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MACRO RESEARCH FOR DEVELOPMENT
An IMF-FCDO Collaboration

Macroeconomic Developments and Prospects in Low-income Countries—2022

The 2022 LIC report discusses recent macroeconomic developments, outlook and policy priorities for Low Income Countries (LICs). Russia's war in Ukraine has slowed down LICs' recovery from the pandemic; inflation has accelerated; and fiscal position is increasingly under stress, further intensifying debt vulnerabilities. The international community has stepped up support to LICs, but more needs to be done considering the additional financing needs for LICs, estimated at $440bn. Priorities in the near term include fighting inflation, addressing debt vulnerabilities, supporting recovery and protecting the vulnerable through a concerted use of all policy instruments. Effective public debt management can also play a critical role in mitigating debt vulnerabilities. In the medium to long term, structural reforms to address poverty, inequality, climate change and to promote digitalization, are key ingredients for development and income convergence. The report was discussed by the IMF Executive Board on December 1, 2023. The team conducted outreach to the U.K. FCDO, the OECD DAC, the AfDB, and at an event organized by the Banque de France and FERDI.

Internal Launch of DIGNAD toolkit

The DIGNAD toolkit was launched internally on December 8th, 2022 at an IMF iLab event opened by the Fund's Economic Counselor and Director of the Research Department Pierre-Olivier Gourinchas. The toolkit builds on the extension of the Debt, Investment and Growth model of Buffie et al. (2012) to natural disasters following Marto, Papageorgiou and Klyuev (2018) —a workhorse toolkit developed under the FCDO-IMF partnership, allowing the user to run the model from an Excel interface. The model captures the challenges of closing infrastructure gaps in developing countries that are particularly vulnerable to natural disasters, which are in large part small low-income countries. The toolkit and a user manual are currently available to all IMF economists through the IMF intranet. To further advertise the DIGNAD toolkit, presentations were also given to the IMF Institute for Capacity Development's climate group, the Resilience Sustainability Trust (RST) working group, and the Statistics Department's climate group over the last quarter.

Macroeconomic Gains from Closing Gender Educational Gaps in Niger

Chapter two of this Selected Issues Paper explores the state of gender equality and education attainment of girls in Niger. It also estimates the macroeconomic gains from reducing gaps in education between boys and girls using a micro-founded general equilibrium model. The analysis shows that Niger has made some progress toward higher educational attainment for girls, but the country still lags far behind other sub-Saharan African countries. Closing the gender gaps in education would boost female labor participation, increase income earned by women and improve fiscal outcomes. More importantly, closing the gender gap in years of schooling in each income percentile would boost long-term GDP by 11 percent. These significant economic gains from investing in girls' education will contribute to the achievements of the strategic goals defined under the Programme de Développement Economique et Social (PDES) 2022-26. Taking stock of the implications of the model for Niger will help sharpen gender equality and education programs in other low-income countries.

Policy Lessons from DIGNAD Simulations in Rwanda

An analysis using the DIGNAD toolkit is featured in Box 2 of the IMF Country Report No 22/381. It assesses the impact of natural disasters on GDP and total public debt for Rwanda in the context of the country's request for an arrangement under the RST facility. The simulations illustrate that investing in more robust infrastructure results initially in higher public debt but improves the resilience of the economy by reducing the adverse impact of natural disasters on output, damages to physical assets, and post-disaster fiscal costs for rebuilding and lifeline support. Enhanced reforms to improve the efficiency of public investment raises the resilience of the economy to shocks, and the initial increase in public debt can be mitigated by securing private financing as well as more concessional financing.

Macro-Fiscal Implications of Climate Change Policies in Bangladesh

An analysis using the DIGNAD toolkit to assess the macro-fiscal implications of climate change policies in Bangladesh is featured in Annex III.D of the IMF Country Report No 23/066. It assesses the impact of natural disasters on GDP and total public debt in Bangladesh in the context of its request for an arrangement under the RST facility. The simulations illustrate that accelerating investment in adaptation infrastructure could help buttress a green recovery from the pandemic, mitigate the negative impact of natural disasters, and reduce macroeconomic and fiscal risks for Bangladesh. Improved public investment management and efficiency could further lessen the growth-debt trade-off for adaptation investment.

Mining Revenues to Strengthen Guinea's Development

Annex IV of the IMF Country Report No. 2023/043 features an analysis on how to create additional fiscal space and how to use this to stimulate growth and reduce poverty. This model-based assessment suggests that reforming the mining code and exemptions could yield additional mining revenues of around 2 percent of GDP in Guinea. Such additional mining revenues, if properly invested, could have transformative effects. Increasing investment in infrastructure, education spending and social transfers would have the greatest impact on output with additional 1.1 percentage points of growth over 30 years, poverty reduction of 17.8 percentage points and improvements in several inequality indicators.

Defying the Odds: Remittances during the COVID-19 Pandemic

In this paper published in *The Journal of Development Studies*, K. Kpodar, M. Mlachila, S. Quayyum and V. Gammadigbe provide an early assessment of the dynamics and drivers of remittances during the COVID-19 pandemic, using a newly compiled monthly remittance dataset for a sample of 52 countries (including 25 LICs). The paper documents a strong resilience in remittance flows, notwithstanding an unprecedent global recession triggered by the pandemic. Using the local projection approach, the results suggest that show that: (i) remittances responded positively to COVID-19 infection rates in migrant home countries, underscoring its role as an important automatic stabilizer; (ii) stricter containment measures have the unintended consequence of dampening remittances; and (iii) a shift from informal to formal remittance channels due to travel restrictions appears to have also played a role in the surge in formal remittances. Lastly, the size of the fiscal stimulus in the host country is positively associated with remittance flows to migrants' home country as the fiscal response cushioned the economic impact of the pandemic.

Public Investment and Human Capital with Segmented Labour Markets

A paper by E. Buffie, C. Adam, F. Zanna, L. Balma, D. Tessema and K. Kpodar published in *Oxford Economic Papers* develops a dynamic general equilibrium macroeconomic model with segmented labour markets and efficiency wages to examine how labour market structures influence the impact of human capital investment in low-income countries. For plausible calibration values, public investment in education is much more effective than infrastructure investment in promoting long-run economic development, but because investment in education affects labour productivity with a lag, policymakers face an intertemporal trade-off which depends on their social discount rate and the weight of distributional objectives in the social welfare function. The results show that a failure to reflect key structural characteristics of labour markets in low-income countries significantly understates the general equilibrium returns to public investment, particularly in human capital. More generally, the distortionary structure of labour markets matters in leveraging welfare gains from public investment and in shifting the optimal public investment programme further in favour of human capital.

Loss-of-learning and the Post-Covid Recovery in Low-income Countries

Published in the *Journal of Macroeconomics*, a paper by E. Buffie, C. Adam, F. Zanna and K. Kpodar analyze the medium-term macroeconomic impact of the Covid-19 pandemic and associated lock-down measures on low-income countries. The analysis focuses on the impact of the degradation of health and human capital caused by the pandemic and its aftermath, exploring the trade-offs between rebuilding human capital and the recovery of livelihoods and macroeconomic sustainability. A dynamic general equilibrium model is calibrated to reflect the structural characteristics of vulnerable low-income countries and to replicate key dimensions of the Covid-19 shock. The results show that absent significant and sustained external financing, the persistence of loss-of-learning effects on labor productivity is likely to make the post-Covid recovery more attenuated and more expensive than many contemporary analyses suggest.

How large and persistent is the response of inflation to changes in retail energy prices?

Russia's recent invasion of Ukraine led to significant pressures on global energy markets, aggravating a surge in oil and gas prices which was already underway starting in the second half of 2021. In this publication in the *Journal of International Money and Finance*, C. Abdallah and K. Kpodar estimate the dynamic effects of changes in retail energy prices on the consumer price level using a novel monthly database, covering 110 countries (incl. 37 LICs) over 2000:M7 to 2016:M6. They find that (i) the price level responds positively to retail energy price shocks, with effects being, on average, modest and transitory. However, the results suggest significant heterogeneity across countries owing to differences in institutional factors. In particular, the response of the consumer price level to these shocks is relatively larger and more persistent in countries with less flexible labor markets, a lower energy intensity, a looser fiscal policy stance, and a less credible monetary policy (much of which are LICs). There is also clear evidence of non-linearity and asymmetry in the responses, with both positive and bigger energy price shocks leading to larger and more persistent effects on the consumer price level.

Do Monetary Policy Outcomes Promote Stability in Fragile Settings?

In a paper published in *Applied Economics,* O. Diallo, S. Gui-Diby and P. Imam examine how monetary policy frameworks affect fragility. Successfully emerging out of fragility is not a smooth ride, with the transition often subject to reversals. While development practitioners have emphasized the role of fiscal policies in stabilizing fragile countries, insufficient attention has been paid to the role of monetary policy. Diving into the universe of the most prominent combinations of monetary policy objectives pursued across fragile settings, the findings suggest that a single-objective approach, such as only focusing on inflation for instance, is not always appropriate in fragile settings. Instead, as many fragile countries embark into reforming their monetary policy frameworks, they should balance nominal objectives (price stability) with real ones (reduction of unemployment). The impact of the monetary policy objectives on fragility will also depend on the effectiveness of the monetary policy transmission channels. Overall, the findings lend credence to the importance of paying attention – in the context of reducing fragility – to monetary policy outcomes.

Political Institutions and Output Collapses

Textbooks on economic growth typically present a range of growth models, but have much less to say on output collapses, despite their prevalence and their consequences for growth and welfare, particularly in low-income countries. Using cross-country data for 155 countries (of which 25 LICs), an IMF working paper by P. Imam and J. Temple model the joint evolution of output growth and political institutions as a finite state Markov chain, and study how countries move between periods of growth, stagnation, and collapse. The results show that growth is more likely to be sustained under democracy than under autocracy; output collapses are more persistent under autocracy; and stagnation under autocracy can give way to outright collapse. They also find that democratic countries appear to be more resilient. These results are consistent with the idea that high institutional quality provides a safety net, ruling out the worst outcomes.