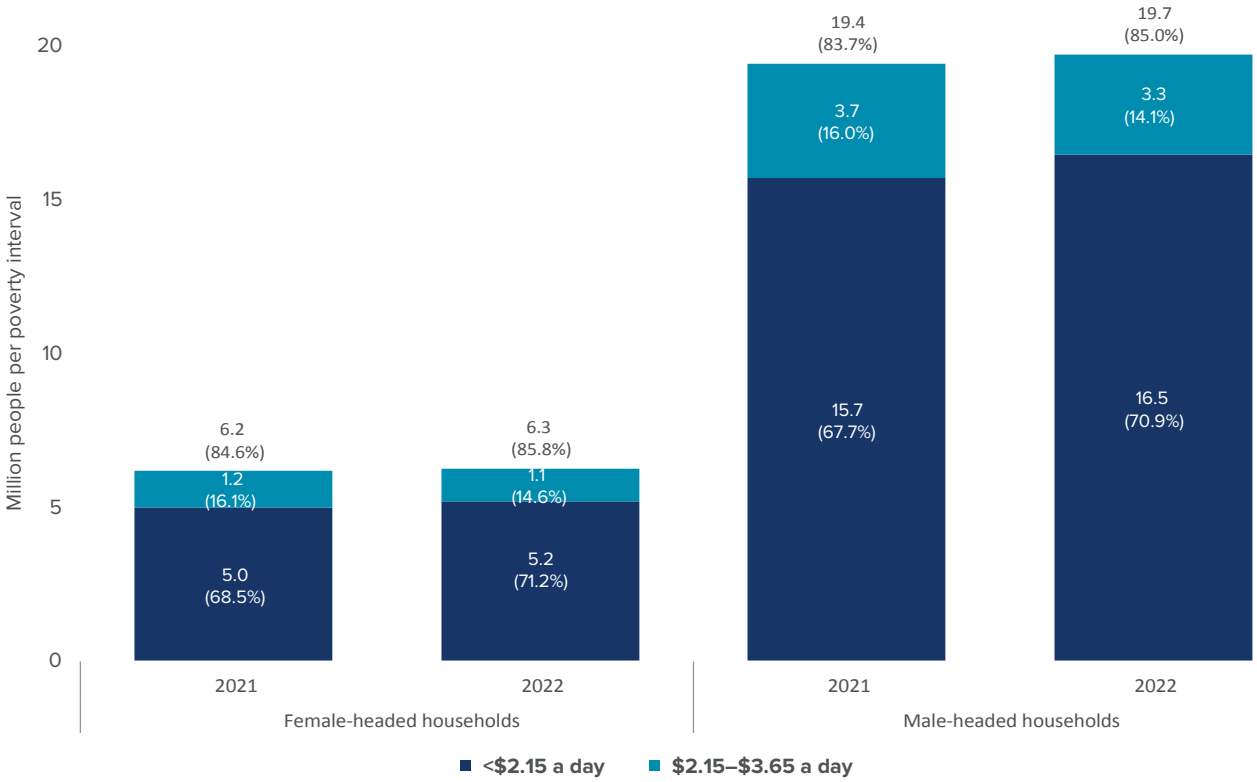
Moreover, we illustrated that the impact of a VAT reduction heavily depends on the design of both the original VAT and the reduction policy. Especially if essential goods, particularly food, are already exempt from VAT, as in the case of Mozambique, or are taxed at a lower rate, a VAT reduction will disproportionately benefit better situated individuals with higher purchasing power rather than supporting the poorest individuals. Additionally, due to typical consumption patterns, Mozambique's VAT reduction was found to disfavor female-headed households. This unequal gender impact of a VAT reduction is an alarming finding that has to be tested in other contexts to prevent a policy intended to mitigate income or consumption shocks from in fact aggravating prevailing gender inequalities.

Lastly, areas with additional, localised crises such as extreme weather events, insurgency and consequential internal displacement in Mozambique were found to experience aggravated inflation. This implies that affected individuals do not only take a double or triple hit to their livelihoods, but also likely face a more intense version of the cost-of-living crisis. We found that a targeted cash transfer incorporating the vulnerabilities arising through each of those crises would be more effective, both in terms of individuals lifted out of poverty and the overall cost, than a cash transfer only considering those that are hit the hardest by the cost-of-living crisis. This has important policy implications for times of polycrises, as it suggests that rather than designing separate responses to each crisis, mitigation measures are most effective when targeting those most exposed to all acute crises.

Beyond a potential targeted cash transfer scheme to address the immediate impacts of the inflationary shocks at the household level, public investments in increased domestic productive capacity of fuel, food and fertilizers could increase the sustainability of the cash transfer scheme by reducing Mozambique's import dependence. Such investments in domestic productive capacity would make Mozambique more resilient to future external shocks, reduce inflationary pressures from abroad and help accelerate GDP growth, thus reducing both poverty and prices in the near and longer term.

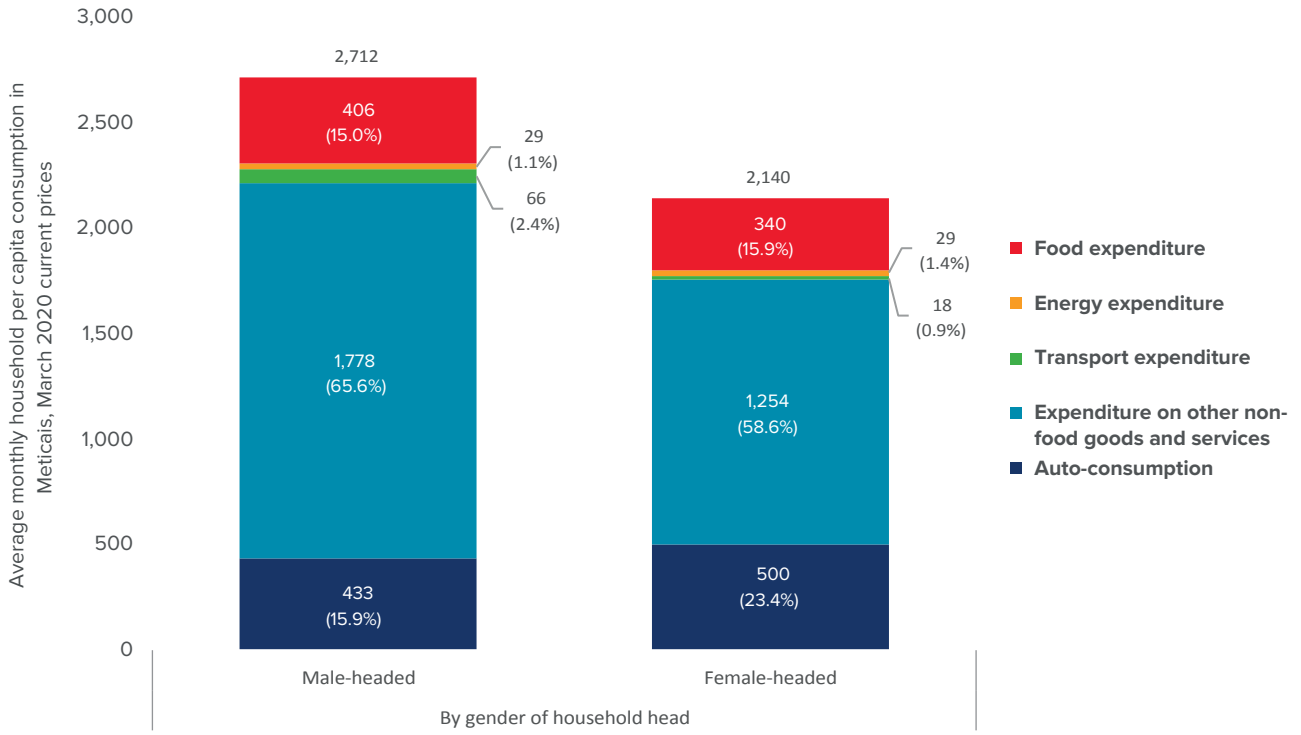
Annex

Figure A1: Millions of people living in extreme poverty (<$2.15 per person a day, 2017 PPP) and in vulnerability to extreme poverty ($2.15–$3.65 a day) in 2021 and 2022 by gender of the household head



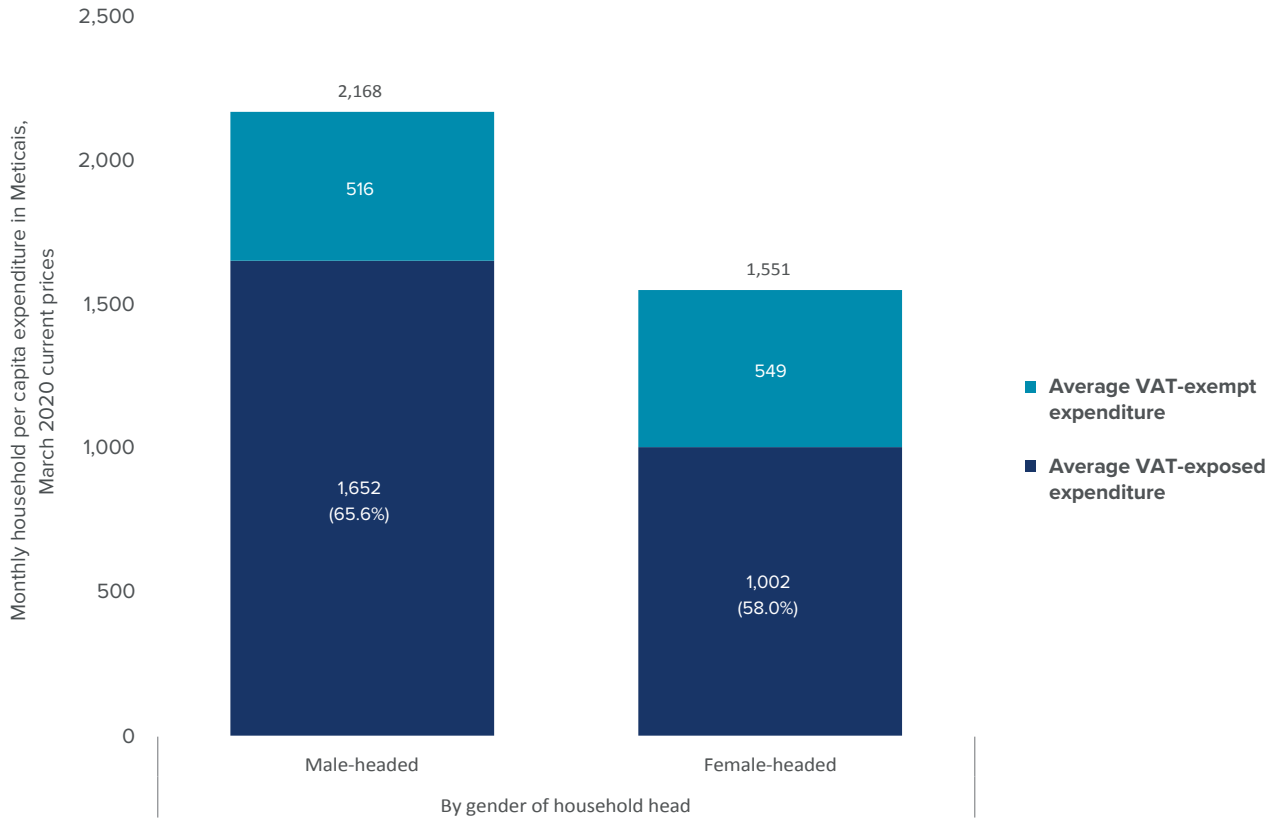
Source: Authors' computation based on IOF 2019/2020. Notes: Total poor below $3.65 a day on top of bars, relative share of each poverty interval in brackets. Figure 6 in the text shows the number of people living in extreme poverty at the national, urban and rural level.

Figure A2: Total average monthly household per capita consumption and its components in 2021 at the national (left panel), urban (centre panel) and rural level (right panel) by gender of the household head



Source: Authors' computation based on IOF 2019/2020. Notes: Total consumption on top of the bars, relative shares of consumption components in brackets. Expenditure on other non-food goods and services includes spending on alcoholic beverages and tobacco, clothing, rent or imputed rent, house maintenance, water, imputed use value of durable goods, health, communications, recreation, education, hotels and restaurants, and diverse goods and services. Nationally, auto-consumption consists, on average, to 78.7% of food, 12.7% of water, 7.6% of energy and 1.0% of alcohol. Figure 3 in the text shows the average monthly per capita consumption and its components in 2021 at the national, urban and rural level.

Figure A3: Monthly household per capita expenditure that is exposed to and exempt from Value Added Tax (VAT) in 2022 by gender of the household head



Source: Authors' computation based on IOF 2019/2020. Notes: Total household per capita expenditure on top of bars, share of VAT-exposed expenditure of total expenditure in brackets. The shares are not equal to dividing the average VAT-exposed expenditure by the total expenditure of the respective group, given that the shares are the weighted averages of each household's share. Figure 9 in the text shows household per capita VAT-exposed and -exempt expenditure at the national, urban and rural level.

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Online ISSN: 3005-3307