

ANTICIPATING THE IMPACT OF COVID-19: PATHWAYS AND TIMING OF HOUSEHOLD WELFARE SHOCKS

DANIEL PFISTER, DIRK-JAN OMTZIGT
AND RUTH HILL

Abstract

The health and economic shocks of the covid-19 pandemic, and their likely impact on household welfare, have been well described and simulated for many countries in a literature that is expanding daily. The breadth of the shocks described is striking, as is a notable lack of convergence on the main pathways and timing of household welfare impacts. This paper summarises the different shocks created by the global covid-19 crisis, and what we know about their timing, magnitude and likely welfare impacts for households in low and lower-middle-income countries. It highlights that the impacts need to be thought through carefully—it can be easy to over or understate them—and that there is considerable heterogeneity of experiences across countries, and across households within any given country. The paper highlights that taking a long-term view to planning a response by forecasting the various impacts allows us to get ahead of them. It also enables the indicators that should be monitored in various contexts to be more precisely identified. Possible forecasting indicators and anticipatory actions are discussed.

WORKING PAPER 2
JUNE 2020



About the Centre for Disaster Protection

The Centre for Disaster Protection works to find better ways to stop disasters devastating lives, by supporting countries and the international system to better manage risks. The Centre is funded with UK aid through the UK government.

Acknowledgements

The authors would like to thank Javier Baez, Juan Chaves-Gonzalez, Daniel Clarke, Stefan Dercon, Maria Ana Lugo, Mark Lowcock, Ambar Narayan, Carolina Sanchez-Paramo, Zoe Scott and Yi Yang for providing comments on earlier drafts.

All authors contributed equally to this work and the order of author names has been randomly assigned using the American Economic Association's author randomisation tool.

Suggested citation

Pfister, D., Omtzigt, D.J., and Hill, R. (2020) 'Anticipating the impact of covid-19: pathways and timing of household welfare shocks', Working paper, Centre for Disaster Protection, London.

Disclaimer

This publication reflects the views of the authors and not necessarily the views of the Centre for Disaster Protection or the author's respective organisations. This material has been funded by UK aid from the UK government; however the views expressed do not necessarily reflect the UK government's official policies.

The Centre for Disaster Protection is organised by Oxford Policy Management Limited as the managing agent. Oxford Policy Management is registered in England: 3122495. Registered office: Clarendon House, Level 3, 52 Cornmarket Street, Oxford OX1 3HJ, United Kingdom.

● CONTENTS

| | |
|--|-----------|
| Introduction | 4 |
| THREE MAJOR SHOCKS | 8 |
| 1. Initial covid-19 health shock | 9 |
| 2. Domestic containment | 10 |
| 3. Global economic slowdown | 14 |
| THREE KNOCK-ON EFFECTS | 16 |
| 1. Food security shock | 17 |
| 2. Conflict and fragility | 18 |
| 3. Financial sector tightening and fiscal contraction | 19 |
| ACTING EARLY: FORECASTING AND IDENTIFYING INTERVENTIONS | 20 |
| 1. Which shocks will impact poverty most in which country? | 21 |
| 2. Forecasting and monitoring impacts | 25 |
| 3. Identifying impactful interventions | 26 |

● INTRODUCTION

The covid-19 pandemic is going to have a devastating and destabilising effect in the world's poorest countries. The health and economic shocks of the pandemic, and their likely impact on household welfare, have been well described and simulated for many countries in a literature that is expanding daily. The breadth of the shocks described is striking, going well beyond the increased mortality and morbidity of new disease: service disruption; plunging commodity prices; global recession; supply chain interruption; fiscal deficits; financial sector tightening; reduced food production; and increased political tensions and conflict.¹

There is a notable lack of convergence in the emerging literature on the main pathways and timing of household welfare impacts. In part this reflects considerable uncertainty as to how the pandemic will continue to play out, and in part this reflects the reality that the pandemic is likely to affect each country differently. Authors have—explicitly or implicitly—had a country or set of countries in mind when writing about impacts.

This paper summarises the different shocks created by the global covid-19 crisis and what we know about their timing and likely welfare impacts on households in low and lower middle-income countries. It reviews the emerging evidence on covid-19 and

incorporates findings from the existing literature on pandemics and shocks. From this review a set of indicators is listed to help identify the shocks that are going to be more important for a given country.

The paper highlights the following.

- The **impacts need to be thought through carefully**—it can be easy to over or understate them.
- **There is considerable heterogeneity of experiences** across countries, and across households within any given country.
- **Planning a response requires taking a long-term view, forecasting the impacts that will come—and acting quickly to get ahead of them—as well as monitoring the ones that are already driving welfare losses.** There are still opportunities to anticipate and mitigate potential losses. A list of forecasting indicators/tools that can inform these actions is presented.
- **It is crucial to reduce the uncertainty** and understand the impact of covid-19 and compounding dynamics. This requires: real-time remote monitoring of lead indicators; and close collaboration on—and pro-active sharing of—insight, analysis and data.

¹ <https://www.theguardian.com/commentisfree/2020/may/04/covid-19-world-poorest-countries-aid-relief-package>

This paper examines how the crisis affects households primarily through the lens of household income and prices, although the significant impact of service disruption on household welfare is also a core focus. The impact of the crisis on increased insecurity and the impact of that for household wellbeing is also considered.

Lower income and higher prices reduce purchasing power and increase the prevalence and depth of poverty. The timing of income and price effects will vary across countries as described below, and across households within countries depending on the sectors in which they earn their incomes. When income losses and/or higher prices kick in, households will run down their savings, rely on transfers from better off relatives and friends, and start to take loans to cover spending on basic needs at increasingly high interest rates.² Some households will depend on government support or assistance provided by aid agencies.

Household consumption will be reduced, often with larger reductions for the consumption of women and children first, resulting in lower food consumption scores, increased morbidity and long-run damage to cognitive and physical development for children. When households can engage in markets again, they will sell productive assets to manage income shortfalls.

The speed at which households will progress through these increasingly costly coping strategies will be particularly fast in the case of households that were fully reliant on the income lost and with limited savings and few people to rely on. Irreversible welfare losses start to occur when consumption is reduced, and productive assets are sold. In this type of crisis, when there are few opportunities to engage in markets for productive assets, reducing consumption will be the main means of coping for many households. The timing of coping mechanisms is marked in red bars on a generic timeline in Figure 1.³ This will occur very quickly for households that are living day by day and have experienced a large reduction in their ability to earn income. Findings from early surveys indicate that the income losses are very large for some households, with immediate impacts on consumption. In a survey of people in five informal settlements in Nairobi, 80% of respondents reported partial or total income losses, and 68% of the respondents had missed meals in the last two weeks (data 13/14 April).⁴ In Senegal, a survey revealed income losses for 85% of respondents, fewer reported immediate consumption impacts, 37% reported reducing meal size and 14% reported reducing the number of meals in the last week.⁵ A high frequency survey in Ethiopia reveals that covid-19 and related containment measures have substantially impacted firms' operations in Addis Ababa. Over 42% of businesses completely ceased operations during the reference period (1 April to 4 May 2020) and 37% of businesses had no revenues in the last completed month (either March or April).⁶

2 This list reflects findings in the literature on how households cope with shocks see for example: [Dercon, 2004](#); [Kazianga and Udry, 2006](#).

3 Ordering of coping mechanisms across time is taken from a review of survey-based assessments undertaken in the aftermath of fast and slow onset shocks ([Hill et al., 2019](#)), some of the income losses experienced in covid-19 are similar to a fast-onset shock.

4 https://www.popcouncil.org/uploads/pdfs/2020PGY_CovidKenyaKAPStudyResultsBriefRound2.pdf

5 <https://www.cgdev.org/blog/five-findings-new-phone-survey-senegal>

6 <https://openknowledge.worldbank.org/bitstream/handle/10986/33766/Results-from-a-High-Frequency-Phone-Survey-of-Firms.pdf?sequence=1&isAllowed=y>

Figure 1: Crisis timeline

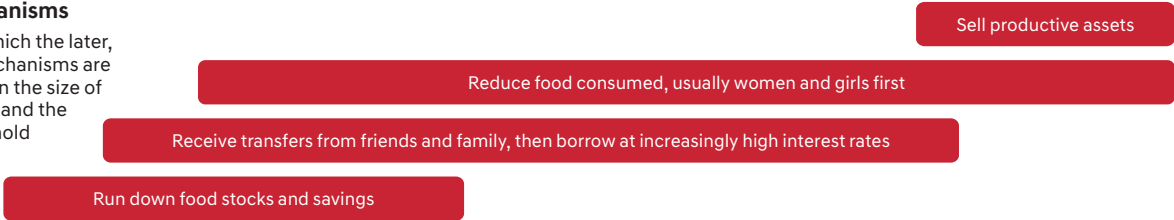
Welfare impacts of covid-19
Generic timeline for low and middle-income countries

Fragility

Large welfare losses can increase tensions, fuelling conflict

Coping mechanisms

The timing at which the later, more costly mechanisms are used depends on the size of the income loss and the depth of household resources



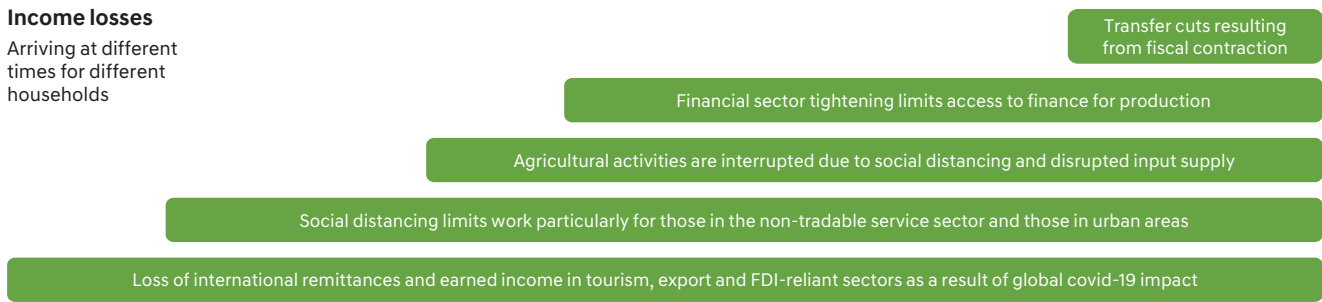
Price changes

Changing the ability of households to meet their basic needs with the income they have



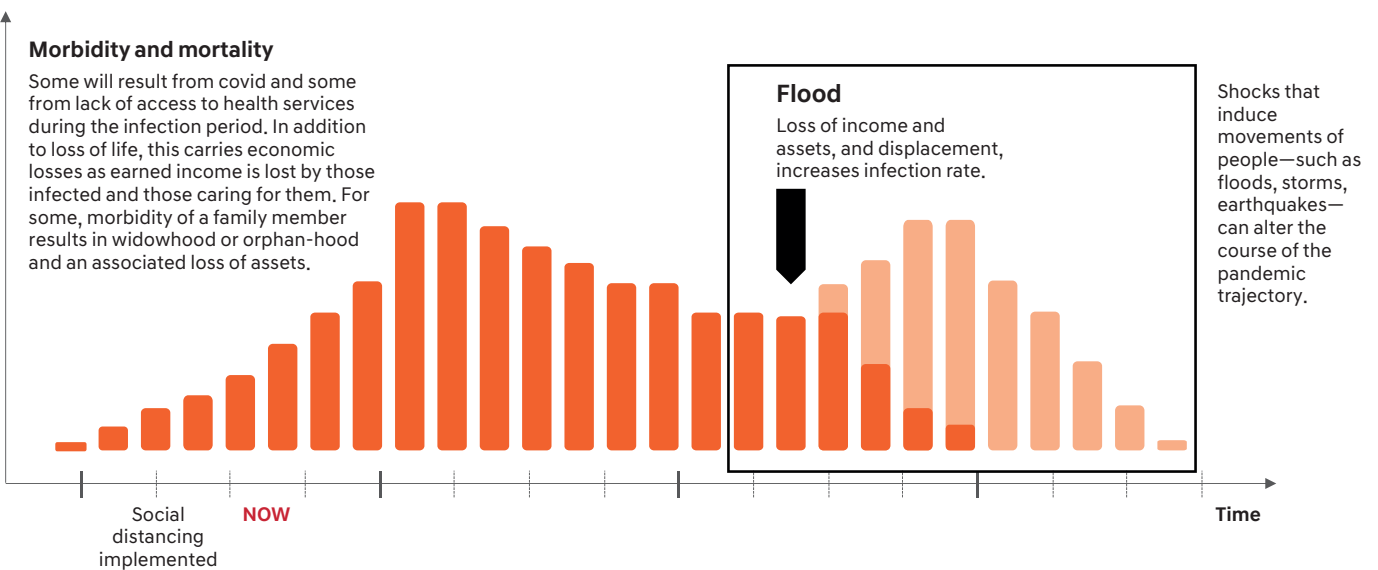
Income losses

Arriving at different times for different households



Loss of service delivery

Reduced immunisation, pre and post-natal care; children out of school



THREE MAJOR SHOCKS

The covid-19 crisis comprises three major related shocks to a typical low or lower-middle income country: the initial covid-19 health shock; the impact of domestic containment measures; and the global economic slowdown.

Coordinated, international responses (e.g. by International Financial Institutions (IFIs), bilateral donors or aid agencies) as well as government action, including through adapted public health measures, trade policies, as well as targeted monetary and fiscal policies, such as social protection measures, can greatly affect the impact of these shocks on household income and prices. The goal here is however to first explore the main drivers of the crisis.

1

● INITIAL COVID-19 HEALTH SHOCK

The size and timing of the covid-19 health shock in any country will depend on connectivity (external and internal), population density, demographics, co-morbidity, and potentially climatic factors the strength of the health care system, and the ability of the government to implement containment and delay strategies.⁷

There are other risks that can increase the risk of the pandemic. Pre-existing malnutrition and food insecurity will make people more vulnerable and any compound shock that results in displacement (cyclones, flood, earthquake) will reduce the effectiveness of any social distancing policy and can cause infection rates to spike again.

Mortality and morbidity increase with the spread of disease. These losses are indicated in blue bars at the bottom of Figure 1. In addition to loss of life this carries economics losses as earned income is lost (both for those infected and their carers).

There is a direct effect of lost earning because of illness or the need to take care of sick household members. Often those who are widowed or orphaned also experience asset loss. The death of the main bread winner may push families into destitution. A rise of out-of-pocket cost of health care for those directly affected by the pandemic may reduce spending on other essential goods, foods or education. In a normal year, out of pocket health payments are estimated to impoverish 1.4% of the population in low-income countries.⁸

⁷ [INFORM, 2020](#), Covid Risk Index Version 0.1.2 Results and Analysis, 17 April 2020.

⁸ [Wagstaff et al., 2019](#).

2

● DOMESTIC CONTAINMENT

Aversion behavior is the largest source of economic costs in epidemics. It is estimated that 80%–90% of the economic costs of epidemics are owing to the aversion behaviour they induce rather than the direct costs of health care and lost labour.⁹ Modelled estimates of a potential flu pandemic (similar in characteristics to the 1958 flu) reveal that people’s efforts to avoid infection are five times more important than mortality, and more than twice as important as illness.¹⁰

This is true in this pandemic also. Across the world, governments are implementing various degrees of social distancing to contain and delay the spread of covid-19. The extent of social distancing varies across and within countries but in all cases leads to interruption in the delivery of basic services and an economic slowdown.¹¹ In sub-Saharan Africa, more than two-thirds of the immediate spike in extreme poverty is directly associated with national lockdown measures.¹²

Even without formal social distancing measures, voluntary social distancing is likely to take place as people limit contacts and exchanges to avoid contamination. The pattern and the strength of this voluntary behaviour will affect the speed at which delivery of services and the economy rebound and return to

normal after formal restrictions are lifted. Persistent avoidance behaviours in countries where the epidemic might be only loosely controlled will hamper growth and economic rebound beyond the end of the outbreak.

Economic impacts

The impact on employment and income is highest for those engaged in non-tradable services, and therefore for economies where this is a large sector of employment (another green income-loss bar).

Evidence suggests these income losses are immediate and large. The share of households estimated to be able to work from home in urban areas of low-income economies is estimated to be low.¹³ In Nepal, a sample of rural individuals shows a 50% reduction in hours worked, relative to an already-low ‘lean season’.¹⁴ In Bangladesh, where the economy has been hard hit by the coronavirus, a survey of 2,675 respondents by BRAC in April found that household incomes had declined an average of 75% among respondents. Factory workers had seen their incomes drop by 79%, drivers by 80%, city day labourers by 82%, maids by 68% and rickshaw pullers by 78%.¹⁵ A survey in Senegal shows the same trend: some 87% of households surveyed reported a loss in income and urban households were moving back to rural areas to cope.¹⁶

9 [Lee and McKibbin, 2003.](#)

10 [Burns et al., 2006.](#)

11 Academics analysing the benefits of social distancing and suppression find major differences in the economic benefits. While to save a larger number of lives in developed countries, ‘practically any economic cost of distancing is worth bearing’, in developing countries the policy choices are starker. For example, the value of benefits estimated for each country translates to a savings of 59% of gross domestic product (GDP) in the United States but only 14% of Bangladesh’s GDP or 19% of India’s.

12 [Teachout and Zipfel, 2020.](#)

13 [Dingel and Neiman, 2020](#); [Hatayama et al., 2020](#); [Gottlieb et al., 2020.](#)

14 Research by Mushfiq Mobarek, based on an existing survey sample: https://twitter.com/mushfiq_econ/status/1248363156155531265

15 <https://reliefweb.int/report/bangladesh/rapid-perception-survey-covid19-awareness-and-economic-impact-final-draft>

16 <https://www.cgdev.org/blog/five-findings-new-phone-survey-senegal>

Emerging research in India shows that the average below poverty line (BPL) household will lose 61% of its regular income in April, and 45% of BPL households were expecting to lose 75% or more of their income.

Social distancing may increase the prices of some basic goods, either permanently as supply is affected, or temporarily as a result of individual and trader hoarding. These price changes affect the ability of many households to meet their basic needs, even when their incomes do not primarily come from the sectors affected (a second orange price-change bar).

However, it is not clear that prices will always increase. Global food commodity prices are at a long-term low, and global food production at a record high.¹⁷ For many sectors the shock is simultaneously a demand and supply shock, meaning that price effects will be ambiguous. In cases where public health responses prohibit activity (say factories for non-essential goods) supply has been cut, which would normally yield a price increase. However, demand for these activities has also likely fallen sharply, so the activity constraints may not be binding. In total, the net effect may be that both demand and supply have fallen by the same amount. In addition, in the current environment where large parts of entire economies are closed, it is likely that the natural unemployment rate has increased very sharply, which will limit the deflationary effect that the labour dislocation would normally generate.

Non- covid health care

With medical systems stretched for the covid-19 response, discouragement to seek non-essential medical treatments and the fear of infection near health infrastructure, curative health care is also often not sought by sick people. Aversion behaviour thus has immediate and prolonged impacts on mortality and morbidity.

The projected health impacts of reduced health care are large. A Lancet pre-paper projects maternal and under-five child mortality resulting from a reduction in programming, weakened health systems, and reduced utilisation of routine

services during the pandemic in 118 low- and middle-income countries.¹⁸ Findings show that a reduction in coverage of around 15% for six months would result in 253,500 additional child deaths and 12,190 additional maternal deaths. Reductions of around 45% for six months would result in 1,157,000 additional child deaths and 56,700 additional maternal deaths. Another paper estimates that a reduction of 25% in case detection for three months may result in an additional global 1.4 million additional TB deaths over five years.¹⁹ Similarly, disruptions to malaria campaigns (net and treatment distribution) are projected to increase malaria deaths in sub-Saharan Africa by 150% (about an additional 650,000 deaths).

Early data suggests large drops in vaccination.

Vaccination for diphtheria, measles and polio has already been disrupted for 80 million children.²⁰ In Pakistan, immunisation visits have fallen by 65%. As children deviate from immunisation schedules, risk of diseases and the spread of these diseases increases. Researchers at the London School of Hygiene and Tropical Medicine suggest that for every excess covid-19 death attributable to an infection acquired during a child vaccination visit, there would be 140 future deaths prevented from the time of vaccination to five years of age by sustaining the routine childhood vaccination programmes.²¹

Other health care has similarly been affected. Data covering 150,000 of 190,000 healthcare facilities in India, shows: a sharp drop in maternal medical interventions (including for preeclampsia), probably due to a spike in unattended home births; a drop of 30% year-on-year in medical emergencies reaching hospitals, including cardiac, cerebrovascular and obstetrics; and that 350,000 fewer people are receiving outpatient care for diabetes, 150,000 fewer for mental health, and 100,000 fewer for cancer compared to the baseline data.²² The study shows a similar story for both respiratory and non-respiratory diseases. Analysis in South Africa has shown that the weekly number of GeneXpert TB tests in the week beginning 6 April had decreased by nearly 50% from the week commencing 9 March.²³

17 <http://www.fao.org/news/story/en/item/1279022/icode/>

18 [Roberton et. al. \(2020\)](#) 'Early estimates of the indirect effects of the coronavirus pandemic on maternal and child mortality in low- and middle-income countries' 12 May 2020.

19 http://www.stoptb.org/assets/documents/news/Modeling%20Report_1%20May%202020_FINAL.pdf

20 <https://www.who.int/news-room/detail/22-05-2020-at-least-80-million-children-under-one-at-risk-of-diseases-such-as-diphtheria-measles-and-polio-as-covid-19-disrupts-routine-vaccination-efforts-warn-gavi-who-and-unicef>

21 <https://cmmid.github.io/topics/covid19/EPI-suspension.html>

22 <https://www.livemint.com/news/india/how-covid-19-response-disrupted-health-services-in-rural-india-11587713155817.html>

23 <https://www.spotlightnsp.co.za/2020/04/27/covid-19-sas-tb-response-already-impacted/>

Education interruptions

School closures, even relatively brief ones, may have long term consequences. As at 5 June, over 60% of the world's student population is still out of school.²⁴ That is a lower share than the 93% (or 1.6 billion students) in mid-April when 191 countries had fully shut all schools.²⁵ Online learning substitutes are often not available—and, should the crisis be prolonged, there will be a serious impact on education and productivity of national work forces in the mid-term. Previous shocks that have reduced learning outcomes have resulted in substantial income losses across the lifetimes of those affected.²⁶ The longer school closures remain in effect, the more likely it is that children will drop out of school altogether, especially if the economic recession is deep and recovery slow.²⁷ In high-income countries, school closures have had a significant economic effect.

The cost to the United States in future earnings of four months of lost education is US\$2.5 trillion—12.7% of annual GDP.²⁸

Children may also face a lack of access to nutrition and food, as many rely on school to provide their only meal.

Working parents, especially women whose ability to work crucially depends on having childcare and schooling for their children while they are working, will be impacted by the school closures.²⁹ When income losses are large for some households, a return to school is unlikely. Girls are especially hard hit. They are more likely to face abuse, less likely to have access to online learning and return to school. For some girls, schooling is a much needed protection against early marriage and pregnancy. Pregnancy at a young age increases the risk of maternal mortality. Increasing rates of young marriage have been reported in some countries.

24 <https://en.unesco.org/covid19/educationresponse>

25 https://www.un.org/sites/un2.un.org/files/un_policy_brief_on_human_rights_and_covid_23_april_2020.pdf

26 The 1982-84 Zimbabwe drought resulted in a delay in starting school of 3.7 months and 0.4 grade less of completed schooling, which led to a 14% reduction in lifetime earnings for those children (Alderman et al., 2006).

27 https://www.un.org/sites/un2.un.org/files/policy_brief_on_covid_impact_on_children_16_april_2020.pdf

28 <https://www.brookings.edu/blog/education-plus-development/2020/04/29/the-covid-19-cost-of-school-closures/>

29 United Nations, (2020) 'Shared responsibility, global solidarity: Responding to the socio-economic impacts of COVID-19'

3

● GLOBAL ECONOMIC SLOWDOWN

Although national economic slowdowns are the hallmark of an epidemic, a pandemic also brings a global economic slowdown as multiple national economic slowdowns, particularly those in the large global economies, impact global trade and growth. The International Monetary Fund (IMF) and World Trade Organization both predict the global economy will get 3% smaller this year, and income per capita is projected to shrink for over 170 countries. That said, the contraction in emerging markets and developing economies is estimated to be less severe (-1.0%) with a much stronger rebound in 2021 than advanced economies (6.6% vs. 4.4% growth—or a 50% stronger growth). For low-income developing countries, the IMF predicts economic growth in 2020 of 0.4% with a strong rebound in 2021. Yet there is still a lot of uncertainty about the magnitude of the global economic slowdown and its duration. The IMF has already indicated that relative to the April projections, which were already dire, the incoming data is looking worse than expected, which will result in a further downgrade.

The size and timing of the impact of the global economic slowdown varies across countries. It depends on a country's exposure to the global economy in general, and its dependence on export of primary commodities, tourism and foreign direct investment (FDI) in particular.³⁰ The impact at the household level further depends on the sector of employment, reliance on remittances and the impact on fiscal spending. For some households the initial size of this shock is minimal, for others it is much larger. For some countries and

households, this shock arrived before any covid-19 cases.

There are four key aspects of this global economic slowdown.

- **Commodity prices.** Brent Crude prices, the international benchmark, fell to a historic low of US\$16 per barrel on 22 April, and the price on the future market turned negative. As at 5 June, the price recovered to more than US\$41 per barrel, which is still historically low. This particularly affects countries that depend on crude oil exports. Nigeria, for example, depends on crude oil for 90% of its exports and for a large part of government revenue.³¹ Other countries reliant on oil rents include Angola, Iraq, Libya, Republic of the Congo, and South Sudan. Oil producers are not just affected by reduced prices but also by reduced output and trouble selling their commodities. Despite near rock-bottom prices, traders said last month that about a quarter of Nigeria's crude oil cargoes for loading that month had yet to find buyers. Some countries have also reduced their production under an Organization of the Petroleum Exporting Countries (OPEC) deal. For example, Iraq has agreed with oil majors operating its five giant southern oilfields to cut 300,000 bpd. It will also lower production from other fields which it operates alone, bringing the total reductions to slightly below 700,000 barrels per day (bpd).
- **Global remittances are projected to fall by about 20%** according to the World Bank, marking the sharpest decline in recent history.³² Remittances may fall also temporarily as a result of the closing of money exchange

30 United Nations Office for the Coordination of Humanitarian Affairs (OCHA). (2020) 'Macro-economic impact of COVID-19 on low- and middle-income countries', non-paper.

31 Nigeria's 2020 budget is based on an anticipated oil price of US\$57 per barrel.

32 <https://www.worldbank.org/en/news/press-release/2020/04/22/world-bank-predicts-sharpest-decline-of-remittances-in-recent-history>

agencies.³³ Some low- and middle-income countries are particularly reliant on remittances: personal remittances were over 25% of GDP in 2017 for Tonga, South Sudan, Kyrgyz Republic, Haiti, Tajikistan, and Nepal. The impact of this has already been seen in Somalia.³⁴ Countries have not been uniformly affected by this, however, as some migrant and remittance flows have been more affected than others.

- **Collapse of tourism:** currently, all destinations worldwide still have covid-19 related travel restrictions in place for international visitors and **the UN World Tourism Organization (UNWTO) estimates a decline of 60%-80% in tourism in 2020 compared with 2019.** This is a sharp revision compared to April's forecast of 20%–30%. The World Travel & Tourism Council predicts up to 50 million job losses in the global travel industry. While the travel industry represents modest revenues in many of the world's very poorest countries, it is a dominant component of the economy of small island states like Maldives and Seychelles, and an important source of hard currency for a number of others. Data shows that tourism represented over 25% of exports in 2017 in Ethiopia, Nepal, Rwanda and Tanzania.
- **Contraction of global demand has hit light manufacturing.** For example, a sharp reduction in retail clothing sales in March and April caused some large clothing brands to cancel contracts with suppliers in low-income countries, which has had an impact on many low-income factory workers. In March, more than a half of Bangladesh's garment suppliers reported that their in-process or already completed production orders had been cancelled. More than a million of Bangladesh's 4.1 million garment workers have been fired or furloughed as a result.³⁵ This also contributes to downward pressure on cotton prices. For cotton-exporting countries such as Burkina Faso, depressed cotton price has historically led to lower production and reduced income.³⁶

Some households will experience income losses from lower remittances and reduced ability to earn in export-oriented sectors, e.g. from tourism or garments (on the graph, this is indicated by one of the green income-loss bars). Households heavily dependent on imported goods may find themselves less able to purchase basic needs, as interrupted supply chains or depreciated exchange rates increase prices for imported goods.

Some households will be affected by the weaker fiscal position of their governments as a result of the crisis.

Countries with significant levels of public debt will struggle to mobilise enough resources to respond to this crisis as meeting current debt obligations takes away critical resources, exacerbating the loss of revenues for those dependent on commodity exports. Public debt exceeds 80% of GDP in Egypt, Mozambique, Pakistan, Sudan and Zambia.³⁷

However, not everything will have negative effects—lower oil prices will benefit some. For instance, some poor households in low- and middle-income countries, may see lower prices for basic goods as lower oil prices reduce transportation costs (represented in one of the orange price-shock bars). Another factor that may help keep prices low is that, unlike the 2008/9 financial crisis, costs for shipments are at an almost all-time low, especially for bulk shipment. However, costs for container and truck transportation, while still low overall, could be highly exposed, particularly if labour and/or container shortages become more commonplace. Of course, air cargo has seen an inverse development and essential and perishable goods prices could rise, particularly in small island developing states that are far from regular transportation routes, and notably where these have been reliant on tourism flows.

33 <https://www.worldremitt.com/en/covid19-update#uganda>

34 http://nexusom.org/wp-content/uploads/2020/04/Warning-Remittances-Lifeline_final.pdf

35 <http://www.workersrights.org/wp-content/uploads/2020/03/Abandoned-Penn-State-WRC-Report-March-27-2020.pdf>

36 <https://apps.fas.usda.gov/psdonline/circulars/cotton.pdf>

37 **World Food Programme (WFP) (2020)** 'Economic and food security implications of the COVID-19 pandemic. An update, based on the evolving economic outlook', World Food Programme.

THREE KNOCK-ON EFFECTS

In addition to the three major shocks, there are three related, knock-on shocks that could have an impact on household welfare.

1

● FOOD SECURITY SHOCK

The main drivers of additional food insecurity are loss of income and restrictions to markets and movements.

Farmers are on an assured footing, with fertiliser, energy and other input prices at very low levels, and where relevant, given the collapse in demand for biofuels, competition for agricultural feedstocks for energy has diminished. However, trade (global or domestic) disruptions interrupt food supplies. Vietnam imposed an export ban on rice in March and April to ensure enough domestic supply during the epidemic and Russia has halted wheat exports until July. In India, the lockdown made it difficult for exporters to fulfil export contracts as logistics were interrupted. These disruptions can be seen in upward pressure on futures prices. In addition, trade disruptions may adversely affect input supply chains (e.g. seeds, fertilisers, equipment and veterinary medicines). When supply chains are labour-intensive, the effects of 'the Great Lockdown' bear down prominently.³⁸

Currently global food stocks are ample, staple food prices are low, and trade is much more diversified with more and more importers and exporters partaking in global trade. In addition, food prices are not necessarily a relevant indicator as reduced supply and reduced demand might balance out the impact on food prices, and some countries have recorded price declines. Nevertheless countries that are net food importers may be adversely affected by **higher imported food costs**. Countries with low foreign currency reserves will struggle to finance these imports. Burundi, Palestine, South Sudan and Zimbabwe each have less than one-month of imports as foreign exchange reserves. There are various anecdotal reports confirming food price increases are localised and product-specific. In Freetown, Sierra Leone, the price of rice has risen by 32%, the highest increase in five years, and in Burkina Faso, the cost of a litre of cooking oil has almost doubled and millet is nearly 20% more expensive.

Domestic agricultural production comprises a large share of employment in many low and lower-middle-

income countries. In many of these countries, agricultural production is a household activity allowing it to still be done when social distancing is being enforced. However, there are times in the season where labour demand peaks and is met by hired labour in unmechanised production systems. Similarly, key inputs to production (such as fertiliser, herbicide and pesticide), need to be used within a specific time window, and if this is not possible as a result of supply chain failures, production will fall. Winter/summer harvests in the northern/southern hemisphere were already affected as a result of labour shortages in some countries. If labour and inputs for the coming season cannot be used during critical windows, production and **income losses for agricultural households** will result (a third green income-loss bar).

Furthermore, within countries, lower production may reduce access and increase prices, which will adversely affect poor households that are net purchasers of food. Analysis by the World Food Programme (WFP) shows that, due to the coronavirus, an additional 130 million people may be pushed to the brink of starvation by the end of 2020. In a worst-case scenario, we could be facing multiple famines of biblical proportions within a few short months. Figure 1 shows impacts of **higher food prices and lower availability of food** (the third orange price-change bar). It is not anticipated that these impacts will occur as quickly as the three direct impacts of the previous section but could hit in the last quarter of 2020 if production in the coming agricultural season is affected.

However, it is possible that for farmers that have not experienced production shortfalls, higher local food prices will result in income gains. Across Africa and South Asia, higher food prices between 2008 and 2011 led to increases in poverty in urban areas (until wages were able to adjust) and for food insecure households in rural areas that were net purchasers. However other rural households (including many poor households) did well, and this was a driver of rural poverty reduction in many countries.

³⁸ <http://www.fao.org/3/ca8833en/CA8833EN.pdf>

2

● CONFLICT AND FRAGILITY

Fragility, conflict, and violence is a critical development challenges that increase poverty. Conflicts already drive 80% of all humanitarian needs and reduce GDP growth by two percentage points per year, on average.

Poorer economic conditions (low income, slow growth, and especially severe economic downturns) are correlated with the outbreak of conflict, with some evidence strongly suggesting that the causal direction runs from economic conditions to conflict.³⁹ There is also a rich literature on the impact of horizontal inequality and dependence on natural resources as drivers of increases in the risk of conflict.

At present, surveys generally indicate broad support for lockdown measures, even among those who have experienced large income losses—but it is not clear that this support will remain as households get to the end of their ability to cope with the losses experienced. And this type of support may not be present in contexts characterised by high levels of baseline instability.

But we also see some protests emerging. Protests against coronavirus restrictions have broken out in India, Chile, Lebanon and Iraq as fears of hunger trump fear of the disease. Violent protests hit several parts of Malawi as informal business owners, mainly vendors, complained that a 21-day nationwide lockdown would ‘make them starve to death’ according to local media. That said, in some countries, covid-19 reduced the tempo of political protests in countries that had already been witnessing unrest for some time, such as in Algeria and Iraq. It is likely such protests will increase again once social distancing measures are eased. Some conflict trends are mixed. For example, north-west Syria has seen a de-escalation of conflict, while violence has increased in Deir Ez Zor (eastern Syria) since March. More firmly on the flip side, some geopolitical tensions are rising, and some conflict hotspots are intensifying. And while ISIL and Al-Qaeda monthly attacks worldwide decreased in the first quarter of 2020, they started to increase in April amidst covid-19 and Ramadan.

An increase in conflict will further compromise the ability of households to access services and earn income. It can also increase the severity of the pandemic as the ability to test, trace, treat and social distance will be reduced.

³⁹ [Collier and Hoeffler, 2004.](#)

3

● FINANCIAL SECTOR TIGHTENING AND FISCAL CONTRACTION

The degree of fiscal contraction needs to be monitored across countries and will depend on the degree to which revenues are reduced, and the size of compensating international support through debt payment suspensions and increased grants and loans. When fiscal contraction does occur, it will further increase poverty in many dimensions. Reduced service delivery will increase the non-monetary dimensions of poverty. Lower transfers will increase poverty and inequality. Reduced spending on capital investments and incentives for economic growth will reduce household income growth, also increasing poverty.

Credit to the private sector is reduced as a result of the initial economic shocks, the increase in public sector borrowing to mitigate them and an increased expectation of non-performing loans. This reduces the availability of jobs (because of limited capital for large firms and small and medium-sized enterprises) and capital for self-employment activities. This is the fourth green income-loss bar in Figure 1.

Emerging markets have experienced the sharpest portfolio flow reversal on record—about US\$100 billion or 0.4% of their GDP. The withdrawal and reversal of capital and remittance flows will amplify the private demand shock notably in FDI- and remittances-dependent countries. On the public side, large public indebtedness will hinder the capacity of governments to intervene to mitigate the health and economic crisis.

Beyond highly indebted countries only, cash-constrained governments in general (i.e. governments with either no fiscal space or no access to borrowing) will face both falling revenues and increased needs for health expenditures. With no possibility to finance those expenditures beyond external multilateral and bilateral support, non-health expenditures and notably social and capital expenditures might be cut to balance the budget, further weighing on the economic outlook both in the short and long term. The drying up of external finance for private-sector investment will be less of a constraint and concern in an environment where demand for investment and finance is very weak. Significant financing has been mobilised by the IFI's and is being tracked in real time to understand the effective fiscal space.

ACTING EARLY: FORECASTING AND IDENTIFYING INTERVENTIONS

The three initial and three subsequent shocks of the crisis will not be felt equally in each country. Identifying the shocks that are likely to be important for a given country and forecasting these shocks is essential to a robust response. Keeping the focus on shocks that are still to come allows a response to include anticipatory actions to reduce the impact of the crisis. In the best of cases, anticipatory action fundamentally changes the course of a disaster. Farmers receive cash, which allows them to pay for supplementary irrigation to limit the impact of drought on food production.⁴⁰ A spike in cholera cases is predicted before it happens, and support is provided to improve water, sanitation and hygiene.⁴¹

While some of the human needs that occur after a shock are common across different types of shocks and require a standard response, such as the provision of cash, anticipatory actions that aim to mitigate the immediate human impact of a shock are sometimes quite specific to the nature of the shock. The next three sections provide guidance on which shocks will be important for which country and the types of data that can be used to forecast and monitor impacts. The final section provides some examples of the types of shock-specific anticipatory actions that could be used.

40 [Hill et al., 2018](#).

41 <https://www.nytimes.com/2020/02/19/opinion/survive-disaster-plan-for-worst.html>

1

● WHICH SHOCKS WILL IMPACT POVERTY MOST IN WHICH COUNTRY?

The impact of the initial and subsequent shocks will vary in size across countries, and across households in each country as has been outlined. It is quite likely that the initial shocks will negatively affect urban incomes and prices more quickly than rural incomes and prices—but if these shocks then impact food production, conflict and fiscal contraction, rural households could subsequently be affected.

The structure of the economy of each country helps predict which shocks are likely to be the most important for welfare. This informs the timing of resource flows and what activities they should be geared towards.

Some of the reasons early commentators have diverged so much on the anticipated impacts is because the experience of different countries is likely to vary considerably. Two stylised examples are depicted in Figure 2, where the width of the income and price bars indicates the importance of that impact.

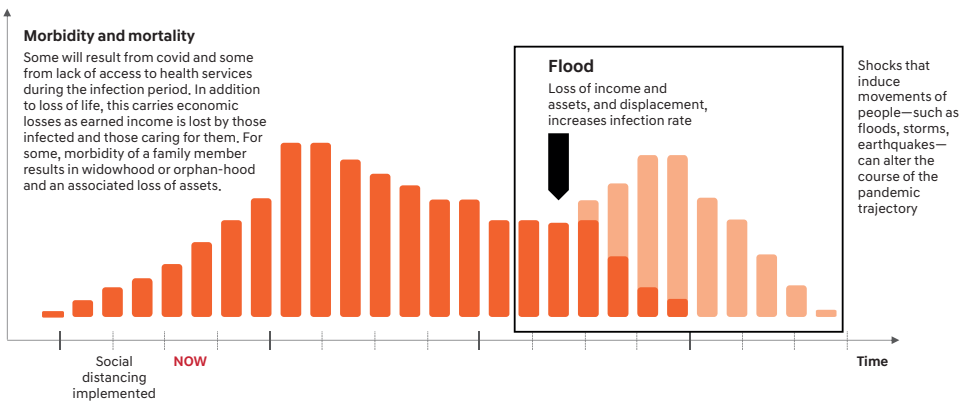
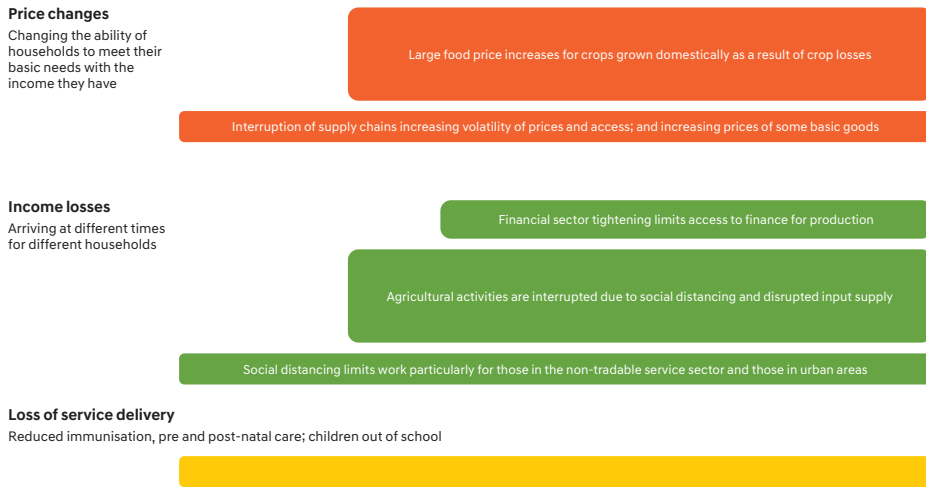
Key features can help identify which shocks are likely to be more important for a given country (Table 1). For example, in Burkina Faso, many rural households may be unaffected by rising food prices, as they grow their own food with very few purchased inputs or labour. However, rural cotton producers will potentially be very affected as they see the value of their crops diminish and access to fertiliser decrease. Already, global cotton futures have fallen by 30%. In addition, urban households will feel an immediate impact as they rely on imported rice for their staple food. A set of case studies is being developed to accompany this paper highlighting some of the more common groups of countries—those likely to be affected by fiscal contraction, employment shocks, food price increases, or a domestic food production decline—as well as those unlikely to be hurt too badly.

Table 1: Identifying the important shocks for a given country

| | Types of countries affected | Indicators identifying importance | Country examples |
|--|---|--|---|
| Main shocks | | | |
| Health shock | Well-connected countries with weak health systems, no experience of controlling infectious disease outbreaks, high population density and an older population with higher comorbidities. | <ul style="list-style-type: none"> ● Population density ● Average age of population/share of population above 60 years old ● Connectivity ● Health system readiness ● Previous outbreak | <p><i>More affected:</i> Pakistan</p> <p><i>Less affected:</i> Uganda</p> |
| Domestic containment | Countries with a large urban population and large share of the population engaged in the service sector. The impact on poverty will be high when urban poverty rates and poverty rates in the services sector are high. | <ul style="list-style-type: none"> ● Urban share of population (World Development Indicators (WDI)) ● Share of labour force in services (WDI) ● Share of income from non-agricultural self-employment ● Community health workers per 1,000 people (WDI) | <p><i>More affected:</i> India</p> <p><i>Less affected:</i> Burkina Faso</p> |
| Global economic slowdown | Countries that rely on remittances, tourism, and exports (particularly in commodities and light manufacturing), and that have limited foreign currency reserves. | <ul style="list-style-type: none"> ● Share of GDP from remittances ● Share of GDP and labour force in tourism ● Share of GDP and labour force in export-oriented sectors ● Share of export from primary commodities ● Government indebtedness ● Foreign currency reserves | <p><i>More affected:</i> Bangladesh, Tajikistan, Nepal, Dominican Republic, South Sudan, Iraq, Angola, Nigeria, Zambia, The Gambia, Haiti</p> <p><i>Less affected:</i> Niger</p> |
| Knock on effects | | | |
| Food security | <p><u>International food prices:</u> Countries with low levels of self-sufficiency in food.</p> <p><u>Domestic food production:</u> Countries where agricultural production relies on inputs and hired labor.</p> <p><u>Both:</u> Countries where urban poverty rates are high.</p> | <ul style="list-style-type: none"> ● National self-sufficiency ratio in main staples consumed (national, urban) ● Share of labour force engaged in wage labour in agriculture. (I2D2, ideally complemented by information on timing) ● Fertiliser consumption (kg per ha of arable land) (WDI) ● Share of production that is sold ● Urban poverty rates | <p><i>More affected (international):</i> Maldives, Cote d'Ivoire, Jordan, Senegal, Republic of the Congo, Namibia</p> <p><i>More affected (domestic):</i> Bangladesh, India, Indonesia</p> <p><i>Less affected:</i> Burkina Faso, Uganda, Guinea, Niger</p> |
| Conflict | Countries where economic tensions already drive conflict or countries where urban areas are a key driver of tensions. | | |
| Financial sector tightening and fiscal contraction | Countries where fiscal contraction is likely to be large (see other shocks), where credit has been extended to firms in services and export-oriented sectors that are affected by previous shocks. | <ul style="list-style-type: none"> ● Share of labour force employed in small and medium enterprises ● Share of poor households taking a loan for a business (Global Findex) | |

Figure 2: The size and timing of welfare shocks varies across countries

A low income economy with a large rural, agricultural economy that was only minimally affected by the terms of trade shock



A tourism and remittance-dependent middle-income economy, importing most food items

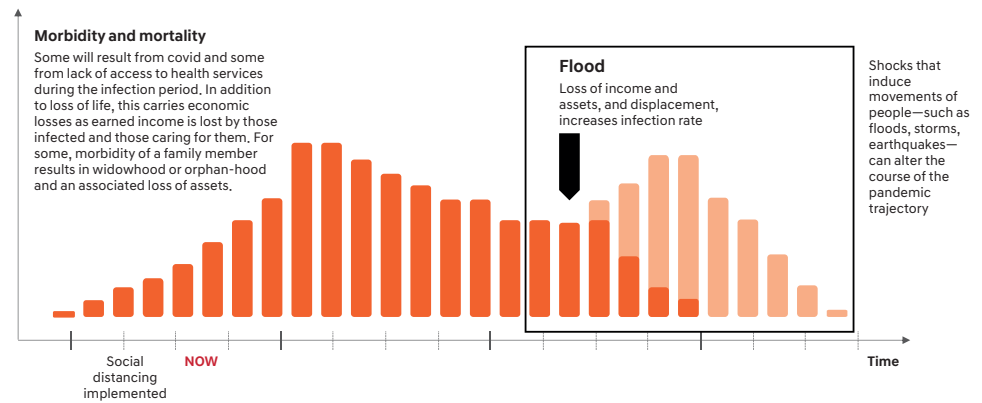


Table 2: Forecasting and monitoring covid impacts

| Forecasting | | Monitoring indicators |
|--|---|---|
| Health shock | Predicted caseload from an epidemiological model that takes into account demographics, existing co-morbidities, population density, connectivity, and strength of health care system. | Daily caseload and deaths Out of pocket healthcare expenditure associated with covid-19 (mobile phone surveys) |
| Domestic containment | | |
| Staying at home (personal risk aversion or mandated) | Modelled duration of high caseload from epidemiological model. | Lockdown rules Pollution estimates for large cities. Employment rates (mobile phone surveys) |
| Preventative health care | | Healthcare utilisation rate Reduction in vaccination rates Antenatal visits Distribution of bed nets TB detection rates |
| Children out of school | | Percentage of children out of school Use of remote learning (mobile phone surveys) |
| Global economic slowdown | Oil price futures. G20 GDP growth estimates. | Crude oil price G20 GDP growth Remittance flows (mobile phone surveys) |
| Food security | International: cereals futures. Domestic: seasonal predictions and timing of high caseload from epidemiological model. | Food consumer price index (CPI) Fertiliser imports as a percentage of usual Agricultural activities and food consumption score (mobile phone surveys) |
| Conflict | | Protests Violent conflicts |

2

● FORECASTING AND MONITORING IMPACTS

Acting early at each stage mitigates its impact. In addition, acting in anticipation of any of these losses could allow the loss to be averted.

The three main shocks outlined are already being felt, but there will be some ebbs and flows in health and containment aspects. Modelling can help predict these and ensure resources are available to help countries manage the impacts.

Many of the knock-on effects are still to happen and getting ahead of the crisis requires forecasting the impact and resourcing anticipatory actions where this makes sense. For the knock-on effects that are likely to be important, having good forecasts of the potential size and timing of the shocks, can allow financing and actions to get ahead of the disaster. For example, acting now to ensure food production is not compromised will allow agricultural income losses to be smaller and food price impacts to be mitigated. This can be done through support to input value chains, increased access to/credit for mechanisation or labour-saving inputs (e.g. herbicide) where possible, and temporary relaxing of social distancing for those engaged in agriculture if prudent to do so.

Other risks on the horizon may compound the impact of covid-19. For instance, some experts predict a La Niña, which would lead to droughts and floods in East Africa or Southern Africa. An above-normal Atlantic hurricane season, and an above-normal monsoon season are also forecasted by some experts. This has potential regional consequences: a triple whammy in the Horn of Africa—locusts, droughts, and covid; devastating (again) entire islands in the Caribbean; and flooding, displacement, and disease outbreaks in India and Bangladesh. Monitoring these forecasts to help with anticipatory decision-making by development and humanitarian leadership will be crucial to mitigate possible compounded shocks.

Predicting the impact of likely significant shocks is key. Table 2 provides examples of the types of risk models and forecast prices that could be tracked for each of the shocks.

Monitoring the realisation of impacts is also needed to course-correct, particularly when welfare effects are more damaging than the forecasts may predict. The extensive collection of high frequency mobile phone surveys, such as the World Bank supported mobile phone surveys being collected every four to six weeks in more than 100 countries is very helpful in this regard.⁴² Having a clear framework of the likely expected impacts helps inform survey design and the timing of rotating survey modules.

42 <https://blogs.worldbank.org/opendata/high-frequency-monitoring-covid-19-impacts>

3

● IDENTIFYING IMPACTFUL INTERVENTIONS

Forecasting the type of shock that will hit countries, allows the most impactful interventions to be identified.

Cash transfers are a fast, cost-effective and ‘shock-neutral’ way of providing support to households. Cash transfers can both support households that have lost incomes as a result of any of the six types of shocks outlined above. They can also be used to help households in advance of one of these shocks, to take actions that mitigate the impact of the shock on income. For example, they can help household enterprises to stay afloat even when business has been adversely affected by containment measures.

Some of the shocks outlined can also be mitigated by carefully designed shock-specific interventions.

These shock-specific interventions fall into two categories: no regret policies that have a beneficial impact even if the worst-case scenario of the shock does not materialise;^{43,44} and policies that may only have a benefit if the shock materialises.

Food security shocks in Uganda and Cote d’Ivoire provide some examples of shock-specific policies.

Domestic food production is particularly important for

food security in Uganda. Policies that provided exceptions to agricultural workers during lockdown were essential to mitigating the food security impact of the virus. Even though this was beneficial in Uganda, these exemptions may be even more beneficial in South Asia where hired labour is a much more important source of labour in agricultural production (for example in Bangladesh). Other anticipatory actions that would help preserve food security in countries where domestic production is important are policies that prioritise input supply chains, and policies that support the use of labour-saving inputs such as pesticide or machine rental markets. These latter interventions will affect wage income for agricultural workers so will need to be implemented in conjunction with cash transfers.


In contrast, in Cote d’Ivoire or other countries where imported food is a more important source of calories, policies to ensure food security will need to be more focused on the cost of imported food, which is an especially important source of calories for urban households that have been particularly hit by containment measures. In Cote d’Ivoire, reducing the tariff on rice imports would improve food security.

43 <https://www.cgdev.org/publication/no-regret-policies-covid-19-crisis-developing-countries>

44 Cash transfers also fall into this category.

Contact information

Centre for Disaster Protection
60 Cheapside
London
EC2V 6AX
United Kingdom

info@disasterprotection.org
 [CentreForDP](https://twitter.com/CentreForDP)
disasterprotection.org

