

An Update on the Short-Term Impacts of COVID-19 on the Malawian Economy, 2020–2021

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Abstract

This report provides an update on the short-term impacts of COVID-19 on the Malawian economy in light of the sharp increase in COVID-19 cases in December 2020 and January 2021. It extends and updates the results of previous SAM multiplier-based modeling undertaken by IFPRI during 2020 with a particular focus on the impacts of COVID-19 control measures on the recovery of the Malawian economy in 2021. As before, we also consider the short-run effects of external shocks associated with disruptions in trade and tourism, foreign direct investment, and remittance flows on the Malawian economy, as well as two medium-term paths assuming either faster or slower easing of restrictions during the remainder of 2020 and 2021.

With faster easing of restrictions, cumulative GDP gains turn positive by the third quarter of 2021 under the fast recovery scenario and exceed their pre-COVID-19 levels by MWK 217 billion before the end of 2021. However, under the slow recovery scenario, Malawi's GDP continues to decline until the end of 2020 before recovering during quarters 2 to 4 of 2021. This recovery is sufficient to wipe out the losses in quarters 2 to 4 of 2020, resulting in cumulative gains under the slow recovery scenario of MWK 46 billion over two years. Relative to the without COVID-19 scenario, MWK 511 billion of GDP is lost under the fast recovery scenario and MWK 681 billion under the slow recovery one during 2020 and 2021. So, tightened restrictions following the second wave of COVID-19 cases in January/February 2021 have delayed but not reversed the economic recovery that was already underway.

The urban informal sector, manufacturing, hotels and restaurants, the wider agri-food system, and exports are the sectors which our analysis shows are most impacted by COVID-19.

Introduction

This report provides an update on the short-term impacts of COVID-19 on the Malawian economy in light of the sharp increase in COVID-19 cases in December 2020 and January 2021. It extends and updates the results of previous SAM multiplier-based modeling undertaken by the International Food Policy Research Institute (see Baulch, Botha and Pauw 2020a and b) focusing on how the short-run impacts of COVID-19 control measures influence the recovery paths of the Malawian economy in 2021. We also consider the short-run effects of external shocks associated with disruptions in trade and tourism, investment, and remittance flows on the Malawian economy. As before, two medium-term paths assuming either faster or slower recovery during 2020 and 2021 are specified. Unlike other analyses (for example, NPC 2020), our estimates of the economic impact of the COVID-19 on the Malawian economy do not extend beyond the end of 2021 and do not try to set a value on loss of life or life-years from the pandemic. Our analysis does, however, allow for a detailed breakdown of the direct and indirect impacts of COVID-19 on different sectors and sub-sectors of the Malawian economy.

We employ a Social Accounting Matrix (SAM) multiplier model to assess the short-term impact of COVID-19 on the Malawian economy. We use the SAM originally developed for Malawi with a 2014 base year (Thurlow, 2017) but set-up the multiplier model to produce poverty and GDP results consistent with current population estimates and the recently rebased current GDP estimate of 2019.

The short-term impacts of COVID-19 arising from two types of shocks to the Malawian economy are considered:

- a) Policy measures that restrict domestic economic activity and movement of people, in order to combat the spread of COVID-19.
- b) External shocks affecting exports, trade, and remittances,

Expressing policy measures and external shocks as effective demand shocks, we then use the SAM multiplier model to assess the economywide impact of COVID-19 during that period when social distancing restrictions were in full force (i.e., April to May 2020), and under two stylized medium-term scenarios which consider faster or slower recovery during the rest of 2020 and 2021. In June 2020 we estimated national GDP losses of 16.5 percent due to two months of social distancing and 22.3 percent under a hypothetical 21-day urban lockdown (Baulch, Botha and Pauw, 2020a). This equated to GDP losses of approximately US\$32 million (MWK 24 billion) and US\$44 million (MWK 33 billion) per week, respectively, during the periods these restrictions are enforced. Between 1.6 and 2.2 million people fall temporarily into poverty under these two scenarios.

The two recovery paths, involving the faster and slower easing of restrictions suggested that Malawi's GDP would decline by 8.3 to 11.3 percent in 2020 under the social distancing scenario, before recovering to close to their pre-COVID-19 level by the end of 2021 (Baulch, Botha and Pauw, 2020b). In this report, we extend and update this analysis in light of the sharp increase in COVID-19 cases in December 2020 and January 2021. Special attention is paid to the possible recovery paths of the Malawian economy during the 2021 calendar year.

Malawi's response to COVID-19

According to the WHO, Malawi was one of last countries in Africa to be hit by the coronavirus pandemic, not registering its first three cases until April 2, 2020. The detection of these cases post-dated the State of Disaster declared on March 20, which closed all schools and universities, banned meetings with more than 100 people, and instituted social distancing measures for religious gatherings. Later in March, social distancing measures for markets and public transport were declared, the opening of the tobacco auctions was delayed, and all commercial flights were suspended from midnight on April 1. Other measures included the reduction of the liquidity reserve ratio for banks, fuel taxes and waiving the non-tourist levy to support the tourism industry. The Malawi Revenue Authority was also instructed to open up a voluntary tax compliance window to allow taxpayers with arrears to settle their tax obligations later in the financial year. All offices were advised to work in shifts except those working in essential services, and the Malawi Prison Services released some 1,400 prisoners who had committed "petty offences" to decongest the country's prisons. On April 20, non-essential government staff were instructed to work from home.

A national COVID-19 Preparedness and Response Plan with a budget of US\$212 million was launched on April 8, with the International Monetary Fund (IMF) approving debt service relief of US\$9.8 million for Malawi in April 2020 and a further US\$11 million in April 2021. Just over a half (51%) of the United Nations' emergency appeal for US\$ 212 million in 2020 had been raised from 31 donors by the end of March 2021.¹

On April 14, 2020 the President announced a 21-day lockdown starting at midnight on April 18. However, on April 17, the Malawi High Court granted an injunction, which temporarily barred the Government from implementing the 21-day lockdown following a petition by the Human Rights Defenders Coalition, who had argued that more consultation was needed to prevent harm to the poorest and most vulnerable. At the time of writing (April 2021), the injunction against the lockdown is still in force. Alongside the announcement of the lockdown, the government also announced an emergency cash transfer program aimed at targeting around 172,000 households in the peri-urban areas of Malawi's four main cities (Lilongwe, Blantyre, Mzuzu and Zomba). The program was scheduled to begin in May 2020, with each beneficiary household receiving MWK 35,000 (about US\$40) per month via mobile money payments. In addition, the Government also planned to provide cash top-ups to existing beneficiaries of the Malawi Social Cash Transfer Programme (MSCTP, commonly known as *Mtukula Pakhomo*) in all the 28 districts of the country. Due to logistical and other challenges, identification of the beneficiaries for the emergency urban cash transfer program did not take place until the last quarter of 2020, and the first distributions did not take place until the first quarter of 2021. In October, the top-ups to the MSCTP were extended with donor funding from the initial four-month period until the end of the lean season in March 2021.²

As shown in Figure 2, the number of confirmed COVID-19 cases in Malawi remained relatively low throughout 2020. The first cases emerged in late May, when arrivals of Malawians returning from South Africa led to a sharp increase in the number of confirmed cases in southern Malawi, especially Mwanza (the main border crossing from Mozambique). Initially,

¹ UN Malawi COVID-19 Update Situation Update 39, 16 April 2021

² In addition, between December 2020 and March 2021 about 108,000 rural households in seven districts received cash transfers and 120,000 received in kind food transfers as part of the annual Lean Season Response Plan.

there were some concerns that the relatively low incidence of COVID-19 case was a consequence of limited testing facilities. However, between the end of March and end of September, the number of testing centers nationwide expanded from 2 to 44.

Between June and August, there was a sustained increase in COVID-19 cases associated, in part, with a lack of social distancing during the re-run of the Presidential elections on June 23 during which 4,445,699 Malawians are known to have voted. The seven-day moving daily average of new cases rose to above 80 in early July and stayed at the level until early August. Subsequent tightening of social distancing measures following the change in Government in early July included a ban on street vending, suspension of entertainment gatherings, weddings, and mobile markets, and restrictions on funerals and other religious gatherings. New guidelines to prevent and respond to COVID-19 were then gazetted by the Government on August 7, which stipulated that wearing of face masks was mandatory, and that public gatherings should be restricted to 10 people.³ These measures succeeded in reducing the seven day average to below 12 new cases per day by early September, where it remained until the middle of December.

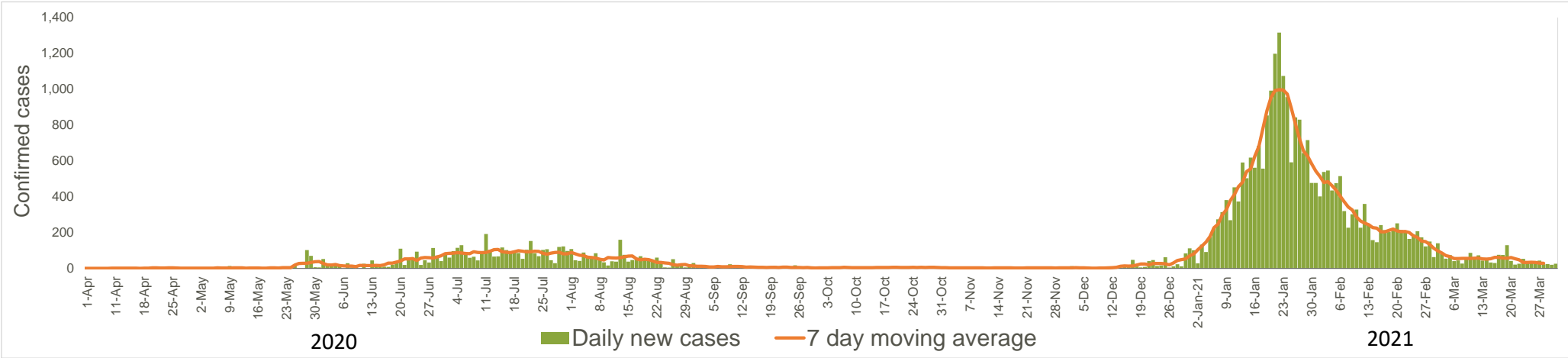
In response to the improving caseload, many social distancing measures were relaxed from the beginning of September, starting with a resumption of commercial international flights on September 5. A phased re-opening of schools, colleges and universities was announced starting on September 7 with standard 8, form 4, and final year university students—who had been unable to take their previous end-of-year examinations. A second phase covering all remaining school, college and university classes, began on September 28.⁴ Prior to re-opening, all schools and colleges were required to meet all requirements on the Ministry of Education checklist to prevent the further spread of COVID-19 among students and teaching staff. Although other social distancing measures and border restrictions were not modified officially, a more relaxed attitude to COVID-19 precautions was observed among much of the Malawian population during the last quarter of 2020.

However, in mid to late December 2020, a second more serious wave of COVID-19 infections emerged. These were linked to an increase in international travel around the Christmas and New Year holidays and the emergence of a new more virulent (501.V2) strain of the coronavirus in South Africa. Land borders were closed to non-residents and importation of non-essential goods from December 23, and remained closed for the next 14 days. With the number of new COVID-19 cases exceeding 500 per day from mid-January, the President declared a State of Disaster on January 12 and new emergency measures on January 17. These included a nationwide curfew from 9 pm to 5 am, the closure of non-residential schools (initially for three weeks but subsequently extended to five weeks), and a tripling of the number of emergency treatment beds in the four main urban centers. In addition, markets were required to close from 5 pm and bars and other entertainment establishments from 8 pm. A 50-person limit was also applied to attendance at all religious and other gatherings, and which remains in force at the time of writing (April 2021).

³ Following protests by religious leaders, the number of people allowed to attend religious services was increased to 100 on August 14, but subsequently reduced again to 50 in January 2021.

⁴ Note that a slightly different schedule for the reopening of schools, colleges and universities was originally announced by the Ministry of Education on September 1.

Figure 1. Confirmed COVID-19 cases in Malawi, April 2020 to March 2021



Source: Constructed by authors using data from Ministry of Health COVID-19 situation updates.

COVID-19 cases peaked at over 1000 new cases per day in the third week of January but then started to decline again quickly with the seven-day moving average of new cases falling to under 200 per day from the last week of February. In response, the Government announced the reopening of schools from February 22, although a teachers' strike delayed the opening of most public schools until March 8.

The first Covax vaccines arrived in Malawi on March 5, and started being administered to any adult who volunteered on March 11. However, the vaccines received a mixed response, with many Malawians in rural areas being reluctant to accept vaccination. By the end of March 2021, 144,979 people had received their first dose of the AstraZeneca vaccine with second doses scheduled to be given two months after the first. The Government's objective is to vaccinate 20% of the national population by the middle of 2021.

Malawi's overall response to the COVID-19 pandemic has been relatively mild when compared to measures implemented in neighboring countries. This is confirmed by statistics drawn from both IFPRI's COVID-19 Policy Response Portal and the University of Oxford's COVID-19 Government Response Stringency Index in Table 1. Column 2 of this table shows the number of policies implemented between April and December 2020 in selected countries in eastern and southern Africa, while column 3 displays the Stringency Index in late March 2021 for the same countries.

Table 1 . Numbers of policies implemented and government response stringency index in selected African countries, April 2020 to March 2021

Country	Number of policies implemented	Government Response Stringency Index
Ethiopia	116	51
Kenya	88	58
Mozambique	114	55
Malawi	39	48
Rwanda	115	71
South Africa	n.a.	48
Tanzania	n.a.	8
Zambia	83	36
Zimbabwe	n.a.	57

Source: IFPRI and University of Oxford (<https://www.ifpri.org/project/covid-19-policy-response-cpr-portal> and <https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker>). Last accessed April 7, 2021.

Note: Policies included in the IFPRI COVID-19 Policy Response Portal include: social protection, fiscal, trade, health, population movement, business, health, governance, monetary and financial policies. The Oxford COVID-19 Government Response Stringency covers border closures, market restrictions, economic policies (such as income support to citizens and foreign aid, and health system policies). The Stringency Index varies from 0 to 100 with higher values indicating more severe restrictions. Neither the IFPRI Policy Response Portal nor the Oxford Stringency Index attempt to measure strength of enforcement, which varies markedly between countries.

As of March 31, 2021, Malawi had registered a total of 33,584 confirmed COVID-19 cases, with 1,118 deaths and 30,379 recoveries (<https://covid19.health.gov.mw/>). A total of 219,103 tests had been carried out, with a positivity rate of 5.2%, and a total of 144,979 people had received the first dose of the AstraZeneca vaccine.

Methodology

Social Accounting Matrix (SAM) multiplier models are well suited to measuring short-term direct and indirect impacts of unanticipated, rapid-onset demand and supply-side economic shocks, such as those caused by the COVID-19 pandemic. At the heart of the multiplier model is a SAM, an economywide database that captures resource flows associated with all economic transactions that take place in the economy, usually over the course of a financial year. The SAM represents the structure of the economy for a calendar or financial year, showing the relationships between actors, i.e., productive activities, households, government, and foreign institutions, in terms of how they interact and transact via commodity and factor markets. The SAM multiplier model provides a mechanism for estimating the effects of an external shock – typically an exogenous change in final demand for goods and services – on sectoral and national production, factor incomes, and household incomes on the basis of the production, employment, and consumption relationships captured in the SAM database.

In addition to direct production effects in a sector affected by the demand change, other sectors are affected indirectly via changes in demand for intermediate inputs defined by input-output relationships in the SAM. Additionally, resulting changes in the levels or composition of employment could lead to further changes in household consumption demand. By capturing inter-industry and employment linkages, the model measures both the direct and indirect production and employment effects associated with demand shocks. The effects result in changes in household income, which are used to estimate changes in poverty with the aid of a survey-based microsimulation model linked to the multiplier model. The strength of the multiplier model lies in the fact that the multiple rounds of these indirect effects are fully estimated. The more detailed the SAM is in terms of the activities, commodities, factor, and household accounts it includes, the more refined the SAM multiplier analysis of the direct and indirect impact pathways and distributional effects of shocks will be.

We employ a SAM developed by IFPRI drawing on the National Accounts and the third Integrated Household Survey. The 2014 SAM for Malawi consists of 63 productive activities and 65 commodities, including goods and services (Thurlow 2017). The agriculture sector is disaggregated into 24 activities – 17 crop activities, 5 livestock activities, plus fishing, and forestry. The industry sector is disaggregated into 24 sub-sectors, and the services sector into 11 sub-sectors. Table 2 describes the contribution of these sectors to GDP based on the 2014 SAM.

Table 2. Sectoral contributions to GDP based on the 2014 SAM

Sector	Percentage	Sector	Percentage
Agriculture	29.1	Industry	16.4
Crops	16.8	Mining	1.4
Livestock	2.9	Manufacturing	9.4
Forestry	8.5	Food processing	3.3
Fishing	0.9	Beverages and tobacco	3.3
Services	54.5	Textiles, clothing and leather	0.4
Wholesale and retail trade	17.4	Wood and paper products	0.7
Transport and communication	7.1	Chemicals and petroleum	1
Hotels and food services	1.5	Machinery, equipment and vehicles	0.5
Finance and business services	15	Furniture and other manufacturing	0.2
Public administration, health, and education	8.5	Electricity and water	1.5
Other services	4.9	Construction	4.1
Subtotal	83.6	Total	100

Source: Extracted from Thurlow (2017)

A distinction is made in the model between rural and urban labor and, within these between several levels of skill, defined according to educational attainment. Rural and urban households are also disaggregated by their per capita consumption into quintiles, with a further distinction being made between rural farm and rural non-farm households. While the SAM itself refers to 2014, our multiplier results are scaled to current 2019 US dollar terms to permit an assessment of the likely impacts of COVID-19 in 2020.⁵

The short-run analysis period assumes that technical input-output relationships, the output choices of producers, and the consumption patterns of households do not change in response to the simulated shocks. This means that prices are held fixed during the short-run. Such behavioral responses are better captured in computable general equilibrium models. However, the anticipated short-term nature of the COVID-19 shock and the likelihood that the economy will return to “business-as-usual” state once the crisis dissipates makes the SAM multiplier framework a more appropriate tool for analyzing one-off unanticipated shocks. For a mathematical formulation of the SAM multiplier model, see and Appendix A2 of Baulch, Botha and Pauw (2020b).

Economic scenarios

In our previous analyses, we considered two broad economic scenarios: (a) two months of social distancing applied in both rural and urban areas during April and May; and (b) a 21-day urban lockdown in the second half of April and early May combined with social distancing measures during the first half of April and the rest of May. These social distancing measures were based on the guidelines announced by the Ministry of Health in early April 2020. In addition to shocks to the domestic sector, external trade shocks (reduced tobacco export revenues, and declining foreign remittances and foreign direct investment) arising from the effects of COVID-19 in the rest of the world were included.

In this analysis, we have updated the shocks and policy measures in the light of what has happened since mid-2020, in particular the election of a new President and subsequent appointment of a new government in June/July, together with the second wave of COVID-19 cases in January/February 2021. While the new *Tonse Alliance* Government has tightened some public health and social distancing measures, it has not resurrected the idea of an urban lockdown, and has generally adopted a more relaxed attitude to public gatherings than the previous government. We have not updated our previous estimates of the short-term impacts of a (hypothetical) lockdown.

The magnitude of initial shocks applied in our SAM multiplier model are shown in Table 3.

⁵ For this report we used the rebased GDP estimates (2017 = 100), released by the National Statistical Office in October 2020, adjusted to current 2019 US dollar terms. For details please refer to http://www.nsomalawi.mw/index.php?option=com_content&view=article&id=229:press-release-on-rebasing-of-gdp-from-2010-to-2017&catid=3:reports

Table 3. Impact channels and effective demand shocks applied during Q2, 2020

Impact channels	Initial shocks during Q2	
	Social distancing (2-months)	External shocks (Q2)
Reduction in manufacturing operations	-5%	
Restricting non-essential wholesale/retail trade	-10%	
Transport and passenger travel restrictions	-20%	
Limiting hotel and restaurant operations	-90%	
Non-essential business services restricted		
Restrictions on other business services		
Government work-from-home orders	-5%	
Closing all schools in the country	-15%	
Banning sports & other entertainment	-15%	
Reduced tobacco exports		-20%
Falling foreign private remittances		-20%
Falling foreign direct investments		-18%

Source: Author's construction.

The main sectors affected in the social distancing scenario are hotels and restaurant operations, followed by work from home orders for all non-essential Government employees, and restrictions on freight and passenger transport (including the ban on all international flights from April 1 until September 5). The closure of all schools, colleges and universities in the country from March 19 is also envisaged to have reduced demand by 20 percent despite the fact that teachers continued to receive basic salaries, principally because of non-payment of school contributions and secondary school fees. Restrictions on wholesale and retailing, which to date have been less thoroughly enforced, have a smaller impact in the social distancing scenario but a large GDP share. Modest shocks on non-food manufacturing enterprises, businesses services and sports/entertainment are also included. However, agriculture, construction, health, and essential services are exempt from direct restrictions, although the model does account for indirect effects on these sectors.

After modeling the short-term impact of these policies during two months of full enforcement of social distancing), a faster and a slower easing of the restrictions are specified during the remainder of 2020 and 2021.

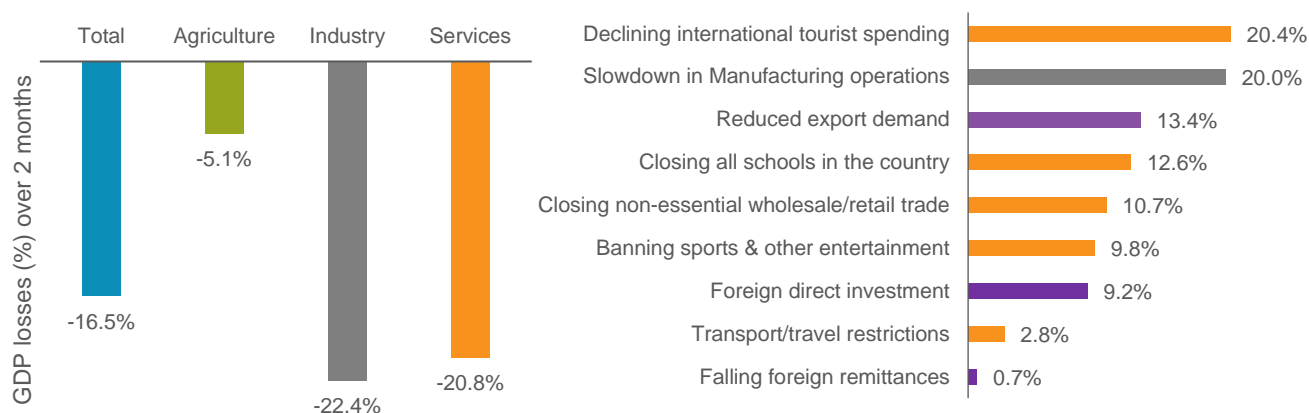
Short-term economic impacts due to social distancing

Using the SAM multiplier model with the social distancing restrictions and external demand shocks specified in Table 3, we estimate that national GDP falls by 16.5 percent during April and May 2020 relative to the GDP that would have materialized in a without COVID-19 baseline scenario. This is equivalent to losses of approximately US\$32 million per week or US\$280 million over the two-month period.

Figure 2 shows the breakdown of total GDP losses by sector on the left, and the share of GDP losses accounted for by different impact channels on the right. The industry sector is hit hardest, with its value added falling by 22.4 percent followed closely by services (-20.8 percent). However, because of the relative sizes of the two sectors, services are by far the most affected in absolute terms with losses of US\$192 million over the two-month period compared to US\$63 million in industry. The sub-sectors that are hardest hit by social distancing within services are tourism and the

wholesale retail trade, while external shocks due to foreign direct investment and remittances and reduced tobacco exports are also important. Closing of school and government work at home orders also account for substantial shares of total GDP losses.

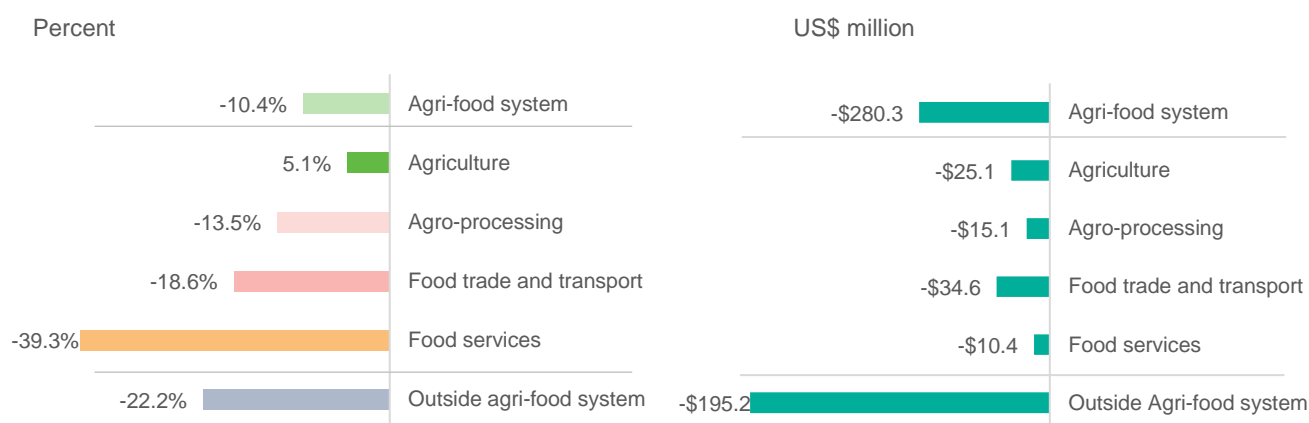
Figure 2. Sectoral effects of social distancing



Source: Malawi SAM multiplier results.

Although the agriculture sector, which was (and remains) exempted from most social distancing restrictions, experienced a relatively small contraction (5.1 percent) due to the knock-on effects of social distancing and reduced tobacco exports, the broadly defined agri-food system contracted by 10.2 percent. Apart from primary agriculture, the agri-food system includes agro-processing, food trade and transport, and food services such as restaurants. All these downstream sectors experience significant losses in agriculture and account for significant losses in agri-food system GDP in absolute terms (Figure 3). Food services, though a relatively small sector in terms of GDP, experience a decline of 39.3 percent due to closure of all restaurants and food outlets except take away services during the two months of full social distancing. Hotel occupancy rates have also been extremely low (< 20 percent) due to a decline in tourists since the beginning of 2020, and a halt in nearly all tourism since international flights were suspended at the beginning of April.

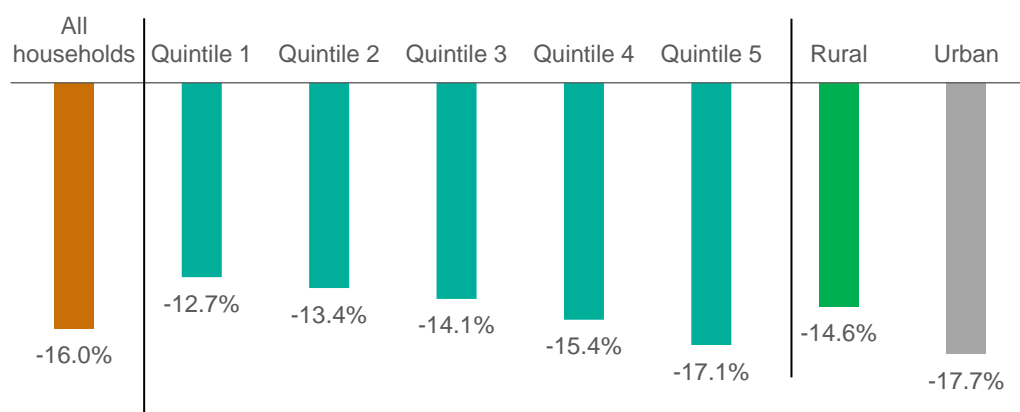
Figure 3: Change in agri-food system GDP during the 2-months of social distancing



Source: Malawi SAM multiplier model results.

Losses in household incomes from two months of social distancing were expected across the income distribution, but with those in the richest income quintile and urban areas experiencing higher declines in their per capita incomes (Figure 4). Consequently, an additional 1.6 million poor people fall temporarily into poverty, most of whom, like the overall population, are in rural areas.

Figure 4. Changes in per capita incomes during social distancing



Source: Malawi SAM multiplier model results.

Medium-term economic impacts under two recovery scenarios

In this section, we model the impact of a faster and a slower lifting of social distancing restrictions and external shocks during the remainder of 2020 and 2021. These recovery scenarios are designed on the assumption that by the fourth quarter of 2021 most restrictions and shocks will have disappeared. Table 4 describes the way domestic restrictions and external shocks are relaxed under these two recovery scenarios from June 2020 until the end of 2021. Notice that the speed of easing is now slowed in the first quarter of 2021 to reflect the surge in COVID-19 cases and strengthened social distancing that were put in place in January. Some external shocks (e.g., foreign direct investment, remittances,) have also been maintained at their levels in quarter 4, 2020 due to the resurgence of coronavirus cases in Malawi’s major trading partners.

Table 4. Easing of domestic restrictions and external shocks under the fast and slow recovery scenarios

Period	Faster easing of restrictions	Slower easing of restrictions	External shocks
June 2020	90-100% of initial domestic shocks	100% of initial domestic shocks	90-100% of quarter 2 levels
Quarter 3 2020	35- 85% of initial domestic shocks	50-95% of initial domestic shocks	75-90% of quarter 2 levels
Quarter 4 2020	10-45% of initial domestic shocks	10-75% of initial domestic shocks	35-75% of quarter 2 levels
Quarter 1 2021	5-25% of initial domestic shocks	10-35% of initial domestic shocks	10-35% of quarter 2 levels
Quarter 2 2021	0-25% of initial domestic shocks	0-5% of initial domestic shocks	5-10% of quarter 2 levels
Quarter 3 2021	0-5% of initial domestic shocks	0-5% of initial domestic shocks	0-25% of quarter 2 levels
Quarter 4 2021	0% of initial domestic shocks	0-5% of initial domestic shocks	0% of quarter 2 levels

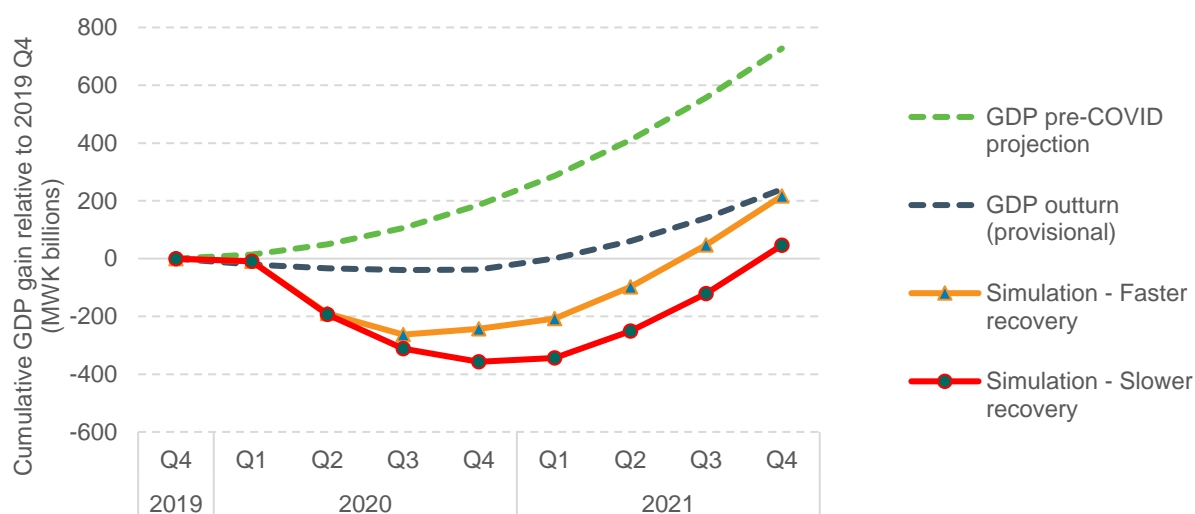
Source: Authors’ compilation.

Figure 5 shows cumulative GDP losses and gains (in current 2019 MWK billions) by quarter during 2020 and 2021. The upper (dashed) line shows the pre-COVID-19 projected growth path of 5.1 per cent for 2020 and 2021 prior to the outbreak of coronavirus (MFEP&D 2019). This would have

translated, over the course of eight quarters, into a cumulative gain of MWK 727 billion in GDP. As with our earlier simulations, COVID-19 is projected to have had little impact on the Malawian economy during quarter 1 of 2020, but to have an almost identical negative impact during quarter 2 under the faster and slower recovery scenarios, when real GDP declines by around MWK 190 to 193 billion due to the combined impact of two months of social distancing combined with external shocks.

Thereafter, the growth paths for the rapid and slow recovery scenarios diverge with cumulative GDP losses of MWK 263 and 312 billion, respectively, by the end of quarter 3. In the fourth quarter of 2020, cumulative GDP losses continues to decline under the slower recovery scenario but begin to improve under the faster recovery scenario. The reimposition of land border restrictions in December 2020 and social distancing measures (including the second closure of schools) in January 2021, delays the recovery further. Nonetheless, GDP grows by MWK 14 and 35 billion in the first quarter of 2021 under the slower and faster recovery scenarios, respectively. Thereafter, with continued easing of restrictions in the remainder of 2021 cumulative GDP gains turn positive by the third quarter of 2021 under the fast recovery scenario, with real GDP gains of MWK 217 billion by the end of 2021. Under the slow recovery scenario, Malawi's GDP does not begin to improve markedly until quarter 2 of 2021. However, the speed of the subsequent growth is sufficient to wipe out the losses in quarters 2 to 4 of 2020, resulting in a small cumulative gain under the slower recovery scenario of MWK 46 billion over the two years. Relative to the without COVID-19 scenario, MWK 511 billion of GDP is lost under the fast recovery scenario and MWK 681 billion under the slow recovery one.

Figure 5. GDP growth per quarter during 2020 and 2021 with rapid and slow recovery from social distancing



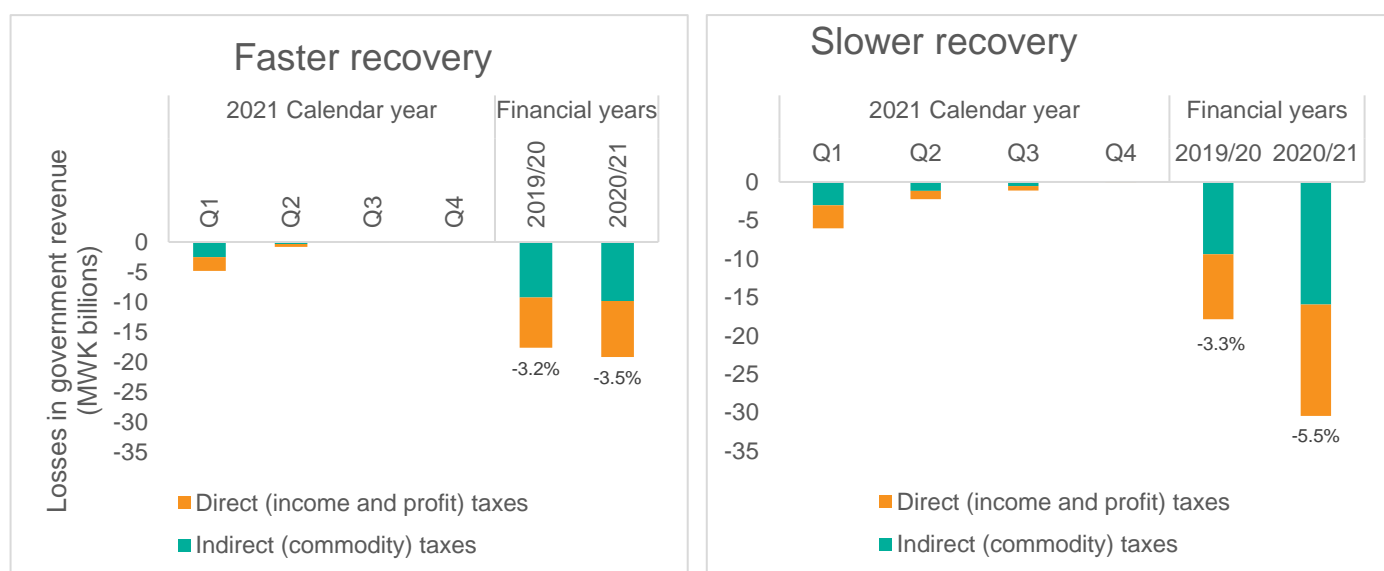
Source: Malawi SAM multiplier results.

These alternative growth paths imply revised GDP 'growth' rates of -1.3 to -3.1 percent for 2020 under the fast and slow recovery scenarios, followed by a rebound in year-on-year growth in 2021 of 11.8 to 10.3 percent, respectively. Under the faster recovery scenario, GDP starts to recover in the third quarter of 2020, while under the slower recover scenario, it is not until the second quarter of 2021 that GDP begins to improve again significantly. This suggests that the second wave of COVID-19 in Malawi in December 2020 and January 2021 has delayed but not reversed the economic recovery that was already underway.

This outlook is less optimistic than that from the forecasting models of other institutions, including the Ministry of Finance (0.9 percent in 2020 and 3.5 percent in 2021), the Reserve Bank of Malawi (3.8 percent in 2020/21), and the International Monetary Fund (0.6 percent in 2020, and 2.2 percent in 2021). However, with a strong recovery in 2021 the average annual growth over 2020 and 2021 in our simulations is in the range 4.1 to 4.5 percent, i.e., 0.6 to one percentage point below the projected 5.1 percent in the Ministry of Finance’s pre-COVID projection. However, this is strongly predicated on the assumption that the economy can return to its pre-COVID productivity and employment levels by the end of 2021. ⁶

Figure 6 shows that estimated losses in Government revenue from direct and indirect taxes by quarter and financial year. In the 2019/20 financial year, government revenue falls by MWK 8.8 (3.3 percent) in the fast recovery scenario and about MWK 8.9 billion (3.2 percent) in the slow recovery scenario. In both scenarios, lost revenues from indirect taxes are slightly higher than for direct taxes, although the differences are not large. In the 2021 calendar year, the largest revenue losses occur in quarter 1, with indirect tax revenue falling by MWK 2.5 to MWK 3.1 billion and direct tax revenues by MWK 2.3 to MWK 2.9 billion. Revenue losses are then higher in the 2020/21 financial year, with total tax revenue declining by about MWK 128 billion to MWK 1179 billion (5.5 percent) in the slower recovery scenario.

Figure 6. Losses in government revenue under the faster and slower recovery scenarios



Source: Malawi SAM multiplier model results.

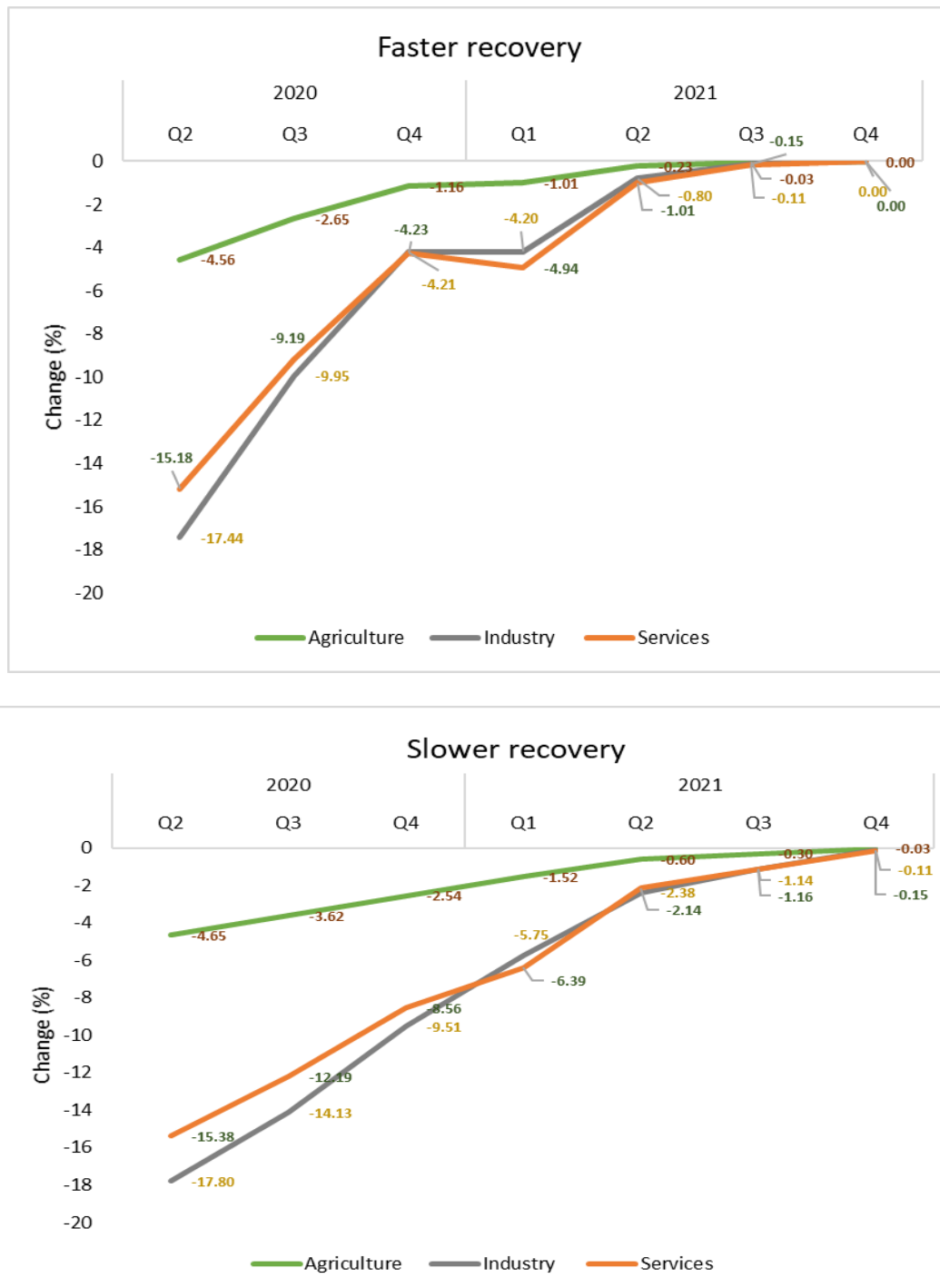
Quarterly GDP Trends

To further explore the sectoral growth patterns underlying the faster and slow growth scenarios, Figure 7 shows the quarterly changes in sectoral GDP in 2020 and 2021. In line with the sharp onset of the economic effects of the pandemic in quarter 2 of 2020, sectoral GDP drops sharply in both scenarios but with agriculture much less severely affected than Industry or services. While GDP in industry and services drop by 15 to 18 percent in this quarter in both recovery scenarios, agricultural GDP drops by about 4.5 percent. This lower drop is due to agriculture being less affected by the

⁶ The SAM multiplier model is not the ideal tool for estimating growth over a two-year period. It does not, for example, account for the effect of a reduction in saving and investment in 2020 on productive capacity in 2021

social distancing and travel restrictions than industry or services, both of which reported much sharper slowdowns in economic activity. In addition, social distancing measures were less stringently enforced in the agricultural sector than the other sectors while the main harvest season was already beginning. It is important, however, to realize that the more broadly defined agri-food system contracted by 11.7 percent during this quarter, primarily as a result of knock-on effects of the general economic declines on food services, food trade and transport and agro-processing. Given sectoral weights, overall GDP declined by 12.5 to 12.7 percent decline under the faster and slower growth scenarios.

Figure 7: Changes in Quarterly Sectoral GDP, 2020 to 2021



Source: Malawi SAM multiplier model results.

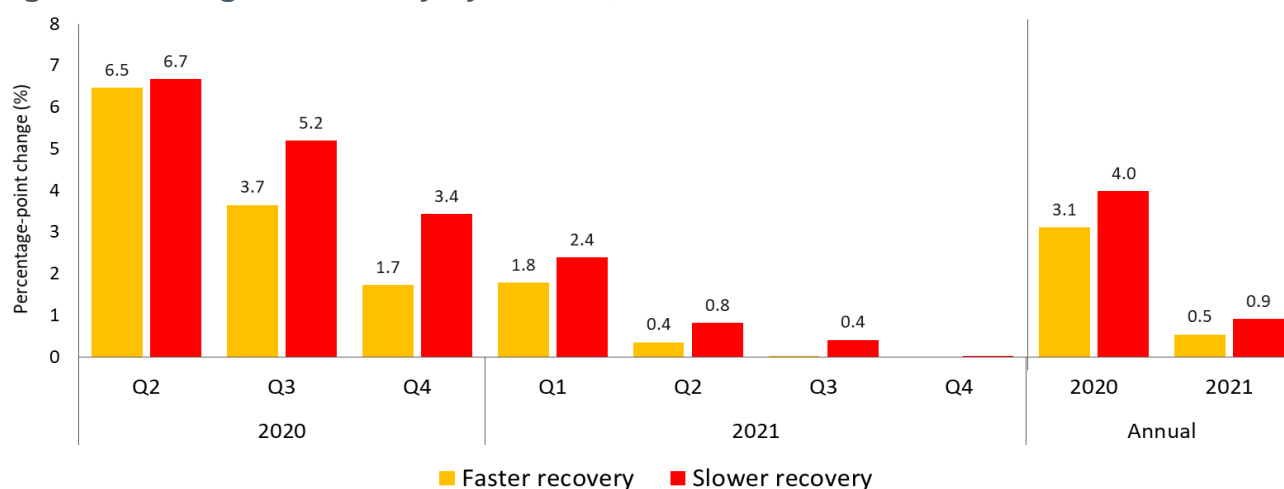
During the remainder of 2020, with the easing of social distancing measures and external shocks, sectoral GDP recovers in all three sectors but especially quickly in industry and services. By the end of 2020, sectoral output in industry and services was 4.2 percent lower than their pre-COVID levels under the faster recovery scenario and 8.5 to 9.5 percent lower under the slower recovery scenario. Sectoral output in agriculture is 1 to 2.5 percent lower than its pre-COVID levels by the end of 2020, although it should be noted that the Malawi SAM multiplier model does not account for the seasonality of agricultural production fully.

The impact of the border restrictions imposed just before Christmas and strengthened social distancing restrictions following the declaration of the State of Disaster in mid-January show up in the first quarter of 2021. Under the faster recovery scenario, output in the service sector declines by 0.7 of a percent in this quarter while industrial output is static. In contrast, under the slower recovery scenario, the industrial and service sectors continue to grow, although slightly more slowly than before. In both scenarios it is the service sector that bears the brunt of the strengthened anti-COVID restrictions. Given the weight of the service sector in GDP, this results in national output that is 4.2 and 4.9 percent less than its pre-COVID levels in quarter 1 of 2021 under the faster and slower recovery scenarios.

The recoveries of the Malawian economy in the remaining three quarters of 2021 represent our best guesses at the easing of restrictions and external shocks during the rest of the calendar year. The faster recovery scenario shows agricultural GDP recovering to its previous level in the second quarter, while industry and services do not this until the third quarter. Under the slower recovery scenario, the industrial and service sectors remain approximately 2 and 1 percent below their pre-COVID levels in quarters 2 and 3 of 2021, and do not entirely recover until the end of 2021.

Lastly, we trace out the impact of the changes in national income on poverty (Figure 8). Recall from Figure 4 that it is people in the richest income quintiles and those living in urban areas who experience higher declines in their per capita incomes due to social distance measures. Nevertheless, we know that those in the bottom three quintiles experience per capita incomes losses of 13 to 14 percent during the first two months of social distances. These translate into increases in the poverty rate (using the national poverty line) of 6.5 and 6.7 percentage points (i.e., from 51 to around 57.5 percent) in the second quarter of 2020 or an additional 1.6 million poor people. Thereafter, poverty rates decline steadily returning to their pre-COVID level by quarter 3 in the case of the faster recovery scenario and quarter 4 for the slower one. When expressed in terms of calendar year averages, poverty increases by 3.1 to 4 percentage points in 2020 and 0.5 to 0.9 points in 2021 depending on the recovery scenario.

Figure 8: Changes in Poverty by Quarter, 2020-21



Source: Malawi SAM multiplier model results.

Comparison of modeling results with those in other countries

IFPRI has also undertaken similar –though not identical– SAM multiplier modeling in 2020 for a number of other African countries (IFPRI 2021). Such cross-country comparisons should be made cautiously due to differences in: (a) the restrictions implemented and their enforcement; (b) the demand shocks assumed; and, (c) the impact channels simulated. Nonetheless, Table 5 shows that the estimated GDP losses during 2020 from the implementation of lockdowns in Nigeria, Rwanda and South Africa are considerably higher than the losses during social distancing in Ethiopia, Ghana, and Kenya. GDP losses at factor cost in Malawi are lower than in all of these countries, although still higher than in the Democratic Republic of the Congo, Senegal and Zambia. The increase in poverty in Malawi during 2020 is also relatively modest compared to the other countries in Table 5, especially for the faster recovery scenario. The lower short-term economic costs of more relaxed restrictions to counter COVID-19 must, however, be balanced against their public health costs and benefits in terms of reduced infections and ‘flattening of the curve’. In addition, it is still too early to know if subsequent spikes in infections may result in lockdowns or other restrictions being implemented at a later date, especially in countries which adopted more relaxed restrictions.

Table 5. Simulated impacts of lockdowns/restrictions in selected African countries

Country	Deviation of GDP at Factor Cost (%)		Annual Average Change in Poverty	
	Faster recovery	Slower recovery	Faster recovery	Slower recovery
South Africa	-12.1	-17.6	n.a.	n.a.
Rwanda	-11.5	-16.4	3.1	4.3
Nigeria	-10.0	-15.2	3.8	6.0
Ghana	-7.6	-11.5	2.9	4.6
Kenya	-7.5	-10.0	4.2	5.6
Ethiopia	-6.4	-6.8	3.8	4.0
Malawi	-6.1	-7.7	3.1	4.0
DR Congo	-5.7	-6.6	3.0	3.5
Senegal	-5.6	-7.4	3.9	5.1
Zambia	-4.9	-7.6	1.6	2.5

Source: IFPRI (2021) and Arndt et al. (2020)

Summary and conclusions

This report provides an update on the short-run impacts of COVID-19 on the Malawian economy following the surge in cases in January/February 2021. It extends and updates the initial results of modeling undertaken by IFPRI in 2020 to assess the short-run impacts of COVID-19 control measures and external shocks on the Malawian economy in 2021.

To date, Malawi’s response to the COVID-19 pandemic has been relatively modest with social distancing measures adopted along with school closures and travel restrictions. Using a SAM multiplier model, we estimate that GDP declined by around 16.5 percent during April/May 2020 and between 8.3 to 11.3 percent over the 2020 calendar year. This led to around 1.6 million people, the majority of whom live in rural areas, temporarily falling into poverty, although it was urban households who were expected to suffer the largest income losses. These economic losses are less than the GDP declines simulated using similar SAM multiplier models in other African countries (such as Nigeria, Rwanda and South Africa) that have implemented hard lockdowns.

The report goes on to consider the impacts of faster and slower lifting of restrictions and external shocks during the remainder of 2020 and 2021. Over this period, the pre-COVID-19 projected GDP cumulative gain (at a growth rate of 5.1 percent) would have been MWK 727 billion. In the post-COVID-19 faster easing of restrictions scenario, GDP stabilizes in the last quarter of 2020, and recovers to its pre-COVID level in the third quarter of 2021, with cumulative real GDP gains of MWK 217 billion by the end of 2021. However, under the slow recovery scenario, Malawi's GDP continues to decline until the end of 2020 before recovering during quarters 2 to 4 of 2021. This recovery is sufficient to wipe out the losses in quarters 2 to 4 of 2020, resulting in cumulative gains of MWK 46 billion under the slow recovery scenario over the two years. However, relative to the without COVID-19 scenario, MWK 511 billion of GDP is lost under the fast recovery scenario and MWK 681 billion under the slow recovery one. The additional restrictions implemented following the second wave of COVID-19 cases in January/February 2021, have delayed but not reversed the economic recovery that was already underway in late 2020.

The economic costs of COVID-19 restrictions must, of course, be set against their public health benefits⁷. Nonetheless minimizing the economic impact of COVID-19 requires: a) maintaining open markets and borders with appropriate hygiene/social distancing measures; b) social protection measures to protect the most vulnerable, especially workers in informal services and small retailers in urban areas; and, c) protecting workers who have lost their jobs in the hard-hit tourism and manufacturing sectors. Looking forward, monitoring the impact of COVID-19 restrictions on the Malawian economy should pay special attention to the urban informal service sector, the wider agri-food system, hotels and restaurants, as well as tourism, exports, and remittances—as these are the sectors that our analysis shows to be most impacted by COVID-19 restrictions in Malawi.

⁷ More generally, comparing the economic and public health costs and benefits of COVID-19 over a longer time frame requires a fully integrated economic-epidemiological model, of which the most promising approach seems to be the COI-SIR (Cost of Illness-Susceptible Infected Recovered) framework. See Mueller et al. (forthcoming).

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