September 2020

MACRO RESEARCH FOR DEVELOPMENT
An IMF-FCDO Collaboration

The COVID-19 Crisis and Low-Income Developing Countries: Impact, Policy Response and Policy Tradeoffs

(PHOTO: SULTAN MAHMUD MUKUT/SOPA IMAGE/NEWSCOM)

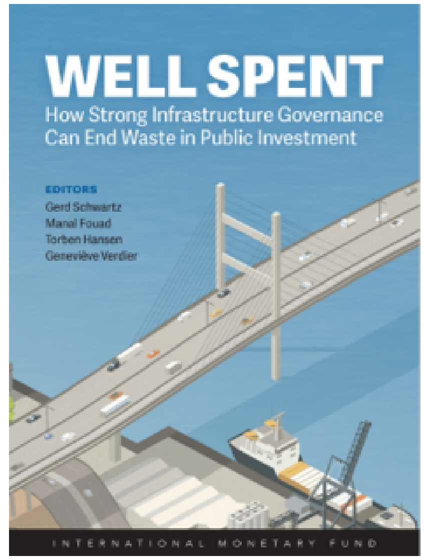
On July 22, IMF staff gave a Board presentation on the COVID-19 policy response and policy tradeoffs in the context of low-income developing countries (LIDCs). The research shed light on developments in LIDCs, which account for one-fifth of the world population but for only about 4½ percent of global GDP and do not always receive full consideration in analyses of the global economy. At the same time, LIDCs are being hit hard by the COVID-19 crisis, suffering an unprecedented external shock and having to combat the fallout with very limited resources and policy instruments. The presentation argued that countries with limited policy space should front-load containment measures—to flatten the infection curve as much as possible and use the time to build up health sector capacity—and move to more targeted measures when broad containment can no longer be sustained. It also showed that LIDCs have broadly followed that script. The presentation was appreciated by IMF Executive Directors, and some requested frequent briefs for wider interest. A blog inspired from this presentation has been published.

WELL SPENT: How Strong Infrastructure Governance Can End Waste in Public Investment

In early September, the IMF released its latest book on Infrastructure Governance. The book contains fifteen (15) chapters, of which 2 benefited from support under the IMF-FCDO macroeconomic research program.

In chapter 6 titled "Public Investment over the Fiscal Cycle," Tannous Kass-Hanna, Kangni Kpodar, and Dawit Tessema investigate the growth dividends to developing countries of shifting public spending composition towards public investment during fiscal cycles. Using general equilibrium and empirical models, the study shows that protecting investment spending during consolidations – although contractionary in the short-term – boosts medium- to long-term growth. The growth benefits are particularly large when the initial public investment ratio is low. Increasing the share of public investment in total government spending from 10 to 20 percent raises medium-term growth by 0.5 percentage points. These results hold both during good times (when consolidations are observed) and bad times (when consolidations are warranted).

In chapter 9 titled "Building Resilience to Natural Disaster in Vulnerable States: Savings from Ex-Ante Interventions," Wei Guo and Saad Quayyum assess the trade-off in building resilient infrastructure against natural disasters between ex-ante and ex-post approaches. The authors use dynamic and general equilibrium and empirical models and calibrate their structural model to six small countries that are highly vulnerable to natural disasters. The results suggest that policy makers can save in net present value terms by investing in ex-ante resilience and avoiding large recovery costs. In addition, increasing the elasticity of output to infrastructure by improving governance would also leads to sizable output gains from the baseline. The finding underscores the importance of mobilizing more resources to build resilient infrastructure against natural disaster and climate change.



Debt, Investment, and Growth in Developing Countries with Segmented Labor Markets

This study introduces a new suite of macroeconomic models that extend and complement the Debt, Investment, and Growth (DIG) model widely used at the IMF since 2012. The new DIG-Labor models feature segmented labor markets, efficiency wages and open unemployment, and an informal non-agricultural sector. These new features allow deeper examinations of macroeconomic and fiscal policy programs and impacts on labor market outcomes, inequality, and poverty. In this paper, Edward Buffie, Luis-Felipe Zanna, Christopher Adam, Lacina Balma, Dawit Tessema, and Kangni Kpodar illustrate the model's properties by analyzing the growth, debt, and distributional consequences of big-push public investment programs with different mixes of investment in human capital and infrastructure. The authors show that human capital investment is more effective in promoting long-run economic development when investments earn their average estimated returns. Alternative investment decisions involve, however, an acute intertemporal trade-off. The ranking of investment programs depends on the policymakers' social discount rate and on the weight of distributional objectives in its social welfare function.

Adapting to Climate Change in Sub-Saharan Africa

Using dynamic stochastic and general equilibrium models, this April 2020 Sub-Saharan Africa Regional Economic Outlook (REO) chapter demonstrates that even though in terms of unit cost, building resilience for climate adaptation would be slightly more expensive, after frequent disaster shocks, the cost would be offset totally with net saving from resilient infrastructure constructions. Moreover, to finance resilience building, it would be more desirable to have broad-based adaptability and economic wide financing to share disaster risks, financial burden and reduce regional inequality. A video highlighting the main findings of this REO chapter can be found here.

(PHOTO: HEYFAJRUL/ISTOCK BY GETTY IMAGES)

Firms, Failures, and Fluctuations: The Macroeconomics of Supply Chain Disruptions

In this research, Daron Acemoglu and Alireza Tahbaz-Salehi study how firm failures and the resulting disruptions to supply chains can amplify negative shocks. They rely on a non-competitive model where customized supplier-customer relations increase productivity, and the relationship-specific surplus generated between firms and their suppliers is divided via bargaining. The results suggest that changes in productivity alter the distribution of surplus throughout the economy and determine which firms are at the margin of failure. A firm's failure may spread to its suppliers and customers and to firms in other parts of the production network. The paper provides existence, uniqueness, and a series of comparative statics results, and shows how the response of the equilibrium production network may propagate recessionary shocks.

Tropical Cyclones and Post-Disaster Reconstruction of Public Infrastructure in Developing Countries

Public capital destructions after natural disaster generate direct losses that are exacerbated by indirect losses arising from reduced private output during reconstruction. Those may be larger in developing countries that lack access to external finance. In this paper, Christopher Adam and David Bevan develop a general equilibrium model of a small open economy that highlights the relation between public infrastructure and private capital, to examine the effects of natural disasters and alternative reconstruction paths. Calibrating the model to data from the Caribbean Catastrophic Risk Insurance Facility, they examine alternative post-disaster financing mechanisms including reserve depletion, budget reallocation, sovereign disaster insurance, debt, and taxation. The paper finds that disaster insurance plays a limited role in financing reconstruction, while budget reallocations are potentially damaging especially if they cannibalize operations and maintenance expenditures. Additionally, they highlight that absent donor grants or concessional borrowing, tax financing – where feasible – remains the least damaging financing instrument, particularly if the country risk premium on external debt is high.

The Minimum Wage Puzzle in Less Developed Countries: Reconciling Theory and Evidence

Chris Adam and Edward Buffie show that a dynamic general equilibrium model with efficiency wages and endogenous capital accumulation in both the formal and (non-agricultural) informal sectors can explain the salient features of the empirical evidence on how binding minimum wage regulations affect employment, wages, and output in middle-income and emerging market developing countries. The assessment builds on a calibration that replicated a full range of empirical estimates in the existing literature. The model is then extended to consider the implications for a stylized low-income country and identify the channels through which minimum wage regulations may have distinctly inferior and possibly adverse aggregate output and welfare effects in low income countries compared to middle income countries.

How Large and Persistent is the Response of Inflation to Changes in Retail Energy Prices?

Based on a novel monthly data covering more than a hundred countries over 2000 to 2016, Chadi Abdallah and Kangni Kpodar estimate the dynamic effects of changes in retail energy prices on inflation. Their findings show that inflation responds positively to retail energy price shocks, with effects being, on average, modest and transitory. However, their results suggest significant heterogeneity in the response of inflation to these shocks owing to differences in factors related to labor market flexibility, energy intensity, and monetary policy credibility. They also find compelling evidence of asymmetric effects—under sufficiently large shocks—in the case of high-income and low-income countries, with increases in retail fuel prices inducing larger effects on inflation than decreases in fuel prices.

Monetary Policy Frameworks: An Index and New Evidence

D. Filiz Unsal participated in the NBER Summer Institute's session on "International Finance and Macroeconomic Data Sources" that took place on July 9th. The presentation was based on the forthcoming working paper "Monetary Policy Frameworks: An Index and New Evidence" (joint with Chris Papageorgiou and Hendre Garbers) and focused on showcasing the underlying methodology and the resulting index that captures the soundness of monetary policy frameworks. The presentation showed that this index detects various key patterns of monetary policy frameworks across countries and over time and goes well beyond the existing paradigm of differentiating countries based solely on their monetary policy or exchange rate regimes (e.g., inflation vs. money targeting or fixed vs. flexible exchange rates) or other narrow or piecemeal characterizations. It is particularly valuable for looking at how monetary policy is done in emerging market and developing economies (EMDEs), also in the context of COVID-19, with many countries gradually modernizing or experimenting with more eclectic regimes with multiple objectives and instruments.

(In)efficient Credit Booms: The Role of Collateral

Diego Anzoátegui, Assistant Professor of Economics at Rutgers University, presented the working paper '(In)efficient Credit Booms: the Role of Collateral' (joint with Joseba Martinez, Pau Rabanal, and D. Filiz Unsal) at the annual Barcelona GSE workshop on Asset Prices, Finance and Macroeconomics on June 16th, at the London Business School on June 10th, and at the VMACS junior conference on September 1st. This paper addresses the question of whether credit booms are constrained efficient. The presentation focused on describing the simple model proposed in the paper that generates credit booms with the relaxation of credit standards which are, in turn, related to inefficient credit supply decisions. Importantly, the model is able to match key empirical facts about credit booms, establishes a link between collateral availability and choice of credit standards, and highlights a new source of inefficiency related to credit supply decisions. The model further shows that there is room for macro-prudential policy even without sharp increases in asset prices.

Central Bank Communication and Monetary Policy Framework Through COVID-19

On June 2nd, D. Filiz Unsal presented the internal policy note "Central Bank Communication Through COVID-19" (joint with Hendre Garbers) in the IMF Research Department COVID-19 Knowledge Burst seminar series. The presentation summarized the three-part communication approach laid out in the note as guidance on how central banks across the board should communicate crisis measures in order to safeguard their existing monetary policy frameworks and longer-term focus on price stability, and their credibility. The three parts consist of properly announcing crisis measures, reiterating these measures as part of the regular communication cycle, and articulating them within the context of the broader monetary policy framework.

Hendre Garbers also made a presentation on "Monetary Policy Frameworks and COVID-19" drawing on the forthcoming IMF Working Paper "Monetary Policy Frameworks: An Index and New Evidence" and the internal RES policy note "Central Bank Communication Through COVID-19." The presentation highlighted the centrality of the soundness of monetary policy frameworks in that the soundness of a framework affects a central bank's ability to deal with shocks while the central bank's response to shocks in turn affects the soundness of the monetary policy framework. The role for communication in safeguarding the existing framework, longer-term focus on price stability, and credibility was further emphasized.

For more information, please contact MacroResDev@imf.org or visit the
IMF-FCDO Macroeconomic Research for Development website.