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## Forecasting issues in developing economies



Over the last decade, developing economies accounted for 70% of global growth, nearly double their contribution to global growth during the 1980s. These economies also account for the bulk of the world's population and labor force. Improving the forecasting of economic developments in these economies is important for the welfare of many. However, the challenges faced in forecasting developments in these economies remain under-researched.

To fill this gap, we organized the 21st workshop of the International Institute of Forecasters in Washington, DC, on April 26–27, 2017, with support from the IMF and the UK's Department for International Development. The workshop was dedicated to Kajal Lahiri, who is acclaimed for his work on forecasting and has led the way in tackling forecasting issues that arise in developing economies. Kajal turned 70 around the time of the workshop and is still going strong, including through his contributions to this special issue.

The eighteen papers in this issue—which include some from the workshop and others received through a separate call for papers—can be grouped into three categories.

### (1) *Transmission of shocks from advanced to developing countries*

Traditionally, developments in advanced economies have had a large influence on the fortunes of developing economies, and this fact of life is changing only slowly, even though the developing economies have grown in both economic size and resilience. Three papers in this issue document the transmission of shocks from global conditions to developing economies.

- *Lahiri and Zhao* show that shocks to growth in advanced economies continue to exert a strong influence on developing economies in Asia, whereas there is still little evidence that the reverse is true despite the strong growth in these economies over recent decades. Such transmission during crisis periods depends on the nature and origin of the crisis. These conclusions come from a novel technique of studying the transmission of shocks based on revisions to GDP forecasts for these countries, which circumvents problems related to data publication lags and data revisions.

- *González-Rivera, Ruiz and Maldonado* find that developing countries also remain vulnerable to extreme scenarios in the factors that drive world growth. They develop a new risk index, Growth-in-Stress, that quantifies countries' risk exposure to such extreme changes in macroeconomic factors. Several countries in Africa and Latin America are exposed to very high risks in the event of such changes.

- *Liu and Sheng* propose a new measure of macroeconomic uncertainty—the common component of forecaster-specific uncertainty—which can be tracked in real time. They then use this measure to show that U.S. uncertainty has a spillover effect on the growth in emerging market economies.

### (2) *Forecasting inflation*

Developing economies have had a history of high and volatile inflation, which has often been a source of social and political turmoil. Over the last couple of decades, however, many countries have transitioned to low inflation, helped in part by a move to explicit or implicit inflation targeting regimes. Nevertheless, keeping inflation low remains a challenge, and particularly ensuring that cost shocks do not seep through into core inflation and inflation expectations.<sup>1</sup> The six papers in this category tackle many of these questions.

- *Das, Lahiri and Zhao* provide a novel and rigorous model for extracting inflation expectations from a new survey of inflation expectations that has been launched in India.

- *Charemza, Diaz and Makarova* show that, in emerging market economies, reducing inflation forecast uncertainty may be better achieved when there is not inflation targeting than when inflation targeting is mixed with stabilization of the exchange rate. *Duncan and Martínez-García* demonstrate that the random walk model for forecasting inflation, which is a common benchmark model in the

<sup>1</sup> The recent history of inflation in India illustrates these challenges. Over the last decade, inflation in India increased sharply from 9% to 15% in early 2010, declined over 2014–16 to a historically low level of around 1%—coinciding with a move to explicit inflation targeting— but then rebounded to over 5% at the start of 2018.

case of advanced economies, also works well in emerging economies.

- *Lyziak* delves into the challenges of forecasting inflation in Poland, which has had a sharp and surprising drop in inflation in recent years, and shows that global output gaps do not help with prediction; while *Szafrańek* suggests that neural network models, which account for nonlinearities better, do better.

- *Brown, Selaive and Nolazco* provide evidence on the ability of core inflation to predict headline inflation in Latin American economies.

### (3) **Forecasting output and labor markets**

In advanced economies, output generally fluctuates modestly around a stable upward trend; obviously there are deeper crises like the Global Financial Crisis, but these are rare events. In contrast, in developing economies, ‘the cycle is the trend’: shocks to trend growth are the primary source of fluctuations in these markets, rather than transitory fluctuations around the trend. Forecasting GDP is challenging under these circumstances. There are also issues of data quality, both for GDP and for labor market indicators; the latter can be difficult to come by, though forecasting them well is important for the welfare of many. The eight papers in this category touch upon many of these aspects.

- *Wildi and McElroy* develop a new filter for trend/cycle decomposition that is better suited to the properties of growth in developing countries—a real-time alternative to the popular Hodrik-Prescott filter—and present an application to the forecasting of industrial production for India.

- *Aromi* suggests that positive innovations in growth trajectories can mislead experts into becoming too optimistic about the growth prospects in many emerging economies, making their forecasts worse than model-based forecasts. In a similar vein, *Pedersen* shows that the growth forecasts of experts in Chile are influenced not just by business sentiment but by the turn in the weather: October forecasts are over-optimistic.

- *Sinclair* provides surprising evidence that Chinese GDP may be better than commonly thought—the process of Chinese GDP revisions is not very different from that in the United States. Likewise, *Bailliu, Han, Kruger, Liu and Thanabalasingam* find that much-maligned Chinese labor market variables do help to predict wage growth, though their new index based on text analytics does even better.

- *An, Ball, Jalles and Loungani* show that the IMF’s forecasts of unemployment for many middle-income countries would do better if they took into account the relationship between unemployment changes and output growth, a relationship that is known as Okun’s Law. *Christofides, Eicher, Kuenzel and Papageorgiou* show that the IMF’s growth projections in times of crisis—when countries are in IMF loan programs—could also be improved, particularly in the case of low-income economies.

- *Chen and Ranciere* provide evidence that credit growth can help to forecast output growth in many developing economies, just as is the case with advanced economies.

- *Steinbuks* finds that good growth forecasts are critical inputs to good forecasts for electricity demand, being highly necessary for policymakers in developing economies, and in particular low-income economies.

The issue concludes with a lucid presentation by Jonathan Wright of some robust findings from the vast body of literature on forecasting for advanced economies, and the extent to which those may also hold for developing economies.

The workshop was held at the IMF and organized by us with assistance from George Washington University’s Tara Sinclair and the late Herman Stekler. The impressive range of Kajal Lahiri’s work was highlighted throughout the workshop, as presenters pointed out how their work built on his research.<sup>2</sup> The participants came from many countries and institutions, with some traveling from far-away locales such as the Indian Institute of Management, the African Development Bank, and Renmin University of China. Keynote addresses were given by Frank Diebold and Jonathan Wright. We all look forward to Kajal’s 80th!

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<sup>2</sup> The program with links to papers and presentations can be found at <http://unassumingeconomist.com/2017/04/workshop-on-forecasting-issues-in-developing-economies/>.