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POLICY NOTE

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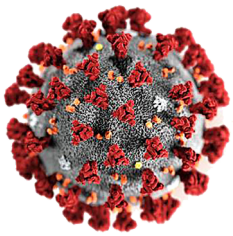

Potential Long-term Effects of COVID-19 on Economic and Human Development in Uganda

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Executive Summary

Using the International Futures model, this note explores the effect of COVID-19 on economic and human development in Uganda in the short and long term. The model examines different scenarios to gauge the damages inflicted on the Ugandan economy. The Current Path scenario reflects the impact of COVID-19, while the No COVID scenario represents the path Uganda was on prior to the pandemic.

In its first two years, the COVID-19 pandemic set back economic growth and resulted in a reduction in GDP per capita (at market exchange rates) of nearly 8 percent compared to the No COVID scenario. This difference grows to nearly 14 percent by 2030. We estimate the pandemic pushed an additional 1.4 million people below Uganda's national poverty line by 2021. Income constraints have further resulted in an additional 520,000 people, including 11,000 children, suffering from malnutrition.

The SDG Push scenario models a concerted and integrated push toward a sustainable development agenda designed to improve the lives of Ugandans and economic, social, and environmental outcomes for the country in the long run. This scenario requires transformative action and bold investments to move Uganda out of the Current Path and onto a new trajectory. GDP per capita catches up with the No COVID trajectory by 2030, fully making up for the setback experienced because of COVID. By 2040, at $2,600, it is 41.6 percent greater than the COVID scenario and 20.1 percent greater than the No COVID scenario. It pulls 3.5 million Ugandans out of poverty with a reduction in adult and child malnutrition by 44 percent and 50 percent respectively.

Given our findings from the projections, future policy imperatives must take the form of reprioritizing budgetary allocation towards public health, education, sanitation, and other forms of welfare expenditure. These steps have significant consequences on economic growth, human wellbeing and development in the long run by not only aiding in recovery but also improving resilience against potential future crises.

Background

The World Health Organization declared novel coronavirus disease 2019 (COVID-19) a pandemic on March 2020. COVID-19 has caused tremendous disruptions to advanced and developing economies alike with far-reaching effects on several aspects of life, health and economic activity. Since its outbreak in 2019, there have been over 461 million cases and 6.05 million deaths as of March 2022. To contain the spread of the virus, countries adopted several control measures, including banning public gatherings, closure of educational institutions, restaurants, and most public places and border points; nationwide lockdown mandates; and quarantine restrictions upon arrival.

Uganda registered its first case of COVID-19 on March 21, 2020, and by March 16, 2022, there have been over 163, 597 confirmed cases and 3,594 deaths. Beyond health effects, COVID-19 and the resultant measures to contain its spread have impacted Uganda's economy through disruptions of trade, key supply chains, and a loss of livelihoods for all workers, but especially for those reliant on Uganda's large informal economy. Reported impacts of the pandemic and subsequent lockdowns (from March to June 2020 and again from June to August 2021) include a drop in the stock price from March 2020, a decline in foreign direct investment inflows and remittances, a reduction in the value of imported goods and services during the lockdown, and business closures resulting in cost-cutting measures and job losses (Kahunde et al., 2021; Mwesigye, 2021; Mwesigye et al., 2021; Sunday et al., 2021).

Prior to the pandemic, Uganda's growth was on a positive trajectory. For instance, the GDP growth rate was 6.4 percent in 2019, higher than the rate attained in 2016 of 4.8 percent. The COVID-19 shock has negatively affected the economy. The Ministry of Finance projected that there would be a contraction in economic growth for the FY2019/20 from the estimated 6 percent to between 5.2 - 5.7 percent (MFPED, 2020). Prior to COVID, the country also recorded sustained success in other key indicators. Taking malnutrition, for example, the proportion of infants underweight slightly reduced from 14.2 percent in 2000 to 11.2 percent in 2016.

This policy note examines the long-term effects of COVID-19 on Uganda's development. Ensuring the country's recovery from the effects of COVID-19 and building its resilience against future shocks will require a detailed assessment to gauge the extent of impacts on key economic indicators. Explicitly, the note examines economic and human development through three key indicators of GDP per capita, poverty and hunger.[1] It then turns to explore the potential for an integrated investment and policy push to speed

1 Key indicators were chosen based on relevance and importance to economic and human development in Uganda as well as the quality of data and forecasts in the IFs model.

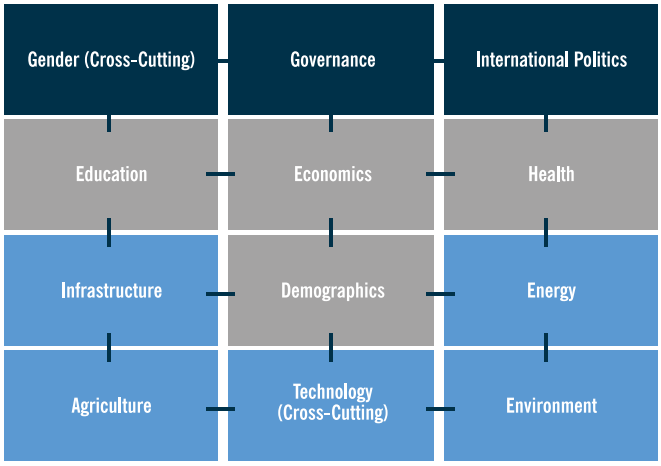
up development beyond recovering from COVID-19 and toward long-term sustainable development.

Methodology

The report uses the International Futures (IFs) system to forecast development trajectories in the light of COVID-19 in Uganda. It leverages access to rich historical data (over 5,000 historical series), identifies and measures trends, and models dynamic relationships for 186 countries and their interactions, including 54 countries in Africa (Hughes, 2016). IFs uses data from numerous standardized international sources, including the IMF, World Bank, FAO, ILO, and many others. The model integrates forecasts across many sub-models, including demographics, economics, health, education, infrastructure, agriculture, energy, technology, governance, international politics, socio-political issues, and the environment (see Figure 1). As a result, IFs endogenizes key linkages within the global system and allows for a dynamic simulation of how changes in one system lead to changes across all other systems.

IFs summarizes a comprehensive system representation to explore the long-term impacts of COVID-19 on prospects of attaining Sustainable Development Goals (SDGs) and the potential to extend efforts to overcome damages from the pandemic. While most of the existing literature in the Ugandan context looks at its immediate or relatively short-term effects, the policy note uses an empirical approach to model long-term trends (up to 2040) for Uganda on a range of development indicators.

Figure 1 Visual representation of International Futures (IFs) modelling system



In addition, IFs allows for scenario development with parametric interventions. These scenarios reflect alternative situations of global systems' dynamics and help us explore the potential impacts of policy interventions. Parameters are adjusted in the regression models within IFs that allow a set of interventions within any scenario to take effect. It should be noted that interventions rarely model specific policies or investments, but the successful implementation of policies to improve specific indicators. For example, IFs cannot simulate specific policies like building more schools, training and hiring more teachers, or providing school vouchers, but can simulate increased enrollment, graduation, and education quality. See Hughes (2019) and the International Futures wiki (pardeewiki.du.edu) for more information about the data, assumptions, and relationships in the IFs model.

The table below describes the three development scenarios with respect to Uganda and the scenario interventions that reflect individually scaled ambitious yet potentially achievable targets.

Table 1 Description of scenarios that inform International Futures (IFs) forecasts.

Scenario	Description
No COVID	A scenario that represents the path Uganda was on before the COVID pandemic. It builds on the results of an integrated, dynamic change building on historical patterns and not just a simple extrapolation of patterns prior to 2019.
Current Path	A scenario that reflects the baseline reality of today and includes a set of changes to parameters in the IFs model as well as updated data series from the IMF (2021) to reflect the economic impact of COVID.
SDG Push	A scenario that models a strong, integrated push toward improved development and SDG achievement in Uganda and globally. This scenario was presented at the global level in Hughes et al. (2021). This project is tailored to the Ugandan contexts through additional interventions to improve fertility, informal employment, and water and sanitation. It also includes the economic and health effects of the pandemic from the *Current Path* scenario. The full list of interventions in the *SDG Push* scenario are available in the Technical Appendix.

Results

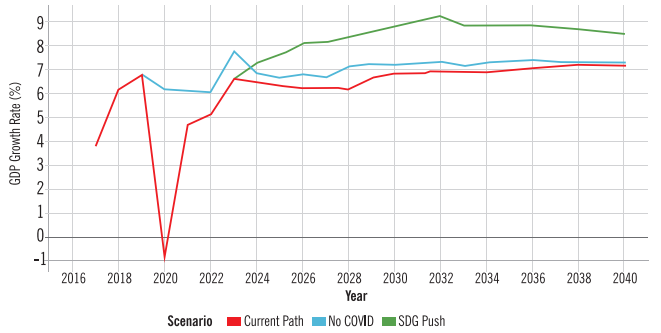
Gross Domestic Product (Growth and Per Capita)

In the decade preceding the pandemic, Uganda's GDP growth averaged around 5.4 percent, ranking it among the fastest-growing economies in sub-Saharan Africa. However, growth in GDP per capita averaged just under 2 percent per year because of a relatively high population growth rate of around 3.2 percent. In 2019, Uganda had a GDP per capita of roughly $920. [2] In the absence of COVID, we expect growth in GDP per capita would have averaged 3.7 percent through the end of the decade, reaching just under $1,400 by 2030 and overall GDP to hover between 6-7 percent.

However, because of COVID, Uganda's overall GDP contracted in 2020 by -0.8 percent and GDP per capita by -3.7 percent, setting the economy back from the gains it made in the previous decade (IMF, 2021, p. 41). While in the *Current Path*, GDP per capita is expected to rebound and grow to $1,200 by 2030, it will still be almost 13 percent lower than it would have been in a *No COVID* scenario.

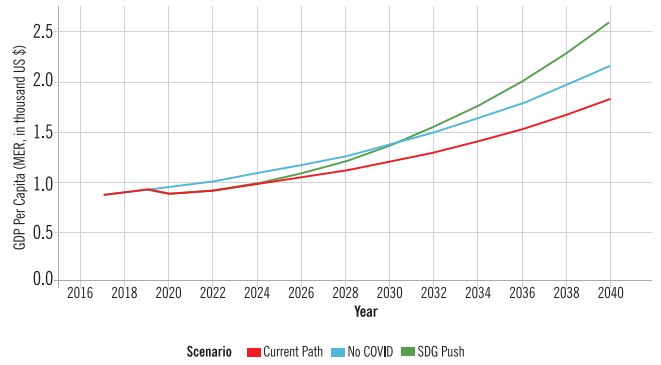
2 Throughout this report, unless otherwise specified, GDP and all currency figures are measured in 2011 US dollars. There are two ways to measure GDP and/or per capita output. Market exchange rates (MER) measure the value of output in local currencies against prevailing market exchange rates for the 2011 US dollar. Purchasing power parity (PPP) is calculated for each country relative to its cost of living and inflation rates. It considers how much of one currency would have to be converted into that of another country to buy a comparable basket of goods and services in that country. GDP measurements in PPP tend to be higher, particularly for developing countries. For this report, we use MER for both GDP and GDP per capita.

Figure 2 GDP growth rate across three scenarios projected out to 2040



Source: IFs version 7.78, based on historical data from IMF Oct'21 release and IFs.

Figure 3 GDP per capita across three scenarios projected out to 2040



Source: IFs version 7.78, based on historical data from IMF Oct'21 release.

In the *SDG Push* scenario, Uganda has still suffered the economic damage of COVID-19 in 2020 and 2021. However, as the economic and human development interventions take effect, they raise GDP growth to an average of 7.8 percent in the next decade, peaking at 8.9 percent before levelling off. Through 2040, the *SDG Push* maintains a more than 1 percent difference relative to the *Current Path* and *No COVID* scenarios. This accelerated growth leads GDP per capita to not only catch up with but surpass the *No COVID* scenario by 2030. In the *SDG Push* scenario, IFs forecasts push GDP per capita to grow to over $2,600 by 2040, 40 percent higher than an expected $1,850 in the *Current Path*.

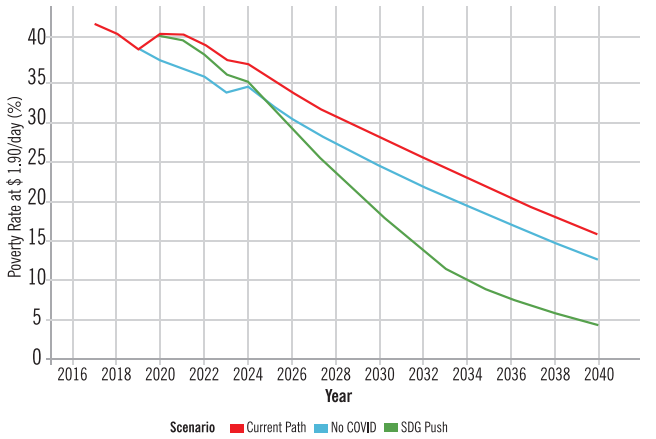
Poverty

International Poverty Line ($1.90/day)

Since the early 2000s, Uganda has made significant progress in reducing poverty. The poverty rate of 67.9 percent in 2001 has come down to 38.5 percent (over 17 million) in 2019 as per the international standard of $1.90 per day. This has been a consequence of multidimensional poverty interventions, including but not limited to: social welfare schemes, investments in infrastructure, economic liberalization and improved trade policies.

However, the pandemic's devastating effects on sustaining livelihoods reversed this trend and the poverty rate returned to over 40 percent. The number of people in poverty grew to nearly 18.4 million in 2020 and further worsened to over 18.9 million in 2021 with the second wave of COVID-19. In the absence of COVID, we expected persistent poverty reduction, bringing down the poverty headcount to 16.9 million in 2021.

Figure 4 Poverty rate at International Poverty Line projected out to 2040



Source: IFs version 7.78, based on historical data from UNPD World Population Prospects.

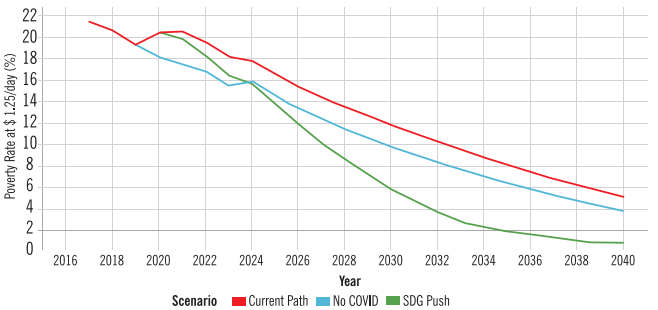
Despite the pandemic, we project that poverty will likely continue to fall over the long run. In the *Current Path*, poverty in Uganda at the international rate falls to 27.6 percent by 2030 and further to 15.5 percent by 2040. Even with this reduction, the *Current Path* is projected to remain three years behind in poverty alleviation for at least the next two decades.

The *SDG Push* scenario accelerates this reduction, surpassing the *No COVID* scenario by 2026. By 2030, the poverty rate is projected to reduce to 18.2 percent, or 10.9 million (5.9 million fewer than projected along the *Current Path*). This will not achieve the SDG 1 goal of eliminating extreme poverty (operationalized as falling below 3 percent) but comes close by 2040, with a rate of 3.2 percent.

Uganda's National Poverty Line ($1.25/day)

The national poverty line (NPL), defined by the Uganda Bureau of Statistics, is set at $1.25/day. We use this standard that is derived based on the cost of basic needs approach, keeping in mind that the lines are periodically updated using the consumer price index (UBOS, 2021).

Figure 5 Poverty rate at Ugandan National Poverty Line projected out to 2040



Source: IFs version 7.78, based on historical data from UNPD World Population Prospects.

As a result of the pandemic, the proportion of the population living below the NPL grew from 19.3 percent (8.5 million) in 2019 to 20.5 percent (9.6 million) in 2021. By comparing the *Current Path* with a *No COVID* scenario, we find that through 2021; the pandemic resulted in an additional 1.4 million people in poverty, according to Uganda's NPL. We estimate that by 2040, there will be 4.1 million people below this line–a roughly 25 percent increase relative to the *No COVID* scenario.

Just as with the international poverty line, the SDG Push has the potential to rapidly accelerate poverty alleviation, surpassing the *No COVID* scenario by 2025 and pulling 2.5 million Ugandans out of national poverty by 2030, when the national poverty rate is projected at 6 percent. By 2040, we estimate an 85 percent decrease in the number of people below the poverty line relative to the *Current Path* scenario.

Hunger

COVID-19 has also increased hunger and undernourishment. In 2019, an estimated 38 percent of the population (17 million Ugandans) suffered from malnutrition. By 2021, the pandemic resulted in increasing the malnourished population by more than 500,000 people relative to the *No COVID* scenario. Over the long run in the *Current Path*, we project a reduction in malnutrition to 16.8 percent (13.3 million) by 2040. But that still represents roughly 700,000 more people in malnutrition than would be in a *No COVID* scenario.

We estimate that the pandemic has resulted in an additional 8,000 children under five malnourished.[3] The prevalence of malnourishment in children is expected to go down from nearly 10 percent to an estimated 6 percent in 2040. But 48,000 more children will still be malnourished than would be in the *No COVID* scenario.

The *SDG Push* reduces malnutrition through increasing both agricultural production and food access. In this scenario, by 2040, just over 10 percent of the population is projected to suffer from malnutrition, compared with nearly 17 percent in the *Current Path.*

By targeting labour informality, fertility reductions, health, and water and sanitation interventions, the *SDG Push* also significantly reduces the prevalence of malnourishment among children by 2040. It reduces the number of malnourished children, relative to the *Current Path*, in 2030 by a third and in 2040 by half.

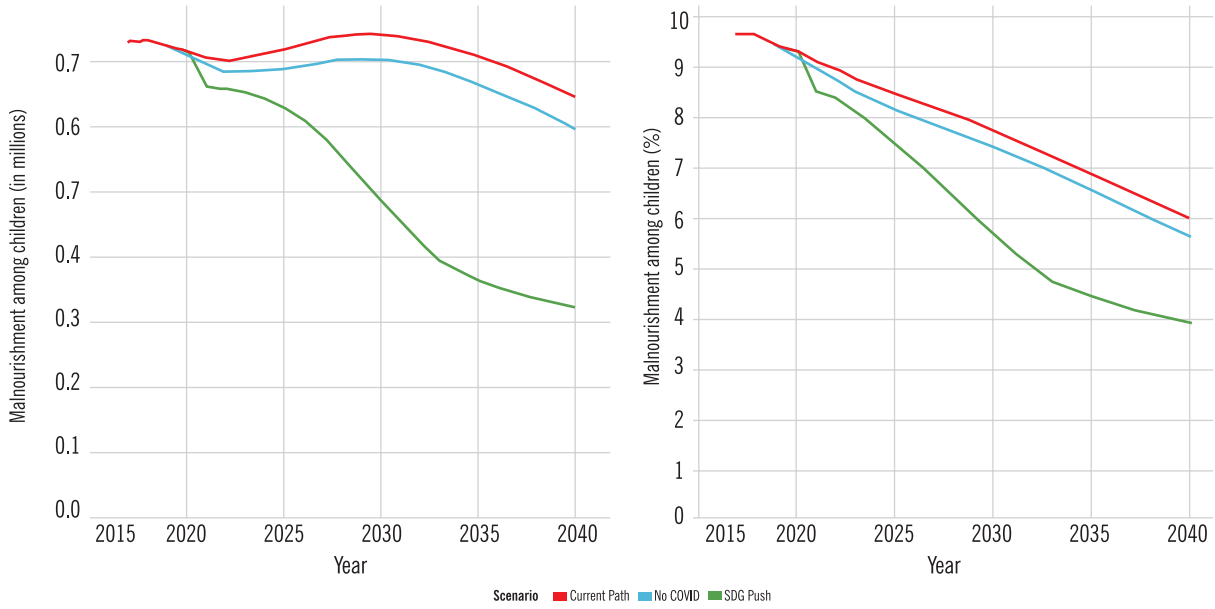
The improvements in malnutrition also suggest a significant scope of improvement for measures of child stunting, wasting and other related health vulnerabilities arising out of hunger and lack of access to food.

Conclusion and Policy Recommendations

The onset of the COVID-19 pandemic has considerably affected Uganda's remarkable growth trajectory. The disease has affected over 163,000 people and led to over 3,500 lives lost. This has led to an increased burden of poverty and hunger. Falling household incomes because of widespread firm closures, job losses and layoffs in combination with strict lockdown measures have threatened to reverse the gains Uganda realized from its gradual structural transformation policies (World Bank 2020). While the economic shocks inflicted by the pandemic are likely to subside, they could continue to set back the human development trajectory without a plan of action.

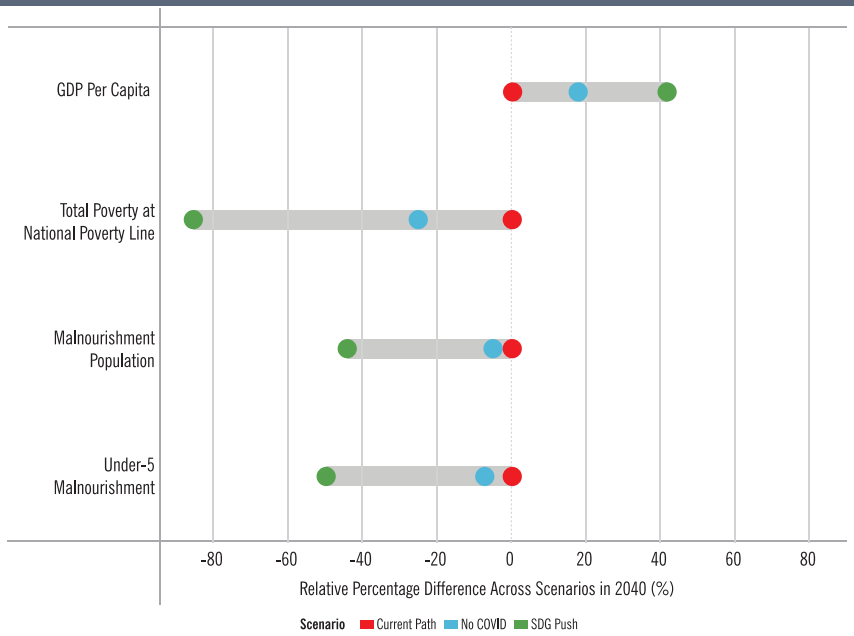
3 Malnourishment is measured as the percentage of children under 5 who are malnourished based on weight as per WHO's criteria.

Figure 6 Prevalence of malnourishment among children across three scenarios (in millions and in percentage terms, respectively)



Source: IFs version 7.78, based on historical data from UNPD World Population Prospects.

Figure 7 Key development indicators and projected difference across 3 scenarios in 2040



Source: IFs version 7.78.

This report investigates the transformative effect of a policy push towards a sustainable development goals agenda. Keeping in line with reasonable and achievable interventions in the form of reducing labour informality increasing public investments in health, education and sanitation, there are multiplier effects on key development indicators of GDP growth, poverty, and hunger. The figure above shows that relative to the *Current Path* scenario, GDP per capita is more than 18 percent higher in the *SDG Push* scenario by 2040.[4] We find similar improvements with a reduction in poverty by around 85 percent, malnutrition by over 43 percent for the total population, and more than 52 percent among children under five.

There continues to be widespread uncertainty over the evolution of the virus. In the summer of 2021, the faster-spreading Delta variant was dominant in Africa, especially Uganda, where it was detected in 97 percent of samples sequenced (UN News, 2021). In early December, cases were confirmed with the Omicron variant, which initial research suggests could be more infectious than the Delta variant (Callaway & Ledford, 2021) With less than 3 percent of the population fully vaccinated, Uganda remains vulnerable to the spread and effects of new COVID variants. It is, therefore, imperative to explore pathways beyond merely recovering from the pandemic towards objectives that fuel sustainable development in the long run while building resilience to future crises.

While the SDG Push scenario is powerful, it will take major changes to policy and investment to achieve. This note proposes the following recommendations:

Increase investment in key priority sectors that improve the human development of the population. Such sectors include health care, water, sanitation, hygiene, and education. Through re-prioritizing the national budget, there is a scope for allocating more funds to key priority sectors that improve people's wellbeing and ultimately contribute to their overall livelihood. To mitigate financial constraints arising from limited resources, public-private partnerships could provide viable solutions to the fresh problems in these key priority sectors.

To reduce the low productivity, increasing inequality, and poverty that is bred by a large informal labour market, regulatory burdens that continue to discourage businesses from formalizing should be reduced. This can be achieved by simplifying the requirements and reducing costs for registration. More firms can be encouraged to formalize if there are feasible benefits to gain. Such benefits include increased access to finance, specialized training in business and financial management for registered businesses.

4 In the figure, the Current Path scenario is used as the reference point. The dumbbell visualization shows the relative increase/decrease in the development indicators across scenarios in 2040.

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