

**EXECUTIVE  
BOARD  
MEETING**

SM/21/31  
Correction 1

March 26, 2021

To: Members of the Executive Board

From: The Secretary

Subject: **Macroeconomic Developments and Prospects in Low-Income Countries—  
2021**

Board Action:

The attached corrections to SM/21/31 (3/12/21) have been provided by the staff:

**Factual Errors Not  
Affecting the  
Presentation of Staff's  
Analysis or Views**

**Pages 8, 9, 10, 13, 14, 15, 20, 21, 22, 28, 30, 35, 39, 40**

**Typographical Errors**

**Pages 2 (and subsequent headers) and 34**

Questions:

Mr. Gregory, SPR ([RGregory@imf.org](mailto:RGregory@imf.org))  
Ms. Pierre, SPR (ext. 34859)



a lower convergence path than previously expected. There are signs of long-lasting economic scarring effects from a permanent lowering of actual and potential GDP levels, reversing gains made in poverty reduction, increasing inequality, and damaging human capital.

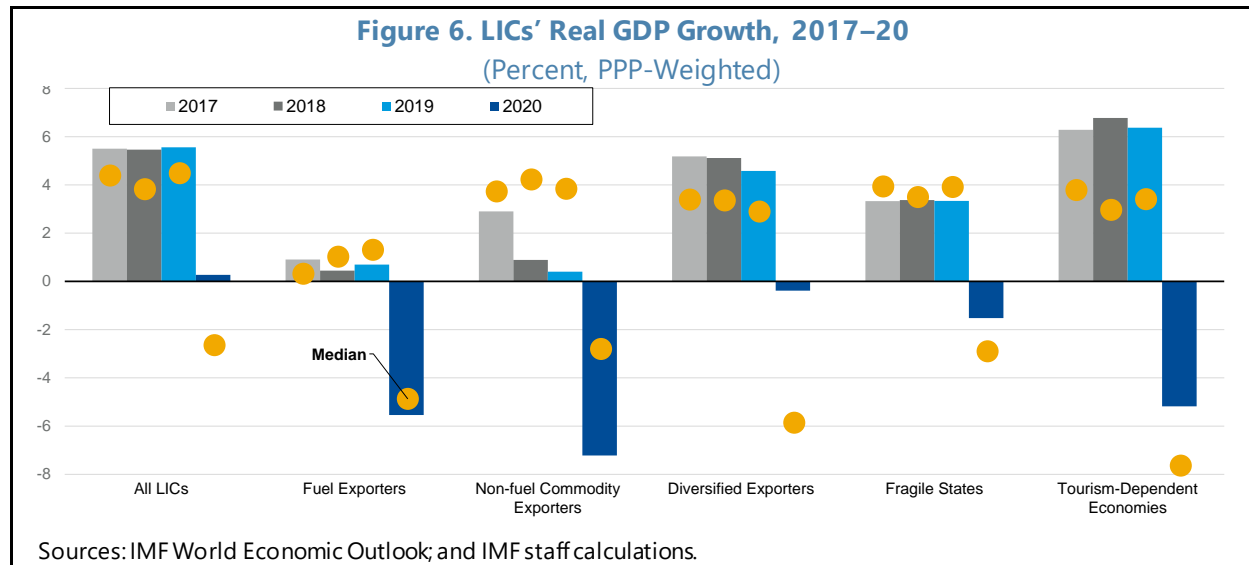
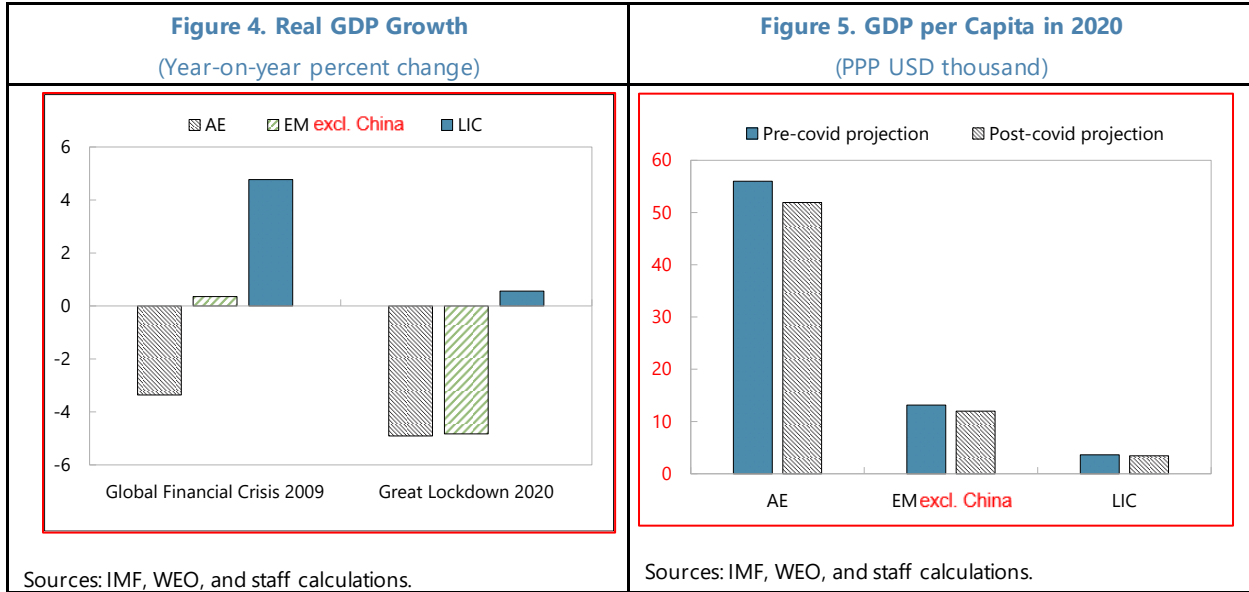
**This paper estimates LICs' financing needs up to 2025 to resume and accelerate their income convergence with advanced economies.** It does this in two steps. First, the paper provides an estimate of additional financing that would enable LICs to step up spending response to COVID, including vaccination needs, while rebuilding or keeping external buffers to enhance resilience. The latter is important since, as Advanced Economies (AEs) recover from the pandemic and withdraw support measures, global financial conditions will tighten at a time when many LICs may still be in the clutches of the pandemic. As a second step, the paper then considers the financing needed to allow LICs to accelerate convergence with AEs. Emerging Markets (EMs) averages are used in the model as credible references for estimating both types of needs. The needs to step up spending response to COVID are estimated by using the expected EMs' average response to the pandemic, while additional needs to accelerate convergence with AEs are based on what would be necessary and plausible for LICs to move closer by 2025 to levels that are observed in EMs. This paper does not provide an estimate of the needs to achieve the Sustainable Development Goals.

The analysis suggests an amount of around \$200bn is needed to step up the spending response to COVID (\$180bn) and rebuild or maintain external buffers (\$20 bn), while an additional \$250 bn in investment spending would accelerate convergence with AEs. Materialization of risks identified in an adverse scenario would add around \$100 bn to the needs. Only a portion of the needs could be financed through borrowing. Depending on the strength of spending multipliers, and the amount of spending deployed, LICs would converge back to their pre-COVID convergence path to advanced economies between 2023 and 2025. Reflecting the inherent uncertainties in modelling assumptions, the paper presents sensitivity analysis on all the assumptions.

### **Covering These Additional Financing Needs Necessitates a Multi-faceted Response:**

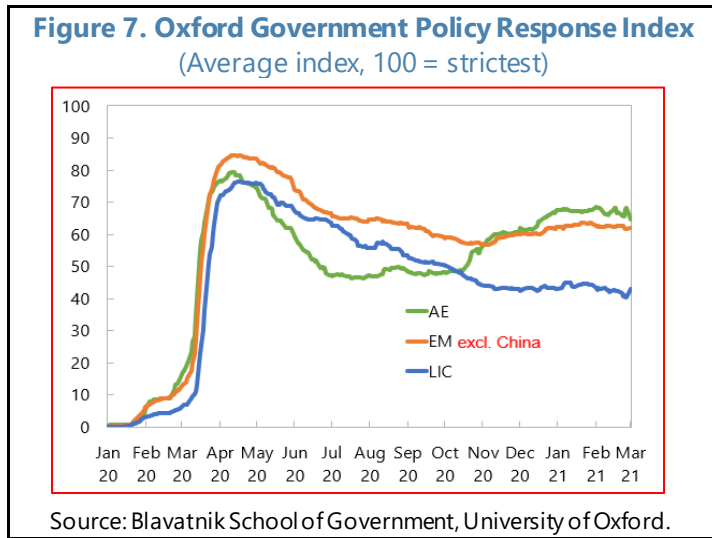
**Within LICs:** An ambitious reform agenda is required to boost competitiveness and potential growth, in particular improving governance and the business climate to facilitate domestic private sector development, enhancing policy frameworks (particularly domestic revenue mobilization and administration), developing domestic financial markets (including increasing financial inclusion), and improving economic management.

**From the international community:** Supporting LICs through ensuring adequate worldwide vaccine production and universal distribution at affordable prices, and securing that LICs recover fully from the pandemic and accelerate income convergence (including by enhancing climate resilience and building digital infrastructure), will require significant financial support, including grants, from bilateral donors and creditors and international financial institutions.

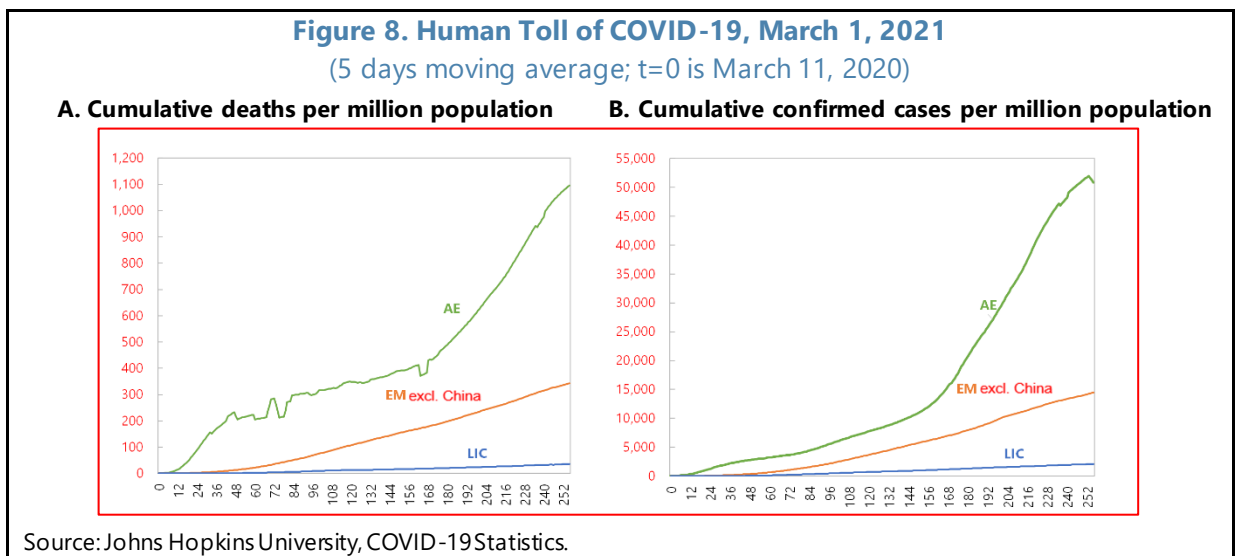


**4. The health, social and economic impacts of the pandemic were varied.** Lockdowns and containment measures tended to be relatively stringent in EMs and LICs at the beginning of the pandemic and remained more stringent than in AEs until fall 2020 (Figure 7).

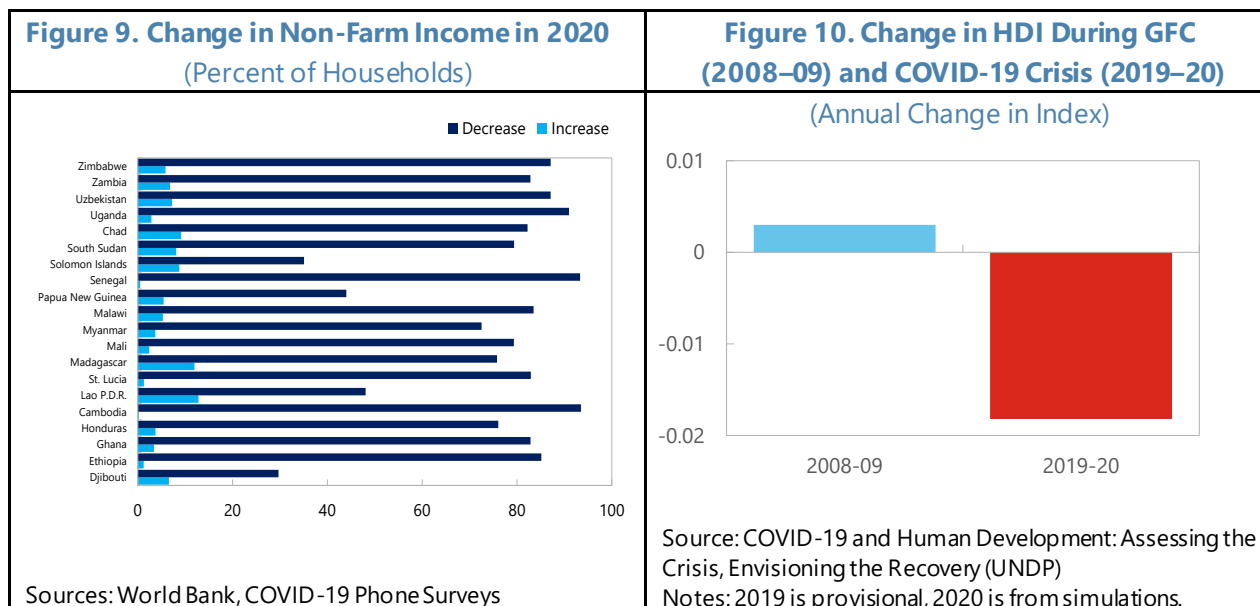
Despite lower numbers of reported COVID cases and deaths (Figure 8), the impact on already constrained health systems has been large and non COVID-related deaths may also have been on the rise as routine health care was disrupted. Lockdowns and containment measures had strong negative impacts on economic activity, at the peak of the lockdown in April, mobility related to retail activity was down by more than 40 percent (Gurara et al., 2020). They



triggered a sharp drop in employment, especially in the informal sector (Figure 9),<sup>2</sup> ILO model estimates suggest LICs lost a total of 39 million full-time equivalent jobs in 2020. The impacts are expected to affect vulnerable groups disproportionately, including younger workers and women. And the UN projects a significant drop in the Human Development Index in 2020 (Figure 10), which is bound to affect LICs disproportionately. Meanwhile, inflationary pressures started to mount in several LICs, notably due to renewed food inflation, depreciation, and supply disruptions partly due to the pandemic as well as several natural disasters.

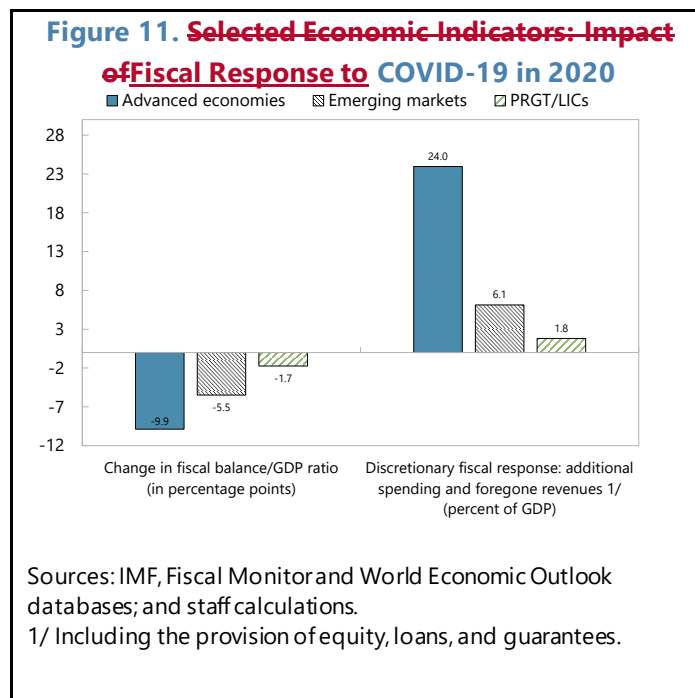


<sup>2</sup> For example, almost all households surveyed in Kenya said that their income decreased, and about half said that they are “cooking less frequently” and “altered their diet.” Household income was also significantly affected in Uganda, where about half of the households said that they cannot sustain their lifestyle even for 1 day of quarantine (IMF 2020a).



**5. A lack of fiscal space and availability of concessional financing severely constrained LICs’ response to the pandemic.**

Lockdowns reduced countries’ fiscal space by lowering tax revenue while necessitating increased fiscal spending. Fiscal balances worsened in all LIC sub-groups (Figure 12). Countries across the world launched unprecedented fiscal and monetary policy measures to support their economies, healthcare systems, and the vulnerable sections of their populations. However, limited access to financing and little space for monetary policy support significantly restricted the scope for policy responses in LICs, including discretionary fiscal measures (Figure 11). At the same time, financial regulators in many LICs provided temporary help to their banking systems by easing banks’ nonperforming loan classifications, their provisioning, and capital requirements, while also introducing loan moratoria and credit guarantees. These measures were helpful in mitigating the immediate impact of the crisis and boosting the effectiveness of stimulus efforts. As such measures are lifted, bankruptcies and contingent liabilities are likely to arise. A careful balance between supporting activity over the near term and maintaining financial stability over the medium term is



Relief Trust (CCRT).<sup>4</sup> Looking ahead, IMF staff has called for certain reforms on the international debt architecture comprising sovereign debt contracts and policy frameworks that support orderly debt restructuring (IMF, 2020b).

**9. Beyond the DSSI, the Common Framework for Debt Treatments will help countries address sovereign debt challenges.** The Common Framework aims to address sovereign debt burdens and ensure broad participation of creditors with fair burden sharing. Importantly, it not only brings in official creditors that were previously not part of the established Paris Club process, but also requires that participating debtor countries seek treatment on comparable or better terms from other creditors, including the private sector, thereby enabling more comprehensive and timely debt resolutions. A debtor country must also have or be seeking a UCT-quality IMF program. In early 2021, Chad, Ethiopia, and Zambia have become the first countries to request a debt treatment under the Common Framework.

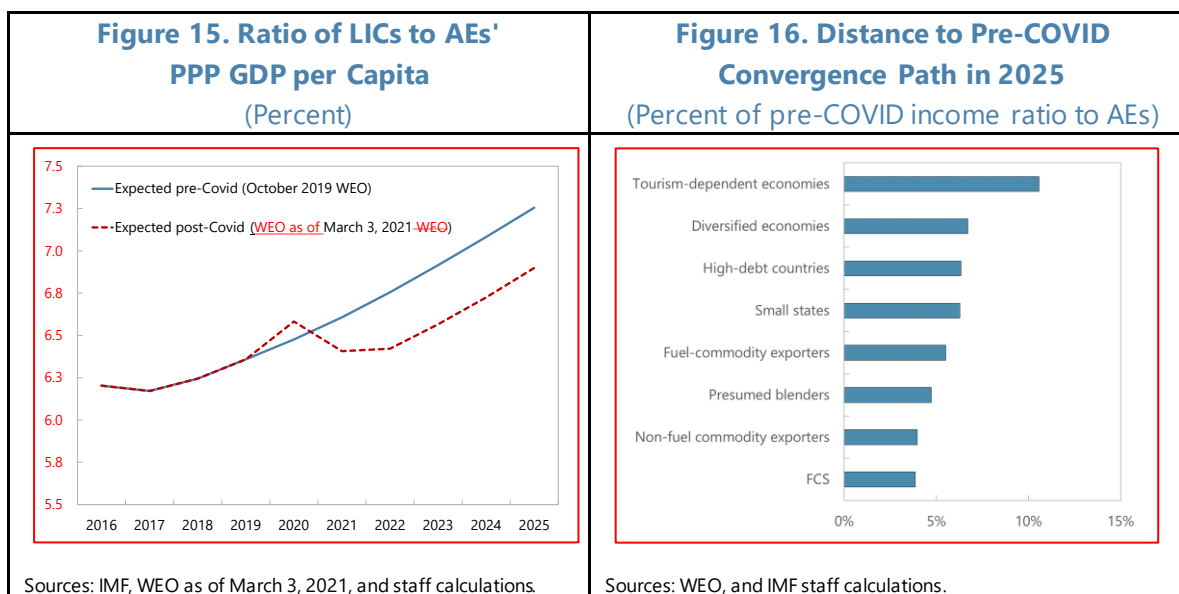
***But the Current Response and Planned Spending will not be Enough to Reverse Long-term Scarring on LICs***

**10. As a result of constrained policy response, the pandemic is expected to leave long-lasting economic scarring effects.** Educational achievement could be impaired and human capital depleted as children are kept out of school and many may drop out of formal education entirely. The pandemic could wipe out countries' progress in reducing within country inequality (IMF 2020c). The World Bank projects that some 70–100 million people could fall into extreme poverty, concentrated primarily in countries with pre-existing high incidences of poverty.<sup>5</sup>

**11. The medium-term economic outlook is concerning, with income convergence to advanced economies set back significantly.** There is great uncertainty over the pace of recovery from the pandemic. The distribution of vaccines has just started and under current conditions would remain insufficiently deployed at least until end-2022. In addition to limited vaccine availability, LICs face limited infrastructure and capacity to stock and distribute the vaccines. Together with the differential economic scarring effect of the pandemic across sectors and countries, these factors increase the likelihood of a great divergence (Gopinath, 2021). By 2025, LICs' PPP GDP per capita is expected to be ~~6.910.6~~ percent of that of AEs, compared to a pre-COVID projection of ~~7.311.1~~ percent (Figure 15). Most countries (~~587~~ out of 69 LICs) are not expected to reach their pre-COVID convergence path by 2025, with tourism-dependent economies suffering the largest setbacks (Figure 16).

<sup>4</sup> Debt relief under the CCRT has so far been approved to cover debt service to the IMF falling due between April 2020 and April 2021. The total debt relief for these first two tranches amounts to almost US\$500 million.

<sup>5</sup> See Castaneda Aguilar et. al. (2020).



### ***At the Same Time Pre-existing Challenges have been Compounded by the Pandemic***

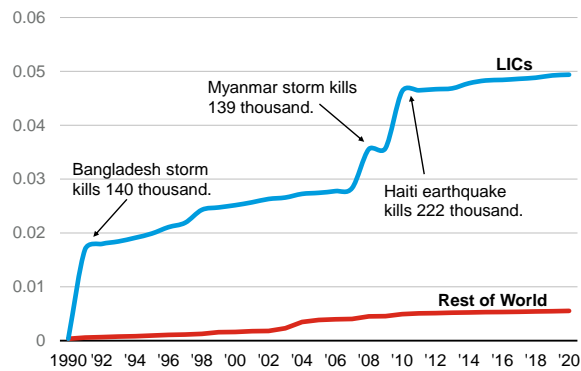
**12. Amidst heightened challenges in the immediate post-COVID period, LICs will have to redouble efforts to overcome the fallout of the crisis and return to a desirable development path.** The pandemic has highlighted LICs' vulnerabilities while worsening the pre-existing challenges in reaching their development goals and bridging the development gap. There is a recognition that significant efforts will need to be deployed by LICs themselves and the international community to address these challenges. An important priority remains to ensure that health care systems are adequately resourced everywhere to eradicate the pandemic globally. This means securing adequate funding for vaccine purchases and distribution, testing, therapies, personal protective equipment, and investment in health care facilities. Strong multilateral action is essential to significantly scale up vaccine production capacity and accelerate the rollout everywhere, including by bolstering financing and reallocating excess vaccines from surplus to deficit countries. Insuring vaccine producers against the downside risks of overproduction is an option worth considering boosting production. Spending needs are also expected to rise for safety nets, which will need to be adapted to reduce the negative impact of the pandemic on poverty and limit the associated suboptimal coping behaviors by households, such as withdrawing children from school or selling productive assets.

**13. LICs need the space to leverage the global opportunities from digitalization, while also adapting to climate change.** The diffusion of digital technologies and knowledge promises to create new opportunities for progress and inclusion through greater resilience and efficiency, more access to global markets, improved public service delivery, increased transparency and accountability, and the creation of new jobs (IMF 2020a, Figures 18 and 19). LICs need to ensure they have the necessary resources and strategies to embrace these opportunities and mitigate the risks. At the same time, many LICs are vulnerable to the negative impacts of climate change and natural disasters and will need to adapt and enhance their resilience (Figure 17).

**Figure 17. Effects of Natural Disasters**

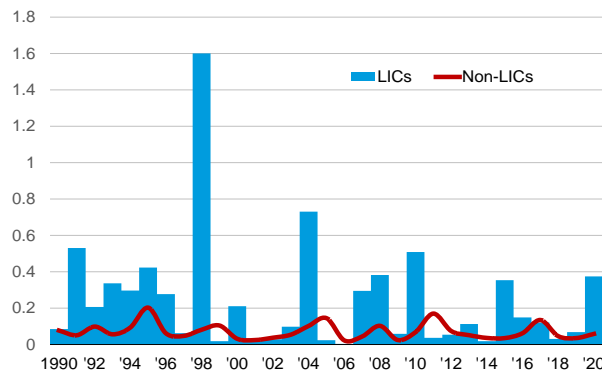
**A. Number of Deaths from Natural Disasters**

(Per thousand population, cumulative)



**B. Cost of Natural Disasters, 1990-2020**

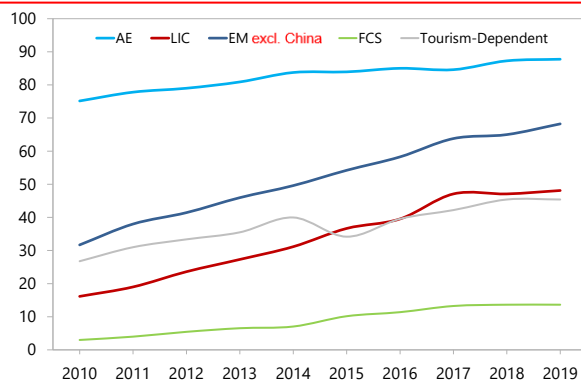
(Percent of GDP)



Sources: EM-DAT 2021; and IMF staff calculations.

**Figure 18. Percent of Population Using the Internet**

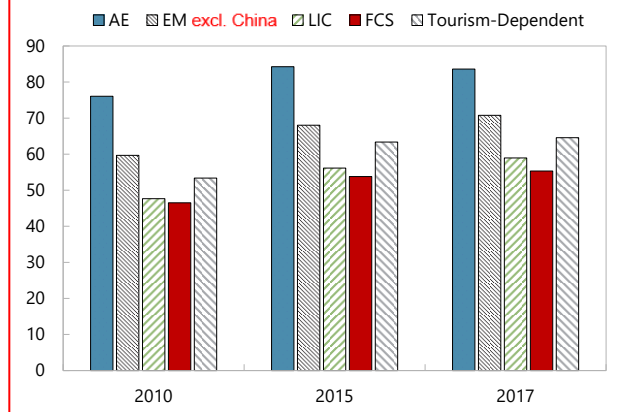
(Median for group)



Sources: World Bank.

**Figure 19. Enhanced Digital Access Index**

(Index)



Sources: Alper and Miktus (2019), IMF AFR REO (2020).

Notes: AE= advanced economies, EM=emerging markets, not PRGT-eligible, LIC= PRGT-eligible countries, FCS=fragile and conflict-affected states

**These Challenges Necessitate an Urgent and Multi-faceted Response**

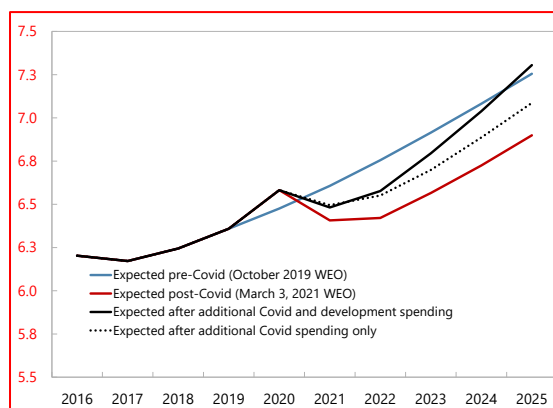
**14. This paper seeks to determine LICs’ immediate spending needs to accelerate their GDP per capita convergence towards Advanced Economies and return to the pre-pandemic projected level in the medium term.** First, the paper provides an estimate of additional financing that would enable LICs to step up their spending response to COVID, thereby mitigating the immediate impact of the crisis and its scarring effects, and to rebuild or keep external buffers to enhance resilience. Second, the paper considers the spending needed to allow LICs to accelerate convergence with AEs. The paper focuses on the 2021–25 period, identifying needs that should be covered in the short to medium term to advance countries’ development agendas.

and 5-year cumulative increases in spending to GDP ratios at the 75<sup>th</sup> or 85<sup>th</sup> percentile of historical LICs' spending ratio increases would lead to additional investment spending needs of around \$210 bn and \$320bn, respectively (compared with \$250 bn when capped at the 80<sup>th</sup> percentile, which is our mid-point estimate).<sup>13</sup> Finally, an across-the-board annual increase of 1 percent of GDP (respectively 2 percent of GDP) in spending to GDP ratios (subject to the same 80<sup>th</sup> percentile caps) would lead to additional investment spending needs of \$235 bn (respectively \$325 bn). In sum, estimates of additional COVID spending needs could range from around \$150 to \$180 bn, while estimates of additional investment spending needs could range from \$210 to \$325 bn.

### Convergence Outcome

**24. Financing the identified additional spending would resume and accelerate LICs' convergence with advanced economies.** This paper uses cumulative spending multipliers simulated by Shen et al. (2018) to infer the effect of additional spending on GDP (see details in Annex II).<sup>14</sup> Additional COVID spending is assumed to consist solely of public consumption, while additional spending beyond the COVID spending is only public investment.<sup>15</sup> The pace of return to convergence depends on the multiplier chosen. With our chosen multiplier the additional spending of \$318-428 bn (assumed up to 2024) would be almost enough to get back in 2024-2025 (see Figure 23).<sup>16</sup> Meanwhile, with the highest multiplier we considered, additional

**Figure 23. Ratio of LICs to AEs' PPP GDP per Capita 1/ (Percent)**



Sources: IMF, WEO as of March 3, 2021, and staff calculations.

1/ COVID-19 spending assumed to be broken down into 50% public consumption and while 50% additional spending beyond COVID is public investment.

<sup>13</sup> The 75<sup>th</sup> percentile cap implies a threshold of 1.7 percent of GDP for annual increases in spending to GDP ratios and of 4.2 percent of GDP for 5-year cumulative increases, while the 85<sup>th</sup> percentile threshold implies a threshold of 3.0 percent of GDP for annual increases ratios and of 6.5 percent of GDP for 5-year cumulative increases.

<sup>14</sup> Shen, W., S. Yang, and L. Zanna, 2018, "Government Spending Effects in Low-Income Countries," *Journal of Development Economics* 133, 201-19. While the 2018 paper provides only short- and long-term multipliers, the authors have provided staff with the estimated cumulative multipliers at various time horizons. The simulation in the paper accounts for most of the parameter uncertainties and hence the multipliers simulated form a distribution at each time point for each type of spending. As the model simulates cumulative multipliers for normal economic conditions (no recession), which often generates smaller multipliers than those simulated with a deep recession and accommodative monetary policy, this paper uses the 75<sup>th</sup> percentile multipliers so as to account for the deep recession experienced by LICs during the Covid crisis (as opposed to mean output multipliers).

<sup>15</sup> This implicitly assumes that Covid spending is related more to current spending such as purchases of goods and services and compensation of employees, as opposed to investment spending such as the construction of schools, roads and hospitals, for example. Assuming that the total spending would be broken down into half public consumption and half public investment would barely change the results, with a convergence that would happen in the exact same year (using the same multipliers).

<sup>16</sup> This factors in the effect of the additional Covid and investment spending assumed in this paper, not of any other domestic reforms such as the ones developed in paragraphs 25 and 26.

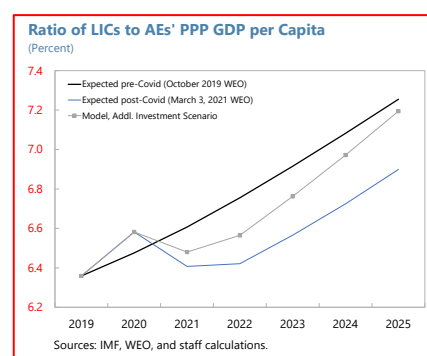
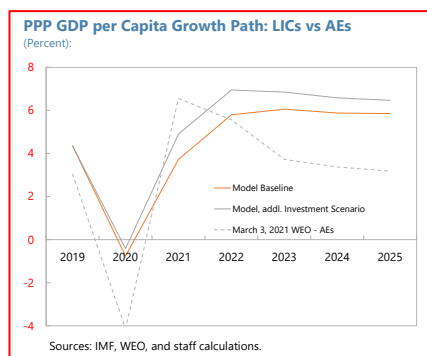
spending of \$218 bn (assumed up to 2023) would be almost enough to get back to convergence in 2023 (see Annex II for details). Additional COVID spending alone would not be able to bring LICs back to their pre-pandemic convergence path in 2025, but this objective could be reached in conjunction with additional investment spending. The positive impact of additional spending on (potential) growth is expected to spread beyond the projection period. These results are also validated using a dynamic general equilibrium macroeconomic model (see Box 1). Based on this model, the same spending path would almost lead to a convergence of LICs back to their pre-COVID convergence path to AEs in 2025.

### Box 1. Reaching the Pre-COVID Convergence Path Through the Lens of a Dynamic General Equilibrium Macroeconomic Model<sup>1</sup>

As an alternative approach to validate the main estimates, a dynamic general equilibrium macroeconomic model is used to explore how additional spending can affect the convergence path of LICs. The DIGNAR-19 framework of Aligishiev, Melina and Zanna (2020)<sup>2</sup> is used. The model captures salient features of developing economies and allows scenario analysis under several variations of fiscal rules, indebtedness, and shocks.

The model economy represents an average or “representative” LIC. The baseline model scenario mimics the WEO projections for LICs made on March 3, 2021. In the active scenario, the path of additional spending is imposed. The additional spending path consists of \$428 bn spent over 2021-25 in the manner described in the main text. For simplicity, it is assumed that all the additional-spending takes the form of investment in public capital.<sup>3</sup>

The figures below present the growth implications and convergence implications of the active scenario, under the assumption that AEs grow according to the WEO projections.



The simulation of the general equilibrium economy for the average LIC thus suggests that the path of additional spending considered for 2021-25 will lead to an acceleration of growth, compared to the WEO baseline scenario. According to the model, this acceleration is sufficient to bring the average LIC back to a near vicinity of the pre-COVID convergence path by year 2025. This confirms the main estimates presented in the main text within a dynamic model featuring forward-looking and general equilibrium endogenous responses of consumption, saving, investment and fiscal levers to the considered spending path.

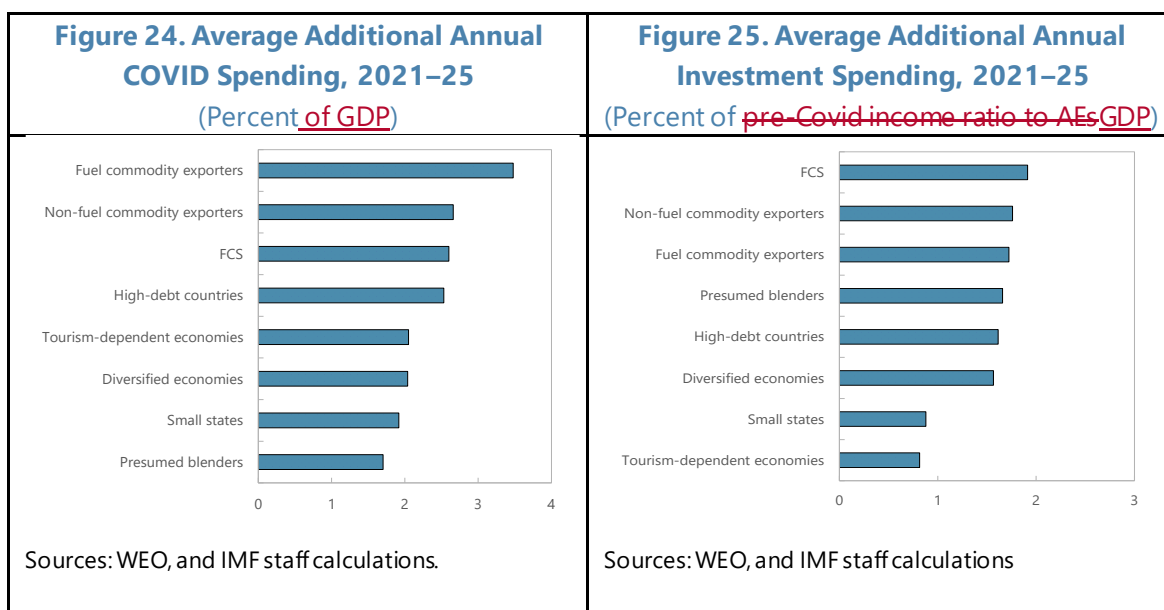
<sup>1</sup> This box was prepared by Alejandro Badel.

<sup>2</sup> Aligishiev, Z., G. Melina, and L. F. Zanna, “DIGNAR-19 toolkit manual”, IMF, Research Note, Special Series on COVID-19, Dec. 2020.

<sup>3</sup> Assuming that all additional spending is through consumption would lead to a slightly smaller effect on GDP growth, as the absence of improvement in productivity induced by new infrastructure would be partially offset by the absence of inefficiencies due to capacity constraints.

## Spending Needs and Initial Conditions

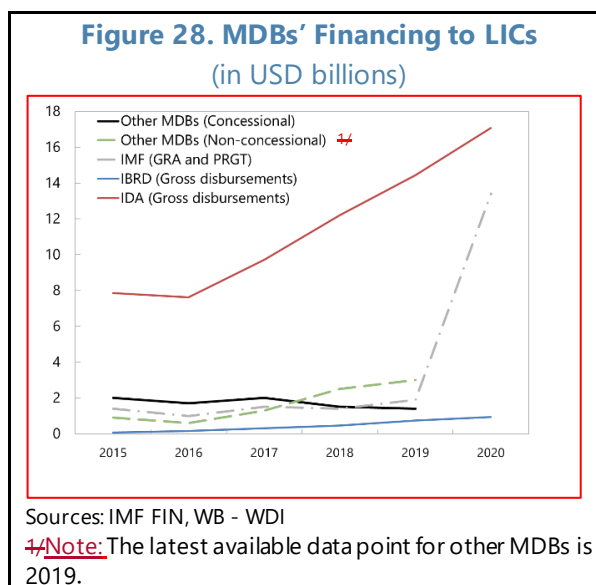
**25. Additional spending needs would be unevenly distributed among LICs, depending on their starting point.** On average, LICs would need to spend an additional 2.4 percent of GDP per year to step up their COVID crisis response, and another 1.7 percent of GDP per year to come closer towards meeting their development goals.<sup>17</sup> Spending to GDP ratios would be on average 4.5 percent of GDP higher than under the WEO baseline by 2025. Commodity exporters, PRGT-eligible fragile and conflict-affected states, and high-debt countries would need the highest amount of additional COVID spending to match the EMs' average response, while presumed blenders would need the least (Figure 24). PRGT-eligible fragile and conflict-affected economies as well as commodity exporters have the highest additional investment spending needs (Figure 25). Looking across regions, Middle East and Central Asian as well as Sub-Saharan African countries would need the highest amount of additional COVID spending (Figure 26), while Sub-Saharan African countries have the highest additional investment spending needs (Figure 27). Finally, about a third of LICs are projected to need additional financing to build up adequate reserves.



<sup>17</sup> This paper does not provide an estimate of the needs to achieve the Sustainable Development Goals. Recent analyses here include the IMF Staff Discussion Note, 2019, "[Fiscal Policy and Development: Human, Social, and Physical Investments for the SDGs](#)", which suggests additional spending in 2030 of US\$0.5 trillion for low-income developing countries and US\$2.1 trillion for emerging market economies is needed, and [The United Nations Secretary-General's Roadmap for Financing the 2030 Agenda for Sustainable Development](#) which presented estimates of a financing gap of US\$ 2.5 – 3 trillion per year. The COVID pandemic has increased these estimates, and an updated analysis will be presented in a forthcoming IMF Staff Discussion Note, to be published in April 2021, and in Chapter 2 of the April 2021 Fiscal Monitor. In this context, the OECD's 2021 [Global Outlook on Financing for Sustainable Development](#) suggests that the SDG financing gap for developing countries could increase by 70 percent. All these studies are for a larger group of countries than presented in this paper, and have different assumptions on constraints, such as absorption capacity.

### 39. Further scaling-up of MDBs' concessional financing and instruments to crowd-in

**private finance will be needed.** MDBs have already deployed extraordinary financing since the beginning of the COVID-19 crisis (Figure 28). According to the first joint report of financing the Sustainable Development Goals (2020), MDBs, together with the IMF, have collectively mobilized a global response package of \$230 billion commitment between April 2020 and mid-2021 to reduce the impact of the pandemic, of which \$75 billion will have been directed to the world's poorest countries in 2020. The World Bank (2020a) IDA arm is making available an overall financing capacity of over [\\$50 billion](#) of resources for the 15-month period from April 2020 through to June 2021 on grant and highly concessional



terms for addressing the health, economic, and social shocks that countries are facing during the pandemic. This comprises US\$17.2 billion in FY20 Q4 (at the last quarter of IDA18) and IDA19's frontloading to US\$35 billion in FY21 (or almost 43 percent) of IDA19's [\\$82 billion](#) resources in financing for the 74 IDA countries (World Bank, 2020b).<sup>28</sup> Ongoing discussion of advancing IDA20 replenishment (from FY24-26 to FY23-25) to frontload FY23 resources to FY22, so that substantial financing increases in FY22 at the World Bank and other MDBs could lead to a significant increase in MDBs financing. The African Development Bank (AfDB, 2020) has set up a [\\$10 billion](#) COVID-19 Rapid Response Facility to provide flexible support to both sovereign and non-sovereign operations, while the Asian Development Bank and others have also increased financing.

### Grants and Concessional Bilateral Loans

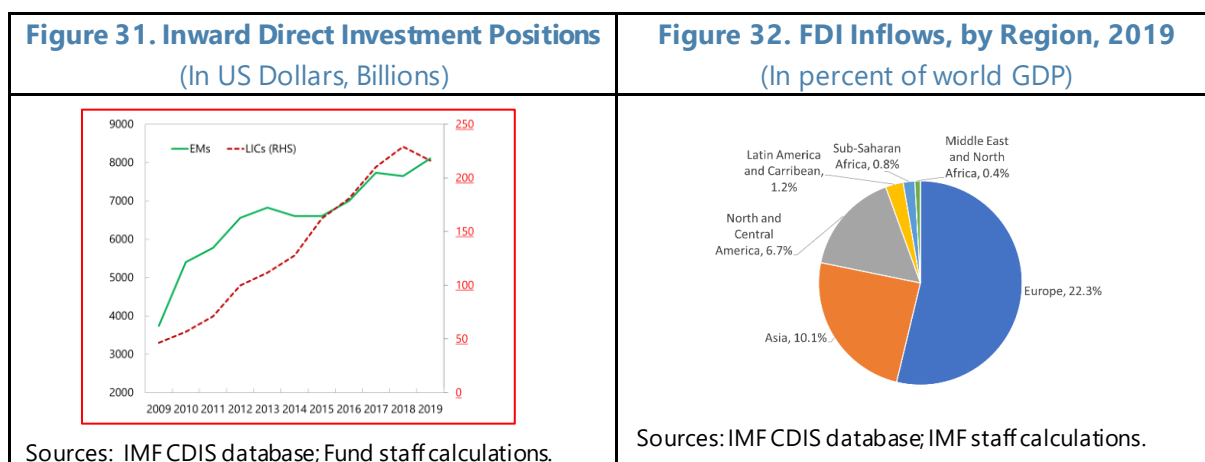
**40. Many LICs are already at high levels of debt, and grants and concessional bilateral loans will be necessary.** Grants will have in particular an important role to play in the COVID-19 vaccine procurement and distribution for the poorest LICs. They will also be necessary to fill the needs of those LICs with unsustainable debt and contribute to the implementation of the Common Framework and IMF programs. Beyond grants, meeting the needs of LICs will also necessitate the mobilization of concessional bilateral loans.

**41. While grants and concessional loans will be undoubtedly limited by fiscal constraints in donor countries, there would be scope to increase official development assistance (ODA) which remains far below the 0.7 percent of GNI ODA target.** Fiscal deficits in donor countries

<sup>28</sup> Moreover, [\\$12 billion](#) of World Bank (2020c) funding, half of which will be financed under IDA, has been made available to help developing countries finance the purchase and distribution of COVID-19 vaccines. Related, the IFC is also investing in vaccine manufacturers through its \$4 billion Global Health Platform. Finally, MIGA (World Bank, 2020d) has launched a [\\$6.5 billion](#) facility to support private sector investors and lenders in tackling the pandemic via credit enhancements, de-risking solution and supporting trade finance.

collaborations between government and private entities could help finance large development projects, though they have to be prudently designed to avoid contingent liabilities and other risks.<sup>30</sup> There is also a role for stimulating the domestic private sector and its financing through domestic financial services (including SMEs and self-entrepreneurs). Developing domestic debt markets and new instruments, as well as addressing regulatory bottlenecks also play important roles to boost private financing (see Box 2).

**43. There is significant scope for increasing the contribution of private sector financing in LICs, particularly from international investors in infrastructure financing.** Capital inflows to LICs have increased over the years. FDI inflows, as a major subset of private capital inflows, often represent longer-term investment to developing countries and can foster economic growth through positive productivity spillovers (Borensztein et al. (1998), Javorcik (2004)). FDI inflows to LICs increased steadily in the last decade, while there is still a large room to grow when compared with EMs (Figure 31). Moreover, compared with other regions, SSA and MENA received relatively low FDI inflows (0.8 percent and 0.4 percent of global GDP in 2019, respectively, Figure 32).<sup>31</sup> Private participation in infrastructure (PPI) investments in LICs have increased since the 1990s (Figure 33), with international entities playing an important role in infrastructure investments across LICs and EMs (Figure 34). Many challenges remain in mobilizing private capital, as it remains limited in LICs, with bottlenecks to increase involvement of institutional investors.<sup>32</sup>



<sup>30</sup> One of the most discussed proposals is the blending model, which uses concessional financing from donors and public commercial finance to mobilize private commercial finance (IMF, 2021). The use of the blending model is concentrated in EMs and remains limited in LICs. Expanding greatly the scale of the blending model will be challenging.

<sup>31</sup> The largest FDI investors for LICs have come from emerging and advanced countries such as China, UK, Singapore, UAE, France, and US.

<sup>32</sup> For instance, many SDG-related investments are not targeted by institutional investors due to the risk-return profile and illiquidity of infrastructure assets. The relative scarcity of financial products tailored to infrastructure finance in LICs, as well as prudential regulations that institutional investors need to follow, limit the ability of institutional investors to invest in LICs (IMF 2021).

## Annex I. PRGT-Eligible LICs' Country Groups

PRGT-Eligible Low-Income Countries			
<b>All (69)</b>	<b>Fuel commodity exporters (5)</b>	<b>Presumed blenders (18)*</b>	<b>Small states (19)</b>
Afghanistan	Chad	Bangladesh	Bhutan
Bangladesh	Congo, Republic of	Benin	Cabo Verde
Benin	South Sudan	Bhutan	Comoros
Bhutan	Timor-Leste	Cambodia	Djibouti
Burkina Faso	Yemen	Comoros	Dominica
Burundi		Côte d'Ivoire	Grenada
Cabo Verde	<b>Non-fuel commodity exporters (27)</b>	Honduras	Kiribati
Cambodia	Afghanistan	Kyrgyz Republic	Maldives
Cameroon	Benin	Lesotho	Marshall Islands
Central African Republic	Burkina Faso	Moldova	Micronesia
Chad	Burundi	Myanmar	Samoa
Comoros	Central African Republic	Nicaragua	São Tomé and Príncipe
Congo, Dem. Rep. of the	Congo, Dem. Rep. of the	Senegal	Solomon Islands
Congo, Republic of	Côte d'Ivoire	Solomon Islands	St. Lucia
Côte d'Ivoire	Eritrea	Tanzania	St. Vincent and the Grenadines
Djibouti	Guinea	Timor-Leste	Timor-Leste
Dominica	Guinea-Bissau	Uzbekistan	Tonga
Eritrea	Kiribati	Vanuatu	Tuvalu
Ethiopia	Lao P.D.R.		Vanuatu
Gambia, The	Liberia	<b>Fragile and Conflict-Affected States (36)</b>	
Ghana	Malawi	Afghanistan	<b>Tourism-dependent economies (10)</b>
Grenada	Mali	Burundi	Cabo Verde
Guinea	Marshall Islands	Central African Republic	Cambodia
Guinea-Bissau	Mauritania	Chad	Dominica
Haiti	Papua New Guinea	Comoros	Grenada
Honduras	Sierra Leone	Congo, Dem. Rep. of the	Maldives
Kenya	Solomon Islands	Congo, Republic of	Samoa
Kiribati	Somalia	Côte d'Ivoire	São Tomé and Príncipe
Kyrgyz Republic	Sudan	Djibouti	St. Lucia
Lao P.D.R.	Tajikistan	Eritrea	St. Vincent and the Grenadines
Lesotho	Tuvalu	Gambia, The	Vanuatu
Liberia	Uzbekistan	Guinea	
Madagascar	Zambia	Guinea-Bissau	
Malawi	Zimbabwe	Haiti	
Maldives		Kiribati	
Mali		Liberia	
Marshall Islands		Madagascar	
Mauritania		Malawi	
Micronesia		Maldives	
Moldova		Mali	
Mozambique		Marshall Islands	
Myanmar		Micronesia	
Nepal		Myanmar	
Nicaragua		Papua New Guinea	
Niger		São Tomé and Príncipe	
Papua New Guinea		Sierra Leone	
Rwanda		Solomon Islands	
Samoa		Somalia	
São Tomé and Príncipe		South Sudan	
Senegal		Sudan	
Sierra Leone		Tajikistan	
Solomon Islands		Timor-Leste	
Somalia		Togo	
South Sudan		Tuvalu	
St. Lucia		Yemen	
St. Vincent and the Grenadines		Zimbabwe	
Sudan			
Tajikistan			
Tanzania			
Timor-Leste			
Togo			
Tonga			
Tuvalu			
Uganda			
Uzbekistan			
Vanuatu			
Yemen			
Zambia			
Zimbabwe			

\*Eight additional countries would be presumed blenders if they were assessed as having prospective market access.

## Annex II. Methodological Note—LICs' Financing Needs Estimations

*The LICs' financing needs exercise estimates additional financing needs for COVID spending, investment spending, and building up external buffers. Ultimately, the additional spending assumed in this exercise should be sufficient to accelerate LICs' income convergence relative to AEs. This methodological note explains in detail the definition of convergence and the estimation of each source of additional unconstrained financing needs in a scenario based on the WEO baseline and in an adverse scenario embedding lower private financing and other adverse shocks. It also describes the capping of these financing needs to account for absorption capacity, and the amount of additional financing that could come from additional borrowing, accounting for debt sustainability considerations.*

### A. Motivation: Accelerating LICs' Income Convergence

PPP GDP per capita is calculated for AEs and LICs by dividing the sum of country-level PPP GDP by the total population in each group. We observe convergence when the difference in PPP GDP per capita between the two groups declines (or when the ratio of LICs' to AEs' GDP per capita increases, see text chart). We calculate the convergence path with pre-COVID (Oct 2019 WEO) and post-COVID (WEO as of March 3, 2021) data.<sup>1</sup> The goal of the exercise is to make sure the identified additional financing is sufficient to accelerate LICs' income convergence. While convergence in 2020 has improved between the two WEO vintages (LICs' PPP GDP per capita increased to ~~10.76.6~~ percent of that of AEs, up from ~~6.5 10.6~~ percent pre-COVID), the convergence path has worsened significantly over the medium term (see Figure 15 in the main text). By 2025, LICs' PPP GDP per capita is expected to be ~~6.9 10.6~~ percent of that of AEs, compared to the pre-COVID projection that it would have reached ~~7.3 11.1~~ percent at that juncture. Most countries in the sample (~~58.7~~ out of 69 LICs) are not expected to reach their pre-COVID convergence path by 2025 in the WEO baseline. LICs' PPP GDP per capita would have to increase by about PPP USD ~~230.15~~ by 2025, so that the pre-COVID distance to AEs is restored. Aggregated over all LICs, this means an increase in LICs' total PPP GDP of USD ~~296.316~~ bn by 2025 relative to the WEO baseline.

### B. Additional Financing Needs

#### Additional COVID Spending

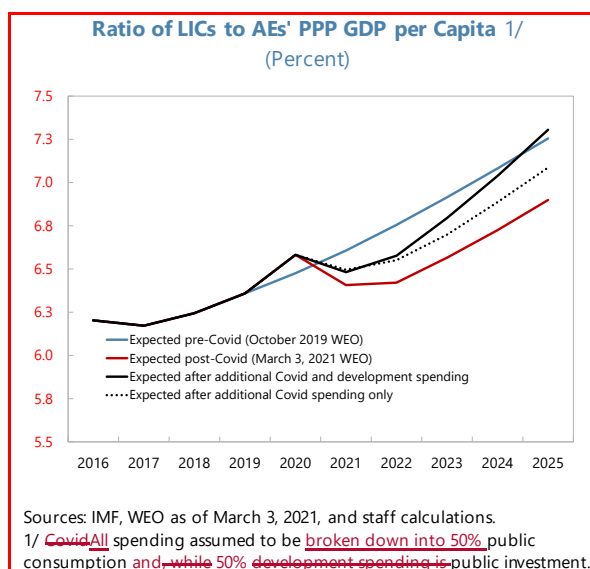
We define COVID spending under the WEO baseline as the difference in general government spending to GDP ratios between the WEO (as of March 3, 2021) and the Oct. 2019 WEO vintages

<sup>1</sup> There are several data revisions between the Oct. 2019 and March 3, 2021 WEO vintages that make historical values differ. The most notable revisions are GDP rebasing, a different methodology for calculating the PPP exchange rate series, and different population estimates. To ensure comparability of historical series in the Oct 2019 vintage, we use PPP GDP series from the March 3, 2021 WEO series until 2019 and then extend the series using the growth rates of the PPP GDP series from the Oct 2019 vintage. Both PPP GDP per capita are calculated based on the latest population estimates.

### Annex Box 2.1. Is the Assumed Additional COVID and Investment Spending Enough to Accelerate LICs Income Convergence Towards AEs?

In order to calculate whether the additional COVID and investment spending identified in this exercise would be sufficient to restore the pre-COVID convergence path, this paper uses public consumption cumulative spending multipliers and public investment cumulative spending multipliers taken from the literature, and specific to low income countries.<sup>1</sup> In the underlying simulations, authors assume a relatively low public investment efficiency and a relatively high share of import content in public investment spending. Both factors contribute to smaller output multipliers for public investment in low income countries. Also, the model simulates multipliers from normal economic conditions (no recession, no effective lower bound), which typically generates smaller multipliers than those simulated with a deep recession and accommodative monetary policy.

The model simulations account for parameter uncertainties and hence the simulated multipliers form a distribution. To account for the fact that the deep recession experienced by LICs during the COVID crisis is likely to increase multipliers compared to normal times, this paper uses the 75th percentile cumulative multipliers, as opposed to mean output multipliers. The 75th percentile 5-year cumulative multiplier is 0.43 for government consumption and 0.49 for public investment (as opposed to 0.34 and 0.43 respectively, if mean multipliers are considered, and 0.63 and 0.64 respectively, if 90th percentile multipliers are considered). It is assumed that COVID spending consists solely of public consumption, while the additional spending beyond the COVID spending consists of solely public investment.



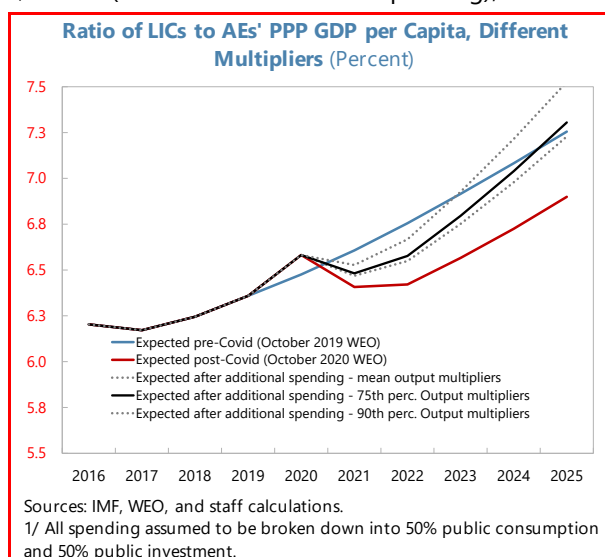
<sup>1</sup> Shen, W., S. Yang, and L. Zanna, 2018, "Government Spending Effects in Low-Income Countries," *Journal of Development Economics* 133, 201-19. While the 2018 paper provides only short- and long-term multipliers, the authors have provided staff with the estimated cumulative multipliers at various time horizons, from t to t+4.

### Annex Box 2.1. Is the Assumed Additional COVID and Investment Spending Enough to Accelerate LICs Income Convergence Towards AEs? (concluded)

In order to calculate countries' new GDP level paths after the additional spending, the WEO GDP levels are used, and inflated by the cumulative effect of additional COVID and investment spending on GDP in each year, based on the cumulative multipliers cited above, country by country. These "post-spending" national GDP levels (that include the effect on output of the assumed additional spending) are then converted into PPP GDP levels, which are then aggregated to look at the ratio of LICs' PPP GDP per capita over AEs' PPP GDP per capita, after the additional spending has been implemented.

On aggregate, if LICs were to spend an additional \$428 bn (COVID and investment spending), this would lead them to converge back to their pre-COVID convergence path to AEs by 2025 (see text chart). Additional COVID spending alone would not be able to bring LICs back to their pre-pandemic convergence path in 2025, but this objective could be reached in conjunction with additional investment spending.

Considering lower (resp. higher) estimates of cumulative multipliers (the mean cumulative multipliers and the 90<sup>th</sup> percentile cumulative multipliers, respectively) would lead to a slower (resp. more rapid) convergence towards the pre-covid convergence path.



With mean multipliers, the additional spending of \$428 bn would allow to almost, but not fully, get back to the pre-COVID convergence path in 2025. With 75<sup>th</sup> percentile multipliers, the additional spending of \$318.428 bn (assumed up to 2024) would be almost enough to get back in 2024-2025, while with the 90<sup>th</sup> percentile multipliers, the additional spending of \$218 bn (assumed up to 2023) would be almost enough to get back in 2023 (i.e., before the end of our time horizon). In other words, if there is a strong case to believe that multipliers are a bit higher in a period of crisis (75<sup>th</sup> percentile estimates), then the amount of additional spending needed to get back to the pre-covid convergence path by 2025 (not earlier) would be below around \$318 bn.

### A Sensitivity Analysis: Additional Financing Needs Arising in an Adverse Scenario

Given the significant risks weighing on the WEO baseline (which underlies our baseline estimates), a second scenario is generated, trying to mimic the downside scenario of the latest WEO (March 3, 2021).<sup>6</sup> The adverse scenario assumes a slower recovery, lower private financing flows, and lower debt rollover rates than the baseline (see Annex Table 2.2). This scenario could materialize if there

<sup>6</sup> See page 28, <https://www.imf.org/en/Publications/WEO/Issues/2020/09/30/world-economic-outlook-october-2020>.