

## Annual Review – post April 2018

<b>Title: Macroeconomics Research in Low-Income Countries (MRLIC)</b>		
<b>Programme Value £ (full life):</b> £14,735,986		<b>Review Date:</b> July 2019
<b>Programme Code:</b> 202960	<b>Start Date:</b> March 2012	<b>End Date:</b> March 2020

### Summary of Programme Performance

Year	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Programme Score	A++	A++	A++	A++	A++	A++	A+
Risk Rating	Low	Low	Low	Low	Low	Minor	Minor

DevTracker Link to Business Case:	<a href="https://devtracker.dfid.gov.uk/projects/GB-1-202960/documents">https://devtracker.dfid.gov.uk/projects/GB-1-202960/documents</a>
DevTracker Link to Log frame:	<a href="https://devtracker.dfid.gov.uk/projects/GB-1-202960/documents">https://devtracker.dfid.gov.uk/projects/GB-1-202960/documents</a>

## A. Summary and Overview

### Description of programme

Macroeconomic stability is critical for economic growth. Low income countries (LICs) are particularly vulnerable to shocks that cause periods of macroeconomic instability, low growth and deeper poverty. Following the financial crisis of 2007/08, and more recently, the collapse in commodity prices, many LICs have experienced acute macroeconomic pressures. In general, however, research has focussed on the situation in developed countries, rather than analysing the macroeconomic problems affecting LICs. Capacity to do macroeconomic research on LICs is relatively small, as is the capacity within LICs to use the evidence for better policymaking.

Macroeconomic Research in Low Income Countries (MRLIC) is a strategic partnership between DFID and the International Monetary Fund (IMF) which seeks to address these issues. DFID is providing £14.7m over 8 years to the IMF to undertake and utilise research into critical macroeconomic issues affecting LICs. The aim of MRLIC is that “*Better macroeconomic policy-making in LICs leads to faster economic growth, job creation and poverty reduction in LICs*”. This is delivered through four core activities:

- Producing high quality, policy relevant research on macroeconomic issues affecting LICs;
- Ensuring these research products are used by IMF country teams and partner authorities;
- Strengthening engagement by senior IMF policymakers on issues affecting LICs; and
- Expanding the network of researchers and policy makers working on LIC macroeconomics.

MRLIC's research focuses on five core areas:

- Modelling and understanding policy choices (e.g. monetary, exchange rate, fiscal, structural policies).
- Understanding macro-financial linkages (e.g. capital flows, financial deepening and inclusion, macro-prudential policies, and transmission of macro-financial shocks).
- Promoting structural change and institutional development (e.g. public investment, growth and debt sustainability, macroeconomic management of natural resource wealth, growth through diversification, structural reforms).
- Enhancing inclusion (e.g. income inequality, macroeconomic policy and income distribution, gender and macroeconomics).
- Building resilience (e.g. natural disasters, climate change, migration, conflict).

Research is used to generate policy change through active engagement on IMF country missions, training for IMF staff and country authorities, and engagement with the IMF Board and academic economists.

The programme began as a three-year partnership in March 2012, was extended for a further two years (to March 2017) in late-2014. A third phase was approved in July 2016, extending the programme by a further three years (to March 2020) with a budget of £5.13million. In the third phase, in line with resource available, DFID's annual funding to MRLIC was cut by 37% (from £2.7m in Phase 2, to £1.71m in Phase 3).

### **Summary supporting narrative for the overall score in this review**

MRLIC's performance over the past year is scored A+ (outputs moderately exceeding expectation). Whilst this is lower than the previous year (A++) it still demonstrates excellent performance. There continues to be extremely strong performance against output targets. This has been maintained even though the logframe targets were revised at the start of phase 3 to incentivise the MRLIC programme to continue to deliver at a constant level despite the drop in annual funding.

The volume of research outputs remains high. As does the quality of outputs. IMF Working Papers are well-respected and have strict quality-assurance processes for publication. The output of publications in peer-reviewed journals has been maintained and are of impressive quality (e.g. a paper in the *Journal of Economic Literature*). The research topics cover traditional areas of expertise for the IMF – monetary policy, debt, investment, financial markets – and applies these to these specific challenges of LICs. The MRLIC programme has also moved forward the IMF's position and knowledge in new areas – gender inequality, income inequality, climate, and fragility.

The MRLIC programme is maturing to become a recognised “brand” within the IMF at the working level. There is, however, a constant need to ensure that the MRLIC work gains buy in from senior staff and is well-aligned with the IMF's broader agendas. Doing so will, over time, allow the IMF to move to the point where funding research on LICs from internal resources is as important as research on advanced economies. Until then however, this programme remains an important DFID investment.

One positive development is that the operational model has evolved over time from funding MRLIC staff to join IMF country missions, to one where IMF country and operational teams are requesting and “buying in” analysis and expertise from MRLIC's team members. For example, in the CEMAC<sup>1</sup> region many countries in have IMF programs which contain efforts at fiscal consolidation. The IMF's African Department used the MRLIC team's work on the DIGNAR<sup>2</sup> model to analyse the effects of revenue mobilisation for inclusion in the April 2018 edition of the Sub-Saharan Africa Regional Economic Outlook. Similarly, the IMF's St. Lucia country team requested the MRLIC team to assist in quantifying the macroeconomic effects of natural disasters, applying the DIG model. This collaboration produced analysis on resilient infrastructure and climate change adaptation which featured in the Article IV consultation with authorities and an IMF Working Paper.

This is also reflected in the number of training courses conducted with IMF staff at which MRLIC models and toolkits are taught. This shift is a notable success for the programme. It improves the efficiency of influencing IMF operations and demonstrates sustainability of the ideas and findings from the research.

There are a couple of areas where the programme could increase focus in the final year of this third phase. One of the aims of the programme is to attract new academic researchers to work on LIC macroeconomics. This is a gap that the academic community has notably not filled. There is a dearth of high-quality, policy-relevant research on macroeconomics that is applicable to LICs. While the MRLIC programme has successfully mobilised economists within the Fund to produce research (many of whom would likely have researched emerging or advanced economies rather than LICs), it has been challenging to attract new external researchers to the topic areas.

Secondly, although there is evidence of high-level support and of influence on Fund operations, there has been limited examples of MRLIC work being directly discussed at the IMF Board in the past year. Whilst there are numerous ways to influence policy – and the MRLIC programme has successfully shaped policy positions on, for example, gender inclusion, women's economic empowerment, youth labour markets through publications and policy papers (see output indicator 3,3 for details) – it is important that the research generated is being seen and discussed by the top management of the IMF (i.e. the Board). There has been notable success on this in previous years (e.g. in Board discussions on anti-corruption, gender, climate change, inequality and macroeconomic trends), and there should be efforts to target this in the coming year.

---

<sup>1</sup> Central African Economic and Monetary Community

<sup>2</sup> Debt-Investment-Growth (DIG) model extended to include Natural Resources (DIGNAR)

### **Recommendations for the year ahead**

Recommendations are included for each output in Section B. The key overarching recommendations for the year ahead are:

- The MRLIC team and DFID hold a logframe workshop to discuss and revise the logframe indicators and targets for the final year of this phase of the programme (2019/20). The details by output are set out in Section B. The aim is to ensure that indicators capture the important elements of the programme, that previous overachievement is accounted for, and that delivery in the final year is high quality.
- There is a remarkably limited amount of academic work being done on LIC macro issues. The academic work that exists is often divorced from any practical policy implications. There is a clear gap and a need for ongoing research. The MRLIC programme can fill this gap. Discussions have been taking place on possible topics for future work between the MRLIC team and DFID. Whilst there are arguments for extending the programme (LICs' macro challenges remain significant; consistent performance of the MRLIC programme; MRLIC helps achieve priorities of both organisations) there is a need to ensure that work is well prioritised and that the impact of research is thoroughly tracked. The MRLIC and DFID teams should finalise the topics to be included in a phase 4 and consider approval for extension funding.

## B: DETAILED OUTPUT SCORING

Note on scoring: the scores are based on the targets set at the start of phase 3 (2017). DFID scores outputs on a range from C to A++. On this programme, scores are related to low, medium and high indicator targets as follows:

Target reached	Score
<L	C
L	B
M	A
H	A+
>H	A++

Section C provides more details on the definitions of the targets in the logframe.

<b>Output Title</b>	High quality, policy relevant research on macroeconomic issues affecting LICs produced.		
Output number per LF	1	<b>Output Score</b>	<b>A+</b>
Impact weighting (%):	30%	Impact weighting % revised since last AR?	No

Indicator(s)	Milestone(s) for this review	Progress
1.1 Number of priority research papers produced, on the following research topics: 1) Monetary and exchange rate policies; 2) Public investment, growth, and debt sustainability; 3) Macroeconomic management of natural resources; 4) Macroeconomic policies and income distribution; 5) Financial deepening for macroeconomic stability and sustained growth; 6) Growth through diversification; 7) Gender and macroeconomics. 8) Capital flows.	By March 2019: H (105 papers) M (97 papers) L (89 papers)	<b>A+</b>  113 cumulative (109% of high target)  19 produced in 2018/19
1.2 Number of research papers accepted for publication in appropriate high-quality peer-reviewed journals	By March 2019: H (51 papers) M (47 papers) L (43 papers)	<b>A+</b>  58 published in total (114% of high target)  10 published in 2018/19
1.3 Number of freely available books	By March 2019: H (2 books) M (2 books) L (2 books)	<b>A</b>  2 books in total  (The one book published in 2018/19 is not freely available)

Two indicators have slightly exceeded the high target, and one has met the target. Therefore, this output is scored as A+.

### *Indicator 1.1: Working papers (WPs)*

MRLIC produced 19 WPs in the past year, bringing the total to 113 over the programme to date. This exceeds the high target (105). The performance in the past year also exceeds the expected number of papers for 2018/19, which was 15. This achievement shows a strong performance in producing IMF-quality WPs by the research team. IMF WPs are high quality and go through a strict quality assurance process within the Fund. The IMF WP series is ranked in the top 20 for economics.<sup>3</sup>

The WPs produced in the past year cover all five of the MRLIC themes. These themes were agreed at the start of this phase of the programme as representing the most policy-relevant areas ripe for LIC macroeconomic research. The specific papers are chosen through the IMF's decision processes within the Research and Strategy, Policy and Review departments, sticking closely to the MRLIC phase 3 plan. The WPs produced this year are as follows.

#### Modelling and understanding policy choices:

- Gurara, Melina, Zanna, (2019), [Some Policy Lessons from Country Applications of the DIG and DIGNAR Models](#), WP number 19/62.
- Narita, Yin, (2018), [In Search of Information: Use of Google Trends' Data to Narrow Information Gaps for Low-income Developing Countries](#), WP number 18/286.

#### Understanding macro-financial linkages:

- Broccolini et al., (2019), [Mobilization Effects of Multilateral Development Banks](#), WP number 19/28.
- Gurara, Presbitero, Sarmiento, (2018), [Borrowing Costs and The Role of Multilateral Development Banks: Evidence from Cross-Border Syndicated Bank Lending](#), WP number 18/263.
- Eberhardt, Presbitero, (2018), [Commodity Price Movements and Banking Crises](#), WP number 18/153.
- Kpodar, Le Goff, Singh, (2019), [Financial Deepening, Terms of Trade Shocks, and Growth Volatility in Low-Income Countries](#), WP number 19/68.
- Chami, et al., (2018), [Are Remittances Good for Labour Markets in LICs, MICs and Fragile States?](#), WP number 18/102.

#### Building resilience:

- Atolia et al., (2018), [Optimal Control of a Global Model of Climate Change with Adaptation and Mitigation](#), WP number 18/270.
- Cantelmo et al., (2019), [Policy Trade-Offs in Building Resilience to Natural Disasters: The Case of St. Lucia](#), WP number 19/54.

#### Promoting structural change and institutional development:

- Atolia et al., (2018), [Rethinking Development Policy: Deindustrialization, Servicing and Structural Transformation](#), WP number 18/223.
- Kpodar, Fabrizio, Eklou, (2019), [Export Competitiveness - Fuel Price Nexus in Developing Countries: Real or False Concern?](#), WP number 19/25.
- Furceri et al., (2019), [Macroeconomic Consequences of Tariffs](#), WP number 19/9.
- Gruss, Kebhaj, (2019), [Commodity Terms of Trade: A New Database](#), WP number 19/21.
- Gurara, Tessema, (2018), [Losing to Blackouts: Evidence from Firm Level Data](#), WP number 19/159.

#### Enhancing inclusion:

- Furceri, Loungani, Ostry, (2018), [The Aggregate and Distributional Effects of Financial Globalization: Evidence from Macro and Sectoral Data](#), WP number 18/83/
- Agarwal et al., (2018), [Financial Inclusion Under the Microscope](#), WP number 18/208.

---

<sup>3</sup> IDEAS/RePEc Aggregate Rankings for Working Paper Series, <https://ideas.repec.org/top/top.wpseries.all.html>, accessed 13<sup>th</sup> June 2019. IMF Working Papers ranked number 20.

- Imam, Kpodar, (2019), [Does an Inclusive Citizenship Law Promote Economic Development?](#), WP number 19/3.
- Woldemichael, Gurara, Shimeles, (2019), [The Impact of Community Based Health Insurance Schemes on Out-of-Pocket Healthcare Spending: Evidence from Rwanda](#), WP number 19/38.
- Peralta-Alva et al., (2018), [The Macroeconomic and Distributional Implications of Fiscal Consolidations in Low-income Countries](#), WP number 18/146.

#### *Indicator 1.2: Peer-reviewed published papers*

This year MRLIC had 10 papers accepted for publication in peer-reviewed journals, bringing the total over the life of the programme to 58. This exceeds the (cumulative) high target of 51, and it also exceeds the expected number of publications in a given year (seven). This is an impressive publication record. The 10 publications are in high-quality and well-known journals, such as the *Journal of Development Economics* (JDE) and *Economica*. A significant achievement is a paper accepted for publication in a forthcoming edition of the *Journal of Economic Literature*, one of the top ten economics journals. This demonstrates that the MRLIC can produce and publish high-quality research in highly competitive journals: the acceptance rate for top economics journals is 3% – 8%<sup>4</sup>, for JDE it is 8%<sup>5</sup>.

The papers published in the past year cover four of the five MRLIC themes. They are:

#### Modelling and understanding policy choices

- Gurara et al., (2018), [Trends and Challenges in Infrastructure Investment in Developing Countries](#), *International Development Policy*, 10.1, 2018.
- Berg et al., (2018), [Some Misconceptions About Public Investment Efficiency and Growth](#), *Economica*, vol. 86, pp. 409-430.
- An et al., (2019), [Do IMF forecasts respect Okun's law? Evidence for advanced and developing economies](#), *International Journal of Forecasting*, vol. 35, pp. 1131-1142.
- Abuka et al., (2019), [Monetary Policy and Bank Lending in Developing Countries: Loan Applications, Rates, and Real Effects](#), *Journal of Development Economics*, vol. 139, pp. 185-202.
- Ball et al., Does One Law Fit All? Cross-Country Evidence on Okun's Law, *Open Economy Review*, forthcoming.

#### Building resilience

- Marto, Papageorgiou, Kluyev, (2018), [Building resilience to natural disasters: An application to small developing states](#), *Journal of Development Economics*, vol. 135, pp. 574-586.

#### Promoting structural change and institutional development

- Amendolagine et al., (2019), [Local sourcing in developing countries: The role of foreign direct investments and global value chains](#), *World Development*, vol. 113, pp. 73-88.
- Johnson, Papageorgiou, [What Remains of Cross-Country Convergence?](#), *Journal of Economic Literature*, forthcoming.
- An et al., Growth and Jobs in Developing Economies: Trends and Cycles, *Open Economy Review*, forthcoming.

#### Enhancing inclusion

- Furceri, Ostry, Robust Drivers of Income Inequality, *Oxford Review of Economic Policy*, forthcoming.

#### *Indicator 1.3: Book publications*

One book was published in 2018/19: [Confronting Inequality: How Societies Can Choose Inclusive Growth](#). This is the culmination of many years of IMF research and experience on inclusive growth and covers looks at how inequality has drastically increased in many countries over the past three decades. It sets out how the widening gap is often portrayed as an unexpected outcome or as a necessary trade-off with

<sup>4</sup> See: <https://voxeu.org/article/nine-facts-about-top-journals-economics>

<sup>5</sup> Table 2 at: <https://blogs.worldbank.org/impac/evaluations/state-development-journals-2019-quality-acceptance-rates-review-times-and-open-science>

economic growth. This book argues that the increase in inequality has been a political choice and sets out what policies would achieve a more inclusive economy.

However, whilst this book is based on lots of publicly available content produced by the MRLIC project<sup>6</sup> it is not freely available. As defined, it does not count towards indicator 1.3.

### **Lessons identified this year, and recommendations for the year ahead linked to this output**

**Recommendation 1:** IMF and DFID should agree the format and dissemination plan for synthesis products summarising the key themes of research from the MRLIC programme. This will include organising a stocktaking conference (currently planned for March 2020) to disseminate the outcomes of the MRLIC research to a policy and academic audience. This will also seek to shape the direction of macro research on LICs more widely by allowing for an exchange of views on key policy priorities that could benefit from being further explored through research.

**Recommendation 2:** Whilst the “high-quality” element of this output is straightforward to assess, the “policy-relevant” element is harder. In a future phase of work the programme should establish a programme advisory committee. This small group (made up of IMF, DFID, and senior external advisors from academia and thinktanks) will add value, in part, by advising on the relevance to wider policy debates of the research work and suggesting areas for future work and collaboration opportunities.

**Recommendation 3:** The IMF-DFID logframe discussion (by end July 2019) should include:

- Review targets for 1.1 and 1.2 to see whether it is appropriate to increase targets for 2019/20 to account for overachievements.
- Review 1.3 to assess the likelihood of getting books freely available.
- Review targets under 1.3 to see whether low/medium/high is appropriate for an indicator with a small number of outputs.

---

<sup>6</sup> Working Papers on “[Aggregate and Distributional Effects of Financial Globalization](#)” and “[Effects of Monetary Policy Shocks on Inequality](#)”. And published papers on “[Financial Liberalization, Inequality and Inclusion in LICs](#)” and “[distributional effects of capital account liberalization](#)”.

<b>Output Title</b>	IMF research products (policy analysis, practical and operational tools and frameworks) produced under this project used by IMF country teams and partner authorities.		
Output number per LF	2	<b>Output Score</b>	<b>A+</b>
Impact weighting (%):	30%	Impact weighting % revised since last AR?	No

<b>Indicator(s)</b>	<b>Milestone(s) for this review</b>	<b>Progress</b>
2.1 Application and use of tools and frameworks by country teams.	By March 2019, evidence of number of country teams applying policy tools and frameworks: H (90) M (83) L (76)	<b>A+</b>  98 examples (cumulative) (109% of high target)  13 in 2018/19
2.2 Application and use of tools and frameworks by country authorities.	By March 2019, evidence of number of country authorities applying policy tools and frameworks: H (32) M (30) L (29)	<b>A++</b>  38 cumulative (119% of high target)  9 in 2018/19
<i>2.2.1 Courses offered to country authorities</i>	<i>By March 2019, evidence of courses offered to country authorities:</i> <i>H (10)</i> <i>M (9)</i> <i>L (8)</i>	<i>16 cumulative (160% of high target)</i>  <i>7 in 2018/19</i>

One indicator slightly exceeds the high target, and two indicators substantially exceed it. This output scores A+.

*Indicator 2.1: Applications by country teams*

There were 13 instances of uptake of MRLIC work by IMF country teams. This was lower than in previous years (14, 16 & 21 in years 4, 5, & 6), but still exceeds the high target for the indicator.

The MRLIC work on the Forecasting and Policy Analysis System (FPAS) continued to be rolled out across the IMF this year, with training delivered to Africa country teams and used to produce medium-term forecasts in Uganda, Tanzania and Mozambique. The debt-investment-growth (DIG) model adapted by the programme was also used to inform wider IMF operations in several cases, being used to analyse the issues related to developing countries involved in the Belt and Road Initiative and applied in Bolivia (as part of the Article IV process) and Cameroon (as part of the review of the IMF country lending programme). The extension of the DIG model to account for natural resources (the DIGNAR model) was applied to St Lucia.

The MRLIC work on inequality also continued to have impact across the Fund. For example, in Nigeria the Article IV looked at the potential impact of exchange rate convergence on income inequality, and a selected issues paper used models from the MRLIC programme to examine the macroeconomic impacts of narrowing gender gaps in education and health: closing the gender gap in years of schooling across the board would boost long-term GDP by 5%. A selected issues paper on Senegal carried out similar analysis, with similar findings: ensuring that everyone receives at least 5 years of education could promote GDP gains of around 8%, improve female labour force participation by 11 percentage points and reduce inequality (measured by Gini coefficient) by 3 percentage points.

A new development in the past year is the increase in the training on MRLIC toolkits provided through the IMF Institute for Capacity Development (ICD). This is a key channel through which MRLIC work is



operationalised. IMF staff from country and regional teams undertake training on the use of toolkits and then apply these on mission and in-country. In the past year there have been training courses and clinics on diversification, distributional impacts of policy reforms, and the macroeconomic consequences of remittances.

These training courses, delivered at IMF HQ, are evaluated by the ICD. This found very high satisfaction of participants for training from the MRLIC programme. The average rating was 4.6 (out of 5) on questions relating to the topics covered, effectiveness of presenters and overall usefulness of the training.

*Indicator 2.2: Applications by country authorities*

*(sub indicator 2.2.1): Courses offered to country authorities*

There have been nine incidences of MRLIC toolkits and frameworks being used by, and training courses delivered to, policymakers in-country. As would be expected given the IMF's mandate, most interaction is with staff from Central Banks, Ministries of Finance and other economic policymaking institutions. This is somewhat lower than the previous year (13), but higher than all other years in the programme. The cumulative high target is exceeded. Nonetheless, the efforts to ensure take-up of MRLIC work by country authorities is key to the success of the programme so this remains critical for the final year of this phase of the programme. The training is a key channel to induce uptake of MRLIC products by IMF country teams and country authorities.

Monetary policy has been a focus. As well as rolling out the FPAS to IMF teams (see output 2.1) the ICD supported the East African Community's (EAC's) FPAS working group. They supported two technical meetings and ongoing peer-to-peer exchanges for central bank staff across the EAC. There has also been in-depth engagement with the Bank of Uganda on improving their core forecasting model and assessment of emerging external risks. There has been training for government staff on improving the modelling and forecasting of macroeconomic trends in Tanzania, Malawi and Rwanda.

The MRLIC work on gender equality has also been a strong focus of the training offered to country authorities. A peer learning event on gender equality was held in collaboration with UN Women in Tanzania, and a course on [understanding gender responsive budgeting](#) was taught at the IMF's East Africa Regional Technical Assistance Centre.

Unfortunately, the ICD system for evaluating training is not used for the more customised training held in-country. There is no standardised feedback collected. Anecdotal feedback (e.g. from senior Central Bank staff to IMF Country Directors) is that training is well-received.

**Lessons identified this year, and recommendations for the year ahead linked to this output**

**Recommendation 1:** As delivering training on toolkits and models becomes and increasingly important channel for MRLIC to influence IMF operations there should be a systematic plan established for (a) the topics to be offered, (b) the audiences to be targeted, and (c) the impact of the training at a country level. Whilst there should remain scope for demand-led requests for training, having a clear training or dissemination plan will allow better monitoring of the effectiveness of this approach.

**Recommendation 2:** The IMF should establish a plan for how to best assess the usefulness and quality of customised training conducted in-country.

**Recommendation 3:** The IMF-DFID logframe discussion (by end July 2019) should include:

- Review targets for 2.2 and 2.2.1 to see whether it is appropriate to increase targets for 2019/20 to account for overachievements.
- Consider adding a sub-indicator for 2.1 to capture training as a way of rolling out the work of MRLIC across the IMF.

<b>Output Title</b>	Engagement by senior IMF policymakers on issues affecting LICs strengthened through this project.		
Output number per LF	3	<b>Output Score</b>	<b>A++</b>
Impact weighting (%):	25%	Impact weighting % revised since last AR?	No

<b>Indicator(s)</b>	<b>Milestone(s) for this review</b>	<b>Progress</b>
3.1 High level policy conferences attended by senior IMF staff reflect findings of research papers funded under this project.	By March 2019, number of policy conferences drawing on outputs from the project: H (30) M (28) L (26)	<b>A++</b>  36 cumulative (120% of high target)  6 in 2018/19
3.2 Results of the research papers produced reflected in IMF board discussions.	By March 2019: H (15) M (14) L (13)	<b>A++</b>  18 cumulative (120% of high target)  2 in 2018/19
3.3 Results of the research papers produced reflected in IMF policy papers such as Staff Discussion Notes, policy memos to management, and the like	By March 2019: H (27) M (25) L (23)	<b>A++</b>  36 cumulative (133% of high target)  7 in 2018/19

All three indicators have substantially exceeded the high target; therefore this output is scored as A++.

#### *Indicator 3.1: Conferences*

Research from the MRLIC programme was presented and discussed at six conferences in the past year. This exceeds the expected number for the year (four) and the cumulative amount (36) is well above the high target (30). These conferences covered a wide range of topics within the MRLIC's areas of work. For example, under the "enhancing inclusion" theme the IMF and Korean Development Institute hosted a conference and policy debate on the broad topic of "[achieving inclusive growth](#)". The IMF Managing Director provided opening remarks and keynote speeches were delivered by Stiglitz and Sachs. MRLIC work on the macroeconomic and structural policies creating inequality and how to generate more broad-based growth was presented and discussed.

Two policy conferences were organised by the IMF under the "building resilience" theme:

- A workshop on "macroeconomic policy in fragile states" at the Blavatnik School of Government saw academics and experts from a range of organisations (including senior IMF and DFID representation) come together to discuss the challenges and way forward for conducting macro analysis and policy in fragile and conflict situations. DFID's Deputy Chief Economist chaired a panel. High calibre academics (Collier, Acemoglu, Robinson, Besley, Adam) presented and discussed the work. The papers from this conference will be released as a book under the MRLIC programme in the coming year.
- A workshop on "[coping with climate change](#)" held in October 2018 brought together climate change experts with other economists. The sessions: discussed recent econometric evidence on the decoupling of emissions and growth; examined general equilibrium modelling of policy choices for LICs to cope with the effects of climate change; and showcased efforts by central banks to combat climate change.

Other conferences in the past year included a workshop on the design of monetary policy frameworks (based, among other things, on the MRLIC book "Monetary Policy in Sub-Saharan Africa"), a workshop on the links between [trade in services and inclusive economic growth](#) (at which MRLIC data work on trade in services was discussed), and a seminar at the IMF/World Bank Annual Meetings on "[empowering women](#)"

[in the workplace](#)” where the IMF Managing Director, among others, discussed MRLIC research on gender diversity.

#### *Indicator 3.2: IMF Board discussions*

MRLIC research was reflected in two IMF Board papers this year. This exceeds the target yet is lower than in the previous year (five). There is scope for increasing the focus on this for the programme in the past year, as a large body of research has been built up and should be influencing the most senior discussions within the Fund (i.e. at Board level).

A Board paper on resilience in countries vulnerable to natural disasters covered the components of disaster risk management strategies (structural, financial, and post-disaster). The paper examined the challenges LICs and small states face in these areas, how the international community can help, and how these countries can benefit the most from international assistance. MRLIC work was influential in this by providing the analytical framework to evaluate different policies and setting out the stylized facts of the macroeconomic impacts of natural disasters.

Board discussions on the IMF’s social spending strategy were also heavily influenced by MRLIC research work, in particular the inequality model, and analysis of fuel subsidies.

#### *Indicator 3.3: IMF policy papers*

MRLIC research has been reflected in five other IMF publications and policy papers in the past year, bringing the total for the programme to 36 (above the high target). These included two staff discussion notes on the [economic gains from gender inclusion](#), and [youth labour markets](#). There were also two contributions in the April 2018 edition of the [African Regional Economic Outlook](#) covering revenue mobilisation in resource-rich countries, and the future of work in sub-Saharan Africa.

A [policy paper on women’s economic empowerment](#) was prepared and discussed ahead of the meeting of G7 ministers and central bank governors in June 2018. This set out the IMF’s position on gender equality and, drawing heavily on research from the MRLIC programme, described how the IMF will continue its efforts through deeper understanding, better integration of analysis, improved learning opportunities, and improving collaboration with other organisations.

### **Lessons identified this year, and recommendations for the year ahead linked to this output**

**Recommendation 1:** Whilst there are numerous channels to influence IMF policy and positions, there has been a drop in the use of MRLIC analysis in discussions at the IMF Board level. The MRLIC team and DFID should discuss (a) why this is the case, (b) whether more senior buy-in would be beneficial and how to achieve this, and (c) set out a plan for ensuring that research is taking place in the right areas to influence at the highest levels of the Fund.

**Recommendation 2:** The IMF-DFID logframe discussion (by end July 2019) should include:

- Review all indicator targets to see whether it is appropriate to increase targets for 2019/20 to account for overachievements.

<b>Output Title</b>	IMF strengthens research capacity, by expanding the network of researchers and policy makers working on LIC macroeconomics		
Output number per LF	4	<b>Output Score</b>	<b>A+</b>
Impact weighting (%):	15%	Impact weighting % revised since last AR?	No

<b>Indicator(s)</b>	<b>Milestone(s) for this review</b>	<b>Progress</b>
4.1 Number of commissioned research papers from new researchers <sup>7</sup> produced on thematic areas.	By March 2019, number of commissioned research papers produced: H (28) M (26) L (24)	<b>A</b>  26 cumulative (Meets medium target)  1 in 2018/19
4.1.1 A data toolkit is a new dataset that is put in a format that is accessible and applicable to the work of IMF country teams and country authorities.	By March 2019, number of produced: H (8) M (7) L (6)	<b>A+</b>  8 cumulative (Meets high target)  2 in 2018/19
4.2 Attendance of external researchers and policy makers at high-level policy conferences.	By March 2019, number of high-level policy conferences attended by external researchers: H (71) M (66) L (60)	<b>A++</b>  108 (cumulative) (152% of high target)  22 in 2018/19
4.3 Project Outputs disseminated in e-newsletter and up-dated public web-page and R4D (DFID web portal). Number of updates of e-newsletter and/or web-page:	By March 2019, number of up-dates: H (26) M (24) L (22)	<b>A+</b>  26 (cumulative) (Meets high target)  4 in 2018/19

One indicator substantially exceeds the high target, two indicators meet the high target, and one indicator meets the medium target. Therefore, this output is scored as A+.

*Indicator 4.1: Commissioned papers from new researchers*

Three papers were commissioned from external researchers and delivered in the past year. These have all been accepted for publication in a forthcoming volume of the *Open Economy Review*.

- Marjit, Kar, International Capital Flows and Wage Inequality with Land Conversion in Poor Countries
- Martinez-Zarzoso, Are Labour Provisions in Free Trade Agreements Improving Labour Conditions?
- Hellier, Phases of Globalization, Wages and Inequality

The number of externally commissioned papers has been on a downward trend (seven, five, three in the past three years). This reflects the challenges that the MRLIC programme has in delivering relevant, high-quality, timely papers through commissioning external researchers. In response to a recommendation in DFID's previous Annual Review the model of engaging external researchers has shifted to focussing on adding value through contributions at conferences and events, rather than through commissioning papers.

Whilst three papers would meet the high target (28), the indicator is aimed at bringing new researchers into working on macroeconomic issues on LICs. The indicator specifically defines this (see footnote). Only

<sup>7</sup> Researchers are "new" if they have not worked substantively in the field of LIC macroeconomics, especially with respect to sub-Saharan Africa. Researchers count as "new" even if they may have had one paper or so on LICs, if the vast bulk of their work has been on other topics, such as emerging market countries and advanced economies. This applies to graduate students, too.

one of the three papers fit this definition as the other authors had previously extensively worked on development, or macroeconomics, or both. Therefore, the indicator meets the medium cumulative target (26).

#### *Indicator 4.1.1: Data and toolkits*

The MRLIC programme released two toolkits this year, bringing the total to eight. This meets the high target:

1. A major revision to the inequality toolkit. This can be used to investigate the implications of fiscal policy reforms on income distributions. An updated paper on the analytical framework behind the toolkit was published. The toolkit is being applied in IMF surveillance work, for example in the Article IV reports on Benin, Cambodia and Senegal.
2. A new comprehensive dataset of country-specific commodity price and terms-of-trade indices. It can be used, for example, to research the impact of changes in international prices on growth, development, the cost of credit, and asset prices. It can also be used to assess the role of macroeconomic policies in managing external price shocks. The fact that it is comprehensive (182 countries over 1962-2018) will allow this analysis in LICs.

This is an important element of the work of the MRLIC programme. These products encourage practical use of the research produced. The updated version of the inequality toolkit, in particular, is a valuable piece of work, which DFID welcomes. It was presented in detail at the DFID economics professional development conference in October 2018 and was well received.

#### *Indicator 4.2: Attendance at conferences*

The MRLIC team presented at 22 conferences in the past year, well above the expectation of 10 conferences per year. This brings the total for the programme to 108, which substantially exceeds the high target. Some notable examples include a presentation at the NBER Summer Institute (on the trade-in-services toolkit), at the ASSA Annual Meeting (American Economic Association) and the Centre for Study of African Economies (CSAE) Conference at Oxford University. This is well-targeted dissemination at competitive, high-quality conferences is a good way of disseminating research work to policymakers and, particularly, academics. In addition, the team showed good links to DFID and our broader growth research portfolio by (a) hosting a session (on [inclusive growth, income inequality, structural transformation and gender diversity](#)) at the annual conference of UNU-WIDER (a part-DFID-funded research institute) and (b) presenting a one-day course for DFID's cadre of economists covering the IMF's research on the macro and gender, gender budgeting, two toolkits, and theoretical research on gender/income inequality.

#### *Indicator 4.3: Project outputs disseminated*

The four quarterly newsletters from the programme ensure that this indicator meets the high target (cumulatively 26). These newsletters are distributed to a broad network of over 1500 academics, policymakers, central bank staff, and government representatives. They highlight working papers, conferences, and other activities completed over previous quarter.

Further dissemination of the research was achieved through:

- Blogs, IMF news articles, and articles in *Finance and Development* and the *IMF Research Bulletin*. These are widely disseminated to policymakers and researchers inside and outside the IMF.
- The IMF twitter feed has also highlighted research from the MRLIC team (for example, #imfcapdev, #women4growth, #imfgender). The work on gender inequality and income inequality was featured in several IMF intranet news stories.
- Articles on specialised websites such as VoXEU.

### **Lessons identified this year, and recommendations for the year ahead linked to this output**

**Recommendation 1:** As preparation for a future phase of work, IMF and MRLIC teams should discuss and agree the best way to engage external researchers and for them to add value to the programme.

**Recommendation 2:** The IMF-DFID logframe discussion (by end July 2019) should include:

- Review indicator 4.1 to ensure it is capturing the most important aspects of working with external researchers.
- Review indicator 4.1.1 wording to consider whether all toolkits need to be “new”.

- Review targets for 4.2 to see whether it is appropriate to increase targets for 2019/20 to account for overachievement.

## C: THEORY OF CHANGE AND PROGRESS TOWARDS OUTCOMES (1-2 pages)

### Summarise the programme's theory of change and any major changes in the past year

This program was initiated in 2012. The Business Case for the program does not specify a formal Theory of Change (ToC). The implicit ToC for the program is summarised in its logical framework:

<b>OUTPUT 1</b>	High quality, policy relevant research on macroeconomic issues affecting LICs produced.
<b>OUTPUT 2</b>	IMF research products (policy analysis, practical and operational tools and frameworks) produced under this project used by IMF country teams and partner authorities.
<b>OUTPUT 3</b>	Engagement by senior IMF policymakers on issues affecting LICs strengthened through this project.
<b>OUTPUT 4</b>	IMF strengthens research capacity, by expanding the network of researchers and policy makers working on LIC macroeconomics



<b>OUTCOME</b>	Better engagement by IMF policy-makers on LIC-specific macroeconomic issues, leading to improved policy-making in specific project thematic areas.
----------------	----------------------------------------------------------------------------------------------------------------------------------------------------



<b>IMPACT</b>	Better macroeconomic policymaking in LICs leading to faster economic growth, job creation and poverty reduction.
---------------	------------------------------------------------------------------------------------------------------------------

The ToC for this programme remains valid, and there have been no major changes over the past year. A decision was taken to partner directly with the IMF to maximise the early engagement of potential users of the research and ensure that the research agenda was shaped by demand for policy advice. The IMF have unique advantages in these areas and the programme's management arrangements, linking the IMF Research Department, the Strategy, Policy and Review Department, and the Institute for Capacity Development, helps ensure that the research agenda remains relevant to the Fund's policy activities and is disseminated across Fund operations. The validity of the ToC is confirmed by the continuing high performance of the program.

### Describe where the programme is on track to contribute to the expected outcomes and impact, and where it is off track and so what action is planned as a result in the year ahead

The programme is on track to deliver on the planned outcome and impact. There is one outcome indicator in the logframe, which is meeting the cumulative high target.

Indicator(s)	Milestone(s) for this review	Progress
Evidence of improved IMF policymaking and integration of LIC-specifics in project thematic areas.	By March 2019: H (11) M (10) L (9)	11 cumulative (Meets high target)

The MRLIC programme is making substantial strides in engaging IMF staff on their research on LICs. In the early years of the programme MRLIC staff were proactively engaging and disseminating their research, for example by going on missions and demonstrating the usefulness of toolkits and analytical products. As the programme has matured this has changed. The MRLIC programme has built a brand name across working level staff in the Fund. MRLIC staff receive requests for input into country missions, funded by country teams. MRLIC models and analyses are being used directly in IMF Article IV country reports and reviews of IMF lending programmes, thus feeding directly into policy recommendations to member states.

The programme has produced numerous practical products (models, data toolkits, how to notes) on which IMF staff are trained. This is a key channel for ensuring that the high-quality research has impact on Fund operations. It is also a more efficient way of operating. There are few concerns around quality assurance: MRLIC staff stay involved (often supporting analysis or jointly writing papers with country teams), and the IMF maintains rigorous internal-QA processes.

A substantial number of country authorities have been trained on the use of MRLIC models and uptake by country authorities is also a strength of the programme. However, as MRLIC staff are less directly involved in IMF missions, use of research products is increasingly done through working with IMF country teams. There are two areas where this has been particularly strong: monetary policy (a traditional area of expertise for the IMF) and gender equality (a new area where MRLIC research has shaped the IMF's position).

In response to global policy trends, in the past year the IMF has started re-examining their work on sector-specific (or industrial) policies. This discussion draws heavily on MRLIC work on economic diversification in the context of LICs. Further work is planned and will lead to discussions and papers to the IMF Board in the future.

Whilst it is clear that work from the MRLIC is informing IMF policy positions, there has been a drop in the number of papers presented to the IMF Board this year. It is important that the programme team attempt to address this in the coming year as influence at the top level of the organisation is a good way to guarantee impact.

Nonetheless, there is strong evidence of senior engagement within the IMF, for example from the Managing Director on the research around gender equality, on which she hosted [an event](#) at the IMF Annual Meetings. More generally the IMF's Managing Director noted that *"the IMF-DFID partnership has contributed tremendously not only to our understanding of the economic and social challenges low-income countries face ... but also to helping these countries build capacity to make decisive and lasting advances in development."* At Director-level within the IMF there is recognition that this programme has practical applications and fills an important gap: *"There are many important policy questions for low-income and developing economies that you may not easily find answers from standard textbooks. But, the research work done under this DFID-IMF joint project has pushed forward the frontier of research by tackling those questions, strengthening the IMF's policy and capacity building engagements with low-income countries and assisting country authorities to design sophisticated policy frameworks. This could not have happened without DFID's support."*

### **Explain major changes to the logframe in the past year**

There were only minor changes to the logframe this year. As recommended in last year's Annual Review the targets for indicators 2.2 and 2.2.1 were revised upwards to adjust for previous overachievement.

The logframe was set at the beginning of Phase 3 (2017). Targets were set to account for overachievement in the first two phases. They also take account of the fact that in phase 3 (the current phase) annual budget is lower than in phase 2 (by 37%). The resulting targets were set as the "medium" targets for the program, equivalent to a DFID score of "A" or "expectations met". These were then used to set "high" and "low" targets for Phase 3.<sup>8</sup>

### **Describe any planned changes to the logframe as a result of this review**

The programme continues to perform very well (A+), consistently overachieving targets, even though these have been set at a stretching level, given the lower annual funding in this phase of the programme. Nonetheless, the consistent overachievement in the first two years of phase 3 (2017/18 and 2018/19), suggests that some targets should be revisited and made even more stretching for the final year of this phase (2019/20).

To ensure that 2019/20 delivery remains high quality IMF and DFID should hold a logframe review meeting by end of July 2019 at which:

- targets on all indicators should be reviewed and adjusted as necessary;
- wording of indicators should be reviewed and tweaked (if necessary);
- consideration given to adding indicators (or sub-indicators) to account for activities in 2019/20 (e.g. stocktaking conference).

Detailed recommendations are outlined in Section B.

---

<sup>8</sup> "High" targets are equal to the average level of delivery of phases 1 & 2. That is, high performance was defined as delivery equal to the level achieved in the first 5 years of the program, when budgets were higher. "Low" targets were then set as an equal distance below "medium".



## D: VALUE FOR MONEY (1-2 pages)

### Assess VfM compared to the proposition in the Business Case, based on the past year

The MRLIC programme is achieving a unit cost of just over \$69,000 for working papers, substantially lower than planned in the Business Case (BC) and comparing favourably to other similar programmes. This indicates excellent VfM performance. Production of high-quality working papers is a substantial undertaking, requiring substantial data work, time, effort and review/approval processes. The BC envisaged a unit cost per research paper of \$193,600 for the IMF programme and \$288,000 for the next best option. The BC notes that a number of these papers will be published – and so it is principally discussing working papers. The BC also stressed that the IMF would achieve value for money through procurement, by following all IMF guidelines and, where possible, competitive tendering. These procedures have been followed.

The table below shows that the cost per working paper for the seven years is approximately \$69,000 (£55,000), and the cost per published paper is \$158,000 (£125,000). Both these costs compare favourably with the DFID benchmark of \$193,600 (£150,000) per paper. There is a decrease in per paper costs from last year. It is estimated that staff, contractual employees, and visiting scholars spend 75% of their time on research papers, while the remaining 25% is devoted to country applications work. The total staff, contractual, and visiting scholar cost is thus split between papers and applying the research. Over time DFID and the IMF can review this split to check it remains appropriate.

The quality of the project outputs is very high, even with the low average cost. The total number of publications reached 58 for the seven years, including at the highly ranked journals such as *American Economic Review*, *Journal of Development Economics* and *Journal of Economic Literature*, among others. MRLIC products received 804 citations in total so far, with more than 60% from researchers outside the Fund, and are cited three times more than the average in the two fields “applied economics” and “econometrics”, further demonstrating the quality of the research done by the team. The products are also included in the highly competitive programmes of top academic conferences such as the NBER Summer Institute and the annual meetings of the Allied Social Science Associations (ASSA), the Society for Economic Dynamics (SED), and the Centre for the Study of African Economics (CSAE). Strong uptakes by country authorities and IMF country teams also demonstrate the high relevance and effectiveness of the project’s outcomes in practical policymaking.

It is important to note that there is a lag involved in getting working papers accepted for publication in peer-reviewed journals. Over time, more existing working papers will be submitted to journals and accepted for publication, so that the cost per published paper is expected to decrease further.

#### Cost per Working and Published Paper

Total Staff/Contractual/VS Costs <sup>1</sup>	\$12,836,063
Research Paper Costs	\$9,627,047
Country Applications Costs	\$3,209,016
Working Papers	139
Produced	114
Commissioned	25
Cost Per Working Paper	\$69,259
Published Papers	61
Produced	58
Commissioned	3
Cost per Published Paper	\$157,820

<sup>1</sup> Estimated as the sum of “HQ led missions”, “Short-term Advisors”, and “Research HQ based/Visiting Scholars”. Note that

---

the category “HQ led missions” includes both IMF staff salary and travel expenses. Thus, the estimates we have calculated for working and published paper costs likely overestimate the true cost of research time.

Direct project management costs represent approximately 1% of the total budget. Including the Trust Fund management fee, programme management costs are around 8%. This means that the vast majority of the funds have been spent on producing high quality research.

**Explain whether and why the programme should continue from a VfM perspective, based on its own merits and in the context of the wider portfolio**

This programme represents excellent value for money and should continue. It is consistently exceeding expectations, has much lower unit costs than were planned, and demonstrates excellent uptake among intended audiences in IMF teams and LIC authorities. This project is highly cost-effective for several reasons:

- Economy - Programme management costs are low, at approximately 8% of total spend (1% direct management costs + a standard 7% IMF trust fund management fee<sup>9</sup>). This low proportion of spend on management and administration allows a very high proportion of funds to be available for producing research. The project strictly follows all IMF guidelines for hiring, travel, and conferences. All contractual employees undergo a competitive process before being hired. There is also good use of cost sharing, with other organisations sharing costs of delivery / attendance of conferences.
- Efficiency - Outputs are produced under firm timeframes and must meet IMF requirements for publication. Quality is excellent, with 58 publications in peer-reviewed journals. This serves as a marker of quality, and enables the MRLIC team to have authority and influence when engaging with policymakers
- Effectiveness - Moreover, because the MRLIC team is composed primarily of IMF staff, they have a unique ability to communicate research findings quickly to influential IMF country staff to achieve policy impact. This is an extremely valuable resource which cannot be replicated by other delivery structures.

The programme is becoming increasingly sustainable over time, with less burden share on DFID. The initial up-front costs of hiring visiting academics and supporting country mission acted as an investment in building credibility for the programme. The programme is now able to leverage more from the operating model now that it has been tried and tested. There is also now a good network of academics to draw upon, with fewer visiting researchers needed.

---

<sup>9</sup> This fee is charged at a rate set outside the control of the programme managers in DFID or the IMF team

## **E: RISK** (½ to 1 page)

### **Overview of programme risk (noting the rating from p.1) and mitigation**

The overall risk rating for this project remains Minor, with each risk category also rated as minor:

- External context: Most research is carried out at IMF headquarters using secondary datasets, so has limited exposure to context in LICs.
- Delivery: Established delivery systems are in place and have demonstrated high delivery over an extended period. Demand for MRLIC outputs remains high.
- Operational: Experienced management teams are in place at both DFID and IMF.
- Fiduciary: All funds are spent directly by the IMF and are subject to extensive IMF financial management controls.
- Reputational: Research activities and topics pose little or no reputational risk.
- Innovation: Research activities and topics are not subject to substantial innovation risks.
- Safeguarding: Programme activities rarely, if ever, involve contact with vulnerable persons, and external researchers are managed in accordance with IMF procedures.

A Central Assurance Assessment (CAA) (of the IMF as a whole) was conducted by DFID in March 2019 which confirmed the IMF's position as a low risk partner for DFID. This CAA also covered enhanced areas of due diligence including safeguarding procedures.

**The overall risk remains minor**, as all residual risks are now reduced to minor with the maturity of the programme. The risk register has been updated as part of this Annual Review process.

A new emerging delivery risk is a change in accounting processes within the IMF budget office. A new requirement to recover costs of information technology services will result in slightly higher per-unit staffing cost for the programme.

**Recommendation:** The DFID and IMF teams should discuss this in detail to determine the precise implications of this change for programme delivery. This discussion should take place before end July 2019.

### **Update on partnership principles**

Partnership principles are not applicable. MRLIC is a global research programme managed by the IMF. No funding is passed to country governments or similar bodies. All funds are held and managed by the IMF and are subject to strict financial controls under IMF policies and in accordance with the rules applied to donor sub-accounts, in this case the United Kingdom Selected Fund Activities (SFA) sub-account. These rules are set at Board level and are not subject to negotiation by the team.

## F: DELIVERY, COMMERCIAL & FINANCIAL PERFORMANCE

### Performance of partners and DFID, notably on commercial, and financial issues

This year, MRLIC has again exceeded the vast majority of its “high” output targets. High targets are calibrated to be above DFID expectations for performance, as per the arguments set out in the approved Business Case and Addendum.

Phase 3 of MRLIC started under a lower budget compared to the two previous phases. This has required the team to maintain the high quality of the outputs but with fewer resources. Though this has clearly had an impact on the resources available to staff, they have met or exceeded the “high” targets on most outputs. The stresses on the Phase 3 budget were managed in several ways:

- The programme shifted attention to use of research assistants (RAs), rather than costly visiting academics, which cut salary costs substantially.
- The initial investment in the visiting academics was worthwhile as the programme now has a good network to draw on.
- Cost sharing has become an increasing feature, with other IMF departments willing to subsidise travel costs on overseas missions, and conference costs being shared with other organisations.
- Efficient use is being made of internal economists.

As of April 2019, \$18.9m has been drawn down from the subaccount. These figures reflect a lag of actual expenses of approximately two to three months to enable the requisite verification of expenses before they are charged to donor subaccounts.

The following table provides an indicative breakdown of spending over seven years of the project:

**Project Expenditures in Years 1-7**

Activity	Total
HQ led missions including entire mission team	\$6,704,226
Short-term Advisors - CD delivery	\$510,562
Research HQ based/Visiting Scholars	\$5,621,275
Seminars & Study Tours	\$1,653,185
Project Backstopping	\$2,703,574
Project Management	\$198,055
Exceptional Expenses	\$261,052
Language Services	\$1,348
Trust Fund Fee	\$1,235,730
<b>TOTAL</b>	<b>\$18,889,017</b>

Throughout this programme the IMF has been extremely accurate and reliable in its cost estimates. For example, salary increases have been incorporated without more resources being required to complete activities. Any such increases have been predictable, so costs have been straightforward to manage. DFID does not foresee any changes in cost structures due to exchange rates.

The programme has benefited from strong continuity in its management, enabling lessons to be learned over time. The MRLIC programme director has been involved with the project since its inception, serving first as the lead for research on diversification, and now as the division chief of Development Macroeconomics Division of the Research Department. He remains the main point of contact between the IMF and DFID.

Date of last narrative financial report(s)	May 2019
Date of last audited annual statement (s)	October 2018 <sup>10</sup>

<sup>10</sup> Included as an annex of the IMF Annual Report. Available on the IMF Partners Connect website.

## **G: MONITORING, EVIDENCE & LEARNING** (1-2 pages)

### **Monitoring**

The programme monitors most outputs through reports by staff, tracking the use of MRLIC products in country analysis, recording of training courses, and internal management and communications. A three-month “forward look” is compiled and shared with DFID quarterly, advising of upcoming papers, publications, events and presentations. DFID monitors programme progress through regular (approximately quarterly) calls at which progress is reviewed, and challenges and opportunities are discussed. There is also frequent informal contact between the DFID Senior Responsible Owner (SRO) and MRLIC staff.

A big step forward in the past year, on the back of the recommendations from the previous DFID Annual Review, has been the compiling of downloads and citations of MRLIC products. This has revealed that (up to March 2019):

- The 150 MRLIC products have received over 800 citations, of which more than 60% were from outside the IMF.
- MRLIC work in the fields of “applied economics” and “econometrics” were cited three times more than average of papers in these fields.
- The total number of downloads of MRLIC IMF Working Papers has exceeded 75,000 (approximately 650 downloads per paper).
- As an example, analysis from Twitter shows that one paper (“Remittances and Vulnerability in Developing Countries”) was tweeted and retweeted by users with a total of 226,000 followers.

Furthermore, following another recommendation from the previous DFID Annual Review, MRLIC has made efforts to track feedback from participants in training courses. The system at the IMF’s ICD found very high satisfaction of participants for training held at the IMF’s headquarters. The average rating was 4.6 (out of 5). However, for more customised training (held in-country), the ICD’s system does not systemically collect the standardised feedback.

One further monitoring data point in the past year came from the MRLIC team presenting a full day of training, plus additional sessions, at the professional development conference for DFID’s economics cadre. The feedback on these sessions was extremely positive.

### **Evidence**

The evidence for the fundamental need for this programme remains unchanged. There remains a dearth of (a) researchers working on macroeconomics in LICs, and (b) accessible policy-relevant macroeconomics research on LICs. This programme can, and does, fill this gap. There is also strong evidence of need for research to better understand the challenges of LICs. The IMF – with their remit of “macro-criticality” – remain uniquely placed to investigate these. Indeed, there is evidence that the macro-level challenges for LICs are evolving. The current uncertainty on global growth poses risks for LICs. Many are highly vulnerable to debt and have limited policy space to design sound macroeconomic policies. Climate change, demographic changes, and the changing structure of economies are all areas where there is scope to further the understanding of macroeconomic impacts.

All of this makes a strong argument for a continuation of the MRLIC programme when it comes to an end in 2020.

### **Learning**

The MRLIC team operate regular internal meetings to assess progress on research projects. As noted above, discussions take place with DFID regularly and issues are raised via email or phone as required, rather than waiting for a formal meeting cycle. The programme has benefited from strong continuity in its management, enabling lessons to be learned and acted on over time.

These lessons have been particularly valuable in discussions around a future phase 4, from 2020 onwards. As described above, there is strong evidence for the need (both in terms of the issues to be researched, and the academic gap which exists) for an extension to this programme. The knowledge that has been built up by the programme to date has been deployed in recent discussions over:

- Which topics to research:
  - What will gain traction, within and outside the Fund?
  - What is macro-critical?
  - What is aligned with DFID's priorities for LICs and for the IMF?
- How to operate the programme:
  - What sort of oversight would add value, without adding bureaucracy?
  - What channels of influence are most effective, within and outside the Fund?
  - What model of working with external researchers is most effective?

### Progress on recommendations from previous reviews

Recommendation from Annual Review (July 2018) <i>(summarised for brevity)</i>	Progress
<b>Output 1</b>	
1. The review team recommends still allocating some resources for hosting external researchers and maintaining close collaborations with key experts. This supports the quality of the research produced and would also contribute to maintaining a high profile for the programme.	External researchers were used in the past year (see output 4). MRLIC also made a large effort to engage external researchers in a different way (i.e. not through commissioning papers) by using conferences and events. A workshop on macroeconomics in fragile states in December 2018 was one example (see output 3).
2. MRLIC should continue to publish policy briefs and how-to notes. These offer a great opportunity for further dissemination of the results, particularly among policy-makers using various channels of communication.	DFID and the MRLIC team agreed that synthesis products would be delivered in the final year of this phase (i.e. 2019/20).  Topics for five synthesis products have been agreed (debt-investment-growth, monetary policy, inequality, gender, economic diversification).
3. Going forward, the MRLIC team should keep a record of the decision process on the topics for research and publications. The role of a steering committee in any such decisions should also be discussed at the next bi-annual DFID-IMF management meeting.	The original proposal for phase 3 is the guiding document for research topics. For any new opportunities that arise a research outline is drafted and the Chiefs in the Research and Strategy, Policy & Review Departments have the final say.  DFID and the MRLIC team agreed that an advisory committee should be established for a future phase of work. A small group (from the IMF, DFID, academia, thinktanks) can meet (remotely) twice a year and add value by (a) assessing how the project operates, (b) giving advice on future work, (c) suggesting external collaboration opportunities, and (d) providing checks and balances.
4. Where possible MRLIC should monitor views, downloads and citations for papers that are publicly available. Monitoring should be in place by end December 2018.	Complete. See monitoring, evidence and learning section.
<b>Output 2</b>	
1. In reaction to the lower budget for Phase 3 of the programme, MRLIC has cut funding for country missions by its staff by 50% and made a strategic decision to replace these funds with direct funding from IMF country teams. This has been a major success,	DFID and the MRLIC team have discussed this regularly. While there are risks associated with this change (principally quality assurance) it is undoubtedly a more efficient method of influencing Fund

<p>with IMF teams now contributing directly to the programme. This has supported the sharp increase in uptake, lowered DFID burden share, and made the programme more demand-responsive. DFID welcomes this change. However, this is a major change to operating model which affects the key channel through which this programme generates policy uptake. DFID and MRLIC should continue to monitor the effects of this change closely and address any issues which arise.</p>	<p>operations. The risks on quality are low. The IMF has – for all written products – strict quality checks in place. All outputs and analyses from the toolkits and models built by MRLIC are checked by MRLIC staff prior to publication.</p>
<p>2. In almost all cases where the IMF has used MRLIC models for policy advice, the underlying analysis has been delivered directly by an MRLIC staff member. This is an excellent mechanism for quality control, but also place constraints on the eventual breadth of uptake. MRLIC and DFID should consider the intended long-term plan for this area.</p>	<p>See above.</p>
<p>3. The MRLIC team has flagged that it is happy to share with DFID its knowledge and experiences on knowledge sharing, learning within the organisation, and uptake of research by country teams. The review team recommends that DFID initiate a dialogue with the IMF on this.</p>	<p>This has been a point of discussion in ongoing discussions between the IMF and DFID throughout the year.</p>
<p>4. The review team notes that there has been an increased offer of trainings and workshops, and facilitation of uptake by country authorities. This has also been facilitated by closer links with the IMF Institute for Capacity Development (ICD). The MRLIC team should seek to strengthen this work by tracking feedback from participants in training and using this to improve future delivery. This information is already gathered by the IMF Institute for Capacity Development and should be compiled by end December 2018.</p>	<p>Partially completed. See monitoring, evidence and learning section.</p>
<p><b>Output 3</b></p>	
<p>1. DFID should evaluate the possibility of DFID representatives attending the IMF bi-annual meetings where seminars showcasing the research are hosted. The review team also suggests actively looking for opportunities to present MRLIC research to DFID senior staff.</p>	<p>DFID’s attendance at the IMF-WB meetings was constrained in 2018/19 and there were few high-profile events.</p> <p>MRLIC research has been presented to senior DFID staff on several occasions. For example, at fragility workshop (see output 3); DFID economist cadre professional development conference; and in meetings with DFID’s Trade and Public Finance Dept.</p>
<p><b>Output 4</b></p>	
<p>1. The review team suggests a reassessment of the commissioning process, to better assess how and when papers are commissioned, and the correct target for this logframe indicator. This should be completed by December 2018.</p>	<p>DFID and the MRLIC team have discussed the challenges with commissioning external researchers. The logframe target has remained unchanged, as the essence of the indicator is to capture the success in bringing new researchers into the field.</p>
<p>2. MRLIC should, where possible, track indicators for its dissemination products (i.e. views and downloads of newsletters, blogs and videos) by end December 2018.</p>	<p>Complete. See monitoring, evidence and learning section.</p>

**Annual Review Process**

This Annual Review was conducted by the SRO and programme manager from DFID's Growth Research Team (GRT), responsible for overseeing the MRLIC programme. The process included a review of DFID and IMF documents, and in-depth discussions with the IMF team. Comments were received from an Economic Adviser independent of the programme's management, but with a working knowledge of MRLIC. Quality Assurance was provided by the GRT A1 Team Leader.





**Macroeconomic Research in Low-Income Countries**

**A DFID/IMF Research Partnership**

**Seventh Year Annual Report to DFID**

**(for period April 2018 – March 2019)**

Prepared by the Staff of the Research (Hites Ahir, Futoshi Narita (lead), Chris Papageorgiou) and Strategy, Policy and Review (Xin Tang, Roland Kpodar) Departments

**July 3, 2019**

## 1 PROGRAM DESCRIPTION

---

“Macroeconomic Research in Low-Income Countries” represents a strategic research partnership between DFID and the IMF, with the intention of (a) enhancing the generation of high-quality research on key macroeconomic issues in low-income countries (LICs); (b) ensuring uptake through the design of the research, and its execution in close collaboration with policymakers within and outside the IMF; (c) using the IMF’s pulling power to expand the network of macroeconomic researchers working on LICs; and (d) achieving this as cost-effectively as possible. The project began in March 2012 and will conclude in March 2020.

Our research agenda encompasses key components of the macroeconomic challenges facing LICs in the current global environment. We attempt to exploit the comparative advantage of the IMF, focusing on core macroeconomic challenges and deploying modern analytic tools, that have proven useful in emerging markets and developed countries, such as the application of inflation targeting. The IMF focuses on core macroeconomic and development issues that are critical to achieving sustained and inclusive growth. Many of these issues are at the risk of being neglected by the profession at large: very few macroeconomists work on LICs; very few development economists work on macroeconomics (outside of structural/growth issues); and central banks and other macroeconomic institutions in LICs face capacity challenges.

The project has focused on five core areas, including new topics that will be developed within the third phase of the project:

- (1) Modelling and understanding policy choices
  - For example, monetary, exchange rate, fiscal and structural policies
- (2) Understanding macro-financial linkages
  - For example, capital flows, financial deepening and inclusion, macro-prudential policies, and transmission of macro-financial shocks
- (3) Building resilience
  - For example, issues related to natural disaster, climate change, migration, and conflict
- (4) Promoting structural change and institutional development
  - For example, public investment, growth, and debt sustainability, macroeconomic management of natural resource wealth, growth through diversification, structural reforms
- (5) Enhancing inclusion
  - For example, income inequality, macroeconomic policy and income distribution, gender and macroeconomics

IMF staff members and project-funded researchers collaborate to produce high-quality research papers aimed at high-level policymakers in LICs and at the IMF. To further maximize the policy impact of the project’s research outputs, all papers are freely shared with DFID and external policy makers through DFID’s research portal and a dedicated project [website](#) maintained by the IMF. In addition to encouraging uptake of the work by the country authorities as well as the IMF, other crucial components of the IMF-DFID partnership include designing frameworks to support IMF policy for LICs, presentations at high-level policy conferences, commissioned papers, quarterly e-newsletters to a broad network of LIC researchers and policy makers, and project-financed conferences.

### **Start and End Dates**

Phase I: March 2012 to March 2015

Phase II: April 2015 to March 2017

Phase III: April 2017 to March 2020

**Countries Covered:**

The project covers the countries listed in Table 1.

**Table 1**  
**Developing Countries and Their GNI per capita<sup>1</sup>**

Country	2011 GNI per capita (US \$)	Country	2011 GNI per capita (US \$)
Afghanistan	410 <sup>2/</sup>	Maldives	6530
Bangladesh	770	Mali	610
Benin	780	Marshall Islands	3910
Bhutan	2070	Mauritania	1000
Bolivia	2040	Micronesia	2900
Burkina Faso	570	Moldova	1980
Burundi	250	Mongolia	2320
Cambodia	830	Mozambique	470
Cameroon	1210	Myanmar	NA <sup>2/</sup>
Cape Verde	3540	Nepal	540
Central African Republic	470	Nicaragua	1170
Chad	690	Niger	360
Comoros	770	Nigeria	1200
Congo, Rep.	2270	Papua New Guinea	1480
Congo, Dem. Rep.	190	Rwanda	570
Côte d'Ivoire	1100	Samoa	3190
Djibouti	1270 <sup>2/</sup>	São Tomé and Príncipe	1360
Dominica	7090	Senegal	1070
Eritrea	430	Sierra Leone	340
Ethiopia	400	Solomon Islands	1110
Gambia, The	610	Somalia	NA <sup>2/</sup>
Georgia	2860 <sup>3/</sup>	South Sudan	984 <sup>2/</sup>
Ghana	1410	St. Lucia	6680
Grenada	7220	St. Vincent and the Grenadines	6100
Guinea	440	Sudan	1300
Guinea-Bissau	600	Tajikistan	870
Guyana	2900 <sup>2/</sup>	Tanzania	540
Haiti	700	Timor-Leste	2730 <sup>2/</sup>
Honduras	1970	Togo	560
Kenya	820	Tonga	3580
Kiribati	2110	Tuvalu	5010
Kyrgyz Republic	920	Uganda	510
Lao PDR	1130	Uzbekistan	1510
Lesotho	1220	Vanuatu	2870
Liberia	240	Vietnam	1260
Madagascar	430	Yemen	1070
Malawi	340	Zambia	1160
<b>Memorandum Item</b>			
Zimbabwe	640 <sup>4/</sup>		

Source: Fund WEO, World Bank, World Development Indicators, and OP 3.10, Annex C, of July 2012. Fund Board decision of April 8, 2013, on Eligibility to Use the Fund's Facilities for Concessional Financing.

1/ Atlas method.

2/ Data for 2011 are not available. 2010 data given for Afghanistan, Guyana, Sudan, and 2009 data for Djibouti and South Sudan.

3/ Georgia graduation will occur at the expiration of the current arrangement in Apr. 2014.

4/ Zimbabwe is not PRGT-eligible due to its removal from the PRGT-eligibility list by a Board decision in connection with its overdue obligations to the PRGT. It is expected to become PRGT-eligible if the remedial measure were lifted.

<sup>1</sup> The countries included in this table are those that, at the start of this project in 2013, were eligible for IMF lending under the Poverty Reduction and Growth Trust (PRGT), as well as countries that had recently graduated (e.g., Bolivia and Mongolia) but continued to face policy challenges similar to those in the PRGT-eligible countries.

## 2 OVERVIEW OF THE YEAR

---

### **Progress and Achievements:**

The project kept up the very strong performance in the seventh year, with the output met or exceeded the “high” thresholds for all the targets, except one, outlined in the log-frame. In all five core areas, the team pushed the analytical work further along the frontier. The project’s outcomes have been well received by senior IMF staff, IMF Executive Board members, policymakers in LICs, and the growing body of researchers dedicated to macro-critical issues in LICs. Research findings of the project have been channelled to IMF Board papers and Staff Discussion Notes, and successfully converted to tools welcomed by IMF country teams and LIC authorities. Capacity development missions and workshops continue to provide venues to engage closely with country authorities and encourage uptake. Several books reflecting the cumulative intellectual assets from the project are also published, which extend the influence of the project to even wider audience.

The project has been highly praised by the IMF management. The IMF’s Managing Director Christine Lagarde acknowledged the partnership as an important task force dedicated to helping fulfil the Fund’s commitment to achieving the Sustainable Development Goals:

“Through its mandate for promoting economic stability and prosperity, the IMF helps countries seeking to achieve the Sustainable Development Goals (SDGs) pursue policies that are both inclusive and sustainable in four dimensions: economic, social, environmental, and governance. Over the years, the IMF-DFID partnership has contributed tremendously not only to our understanding of the economic and social challenges low-income countries face in all four dimensions, but also to helping these countries build capacity to make decisive and lasting advances in development. In this regard, the collaboration with DFID provides sounding steps in turning the aspirations stemmed from the SDGs into concrete plans and policies.”

The Director of the IMF Research Department, Ms. Gita Gopinath, also noted:

“We so much appreciate the support and the funding from DFID to sustain this important initiative to fill the gap in research needed for sound macroeconomic policymaking in low-income countries. There are many important policy questions for low-income and developing economies that you may not easily find answers from standard textbooks. But, the research work done under this DFID-IMF joint project has pushed forward the frontier of research by tackling those questions, strengthening the IMF’s policy and capacity building engagements with low-income countries and assisting country authorities to design sophisticated policy frameworks. This could not have happened without DFID’s support. We very much look forward to continued collaboration with DFID through this partnership.”

The message is echoed by Director of the IMF Strategy, Policy, and Review (SPR) Department, Mr. Martin Mühleisen:

“The team funded by DFID works closely with the IMF’s area departments and contributes in a significant way to our engagement with low-income member countries. Its research and policy work help us analyze critical policy issues that cut across countries and regions, advise Management and the Board, and disseminate the Fund’s views to country authorities and other stakeholders. We treasure this project and look forward to its continuation in the years ahead.”

The team has made significant progress in all designated areas. In the area of modelling and understanding policy choices, the Forecasting and Policy Analysis Systems (FPAS) framework and the Debt Investment and Growth (DIG) model with its extensions carried on their success in past years in providing practical guidance to policymakers in LICs. For FPAS, we supported two technical meetings of the East African Community FPAS Working Group in Kampala and Nairobi, which facilitate peer-to-peer exchange of views on issues and challenges when applying FPAS in practice. We continued organizing training clinics to both Fund economists

and a number of LIC authorities (Uganda, Tanzania, Malawi, Rwanda) to advance capacity building and knowledge transfer. The DIG model was also embraced by several authorities this year. It was featured in the Article IV Consultations of St. Lucia and Cameroon and was well received by the officials that attended the hands-on training clinics in Bolivia and Cameroon.

The work on understanding macro-financial linkages has also left solid and important footprints. A three-day course was offered to the National Bank of Rwanda. In the course, our staff introduced to the participants “Methods and Tools for Micro-applied Economics” and presented research findings from a series of studies on various functions of the banking system in LICs.

The team’s work on promoting structural change and institutional development centred around the labour market performance in LICs against the backdrop of globalisation and technological progress. The team has successfully sent message to both the academia and the policy world. In particular, in a joint effort with the Council on Economic Policies, the World Bank, and the World Trade Organization, we organized a workshop on policy relevant aspects of the links between trade in services and inclusive growth in Geneva. To raise additional interests from the academic community, a special issue of *Review of International Economics* will be dedicated to the papers presented in the workshop. Following an arduous effort of careful data work, the team has also produced the Staff Discussion Note “Work in Progress: Improving Youth Labor Market Outcomes in Emerging Market and Developing Economies”, which provides an anatomy to the labour market in LICs.

The work on enhancing inclusion has seen yet another fruitful year. At the high level, the IMF and the Korea Development Institute (KDI) hosted a conference on “Achieving Inclusive Growth: A Policy Debate” in Seoul, Korea in November 2018, where Nobel Laureate Joseph Stiglitz and Professor Jeffrey Sachs delivered the keynote speeches, together with the opening remarks by the KDI President, the Vice Chairman of Presidential Committee on Jobs, the Deputy Director at the IMF Research Department, and the IMF Managing Director Christine Lagarde (through video). The culmination of many years of IMF research and experience on inclusive growth has also been published as a book.

At the technical level, the inequality toolkit has received a substantial update this year. In line with a suggestion from last year’s Review to gradually “relinquish direct control over the use of the tools”, the team has made substantial efforts to improve the accessibility of the toolkit by providing more detailed documentation and better open source software compatibility. These efforts paid off with many desk economists using the toolkit in Article IV consultations with only limited support from the team. For further outreach, the team is now collaborating with other departments to publish the toolkit and its source code on GitHub—an active platform to exchange open source code.

The momentum from the last year on the team’s gender work continues and stretches the influence further. The team’s efforts in promoting women’s economic empowerment lead to several important outcomes: The G-7 Background note “Pursuing Women’s Economic Empowerment” and the Staff Discussion Note “Economic Gains from Gender Inclusion: New Mechanism, New Evidence” were presented to the IMF Executive Board members, and a high-profile panel discussion was held in the IMF-World Bank Annual Meeting Seminars which features the IMF’s Managing Director Christine Lagarde. A three-day peer learning event attended by senior and technical staff from both the IMF and the United Nations was held, which was later followed by a one-day workshop and a three-day course on related topics. Furthermore, the team’s approach of applying quantitative macroeconomic methods to studying the macroeconomic and distributional impacts of gender gap was welcomed by country teams in their Article IV Consultations (Nigeria and Senegal).

Finally, following the strong ignition in the last year, the work stream on building resilience exerted significant impact in both the academia and the policy world. Two workshops featuring prominent academic researchers (Daron Acemoglu, James Robinson, and Timothy Besley, among others) and experts from various international organizations (IMF, World Bank, ILO, OECD) were held to tackle the challenges of fragile states

and climate change, respectively. The team has also made rapid progress in developing and applying analytical tools for enhancing resilience to natural disasters in small states, with the Article IV Consultation with Dominica being the first pilot. Besides, the paper “Resilience in Countries Vulnerable to Large Natural Disasters” was presented by the team to the IMF Executive Board members, adding more to a vibrant year.

We have also incorporated the valuable suggestions from last year’s Review into our work program. First, in close collaboration with the IMF Library, we have tracked a number of distinct citation metrics of the research work produced by the project up to March 2019.<sup>2</sup> The metrics reveal that out of 150 intellectual entities, there is a total of more than 800 citations. Among them, more than 60 percent were from outside the IMF staff’s work. We are also proud to find that our work in the fields of “applied economics” and “econometrics” were cited three times more than the averages of papers in the two fields respectively, further demonstrating the quality of the research done by the team. The analysis also shows that the project has both continuity and outreach, with the influence disseminated across governments, international organizations and universities, covering all five continents. The total number of downloads of IMF Working Papers produced by this project has exceeded 75,000—roughly speaking, 650+ downloads per paper. A preliminary analysis on the Twitter platform shows that one paper produced under this project (“Remittances and Vulnerability in Developing Countries”) was tweeted and retweeted by the users who had a total of 225,916 followers (while a portion of it may include nonhuman “bots”), indicating that the research work produced under this project is very influential.

Second, on another recommendation to track feedback from participants in training courses under this project through the system established at the IMF Institute for Capacity Development (ICD), the team found very high satisfaction of participants—as rated at 4.6 out of 5 (i.e., more than 90 percent of satisfaction) on average—for the training held at the IMF’s headquarters. For customized training held directly in LICs, the ICD’s system does not systemically collect the standardized feedback from this kind of activities, since these activities rely more on established objectives and milestones to measure the results, but the team’s interactions with the beneficiary authorities indicated very positive feedback and continued need for this form of support going forward.

Third, on the recommendation on policy briefs, experts in our team are working intensively on writing policy briefs summarising the lessons learned during the course of the project to communicate with the general audience, together with a plan to present these briefs at a stocktaking conference on this DFID-IMF partnership in March 2020. This conference will also provide opportunities to present the project’s research outcomes to DFID senior staff, as suggested in the last year’s Review.

### **Challenges and Disappointments:**

As noted in the last year, Phase III of this project has a lower budget than the two previous phases. Yet, the team managed to have met or exceeded the “high” output targets in all categories except one (for which we have still met the “medium” target), maintaining the high quality of the outputs with fewer resources. Part of this success has been due to the cost reduction by sourcing funds to take part in IMF country missions directly from IMF country teams. This model has continued to work well so far, and the team will keep monitoring to see if any issues might arise.

Going forward, there is an additional resource challenge due to a new requirement of costs recovery of information technology services from external donors that will be implemented by the IMF budget office from May 2019 and onward. This requirement will result in higher per-unit staffing cost (about \$3 per hour) and thus lower hours worked given the fixed envelope of the project’s budget.

Also, as noted in the last year’s Review, the team has been reassessing the best way to connect with external researchers, as commissioned papers require a careful targeting on external researchers and particular

---

<sup>2</sup> These citation analyses were conducted by the IMF Library team (Linda Venable), based on Dimension.ai. The number of downloads of IMF Working Papers was collected by the IMF’s Communications Department.

themes for obtaining the expected value added. We shifted our efforts to other premises this year, including interacting with external researchers at conferences and workshops. For the same reason, the team hired senior visiting scholars more selectively than before. These shifts were very effective, as the project has already achieved an excellent reputation and built a strong network with leading senior researchers in the field of development macroeconomics. The team will continue to carefully choose the ways to maintain the established reputation and to effectively interact with senior external researchers.

### 3 LOG-FRAME OUTPUTS

---

This research project has four main output categories:

- 1) Produce high quality, policy-relevant research on macroeconomic issues affecting LICs;
- 2) Promote and increase the usage of IMF research products generated under this project by IMF country teams and partner authorities;
- 3) Strengthen engagement by senior IMF policymakers on issues affecting LICs;
- 4) Strengthen capacity-building by expanding the network of LIC researchers.

Table 2 provides a summary of the research outputs for the seven years of this project. As can be seen, we have met, and in many cases exceeded, the “high” target for all outputs except one (for which we have still met the “medium” target).





## Log-frame Outputs

### Output 1: Produce high quality, policy relevant research on macroeconomic issues affecting LICs

#### Output 1.1 – Working papers

This year, we completed 19 working papers, bringing the total to 113 over seven years.

##### Topic 1. Modelling and understanding policy choices

1. [Some Policy Lessons from Country Applications of the DIG and DIGNAR Models](#)
2. [In Search of Information: Use of Google Trends' Data to Narrow Information Gaps for Low-income Developing Countries](#)

##### Topic 2. Understanding macro-financial linkages

3. [Mobilization Effects of Multilateral Development Banks](#)
4. [Borrowing Costs and The Role of Multilateral Development Banks: Evidence from Cross-Border Syndicated Bank Lending](#)
5. [Commodity Price Movements and Banking Crises](#)
6. [Financial Deepening, Terms of Trade Shocks, and Growth Volatility in Low-Income Countries](#)
7. [Are Remittances Good for Labor Markets in LICs, MICs and Fragile States?](#)

##### Topic 3. Building resilience

8. [Optimal Control of a Global Model of Climate Change with Adaptation and Mitigation](#)
9. [Policy Trade-Offs in Building Resilience to Natural Disasters: The Case of St. Lucia](#)

##### Topic 4. Promoting structural change and institutional development

10. [Rethinking Development Policy: Deindustrialization, Servicification and Structural Transformation](#)
11. [Export Competitiveness - Fuel Price Nexus in Developing Countries: Real or False Concern?](#)
12. [Macroeconomic Consequences of Tariffs](#)
13. [Commodity Terms of Trade: A New Database](#)
14. [Losing to Blackouts: Evidence from Firm Level Data](#)

##### Topic 5. Enhancing inclusion

15. [The Aggregate and Distributional Effects of Financial Globalization: Evidence from Macro and Sectoral Data](#)
16. [Financial Inclusion Under the Microscope](#)
17. [Does an Inclusive Citizenship Law Promote Economic Development?](#)
18. [The Impact of Community Based Health Insurance Schemes on Out-of-Pocket Healthcare Spending: Evidence from Rwanda](#)
19. [The Macroeconomic and Distributional Implications of Fiscal Consolidations in Low-income Countries](#)

#### Output 1.2 - Published Papers

We published 10 papers in peer-reviewed journals this year.

##### Topic 1. Modelling and understanding policy choices

1. [Trends and Challenges in Infrastructure Investment in Developing Countries](#)  
*International Development Policy*
2. [Some Misconceptions About Public Investment Efficiency and Growth](#)  
*Economica*
3. [Do IMF forecasts respect Okun's law? Evidence for advanced and developing economies](#)  
*International Journal of Forecasting*
4. [Monetary Policy and Bank Lending in Developing Countries: Loan Applications, Rates, and Real Effects](#)  
*Journal of Development Economics*
5. Does One Law Fit All? Cross-Country Evidence on Okun's Law  
*Open Economy Review*, forthcoming

Topic 2. Understanding macro-financial linkages

We had no publication under this topic this year.

Topic 3. Building resilience

6. Growth and Jobs in Developing Economies: Trends and Cycles  
*Open Economy Review*, forthcoming

Topic 4. Promoting structural change and institutional development

7. [Local sourcing in developing countries: The role of foreign direct investments and global value chains](#)  
*World Development*
8. [What Remains of Cross-Country Convergence?](#)  
*Journal of Economic Literature*
9. [Building resilience to natural disasters: An application to small developing states](#)  
*Journal of Development Economics*

Topic 5. Enhancing inclusion

10. Robust Drivers of Income Inequality  
*Oxford Review of Economic Policy*, forthcoming

**Output 1.3 – Freely available books**

We published one book this year.

1. [Confronting Inequality: How Societies Can Choose Inclusive Growth](#)

**Output 2: IMF research product produced under this project used by IMF country teams and partner authorities**

**Output 2.1 - Country Applications with IMF Country Teams**

Our team completed 13 applications with IMF country teams.

FPAS framework

1. Hands-on training clinics on FPAS for IMF AFR country desks. ICD provided 5-day hands-on training clinic on FPAS for a group of IMF AFR country desks. IMF country teams from Uganda, Tanzania and Mozambique also received support with developing the medium-term projections models in bilateral sessions with ICD experts.

#### Diversification

2. FAD-ICD-LEG-MCM-RES-SPR Macro-Structural Training, Clinic 7: Diversification, Structural Transformation, and Reforms in Developing Economies

#### DIG/Investment scaling up/Debt sustainability

3. DIG model applied in a background note for a [high-level conference on the Belt and Road Initiative](#)
4. [Application of DIG extended with natural disasters to St Lucia](#)
5. An application of the DIG model to Bolivia
6. An application of the DIG model to Cameroon

#### Natural disasters

7. Dominica: Selected Issues Paper and Article IV

#### Income and Gender Inequality

8. FAD-ICD-LEG-MCM-RES-SPR Macro-Structural Training, Clinic 5: Distributional Impact of Policies and Reforms
9. [Senegal: Selected Issues](#). Chapter on Gender Gaps in Senegal: From Education to Labor Market.
10. [Senegal: Selected Issues](#). Chapter on Revenue Mobilization and Inequality.
11. [Nigeria: Article IV](#).
12. [Nigeria: Selected Issues](#). Chapter on Human Capital and Gender Equality

#### Remittances

13. ICD Training, Macroeconomic Consequences of Remittances

### **Output 2.2 - Uptake by Country Authorities**

This year, we coordinated with country authorities on two projects.

1. ICD expert supported a technical meeting of the East African Community (EAC) FPAS working group.
2. On Uganda, an ICD team is assisting Bank of Uganda (BoU) review and upgrade its modelling toolkit during a joint BoU/IMF workshop.

#### **Output 2.2.1 – Courses and Workshops Offered to Country Authorities**

We held seven courses/workshops to increase uptake of our research by country authorities and IMF staff. Courses and workshops offered by the team offer a unique opportunity to engage with country authorities and IMF country teams (please see Appendix 3 and Section 6 for further details).

1. Modernizing Monetary Policy Framework in Tanzania through development of FPAS
2. Monetary Policy Modelling and Forecasting Training in Malawi
3. Monetary Policy Modelling and Forecasting Training in Rwanda
4. Rwanda: 3-day course on “Methods and Tools for Micro-Applied Economics: Topics in Financial Intermediation”
5. Peer learning event on gender equality in Dar es Salaam, Tanzania
6. [A three-day course on “Understanding Gender Responsive Budgeting” at IMF East Africa Regional Technical Assistance Center](#)

7. The DIG Model: Theory, Application, and Hands-on Sessions (Bolivia and Cameroon)

### **Output 3: IMF strengthens engagement by senior IMF policymakers on issues affecting LICs.**

#### **Output 3.1 - High-level Policy Conferences Attended by IMF Senior Staff**

1. [IMF and Korea Development Institute Conference on Achieving Inclusive Growth](#)
2. Oxford Workshop on Macroeconomic Policy in Fragile States
3. Workshop on the Design of Monetary Policy Frameworks
4. [Workshop on Coping with Climate Change](#)
5. [Trade Policy, Inclusiveness and the Rise of the Service Economy](#)
6. [Empowering Women in the Workplace](#) (IMF-World Bank Annual Meeting Seminars)

#### **Output 3.2 – Results of papers reflected in IMF Board discussions and papers**

During the seventh year, the results of our research have been reflected in two IMF Board papers/meetings, as well as other IMF policy papers including the Sub-Saharan Africa Regional Economic Outlook.

#### **IMF Board Papers/Meetings**

1. [Building Resilience in Developing Countries Vulnerable to Large Natural Disasters](#)
2. [A Strategy for IMF Engagement on Social Spending](#)

#### **Other IMF Policy Papers**

1. [Economic Gains from Gender Inclusion: New Mechanisms, New Evidence](#)
2. [Work in Progress: Improving Youth Labour Market Outcomes in Emerging Market and Developing Economies](#)
3. African Department's (AFR) Regional Economic Outlook (REO) April 2018: [Box 2.2 Modelling the Economic Impacts of Revenue Mobilization in Resource-Rich Sub-Saharan African Countries.](#)
4. African Department's (AFR) Regional Economic Outlook (REO) April 2018: [Chapter 3—The Future of Work in Sub-Saharan Africa](#)
5. [Pursuing Women's Economic Empowerment](#)

### **Output 4: IMF strengthens capacity building by expanding the network of LIC researchers.**

#### **Output 4.1 – Commissioned Papers**

We had one commissioned paper this year.

1. Phases of Globalization, Wages and Inequality  
Joël Hellier  
*Open Economy Review*, forthcoming

#### **Output 4.1.1 – Toolkits**

1. The inequality toolkit has received a major update and was published both internally and externally: [Internal Site](#) and [External Site](#).  
Recent LIC applications of the toolkit by desk economists with guidance from DFID staff includes: Benin ([AIV](#), [SIP](#)), Cambodia ([AIV](#), IMF Working Paper (forthcoming)), Senegal ([AIV](#), [SIP](#)).
2. [Commodity Terms of Trade Database](#)

## **Output 4.2 – Attendance of External Researchers at High-Level Policy Conferences**

The team offered 22 presentations at high-level policy conferences (see Appendix 3 for further details).

## **Output 4.3 – Results disseminated in e-newsletters**

Each quarter, we send out an e-newsletter that spotlights working papers, conferences, and other activities we have completed over the last three months.

In addition to the newsletters, we have authored several blogs, IMF news articles, and short summaries in *Finance and Development* and the IMF Research Bulletin, all of which are widely read and disseminated to policymakers and researchers outside the IMF. The IMF twitter feed has also highlighted the team's research (see for example, #imfcapdev, #women4growth, #imfgender). The work on gender inequality and income inequality was featured in several IMF intranet news stories, which are not publicly available. Further, our work has also received media coverage.

### **Blogs**

1. It's too soon for optimism about convergence – [VoxEU](#)
2. How income gains from globalisation are distributed – [VoxEU](#)
3. Chart of the Week: Distribution of Globalization's Gains – [IMF Blog](#)
4. Citizenship and Growth – [Finance & Development](#)
5. Intranet article on gender budgeting
6. IMF-UN Women [blog](#) on gender budgeting

#### 4 OUTPUTS: ADDITIONAL INFORMATION

---

Nothing more to report at this time.

## **5 UPTAKE/ENGAGEMENT WITH BENEFICIARIES**

---

By design, this project continually aims to produce high quality research that is applicable to LICs and usable by country authorities, academics, and IMF staff. Each output captured in the log-frame reflects this overarching goal. Sections 2, 3, and 6 of this report address our uptake and engagement with beneficiaries in greater detail.



## 6 OUTCOMES AND IMPACTS

---

In this year, the research outputs from the project continued to exert far-reaching influence on country authorities, other international organizations, the academic community, and our colleagues in the Fund. We continue to engage with country authorities to improve their policy making processes through IMF surveillance and capacity development. Conferences and workshops were also held to join force with other counterparts on macro-critical issues such as income/gender inclusiveness, climate change, and policymaking in fragile states. Quite a few of the research papers by the team were accepted at leading academic journals and top academic conferences, showing increasing recognition from the academia.

To begin with, the team's efforts led to a further strengthening of monetary policy frameworks in LICs based on the FPAS framework. We have offered customised training courses and supported technical meetings to country officials and IMF's country desk economists. In the two technical meetings of the EAC FPAS WG, peer-to-peer exchange on FPAS-related issues in practice—for instance common challenges in calibrating the core model and technical obstacles to country specific modelling—was facilitated, accelerating knowledge sharing and model improvement. The customised bilateral training sessions for Malawi, Rwanda, Tanzania, and Uganda had also profound impacts in their policymaking. For example, the team assisted Bank of Tanzania to foster internal organizational changes to underpin its decision-making process by model-based analysis, strengthen the modelling and forecasting capacity of the Forecasting Unit, and improve the communication on monetary policy to external stakeholders. In Rwanda, the team has moved important steps with the authorities towards establishing FPAS at the National Bank of Rwanda according to the agreed milestones, including better aligning the timing of Monetary Policy Committee meeting with data releases, identifying members of the interdepartmental forecasting team, and developing the forecasting calendar. The continued efforts by the team providing guidance on the modernization of monetary policy frameworks has led to a highly successful workshop on "The Design of Monetary Policy Frameworks" and the publication of the book "Monetary Policy in Sub-Saharan Africa", which draws on years of research and practice at the IMF and in central banks from the region to shed empirical and theoretical light on the design of monetary policy and to provide practical tools and policy guidance. On the years of support that the team has provided to the region, the Governor of Bank of Uganda, Professor Emmanuel Tumusiime-Mutebile, noted that:

"The DFID-IMF team has made continuing support on modernizing the monetary policy framework we have used here in the Bank of Uganda ever since the year 2011. The new framework allows us to incorporate anticipated economic developments into monetary policy decision making. The new model was a great help in our efforts to stabilize inflation during the 2011 election period. Importantly, a similar framework has also been introduced to other countries in the region, which enables peer to peer exchange of the experience in using the framework and plays an integral role in harmonizing monetary policy making in the region. We also welcome that the same framework is adopted by the IMF country team as well, which facilitates our dialogue with them greatly. This year, we held a joint workshop with experts from the IMF to improve our core forecasting model. We appreciate the technical assistance we have received from the DFID-IMF collaboration, and we also look forward to further deepening the ties with the Fund."

Another widely used framework developed by the team—the Debt, Investment, and Growth (DIG) model—was also introduced to Bolivia and Cameroon as an outreach on the Infrastructure Policy Support Initiative (IPSI). Two workshops were held separately in each of the two countries, which introduced the model itself as well as provided an overview of the IPSI and the outcomes of the pilot phase to technical staff from multiple ministries in each country.

The team's work on how technological progress impacts LICs has also led to influences inside and outside the Fund. Within the Fund, the team's work on measuring the export vulnerability to automation of countries featured in the African Department's Regional Economic Outlook chapter "The Future of Work in Sub-Saharan Africa." Externally, to fill the analytical void underlying the rise of the service economy which alters

the economic landscape and creates misalignments between the implementation of trade policy frameworks and the global agenda for inclusive growth, the team, together with the Council on Economic Policies, the World Bank and the World Trade Organization, organised a workshop on policy relevant aspects of the links between trade in services and inclusive growth. As part of the efforts to draw further attention from the academic community, research presented in the workshop will be considered for an expedited review process for a Review of International Economics special issue to be published in 2019.

On inclusive growth, knowledge transfer to country teams and country authorities has been strongly facilitated by the team's substantial efforts to reduce the technical barriers. The team has conducted a major update of the inequality toolkit, which not only provided more features including transitional dynamics and welfare decomposition from feedbacks of previous applications, but also improved significantly the accessibility of the interfaces and documentations. As a result, the toolkit was used by IMF country desk economists almost independently in the Article IV consultations with Cambodia and Senegal and training workshop to the Senegalese authorities. An IMF working paper based on the Cambodia application was even published by the country team. To further encourage outreach and enhance transparency, the team is now collaborating with other IMF departments to finalise the publishing of the toolkit and its source code on GitHub.

Our gender work has also stimulated wide attention and spurred collaboration with many other institutions. Specifically, in the high-level seminar at the IMF-World Bank Annual Meetings "Empowering Women in the Workplace", drawing on the team's research, a panel including senior officials such as IMF Managing Director Christine Lagarde discussed how increasing female participation in the labour force can support countries' growth, development, and stability objectives, including on policies geared toward helping women cope with new technologies. Along the same line, the team also prepared a background note for the Meeting of G7 Ministers and Central Bank Governors at Canada in support of the Gender Equality Advisory Council to fulfil the mandate of promoting a transformative G7 agenda and supporting leaders and ministers in ensuring that gender equality and gender-based analysis are integrated into the agenda.

At the technical level, two peer learning events on gender equality have successfully facilitated knowledge exchange needed to strengthen gender budgeting practices and design policy measures to promote gender equality. The first is a three-day peer learning event on gender equality in Tanzania organised by the team in coordination with senior and technical level staff from the IMF's African Department and UN Women. The workshop introduced IMF analytical work on the relationship between gender inequality and macroeconomic outcomes, gender budgeting, and policy priorities, as well as exploration of the ideas for future collaboration opportunities between the IMF and UN Women. Later, a three-day course on "Understanding Gender Responsive Budgeting" which aimed for setting an integrated perspective on gender budgeting, initiating dialogue among different institutions responsible for gender equality, and promoting peer learning by providing an opportunity for focused facilitation of the good practices and experience in gender responsive budgeting was held at IMF East Africa Regional Technical Assistance Centre.

The team has also taken a leading role on the issues of macroeconomic policies in fragile states and climate change. We worked together with Oxford University to organise a workshop presenting recent research on macroeconomic policy in fragile states attended by leading researchers in academic institutions and international organizations. A wide range of topics from the interaction between society and state to revenue mobilisation were discussed. A book that collects all the conference papers will be published in early 2020. We have also collaborated with a number of organizations, including the National Academy of Sciences, Engineering, and Medicine, to hold a workshop on "Coping with Climate Change" in Paris. The workshop aimed to forge links among economists in different fields who share an interest in enhancing their understanding of climate change issues. With this aim, the workshop brought together climate change experts and established scholars from other fields of economics to share feedback on recent analytical work and efforts by central banks and the financial sector in assisting the combat against climate change,

particularly by low-income countries. The advancements in research made by the team were also acknowledged by the Governor of the Reserve Bank of Vanuatu, Mr. Simeon Malachi Athy, who noted:

“The Vanuatu authorities very much welcome IMF’s analytical work supported by DFID on issues of diversification and growth. Recent work by Fund staff has identified that although tourism remains the center of economic activity, diversification of economic activity is vital to boost growth and help protect against the constant threat of major natural disasters. To this end, Vanuatu needs to segment the tourism sector strategically across locations and intensify efforts to diversify the economy out of tourism into the agricultural sector. For the diversification strategy to work, supporting the private sector by improving the ease of doing business is necessary.”

This year, the team continues to increase its profile to wider audience. Research findings by the team were well embraced by the academia, as evidenced by the very high rate of citations—three times more than the average in the two key fields, as noted in Section 2. We were able to have our papers published at leading economic journals like *Journal of Economic Literature* and *Journal of Development Economics*, as well as included in programs of top academic conferences such as the NBER Summer Institute, the Allied Social Science Associations Annual Meeting, the Society for Economic Dynamics Annual Meeting, and the Annual Conference of the Centre for the Study of African Economies (CSAE), among others. To communicate with the general public and enhance knowledge exchange, the team also published extensively on more accessible media such as VoxEU, IMF Blog, and IMF-UN Women Blog. As we are approaching the end of the third phase of the collaboration, staff from the team are working intensively to prepare policy briefs in all our core research areas to better convey the lessons and experience we learned through all these year’s dedicated engagement with the making of macroeconomic policies in LICs.

## 7 COSTS, VALUE FOR MONEY, AND MANAGEMENT

---

The approved budget for the project is US\$23.3 million.

Appendix 2 provides the formal financial reporting of the project, with a financial statement and projects generated by the IMF's financial systems. As of April 2019, \$18.9 million has been drawn down from the subaccount. These figures reflect a lag of actual expenses of approximately two to three months to enable the requisite verification of expenses before they are charged to donor subaccounts.

The following table provides an indicative breakdown of spending over seven years of the project:

**Table 4**  
**Project Expenditures in Years 1-7**

<b>Activity</b>	<b>Total, Years 1-7</b>
HQ led missions including entire mission team	\$6,704,226
Short-term Advisors - CD delivery	\$510,562
Research HQ based/Visiting Scholars	\$5,621,275
Seminars & Study Tours	\$1,653,185
Project Backstopping	\$2,703,574
Project Management	\$198,055
Exceptional Expenses	\$261,052
Language Services	\$1,348
Trust Fund Fee	\$1,235,730
<b>Total</b>	<b>\$18,889,017</b>

We do not foresee any changes in cost structures due to exchange rates.

### **Value for Money:**

This project continues to be highly cost effective, owing to solid governance on the procurement process together with the high-quality work by the team. We strictly follow all Fund guidelines for hiring, travel, and conferences. All contractual employees undergo a competitive process before being hired. Outputs are produced under firm time-frames and must meet Fund requirements for publication. The quality of our papers is further evaluated when they are submitted to peer-reviewed publications.

The average cost per paper is lower than the DFID benchmark of \$190,000 (£150,000) per paper.<sup>3</sup> Table 5 shows that the cost per working paper for the seven years is approximately \$69,000 (£55,000), and the cost per published paper is \$163,000 (£129,000), broadly maintained as low as in the last year.<sup>4</sup> We estimate that staff, contractual employees, and visiting scholars spend 75 percent of their time on research papers, while the remaining 25 percent is devoted to country applications work.<sup>5</sup> The total staff, contractual, and visiting scholar cost is thus split between papers and applications.

The quality of the project outputs is very high, even with the low average cost. The total number of publications reached 58 for the seven years, including the ones at the highly ranked journals such as *American Economic Review*, *Journal of Development Economics* and *Journal of Economic Literature*, among others. As noted in Section 2, our products received 804 citations in total so far, with more than 60 percent from

---

<sup>3</sup> The currency conversion is based on the exchange rate as of May 28, 2019.

<sup>4</sup> The estimates reported in the last annual report does not include commissioned papers. If commissioned papers are included, the last year's estimates become \$69,000 per working paper and \$161,000 per published paper.

<sup>5</sup> The total research staff costs are estimated as the sum of "HQ led missions", "Short-term Advisors", and "Research HQ based/Visiting Scholars" from Table 4. The category "HQ led missions" includes both IMF staff salary and travel expenses. Thus, the estimates we have calculated for working and published paper costs likely overestimate the true cost of research time.

researchers outside the Fund, and found to be cited three times more than the average in the two fields “applied economics” and “econometrics”, further demonstrating the quality of the research done by the team.<sup>6</sup> Our products are also included in programs of top academic conferences such as the NBER Summer Institute and the annual meetings of the Allied Social Science Associations (ASSA), the Society for Economic Dynamics (SED), and the Centre for the Study of African Economics (CSAE). Strong uptakes by country authorities and IMF country teams also demonstrate the high relevance and usefulness of the project’s outcomes in practical policymaking.

**Table 5**  
**Cost per Working and Published Paper**

Total Staff/Contractual/VS Costs <sup>1</sup>	\$12,836,063
Research Paper Costs	\$9,627,047
Country Applications Costs	\$3,209,016
Working Papers	139
Produced	113
Commissioned	25
Cost Per Working Paper	\$69,259
Published Papers	59
Produced	58
Commissioned	1
Cost per Published Paper	\$163,170

<sup>1</sup> Estimated as the sum of “HQ led missions”, “Short-term Advisors”, and “Research HQ based/Visiting Scholars”. Note that the category “HQ led missions” includes both IMF staff salary and travel expenses. Thus, the estimates we have calculated for working and published paper costs likely overestimate the true cost of research time.

Direct project management costs represent approximately one percent of our total budget. If we include the Trust Fund management fee, program management costs are around eight percent. This means that the vast majority of the funds available to this project have been spent on producing high quality research.

---

<sup>6</sup> These citation analyses were conducted by the IMF Library team (Linda Venable), based on Dimension.ai.

## 8 WORK PLAN AND TIMETABLE

---

In the coming year, we will continue our work on the main areas of research as well as continue to expand our research capacity. We will also produce *synthesis products*—summary briefs on our work in core areas—and organize a stocktaking conference.

### **Individual work plans:**

The following provides a brief overview of our plans for each topic.

#### **(1) Modelling and understanding policy choices**

Monetary and exchange rate policies in LICs:

- a) IMF staff are working on in-depth analyses of monetary policy issues in LICs and will continue providing intensive training to the staff of central banks of Malawi, Tanzania, Rwanda, Uganda, and Ghana in macroeconomic modelling, forecasting and policy analysis, and assisting the central banks in improving their monetary policy formulation and communication processes.
- b) Staff will continue providing support to the regional FPAS working group for the EAC Partner States, which has been established to deepen the technical cooperation between the central banks of Kenya, Uganda, Rwanda, Tanzania, and Burundi, and share experiences and challenges regarding the implementation of FPAS.
- c) The team will continue the work on developing a practical how-to guide on FPAS capacity building in a LIC central bank.
- d) The team will continue developing an online version of the Model-based Monetary Policy Analysis and Forecasting (MPAF) course.
- e) The team will put together a handbook on A Practical Guide on FPAS Capacity Building in a LIC Central Bank.

Public Investment in LICs:

- f) The team will investigate how constraints on the ability to absorb infrastructure investment in LICs affect infrastructure construction costs using data on road-work projects.
- g) The team is working on quantifying the macroeconomic dividends from the removal of public investment inefficiency and the prioritisation of higher return projects in Cameroon, and fiscal consolidation in Bolivia. Also explored are macro-risks associated with continued reliance on non-concessional financing (Cameroon) and maintaining elevated levels of public investment in Bolivia.
- h) We will contribute a chapter on public investment during fiscal cycles towards the book on *Infrastructure Governance*. It aims to provide guidance on the importance of reorienting government expenditure during fiscal consolidations.
- i) The team is working on selectively mainstreaming applications of the DIG framework. Also, it is engaged in the collaboration to extend the framework to include both physical and human capital investments (the DIG-Labor model). The team is engaged both in framing the theory, applying the framework to country applications, as well as operationalising it by publishing a companion toolkit.
- j) Staff will continue to provide technical assistance on public investment to country teams.
- k) The team is looking into the cost of scaling-up public investment.

#### **(2) Understanding macro-financial linkages**

Monetary policy frameworks:

- a) IMF staff have been developing the first index of countries' monetary policy frameworks to serve both as a diagnostic tool and as a measure enabling cross-country comparisons. Based on manually collected, publicly available information (primarily from central banks' laws and websites), the

structures of countries' frameworks are assessed along 5 dimensions—independence, accountability, policy strategy, operational framework, and communication strategy.

- b) The methodology has been piloted to a heterogeneous group of 18 countries, including Kenya, Nigeria, Rwanda, and Uganda. Preliminary evidence shows that countries' monetary policy design shows large variation, even within the same monetary regimes (e.g. inflation targeting or money targeting), and that our comprehensive index closely tracks medium-term inflation expectations.
- c) We aim to reach a sample of over 100 developing countries including most LICs, and for a number of years.
- d) As part of the comprehensive research agenda, the team will use this data to address various unanswered research questions relating to monetary policy frameworks and monetary policy performance.
- e) The team is looking into competition and the transition from microfinance to commercial banks.

Financial Reforms and Capital Flows:

- f) Analytical work on assessing the impact of key financial reforms—including banking reforms and capital account liberalization—on capital inflows and the formation of public and private capital is underway.
- g) Capital inflows are considered a necessary driver of development in LICs. New work is making a distinction between FDI and non-FDI capital inflows and their differential impact on growth and inequality.
- h) The team is investigating the drivers of high remittance cost and its slow decline. The findings from stylized facts, country cases as well as empirical estimations will shed light on policy options to reduce remittance cost.
- i) The team will look at capital flows to low-income countries and their implications to domestic banking sectors.

### **(3) Promoting structural change and institutional development**

Growth through diversification:

- a) The team is finalising the structural reform database in developing economies—the three-year effort is going to culminate into a Staff Discussion Note and subsequently a Board Paper.
- b) The structural reforms database will feature into a toolkit that will be used by mission teams and authorities.
- c) The structural reform database will be used for a chapter on the macroeconomic effects of structural reforms in emerging and developing economies in the IMF's next World Economic Outlook report.
- d) A workshop followed by a high-level conference will promote the DFID-IMF joint work related to the dataset and engage policy makers and academics in how to best use it.
- e) The team will also extend the structural reforms toolkit to include more LICs.
- f) An interdepartmental group is formed to take the work on economic diversification forward: a) a stock taking exercise will reveal what we have learned so far from the use of the toolkit; b) a policy paper would identify the direction that the Fund should take in providing sound policy advice to LICs.
- g) The team is working on a new work stream regarding the relationship between automation and diversification in LICs.
- h) We are working on identifying the key determinants that explain the variation in export diversification across countries and over time. The team plans to offer advice on how to successfully diversify an economy.
- i) Staff will provide technical assistance on issues related to structural reforms (i.e. efficiency gains from structural reforms) to country teams.
- j) The team is working on a paper on *Rethinking Development Policy*.

- k) The team is looking into the implication of robot revolution and whether it will cause a “great divergence”.

#### **(4) Enhancing inclusion**

Macroeconomic policies and income distribution:

- a) The updated inequality toolkit will be incorporated in the Structural Reform Curriculum and taught as part of a course at the IMF’s Institute for Capacity Development.
- b) The team is revising the working paper that analyses the inequality toolkit towards submission and publication on a leading academic journal (The paper is currently under review at *The Economic Journal*). A Vox article has also been commissioned.
- c) Staff will continue to provide technical assistance on the inequality toolkit to country teams and authorities.
- d) We are working on a Staff Discussion Note to summarise our findings on how fiscal policies can work to reduce gender inequality.
- e) The team is working to analyse the link between informality and female labour force participation in Sub-Saharan African urban centres.
- f) We are improving and augmenting the gender and income inequality frameworks. The unified framework will be used to study new country cases of Laos and Nigeria.
- g) The team is studying the impact of ICT on structural change.
- h) Staff are working on a new framework to build resilience in small states in a sustainable manner.
- i) Staff are building a bank-level dataset to study banking and access to credit in Africa.

#### **(5) Building resilience**

Climate change:

- a) The team has constructed a natural-disasters modelling framework that has been applied to small states. Vanuatu has been the first pilot for this framework with remarkable success—it has been welcomed by mission teams and authorities and has been praised by academics.
- b) Following up on the above-mentioned modelling framework, we have considered monetary policy implications—in effect this is an extension of the baseline model to accommodate monetary policy as a tool to combat the short/medium term effects of the shocks. The team is working on papers to assess the long-term macroeconomic impacts of climate change measured by temperature and CO<sub>2</sub> emission increases.
- c) The book on *Infrastructure Governance* will also feature a chapter on building resilience to natural disaster in vulnerable states. The team explores the economic benefits of ex-ante intervention and underscores the importance of mobilizing resources towards resilience building against natural disasters and climate change.
- d) The team will look into the macroeconomic outcomes in disaster prone countries.

Conflict:

- e) Work is under progress for an edited book on macroeconomic policy in fragile states. The volume aims at identifying the causes and consequences of fragility and at discussing how policies should be changed to account for fragility. Contributors to the volume include leading academics as well as experts from international organizations.
- f) An expert-only workshop is planned in December 2018 to trigger discussions and cross- fertilisation between the book contributors.

Corruption:

- g) The team has provided evidence that corruption can have a pernicious effect on a country’s ability to achieve sustainable, inclusive economic growth.



- h) The team has also developed a framework for enhanced engagement by the Fund to promote more systematic, effective, and candid engagement with member countries on governance vulnerabilities, including corruption.
- i) The team will provide technical assistance on governance and anti-corruption reform to country teams.

### **Synthesis products:**

In addition to new research work, we will produce *synthesis products*—targeting the general audience—which aim to summarize what we learned through all these years’ dedicated engagement in the making of macroeconomic policies in LICs. The plan is to produce such products in the following five areas:

1. **Debt-investment-growth nexus.** Renewed concerns on high debt stocks in low-income countries have been widely discussed recently. Yet, an important question is whether the debt taken has been translated into economic growth by enabling investment needed to unlock the potential of these economies. The DIG and DIGNAR models developed by IMF staff have provided a useful framework to analyse this debt-investment-growth nexus, complementing the core work of debt sustainability assessments by the IMF and the World Bank. This brief note will take stock of the model applications and extensions, with a review of the literature, and extract common policy lessons from over 65 country applications conducted in the past seven years.
2. **Monetary policy.** Low-income countries face unique monetary policy challenges, ranging from the high share of volatile food in consumption to underdeveloped financial markets. To address these challenges, there have been focused research efforts to suitably modify the methods largely derived in advanced countries to reflect key features of low-income countries. This brief note will summarise new insights from such research efforts, together with a review of the current policy practices and their effectiveness, providing some guidance on monetary policymaking in low-income countries.
3. **Inequality.** This note aims to survey the research findings under the IMF-DFID collaboration on how macroeconomic policies affect income inequality in developing countries. This research workstream has identified several factors, including high levels of informality, underdeveloped domestic financial markets, large difference in sectoral productivity, and frictional labour markets, as major barriers causing income inequality to rise with domestic macro-structural reforms and economic integration. Drawing from their findings and lessons from a number of recent policy reforms in developing economies, this note will highlight the implications of macroeconomic policies for income inequality and how the design of these policies, for instance tax reforms, can be altered to minimise their distributional impact and tackle income inequality.
4. **Gender.** The IMF-DFID collaboration has been increasingly focusing on issues related to gender equality and the economy. The largest project so far has been an extensive survey on gender budgeting around the world, producing empirical knowledge from more than 80 countries regarding authorities’ efforts to reduce gender gaps. IMF-DFID economists have also developed models to assess the effects of policies on gender inequality, and to quantify the impact of gender gaps on economic growth. Other papers studied the relationship between gender inequality and economic diversification, as well as recent global trends of gender gaps. This note aims to summarise the findings of this research work and draw insights for policy design.
5. **Economic diversification.** A recurrent theme for developing economies is the lack of economic diversification, which leads to high macroeconomic volatility, and thus, promoting diversification is key to building resilience in these economies. Over the last five years, the IMF has scaled up its analysis and policy advice on diversification in low-income developing countries. This brief note will summarize these

analyses with a review of the literature, distilling proposals for the way forward. Key interactions between policies to promote diversification and sector-specific or industrial policies will also be discussed.

**Stocktaking conference:**

We will organise a conference for this DFID-IMF partnership to take stock on the successful interagency collaboration over many years, toward further enhancement going forward. The first objective of the conference is to provide an overview of the outcomes of this project. The second objective is to learn lessons from the experience over eight years, reviewing good practices and challenges, particularly on the interactions between research and policy-making in low-income countries. The third objective is to distil a strategic direction on macroeconomic research and policies in low-income countries going forward. The conference will host a mixture of leading researchers and experienced policy makers on the low-income country issues to exchange ideas and opinions about key policy issues and priorities that are to be further explored in research work.

This conference will be held at the Oxford University, London, in March 21–22, 2020, jointly with the annual conference of the Centre for the Study of African Economies (CSAE), which will be held in March 22–24, 2020. The first day—Saturday, March 21—will be a high-level event for policymakers. The overview on the project will be presented, touching on achievements and challenges, with opening/closing keynote addresses by the DFID and the IMF high-level speakers, and two panel discussions on the following (tentative) topics “collaboration between research and policy-making—theory vs. practice” and “priority research area for policy-making in low-income countries”. The second day—Sunday, March 22—will present the project’s key outcomes, along with the five synthesis products above, as part of CSAE conference sessions.

## 9 Risk

---

The overall risk for this project remains low.

## 10 MONITORING AND EVALUATION

---

### **Monitoring**

IMF reports to DFID annually regarding the outputs included in the log-frame. In addition to this formal reporting requirement, we provide quarterly updates to our [website](#) so that DFID and the public in general have up-to-date information on our research and progress. The team sends out quarterly e-newsletters that reach an audience of more than 1500 academics, policymakers, central bank staff, and government representatives, among others. These e-newsletters are posted on the project website. We also upload all publicly available working and published papers to the R4D portal on the DFID website so that DFID staff members can easily search and retrieve our outputs. To further ensure public access to all outputs produced through the grant, we provide “gold access” to journal publications. When deemed necessary by the IMF and DFID project members, we conduct video conference calls to discuss the project.

### **Evaluation**

No budget for an external evaluation was included in the project budget.

## 11 FURTHER INFORMATION

---

Nothing to add at this time.

**APPENDIX 1: LOG-FRAME**

<b>PROJECT NAME</b>		<b>Macroeconomic Research in Low-Income Countries (LICs)</b>							
<b>IMPACT</b> Better macroeconomic policymaking in LICs leading to faster economic growth, job creation and poverty reduction.	<b>Impact Indicator 1</b>		<b>Baseline</b>	<b>Milestone 1</b>	<b>Milestone 2</b>	<b>Milestone 3</b>	<b>Target (date)</b>		
	Proportion of people living in extreme poverty in LICs	Planned	(2017) Sub-Saharan Africa: 56% Developing regions: 24%						
		Achieved							
		<b>Source</b>							
		United Nations: The Millenium Development Goals Report (2010)							
	<b>Impact Indicator 2</b>		<b>Baseline</b>	<b>Milestone 1</b>	<b>Milestone 2</b>	<b>Milestone 3</b>	<b>Target (date)</b>		
	Increase in employment to population ratio in LICs	Planned	(2017) Sub-Saharan Africa: 70% Developing regions: 68%						
		Achieved							
		<b>Source</b>							
		United Nations: The Millenium Development Goals Report (2010)							
<b>OUTCOME</b>	<b>Outcome Indicator 1</b>		<b>Baseline</b>	<b>Milestone 1</b>	<b>Milestone 2</b>	<b>Target (March 2020)</b>	<b>Target (date)</b>	<b>Assumptions</b>	
Better engagement by IMF policy-makers on LIC-specific macroeconomic issues, leading to improved policy-making in specific project thematic areas.	Evidence of Improved IMF policymaking and integration of LIC-specifics in project thematic areas.	Planned	March 2017 (8)	By March 2018 H(10) M(9) L(8)	By March 2019 H(11) M(10) L (9)	By March 2020 H(12) M(11) L(10)	Specific context: the average output per year (Yr 1 - 5) is 2, deflated average for medium case is 1.46. 0.92 for low case		
		Achieved			10	11			
			<b>Source</b>						
		IMF Reporting - board papers, policy papers, conference reports/papers, pilot applications of country teams, refs in staff docs, or internal policy memos.							
<b>INPUTS (£)</b>	£4.14 million				£4.14 million			100	
<b>INPUTS (HR)</b>	DFID (FTEs)								

OUTPUT 1	Output Indicator 1.1		Baseline	Milestone 1	Milestone 2	Target (March 2020)		Assumption	
High quality, policy relevant research on macroeconomic issues affecting LICs produced.	Number of <b>priority research papers</b> produced, on the following research topics: 1) Monetary and exchange rate policies; 2) Public investment, growth, and debt sustainability; 3) Macroeconomic management of natural resources; 4) Macroeconomic policies and income distribution; 5) Financial deepening for macroeconomic stability and sustained growth;	Planned	March 2017 (75)	By March 2018: H (90 papers) M (86 papers) L (82 papers)	By March 2019: H (105 papers) M (97 papers) L (89 papers)	By March 2020: H (120 papers) M (108 papers) L (96 papers)	Specific context: the average output per year (Yr 1 - 5) is 15, 10.95 for M, 6.9 for L	High-level context: 1) No major financial or economic crisis, such that IMF staff can devote time to the project as committed. 2) IMF are able to identify high-quality academics working on specific research topics, and agreeable to IMF terms and conditions. 3) Academic researchers are able to deliver contracted inputs consistent with timeframes envisaged for the project. 4) Counterpart inputs materialise as anticipated.	
		Achieved			94	113			
		Source							
		IMF							
	Output Indicator 1.2		Baseline	Milestone 1	Milestone 2	Target (March 2020)			
	Number of <b>research papers accepted for publication</b> in appropriate high-quality peer-reviewed journals	Planned	March 2017 (37)	By March 2018: H (44 paper) M (42 papers) L (40 papers)	By March 2019: H (51 papers) M (47 paper) L (43 papers)	By March 2020: H (58 papers) M (52 papers) L (47 paper)	Specific context: the average output per year (Yr 1 - 5) is 7, 5.11 for M, 3.22 for L.		
		Achieved			48	58			
		Source							
		IMF							
	Number of <b>freely available books</b>	Planned	March 2017 (2)	By March 2018: H (2 books) M (2 books) L (2 books)	By March 2019: H (2 books) M (2 books) L (2 books)	By March 2019: H (2 books) M (2 books) L (2 books)	Specific context: the average output per year (Yr 1 - 5) is 0). Books are a new output, so historical data is not available / reliable.		
Achieved				2	3				
Source									
IMF									
IMPACT WEIGHTING (%)									
30									
INPUTS (£)	DFID (£)		Govt (£)	Other (£)	Total (£)		DFID SHARE (%)		
INPUTS (HR)	DFID (FTEs)								

OUTPUT 2	Output Indicator 2.1	Planned	Baseline	Milestone 1	Milestone 2	Target (March 2020)	Assumptions	
IMF research products (policy analysis, practical and operational tools and frameworks) produced under this project used by IMF country teams and partner authorities.	Application and use of tools and frameworks by country teams.		March 2017 (64)	By March 2018, evidence of number of country teams applying policy tools and frameworks: H (77) M (73) L (70)	By March 2019, evidence of number of country teams applying policy tools and frameworks: H (90) M (83) L (76)	By March 2020, evidence of number of country teams applying policy tools and frameworks: H (103) M (92) L (82)	Specific context: the average output per year (Yr 1 - 5) is 13, 9.49 for M, 5.98 for L	
		Achieved		85	98			
		Source						
		IMF						
	Output Indicator 2.2	Application and use of tools and frameworks by country authorities.		March 2017 (16)	By March 2018, evidence of number of country authorities applying policy tools and frameworks: H (19) M (18) L (17)	By March 2019, evidence of number of country authorities applying policy tools and frameworks: H (32) M (30) L (29)	By March 2020, evidence of number of country authorities applying policy tools and frameworks: H (25) M (23) L (20)	Specific context: the average output per year (Yr 1 - 5) is 3, 2.19 for M, 1.38 for L
		Achieved		29	38			
		Source						
		IMF						
	Output Indicator 2.2.1	Courses offered to country authorities		March 2017 (1)	By March 2018, evidence of courses offered to country authorities: H (3) M (2) L (1)	By March 2019, evidence of courses offered to country authorities: H (10) M (9) L (8)	By March 2020, evidence of courses offered to country authorities: H (5) M (4) L (3)	Specific context: the average output per year (Yr 1 - 5), N/A. This is a new indicator.
		Achieved		9	16			
		Source						
		IMF						
IMPACT WEIGHTING (%)								
30								
INPUTS (£)	DFID (£)		Govt (£)	Other (£)	Total (£)		DFID SHARE (%)	
INPUTS (HR)	DFID (FTEs)							



OUTPUT 3	Output Indicator 3.1	Planned	Baseline	Milestone 1	Milestone 2	Target (March 2020)	Assumptions	
Engagement by senior IMF policymakers on issues affecting LICs strengthened through this project.	High level policy conferences attended by senior IMF staff reflect findings of research papers funded under this project.	Planned	March 2017 (22)	By March 2018, number of policy conferences drawing on outputs from the project: H (26) M (25) L (24)	By March 2019, number of policy conferences drawing on outputs from the project: H (30) M (28) L (26)	By March 2020, number of policy conferences drawing on outputs from the project: H (34) M (31) L (28)	Specific context: the average output per year (Yr 1 - 5) is 4, 2.92 for M, 1.84 for L	
		Achieved			30	36		
		Source IMF						
	Results of the research papers produced reflected in IMF board discussions.	Output Indicator 3.2	Planned	March 2017 (11)	By March 2018: H (13) M (12) L (12)	By March 2019: H (15) M (14) L (13)	By March 2020: H (17) M (15) L (14)	Specific context: the average output per year (Yr 1 - 5) is 2, 1.46 for M, 0.92 for L
			Achieved			16	18	
			Source IMF					
	Results of the research papers produced reflected in IMF policy papers such as Staff Discussion Notes, policy memos to management, and the like	Output Indicator 3.3	Planned	March 2017 (19)	By March 2018: H (23) M (22) L (21)	By March 2019: H (27) M (25) L (23)	By March 2020: H (31) M (28) L (25)	Specific context: the average output per year (Yr 1 - 5) is 4, 2.92 for M, 1.84 for L
			Achieved			29	36	
			Source IMF					
	<b>IMPACT WEIGHTING (%)</b>							
25%								
<b>INPUTS (£)</b>	<b>DFID (£)</b>		<b>Govt (£)</b>	<b>Other (£)</b>	<b>Total (£)</b>		<b>DFID SHARE (%)</b>	
<b>INPUTS (HR)</b>	<b>DFID (FTEs)</b>							

OUTPUT 4	Output Indicator 4.1	Planned	Baseline	Milestone 1	Milestone 2	Target (March 2020)	Assumptions	
IMF strengthens research capacity, by expanding the network of researchers and policy makers working on LIC macroeconomics	Number of commissioned research papers from new researchers* (see definition below) produced on thematic areas.	Planned	March 2017 (20)	By March 2018, number of commissioned research papers produced: H (24) M (23) L (22)	By March 2019, number of commissioned research papers produced: H (28) M (26) L (24)	By March 2020, number of commissioned research papers produced: H (32) M (29) L (26)	Specific context: the average output per year (Yr 1 - 5) is 4, 2.92 for M, 1.84 for L	
		Achieved		25	26			
		Source						
	IMF							
	Output Indicator 4.1.1	A data toolkit is a new dataset that is put in a format that is accessible and applicable to the work of IMF country teams and country authorities.	Planned	March 2017 (5)	By March 2018, number of produced: H (6) M (6) L (5)	By March 2019, number of produced: H (7) M (6) L (6)	By March 2020, number of produced: H (8) M (7) L (6)	Specific context: the average output per year (Yr 1 - 5) is 1, 0.73 for M, 0.46 for L
			Achieved		7	9		
			Source					
	IMF							
	Output Indicator 4.2	Attendance of external researchers and policy makers at high-level policy conferences.	Planned	March 2017 (51)	By March 2018, number of high-level policy conferences attended by external researchers: H (61) M (58) L (56)	By March 2019, number of high-level policy conferences attended by external researchers: H (71) M (66) L (60)	By March 2020, number of high-level policy conferences attended by external researchers: H (81) M (73) L (65)	Specific context: the average output per year (Yr 1 - 5) is 10, 7.3 for M, 4.6 for L
			Achieved		86	108		
			Source					
	IMF							
IMPACT WEIGHTING (%)	Output Indicator 4.3	Planned	Baseline	Milestone 1	Milestone 2	Target (March 2020)		
15%	Project Outputs disseminated in e-newsletter and up-dated public web-page and R4D (DFID web portal). Number of updates of e-newsletter and/or web-page:	Planned	March 2017 (18)	By March 2018, number of up-dates: H (22) M (21) L (20)	By March 2019, number of up-dates: H (26) M (24) L (22)	By March 2020, number of up-dates: H (30) M (27) L (24)	Specific context: the average output per year (Yr 1 - 5) is 4, 2.92 for M, 1.84 for L	
		Achieved		22	26			
Source								

APPENDIX 2: FINANCIAL REPORTS



**International Monetary Fund**  
 United Kingdom - Project on Macroeconomic Research in LICs  
**Bilateral - Cash Flow Statement**  
 As of Apr 30, 2019  
 (In U.S. Dollars)

	Cumulative FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total
Contributions <sup>1</sup>	5,868,570	4,594,260	2,254,739	4,537,586	2,368,482	1,968,935	21,592,572
Interest Earned	2,212	752	7,369	19,702	35,135	56,743	121,913
<b>Total Cash Available</b>	<b>5,870,782</b>	<b>4,595,012</b>	<b>2,262,108</b>	<b>4,557,288</b>	<b>2,403,617</b>	<b>2,025,678</b>	<b>21,714,485</b>
Expenses Paid <sup>2</sup>	4,152,952	2,003,585	3,536,000	3,768,706	2,937,652	2,490,122	18,889,017
<b>Cash Balance</b>	<b>1,717,830</b>	<b>4,309,257</b>	<b>3,035,365</b>	<b>3,823,947</b>	<b>3,289,912</b>	<b>2,825,468</b>	<b>2,825,468</b>

<sup>1</sup> Contributions are net of transfers and return of funds.

<sup>2</sup> Expenses paid include the 7% TFM.



**International Monetary Fund**  
 United Kingdom - Project on Macroeconomic Research in LICs  
**Bilateral - Progress Report - Detailed Report**  
 As of April 30, 2019  
 (In U.S. Dollars)

Project ID	Project Description	Status	Start Date	End Date	Latest Approved/ Proposed Budget	Expenses	Remaining Balance <sup>1</sup>	Execution (%)
					19,941,175	17,653,287	2,287,888	
IMF_IMF_2012_01	DFID Macro Research 1&2	Closed	2012-05-01	2017-03-31	12,451,409	12,451,410	-	100%
	HQ led missions including entire mission team				6,411,796	6,411,796	-	100%
	Short-term Advisors - CD delivery				477,102	477,102	-	100%
	Research HQ based / Visiting Scholars				2,235,765	2,235,765	-	100%
	Seminars & Study Tours				1,273,384	1,273,384	-	100%
	Project Backstopping				1,911,379	1,911,379	-	100%
	Project Management				141,984	141,984	-	100%
SPR_IMF_2017_04	DFID Macro Research 3	Approved	2017-04-01	2020-04-30	7,489,765	5,201,877	2,287,888	69%
	HQ led missions including entire mission team				816,024	292,430	523,594	36%
	Short-term Advisors - CD delivery				90,000	33,460	56,540	37%
	Research HQ based / Visiting Scholars				4,466,040	3,385,510	1,080,530	76%
	Seminars & Study Tours				555,912	379,801	176,111	68%
	Project Backstopping				1,081,012	792,195	288,817	73%
	Project Management				159,063	56,071	102,992	35%
	Exceptional Expenses				318,715	261,062	57,653	82%
	Language Services				3,000	1,348	1,652	45%
<b>Sub Total</b>					<b>19,941,175</b>	<b>17,653,287</b>	<b>2,287,888</b>	
Trust Fund Management Fee					1,395,882	1,235,730	160,152	
<b>Grand Total</b>					<b>21,337,057</b>	<b>18,889,017</b>	<b>2,448,041</b>	
<b>Agreement Summary</b>								
	Contributions to date				21,592,571			
	Net Transfers				-			
	Interest Earned				121,913			
	<b>Total Inflows(A)</b>				<b>21,714,484</b>			
	Expenses				18,889,017			
	Remaining Budget (including projects pending approval)				2,448,041			
	<b>Total Outflows(B)</b>				<b>21,337,058</b>			
	Future Contributions (based on signed agreements)(C)				-			
	<b>Total</b>				<b>377,426</b>			

<sup>1</sup> The remaining balance for closed projects is zeroed out upon project completion.

## APPENDIX 3: RESEARCH OUTPUTS

### Output 1.1 – Working Papers

#### Topic 1. Modelling and understanding policy choices

1. [Some Policy Lessons from Country Applications of the DIG and DIGNAR Models](#)

Daniel Gurara, Giovanni Melina and Luis-Felipe Zanna

Summary: Over the past seven years, the DIG and DIGNAR models have complemented the IMF and World Bank debt sustainability framework (DSF) analysis, over 65 country applications. They have provided useful insights in the context of program and surveillance work, based on qualitative and quantitative analysis of the macroeconomic effects of public investment scaling-ups. This paper takes stock of the model applications and extensions, and extract five common policy lessons from the universe of country cases. First, improving public investment efficiency and/or raising the rate of return of public projects raises growth and lowers the risks associated with debt sustainability. Second, prudent and gradual investment scaling-ups are preferable to aggressive front-loaded ones, in terms of private sector crowding-out effects, absorptive capacity constraints, and debt sustainability risks. Third, domestic revenue mobilization helps create fiscal space for investment scaling-ups, by effectively containing public debt surges and their later-on repayments. Fourth, aid smoothens fiscal adjustments associated with public investment increases and may lower the risks of unsustainable debt. Fifth, external savings mitigate Dutch disease macroeconomic effects and serve as fiscal buffers. The paper also discusses how these models were used to estimate the quantitative macroeconomic effects associated with these lessons.

2. [In Search of Information: Use of Google Trends' Data to Narrow Information Gaps for Low-income Developing Countries](#)

Futoshi Narita and Rujun Yin

Summary: Timely data availability is a long-standing challenge in policy-making and analysis for low-income developing countries. This paper explores the use of Google Trends' data to narrow such information gaps and finds that online search frequencies about a country significantly correlate with macroeconomic variables (e.g., real GDP, inflation, capital flows), conditional on other covariates. The correlation with real GDP is stronger than that of nighttime lights, whereas the opposite is found for emerging market economies. The search frequencies also improve out-of-sample forecasting performance albeit slightly, demonstrating their potential to facilitate timely assessments of economic conditions in low-income developing countries.

#### Topic 2. Understanding macro-financial linkages

3. [Mobilization Effects of Multilateral Development Banks](#)

Chiara Broccolini, Giulia Lotti, Alessandro Maffioli, Andrea F Presbitero and Rodolfo Stucchi

Summary: We use loan-level data on syndicated lending to a large sample of developing countries between 1993 and 2017 to estimate the mobilization effects of multilateral development banks (MDBs), controlling for a large set of fixed effects. We find evidence of positive and significant direct and indirect mobilization effects of multilateral lending on the number of deals and on the total size of bank inflows. The number of lending banks and the average maturity of syndicated loans also increase after MDB lending. These effects are present not only on impact, but they last up to three years and are not offset by a decline in bond financing. There is no evidence of anticipation effects and the results are not driven by confounding factors, such as the presence of large global banks, Chinese lending and aid flows. Finally, the economic effects are sizable, suggesting that MDBs can play a vital role to mobilize private sector financing to achieve the goals of the 2030 Development Agenda.

4. [Borrowing Costs and The Role of Multilateral Development Banks: Evidence from Cross-Border Syndicated Bank Lending](#)

Daniel Gurara, Andrea F Presbitero and Miguel Sarmiento

Summary: Cross-border bank lending is a growing source of external finance in developing countries and could play a key role for infrastructure financing. This paper looks at the role of multilateral development banks (MDBs) on the terms of syndicated loan deals, focusing on loan pricing. The results show that MDBs' participation is associated with higher borrowing costs and longer maturities--- signaling a greater willingness to finance high risk projects which may not be financed by the private sector---but it is also associated with lower spreads for riskier borrowers. Overall, our findings suggest that MDBs could crowd in private investment in developing countries through risk mitigation.

5. [Commodity Price Movements and Banking Crises](#)

Markus Eberhardt and Andrea F Presbitero

Summary: We develop an empirical model to predict banking crises in a sample of 60 low-income countries (LICs) over the 1981-2015 period. Given the recent emergence of financial sector stress associated with low commodity prices in several LICs, we assign price movements in primary commodities a key role in our model. Accounting for changes in commodity prices significantly increases the predictive power of the model. The commodity price effect is economically substantial and robust to the inclusion of a wide array of potential drivers of banking crises. We confirm that net capital inflows increase the likelihood of a crisis; however, in contrast to recent findings for advanced and emerging economies, credit growth and capital flow surges play no significant role in predicting banking crises in LICs.

6. [Financial Deepening, Terms of Trade Shocks, and Growth Volatility in Low-Income Countries](#)

Kangni R Kpodar, Maelan Le Goff and Raju J Singh

Summary: This paper contributes to the literature by looking at the possible relevance of the structure of the financial system—whether financial intermediation is performed through banks or markets—for macroeconomic volatility, against the backdrop of increased policy attention on strengthening growth resilience. With low-income countries (LICs) being the most vulnerable to large and frequent terms of trade shocks, the paper focuses on a sample of 38 LICs over the period 1978-2012 and finds that banking sector development acts as a shock-absorber in poor countries, dampening the transmission of terms of trade shocks to growth volatility. Expanding the sample to 121 developing countries confirms this result, although this role of shock-absorber fades away as economies grow richer. Stock market development, by contrast, appears neither to be a shock-absorber nor a shock-amplifier for most economies. These findings are consistent across a range of econometric estimators, including fixed effect, system GMM and local projection estimates.

7. [Are Remittances Good for Labor Markets in LICs, MICs and Fragile States?](#)

Ralph Chami, Ekkehard Ernst, Connel Fullenkamp, and Anne Oeking

Summary: We present cross-country evidence on the impact of remittances on labor market outcomes. Remittances appear to have a strong impact on both labor supply and labor demand in recipient countries. These effects are highly significant and greater in size than those of foreign direct investment or official development aid. On the supply side, remittances reduce labor force participation and increase informality of the labor market. In addition, male and female labor supply show significantly different sensitivities to remittances. On the demand side, remittances reduce overall unemployment but benefit mostly lower-wage, lower productivity nontradables industries at the expense of high-productivity, high-wage tradables sectors. As a consequence, even though inequality declines as a result of larger remittances, average wage and productivity growth declines, the latter more strongly than the former leading to an increase in the labor income share. In fragile states, in contrast,

remittances impose a positive externality, possibly because the tradables sector tends to be underdeveloped. Our findings indicate that reforms to foster inclusive growth need to take into account the role of remittances in order to be successful.

### Topic 3. Building resilience

8. [Optimal Control of a Global Model of Climate Change with Adaptation and Mitigation](#)  
Manoj Atolia, Prakash Loungani, Helmut Maurer and Willi Semmler

Summary: The Integrated Assessment Model (IAM) has extensively treated the adverse effects of climate change and the appropriate mitigation policy. We extend such a model to include optimal policies for mitigation, adaptation and infrastructure investment studying the dynamics of the transition to a low fossil-fuel economy. We focus on the adverse effects of increase in atmospheric CO<sub>2</sub> concentration on households. Formally, the model gives rise to an optimal control problem of finite horizon consisting of a dynamic system with five-dimensional state vector consisting of stocks of private capital, green capital, public capital, stock of brown energy in the ground, and emissions. Given the numerous challenges to climate change policies the control vector is also five-dimensional. Our solutions are characterized by turnpike property and the optimal policy that accomplishes the objective of keeping the CO<sub>2</sub> levels within bound is characterized by a significant proportion of investment in public capital going to mitigation in the initial periods. When initial levels of CO<sub>2</sub> are high, adaptation efforts also start immediately, but during the initial period, they account for a smaller proportion of government's public investment.

9. [Policy Trade-Offs in Building Resilience to Natural Disasters: The Case of St. Lucia](#)  
Alessandro Cantelmo, Leo Bonato, Giovanni Melina, and Gonzalo Salinas

Summary: Resilience to climate change and natural disasters hinges on two fundamental elements: financial protection —insurance and self-insurance— and structural protection —investment in adaptation. Using a dynamic general equilibrium model calibrated to the St. Lucia's economy, this paper shows that both strategies considerably reduce the output loss from natural disasters and studies the conditions under which each of the two strategies provides the best protection. While structural protection normally delivers a larger payoff because of its direct dampening effect on the cost of disasters, financial protection is superior when liquidity constraints limit the ability of the government to rebuild public capital promptly. The estimated trade-off is very sensitive to the efficiency of public investment.

### Topic 4. Promoting structural change and institutional development

10. [Rethinking Development Policy: Deindustrialization, Servicification and Structural Transformation](#)  
Manoj Atolia, Prakash Loungani, Milton Marquis and Chris Papageorgiou

Summary: This paper takes a fresh look at the current theories of structural transformation and the role of private and public fundamentals in the process. It summarizes some representative past and current experiences of various countries vis-a-vis structural transformation with a focus on the roles of manufacturing, policy, and the international environment in shaping the trajectory of structural transformation. The salient aspects of the current debate on premature deindustrialization and its relation to a middle-income trap are described as they relate to the path of structural transformation. Conclusions are drawn regarding prospective future paths for structural transformation and development policies.

11. [Export Competitiveness - Fuel Price Nexus in Developing Countries: Real or False Concern?](#)

Kangni R Kpodar, Stefania Fabrizio and Kodjovi M. Eklou

Summary: This paper investigates the impact of domestic fuel price increases on export growth in a sample of 77 developing countries over the period 2000-2014. Using a fixed-effect estimator and the local projection approach, we find that an increase in domestic gasoline or diesel price adversely affects real non-fuel export growth, but only in the short run as the impact phases out within two years after the shock. The results also suggest that the negative effect of fuel price increase on exports is mainly noticeable in countries with a high-energy dependency ratio and countries where access to an alternative source of energy, such as electricity, is constrained, thus preventing producers from altering energy consumption mix in response to fuel price changes.

12. [Macroeconomic Consequences of Tariffs](#)

Davide Furceri, Swarnali Ahmed Hannan, Jonathan David Ostry and Andrew K. Rose

Summary: We study the macroeconomic consequences of tariffs. We estimate impulse response functions from local projections using a panel of annual data that spans 151 countries over 1963-2014. We find that tariff increases lead, in the medium term, to economically and statistically significant declines in domestic output and productivity. Tariff increases also result in more unemployment, higher inequality, and real exchange rate appreciation, but only small effects on the trade balance. The effects on output and productivity tend to be magnified when tariffs rise during expansions, for advanced economies, and when tariffs go up, not down. Our results are robust to a large number of perturbations to our methodology, and we complement our analysis with industry-level data.

13. [Commodity Terms of Trade: A New Database](#)

Bertrand Gruss and Suhaib Kebhaj

Summary: This paper presents a comprehensive database of country-specific commodity price indices for 182 economies covering the period 1962-2018. For each country, the change in the international price of up to 45 individual commodities is weighted using commodity-level trade data. The database includes a commodity terms-of-trade index—which proxies the windfall gains and losses of income associated with changes in world prices—as well as additional country-specific series, including commodity export and import price indices. We provide indices that are constructed using, alternatively, fixed weights (based on average trade flows over several decades) and time-varying weights (which can account for time variation in the mix of commodities traded and the overall importance of commodities in economic activity). The paper also discusses the dynamics of commodity terms of trade across country groups and their influence on key macroeconomic aggregates.

14. [Losing to Blackouts: Evidence from Firm Level Data](#)

Daniel Gurara and Dawit Tessema

Summary: Many developing economies are often hit by electricity crises either because of supply constraints or lacking in broader energy market reforms. This study uses manufacturing firm census data from Ethiopia to identify productivity losses attributable to power disruptions. Our estimates show that these disruptions, on average, result in productivity losses of about 4–10 percent. We found nonlinear productivity losses at different quantiles along the productivity distribution. Firms at higher quantiles faced higher losses compared to firms around the median. We observed patterns of systematic shutdowns as firms attempt to minimize losses.



## Topic 5. Enhancing inclusion

### 15. [The Aggregate and Distributional Effects of Financial Globalization: Evidence from Macro and Sectoral Data](#)

Davide Furceri, Prakash Loungani and Jonathan David Ostry

Summary: We take a fresh look at the aggregate and distributional effects of policies to liberalize international capital flows—financial globalization. Both country- and industry-level results suggest that such policies have led on average to limited output gains while contributing to significant increases in inequality—that is, they pose an equity–efficiency trade-off. Behind this average lies considerable heterogeneity in effects depending on country characteristics. Liberalization increases output in countries with high financial depth and those that avoid financial crises, while distributional effects are more pronounced in countries with low financial depth and inclusion and where liberalization is followed by a crisis. Difference-in-difference estimates using sectoral data suggest that liberalization episodes reduce the share of labor income, particularly for industries with higher external financial dependence, those with a higher natural propensity to use layoffs to adjust to idiosyncratic shocks, and those with a higher elasticity of substitution between capital and labor. The sectoral results underpin a causal interpretation of the findings using macro data.

### 16. [Financial Inclusion Under the Microscope](#)

Sumit Agarwal, Thomas Kigabo, Camelia Minoiu, Andrea F Presbitero and Andre Silva

Summary: We examine the impact of a large-scale microcredit expansion program on financial access and the transition of previously unbanked borrowers to commercial banks. Using administrative micro-data covering the universe of loans to individuals from a developing country, we show that the program significantly increased access to credit, particularly in less developed areas. This effect is driven by the newly set-up credit cooperatives (U-SACCOs), which grant loans to previously unbanked individuals. A sizable share of first-time borrowers who need a second loan switch to commercial banks, which cream-skim low-risk borrowers and grant them larger, cheaper, and longer-term loans. These borrowers are not riskier than similar individuals already at commercial banks and only initially receive smaller loans. Our results suggest that the microfinance sector, together with a well-functioning credit reference bureau, help mitigate information frictions in credit markets.

### 17. [Does an Inclusive Citizenship Law Promote Economic Development?](#)

Patrick A. Imam and Kangni R Kpodar

Summary: This paper analyzes the impact of citizenship laws on economic development. We first document the evolution of citizenship laws around the world, highlighting the main features of jus soli, jus sanguinis as well as mixed regimes, and shedding light on the channels through which they could have differentiated impact on economic development. We then compile a data set of citizenship laws around the world. Using cross-country regressions, panel-data techniques, as well as the synthetic control method and subjecting the results to a battery of tests, we find robust evidence that jus soli laws—being more inclusive—lead to higher income levels than alternative citizenship rules in developing countries, though to a less extent in countries with stronger institutional environment.

### 18. [The Impact of Community Based Health Insurance Schemes on Out-of-Pocket Healthcare Spending: Evidence from Rwanda](#)

Summary: Andinet Woldemichael, Daniel Gurara and Abebe Shimeles

Achieving universal health coverage, including financial risk protection and access to quality essential health-care services, is one of the main Sustainable Development Goals. In low-income countries, innovative and affordable health financing systems are key to realize these goals. This paper assesses

the impacts of Community-Based Health Insurance Scheme in Rwanda on health-related financial risks using a nationally representative household survey data collected over a ten-year period. We find that the scheme significantly reduce annual per capita out-of-pocket spending by about 3,600 Rwandan Franc (about US\$12) or about 83 percent of average per capita healthcare expenditure compared to the baseline level in 2000. The impacts however favor the rich as compared to the poor. The program also reduces the incidence of catastrophic healthcare spending significantly.

19. [The Macroeconomic and Distributional Implications of Fiscal Consolidations in Low-income Countries](#)  
Adrian Peralta-Alva, Marina Mendes Tavares, Xuan S. Tam and Xin Tang

Summary: We quantitatively investigate the macroeconomic and distributional impacts of fiscal consolidations in low-income countries (LICs) through value added tax (VAT), personal income tax (PIT), and corporate income tax (CIT). We extend the standard heterogeneous agents incomplete markets model by including multiple sectors and rural-urban distinction to capture salient features of LICs. We find that overall, VAT has the least efficiency costs but is highly regressive, while PIT impacts the economy in the opposite way with CIT staying in between. Cash transfers targeting rural households mitigate the negative distributional impacts of VAT most effectively, while public investment leads to little redistribution.

## Output 1.2 – Published Papers

### Topic 1. Modelling and understanding policy choices

#### 1. [Trends and Challenges in Infrastructure Investment in Developing Countries](#)

Daniel Gurara, Vladimir Klyuev, Nkunde Mwase and Andrea F. Presbitero  
*International Development Policy*

This paper examines trends in infrastructure investment and financing in low-income developing countries (LIDCs). Following an acceleration of public investment over the last 15 years, the stock of infrastructure assets increased in LIDCs, even though large gaps remain compared to emerging markets. Infrastructure in LIDCs is largely provided by the public sector; private participation is mostly channelled through Public-Private Partnerships. Grants and concessional loans are an essential source of infrastructure funding in LIDCs, while the complementary role of bank lending is still limited to a few countries. Bridging infrastructure gaps would require a broad set of actions to improve the efficiency of public spending, mobilise domestic resources and support from development partners, and crowding in private investment.

#### 2. [Some Misconceptions About Public Investment Efficiency and Growth](#)

Andrew Berg, Edward F. Buffie, Catherine Pattillo, Rafael Portillo, Andrea F. Presbitero and Luis-Felipe Zanna  
*Economica*

We reconsider the macroeconomic implications of public investment efficiency, defined as the ratio between the actual increment to public capital and the amount spent. We show that in standard neoclassical and endogenous growth models, increases in public investment spending in inefficient countries do not generally have a lower impact on growth than in efficient countries. This apparently counterintuitive result, which contrasts with earlier papers and policy analyses, follows from the standard assumption that the marginal product of public capital declines with the capital/output ratio. The implication is that efficiency and scarcity of public capital are likely to be inversely related across countries. Both efficiency and the rate of return thus need to be considered together in assessing the impact of increases in investment, and blanket recommendations against increased public investment spending in inefficient countries need to be rethought.

#### 3. [Do IMF forecasts respect Okun's law? Evidence for advanced and developing economies](#)

Zidong An, Laurence Ball, Joao Jalles and Prakash Loungani  
*International Journal of Forecasting*

This paper provides an assessment of the IMF's unemployment forecasts, which have not received much scrutiny to date. The focus is on the internal consistency of the IMF's growth and unemployment forecasts, and specifically on seeing whether the relationship between the two is consistent with the relationship in the data, i.e., with Okun's Law. We find that the average performance is good, in the sense that the relationship between growth and unemployment forecasts is fairly comparable to that which prevails in the data: on average, the Okun coefficient in the forecasts mirrors the Okun coefficient in the data. Nevertheless, there is room for improvement, particularly in the year-ahead forecasts and for the group of middle-income countries. We show that a linear combination of Okun-based unemployment forecasts and WEO unemployment forecasts can deliver significant gains in forecast accuracy for developing economies.

#### 4. [Monetary Policy and Bank Lending in Developing Countries: Loan Applications, Rates, and Real Effects](#)

Charles Abuka, Ronnie K. Alinda, Camelia Minoiu, José-Luis Peydró and Andrea F. Presbitero  
*Journal of Development Economics*

Recent studies of monetary policy in developing countries document a weak bank lending channel based on aggregate data. In this paper, we bring new evidence using Uganda's supervisory credit register, with microdata on loan applications, volumes and rates, coupled with unanticipated variation in monetary policy. We show that a monetary contraction reduces bank credit supply—increasing loan application rejections and tightening loan volume and rates—especially for banks with more leverage and sovereign debt exposure. There are associated spillovers on inflation and economic activity—including construction permits and trade—and even social unrest

5. Does One Law Fit All? Cross-Country Evidence on Okun's Law  
Laurence Ball, Davide Furceri, Daniel Leigh and Prakash Loungani  
*Open Economy Review*, forthcoming

#### Topic 2. Understanding macro-financial linkages

We had no publication under this topic this year.

#### Topic 3. Building resilience

6. [Building resilience to natural disasters: An application to small developing states](#)  
Ricardo Marto, Chris Papageorgiou and Vladimir Klyuev  
*Journal of Development Economics*

We present a dynamic small open economy model to explore the macroeconomic impact of a major natural disaster. In addition to permanent damages to public and private capital, the disaster causes temporary losses of productivity, inefficiencies during the reconstruction process, and damages to the sovereign's creditworthiness. We use the model to study the debt sustainability concerns that arise from the need to fully rebuild public infrastructure over the medium term and analyze the feasibility of ex ante policies, such as building adaptation infrastructure and fiscal buffers, and contrast these policies with the post-disaster support provided by donors. Investing in resilient infrastructure may prove useful, in particular if it is viewed as complementary to standard infrastructure, because it raises the marginal product of private capital, crowding in private investment, while helping withstand the impact of the natural disaster. In an application to Vanuatu, we find that donors should provide an additional 50% of pre-cyclone GDP in grants to be spent over the following 15 years to ensure public debt remains sustainable following Cyclone Pam. Helping the government build resilience on the other hand, reduces the risk of debt distress and at lower cost for donors.

#### Topic 4. Promoting structural change and institutional development

7. [Local sourcing in developing countries: The role of foreign direct investments and global value chains](#)  
Vito Amendolagine, Andrea F. Presbitero, Roberta Rabellotti and Marco Sanfilippo  
*World Development*

The local sourcing of intermediate products is one the main channels for foreign direct investment (FDI) spillovers. This paper investigates whether and how participation and positioning in the global value chains (GVCs) of host countries is associated to local sourcing by foreign investors. Matching two firm-level data sets on 19 Sub-Saharan African countries and Vietnam to country-sector level measures of GVC involvement, we find that more intense GVC participation and upstream specialization are associated to a higher share of inputs sourced locally by foreign investors. These effects are larger in countries with stronger rule of law and better education.

8. [What Remains of Cross-Country Convergence?](#)

Paul Johnson and Chris Papageorgiou

*Journal of Economic Literature*

We examine the record of cross-country growth over the past 50 years and ask if developing countries have made progress on closing income gap between their per capita incomes and those in the advanced economies. We conclude that, as a group, they have not and then survey the literature on absolute convergence with particular emphasis on that from the last decade or so. That literature supports our conclusion of a lack of progress in closing the income gap between countries. We close with a brief examination of the recent literature on cross-individual distribution of income which finds that, despite the lack of progress on cross country convergence, global inequality has tended to fall since 2000.

9. Growth and Jobs in Developing Economies: Trends and Cycles

Zidong An, Tayeb Ghazi, Nathalie Gonzalez-Prieto, and Aomar Ibourk

*Open Economy Review*, forthcoming

Topic 5. Enhancing inclusion

10. Robust Drivers of Income Inequality

Davide Furceri and Jonathan Ostry

*Oxford Review of Economic Policy*, forthcoming

*Book chapters (for information only)*

We had no book chapters this year.

### Output 1.3 – Freely available books

1. [Confronting Inequality: How Societies Can Choose Inclusive Growth](#)

Inequality has drastically increased in many countries around the globe over the past three decades. The widening gap between the very rich and everyone else is often portrayed as an unexpected outcome or as the tradeoff we must accept to achieve economic growth. In this book, three International Monetary Fund economists show that this increase in inequality has in fact been a political choice—and explain what policies we should choose instead to achieve a more inclusive economy.

## Output 2.1 – Country Applications with IMF Country Teams

### FPAS framework

1. Hands-on training clinics on FPAS for IMF AFR country desks. ICD provided 5-day hands-on training clinic on FPAS for a group of IMF AFR country desks. IMF country teams from Uganda, Tanzania and Mozambique also received support with developing the medium-term projections models in bilateral sessions with ICD experts.

### Diversification

2. FAD-ICD-LEG-MCM-RES-SPR Macro-Structural Training, Clinic 7: Diversification, Structural Transformation, and Reforms in Developing Economies

The clinic provided an overview of IMF analytical and policy work on diversification, structural transformation, and reforms and its operationalization in country work. It shed more light on the role of diversification in the macroeconomic performance of developing countries by considering diversification not just in trade, but also in the broader domestic economy. Diversification involves significant changes in both the type and quality of goods produced and exported. However, there are major differences across regions and countries in the degree to which they have succeeded in carrying out such economic transformation. Increases in diversification have been associated with lower volatility and higher growth in developing countries. This clinic also discussed the approach and priorities to help guide the Fund in supporting countries' macrostructural policy needs. Empirical analysis finds a broadly positive relationship between structural reforms and productivity; however, the potential payoff from different reforms varies across income groups. The course also discussed some country cases to reinforce the empirical findings and resonate with historical reform patterns.

### DIG/Investment scaling up/Debt sustainability

3. DIG model applied in a background note for a [high-level conference on the Belt and Road Initiative](#)

The application uses the DIG model to analyse the issues related to developing countries included in the Belt and Road Initiative. The analysis shows that scaling up public investment can spur economic growth, but it can also involve major macroeconomic challenges and trade-offs. In particular, frontloading public investment too much can be counterproductive. Structural reforms have a big potential in unlocking the benefits from investing in public infrastructure.

4. [Application of DIG extended with natural disasters to St Lucia](#)

Resilience to climate change and natural disasters hinges on two fundamental elements: financial protection, provided by insurance and self-insurance, and structural protection, which requires investment in resilient infrastructure and adaptation to climate change. Using DIGNAD, an extension of the DIG model calibrated to the St. Lucia's economy, this paper studies the conditions under which each of the two strategies provides the best protection against climate change and natural disasters. While structural protection normally delivers a larger output payoff because of its direct dampening effect on the cost of disasters, financial protection is superior when liquidity constraints limit the ability of the government to rebuild public capital promptly. The estimated trade-off is very sensitive to the efficiency of public investment.

5. An application of the DIG model to Bolivia

An application of the DIG model to Bolivia was presented to the authorities during the Article IV consultation mission in La Paz (Sep 26- Oct 2, 2018). The application examined the macroeconomic

impacts of continued high public investment, including on debt sustainability over the medium term. The results showed that such an ambitious public investment plan could entail sizeable medium to long-term macroeconomic risks, especially in the face of declining hydrocarbon revenues. It is estimated that if current investment levels continued through 2030, public debt levels could double from its level of 50 percent of GDP in 2017. The results illustrate the macroeconomic benefits of gradual fiscal consolidation, reinforcing the central message of the mission. These findings are presented in a forthcoming Working Paper.

#### 6. An application of the DIG model to Cameroon

An application of the DIG model to Cameroon was presented to the authorities during the Third Review under the Extended Credit Facility (ECF) in Yaoundé (Nov 6- 9, 2018). The application examined the macroeconomic gains from removing public investment inefficiencies. The simulation results highlighted sustainable growth dividends from public investment reforms geared towards removing inefficiencies and prioritizing high return projects with the potential to crowd in the most private investment. Also demonstrated were the macro-risks associated with continued reliance on non-concessional financing. These findings are presented in an annex to the forthcoming Fourth Review under the Extended Credit Facility (ECF) Arrangement.

#### Natural disasters

#### 7. Dominica: Selected Issues Paper and Article IV

The team participated in the IMF Article IV mission to Dominica and presented the resilience building tool developed and customized for small states with natural disasters. The key results were illustrated in the Selected Issues Paper and Staff Report for Dominica and presented at the Ministry of Finance with attendees from the National Resilience Development Committee, the Chamber of Commerce, and the Ministry of Finance in Dominica. The results show that both the long-run economic growth and short-run recovery depend crucially on the level of resilience. The analysis reveals that the return of investing in resilient capital is higher than the cost associated with it and that a more resilient economy leads to higher private investment and lower brain drain.

#### Income and Gender Inequality

#### 8. FAD-ICD-LEG-MCM-RES-SPR Macro-Structural Training, Clinic 5: Distributional Impact of Policies and Reforms

The course introduces the macro-distributional analysis toolkit developed by DU staff under the IMF-DFID collaboration and the incidence analysis toolkit for subsidy reform. The team presented the key features of the two frameworks and discussed how they have been used in several applications for surveillance and program countries across the development spectrum.

#### 9. [Senegal: Selected Issues](#). Chapter on Gender Gaps in Senegal: From Education to Labor Market.

This paper examines gender gaps in education and in the labor market in Senegal. Despite progress in the last two decades, further reduction of gender gaps in secondary education and in the labor market is needed and would bring macroeconomic benefits. The authors use a general equilibrium model with heterogeneous agents to estimate the impact of policies to reduce these gaps. For instance, increasing years of education so that everyone receives at least 5 years of education promotes GDP gains in a single generation on the order of 8 percent, improves female labor force participation by 11



percentage points and reduces inequality (as measured by the Gini coefficient) by 3 percentage points.

10. [Senegal: Selected Issues](#). Chapter on Revenue Mobilization and Inequality.

This paper quantitatively assesses the macroeconomic and distributional impacts of fiscal consolidation in Senegal through value added tax (VAT), personal income tax (PIT), and corporate income tax (CIT). We analyze the trade-offs between growth and equity for each tax instrument. We find that VAT has the least efficiency cost in output and consumption but expands the rural-urban inequality gap because significant VAT tax incidence falls on the rural area. PIT is the most detrimental in terms of growth and inequality. CIT on the other hand, despite causing large efficiency loss, has better distributional implications by distributing the tax burden more evenly across regions. Much of the output and distributional costs can be mitigated by using the additional revenue for infrastructure investment and cash transfer.

11. [Nigeria: Article IV](#).

Potential Gains from Convergence in Exchange Rates: We explore the impact of multiple exchange rate systems on GDP, income inequality and poverty in Nigeria. Results reflect that eliminating the multiple exchange rates would promote growth, reduce poverty and inequality.

12. [Nigeria: Selected Issues](#). Chapter on Human Capital and Gender Equality

Education and health outcomes in Nigeria are among the weakest worldwide and are deteriorating in some parts of the country. Access to education is highly unequal across states, and individuals' income and gender. Regional differences in health outcomes are vast. Estimations from a micro-founded general equilibrium model suggest that narrowing gaps in education between boys and girls and between individuals at different parts of the income distribution would boost productivity, decrease income inequality, and narrow gender gaps in labor force participation rates and earnings. Closing the gender gap in years of schooling in each income quintile alone would boost long-term GDP by 5 percent, with much higher effects for more ambitious scenarios that also include anti-discrimination policies. Improving health outcomes, in particular for children, will support education outcomes and boost productivity of the labor force.

Remittances

13. ICD Training, Macroeconomic Consequences of Remittances

Remittance flows are currently estimated at over 500 billion US dollars, have amounted to 2 percent of GDP on average for all emerging market and developing economies, comparing with foreign direct investment (FDI) represented 3 percent. This training provided IMF staff with a tour-de-force through the growing research on the macroeconomic impact of these private income flows and discussed policy implications for low- and lower-middle-income countries and countries in a fragile situation states, as well as for Fund work and policy advice.

## **Output 2.2 – Uptake by Country Authorities**

1. ICD expert supported a technical meeting of the East African Community (EAC) FPAS working group.

ICD expert supported two technical meetings of the East African Community (EAC) FPAS working group (WG) – one in May 2018 in Kampala (Uganda) and another in February 2019 in Nairobi (Kenya) – and facilitated peer-to-peer exchange on FPAS-related issues between staff from EAC partner states' central banks. At the meeting in Uganda the participants discussed common challenges with calibrating the core forecasting models and addressed country-specific modelling challenges. The mission in Kenya helped develop a prototype stand-alone external sector model, which includes major world economies as well as EAC trading partners and utilizes third party forecasts to estimate effective foreign variables (e.g. foreign effective output gap, foreign effective inflation). The model can be incorporated into individual countries' forecasting models.

2. Uganda. ICD team will be assisting Bank of Uganda (BoU) review and upgrade its modelling toolkit during a joint BoU/IMF workshop.

ICD organized a joint workshop with Bank of Uganda (BOU) on main elements of the BOU medium-term forecasting framework. During the workshop participants analyzed forecast performance since the inception of the medium-term forecasts as a regular input for policy decisions. Analysis of the forecast performance over time and in recent periods resulted in important takeaways for improving forecast accuracy. Participants also worked on improvements of the core forecasting model and assessment of emerging external risks to the medium-term outlook.

### **Output 2.2.1 – Courses and Workshops Offered to Country Authorities**

1. Modernizing Monetary Policy Framework in Tanzania through development of FPAS

The IMF organized two customized training missions on modelling and forecasting to Tanzania, in July 2018 and February 2019. The missions assisted the forecasting team in the Bank of Tanzania (BoT) to further develop its quarterly projection model, finetune and streamline the FPAS-related analytical tools, foster internal organizational changes to underpin the BOT decision-making process by model-based analysis, and strengthen the modelling and forecasting capacity of the Forecasting Unit. Furthermore, the July 2018 mission started to assist the BoT in modernizing its monetary policy communication function, in line with best practices. As part of this process, the mission (i) assessed the current communications strategy at the BoT, as well as the tools and techniques employed by the BoT to communicate on monetary policy to external stakeholders, and (ii) identified the changes necessary in the BoT's communication strategy and practices to support an orderly transition to the interest rate-based monetary policy framework. A note on monetary policy communications at the BoT prepared by the mission team, with inputs from the IMF's Tanzania desk team (AFR), MCM, and COM, was shared with BoT authorities during the February 2019 mission.

2. Monetary Policy Modelling and Forecasting Training in Malawi

The team organized customized training missions on modelling and forecasting to Malawi in October 2018 and February 2019. The missions supported the Reserve Bank of Malawi (RBM) to further enhance the Bank's forecasting and policy analysis system (FPAS). The missions worked closely with the RBM staff to (i) develop forecast evaluation toolkit in order to start assessing performance of the historical model-based forecasts; (ii) enhance the core Quarterly Projection Model (QPM) by including term structure of interest rates to be able to better capture the monetary transmission mechanism (MTM) and more accurately assess macroeconomic effects of money-market liquidity conditions; and (iii) advance notably in documenting the FPAS infrastructure to ensure sustainability of FPAS practice in

the Bank.

### 3. Monetary Policy Modelling and Forecasting Training in Rwanda

The ICD team organized customized training missions on modelling and forecasting to Rwanda in November 2018 and March 2019 to support modernizing monetary policy framework and establishing FPAS at the National Bank of Rwanda (BNR). The main tasks of the missions included (i) reviewing and advising the BNR management on establishing processes and organizational changes consistent with the best FPAS practices, (ii) providing feedback on the content and process of preparing macroeconomic projections and materials for MPC meetings, and (iii) assisting the forecasting team of the BNR to further develop modelling and forecasting capacity in line with the project's work plan and milestones agreed with the authorities in April 2018. The missions noted a number of important steps undertaken by the authorities towards establishing FPAS at the BNR, including better aligning the timing of MPC meeting with data releases, identifying members of the interdepartmental Forecasting Team, and developing the forecasting calendar.

### 4. Rwanda: 3-day course on "Methods and Tools for Micro-Applied Economics: Topics in Financial Intermediation"

IMF staff visited Kigali, Rwanda, in July 2018, as part of the DFID-funded research collaboration between the IMF and the National Bank of Rwanda. During the visit, Andrea Presbitero taught a three-day course on "Methods and Tools for Micro-Applied Economics: Topics in Financial Intermediation" and presented and discussed the findings of the paper "Financial inclusion under the microscope." The study evaluates the effect of a government-sponsored program to expand the outreach of the banking system through the establishment of a dense network of credit cooperatives. Results indicate that the program has increased access to credit by previously unbanked individuals. They also show that commercial banks reacted to the set-up of the new SACCOs by expanding their lending, targeting individuals who, thanks to the program, were able to build credit history.

### 5. Peer learning event on gender equality in Dar es Salaam, Tanzania

The team, in coordination with senior and technical level staff from the IMF's African Department and UN Women, held a three-day peer learning event on gender equality in Dar es Salaam on June 4-6, 2018. Topics included IMF analytical work on the relationship between gender inequality and macroeconomic outcomes, gender budgeting, and policy priorities. The participants also explored ideas for future collaboration opportunities between the IMF and UN Women. After the workshop concluded, the team then conducted a one-day workshop on gender inequality research with staff from UN Economic Commission for Africa in Addis Ababa.

### 6. [A three-day course on "Understanding Gender Responsive Budgeting" at IMF East Africa Regional Technical Assistance Center](#)

The objective of the workshop is to familiarize the participants with an integrated perspective on gender budgeting; initiating dialogue among different institutions responsible for gender equality, and promoting peer learning by providing an opportunity for focused facilitation of the good practices and experience in gender responsive budgeting. The event had approximately 30 participants from the region, and IMF-DFID staff presented the findings from the global survey on gender budgeting.

### 7. The DIG Model: Theory, Application, and Hands-on Sessions (Bolivia and Cameroon)

A workshop on the DIG model and outreach on the Infrastructure Policy Support Initiative (IPSI) were held in La Paz, Bolivia (Sep 26 - Oct 2, 2018) and Yaoundé, Cameroon (Nov 6-9, 2018). The Workshops featured an application of the DIG model to Bolivia and Cameroon to show how it can be used to inform policy decisions. Dawit Tessema highlighted relevant pieces in the analysis of public

investment decisions, including (i) investment-growth linkages, (ii) potential inefficiencies of public investment, (iii) financing mix and public debt accumulation, and (iv) the fiscal policy reactions necessary to ensure debt sustainability. Mr Tessema also presented an overview of the IPSI and the outcomes of the pilot phase. About fifty technical staff from Cameroon's Ministry of Economy, Planning and Regional Development (MINEPAT), Ministry of Finance (MINFI), and Ministry of Public Works (MINTP). In Bolivia, the workshop was attended by twenty technical staff from the Ministry of Economy and Public Finance (MEPF), Central Bank of Bolivia (BCB), and Unit for Analysis of Social and Economic Policies (UDAPE).

## Output 3.1 – High-level Policy Conferences Attended by IMF Senior Staff

### 1. [IMF and Korea Development Institute Conference on Achieving Inclusive Growth](#)

On November 29, 2018, the International Monetary Fund (IMF) and the Korea Development Institute (KDI) hosted a conference on “Achieving Inclusive Growth: A Policy Debate” in Seoul, Korea. The President of the KDI, Jeong Pyo Choi, the Vice Chairman of Presidential Committee on Jobs, Mok-hee Rhee, the Managing Director of the IMF, Christine Lagarde (via videoconference) and Jonathan D. Ostry, Deputy Director at the Research Department of the IMF, provided introductory remarks and opened the conference. Nobel Laureate Joseph Stiglitz and Professor Jeffrey Sachs delivered the keynote speeches.

### 2. Oxford Workshop on Macroeconomic Policy in Fragile States

The IMF organized a workshop with Oxford University’s Blavatnik School of Government on December 10-11. Recent research on macroeconomic policy in fragile states was presented by academics and experts from a range of international organizations (IMF, World Bank, ILO, OECD). Topics covered included the interaction between society and state (Daron Acemoglu and James Robinson), how to support revenue mobilization (Tim Besley), how should IFIs support transitions (Paul Collier), and the criteria for choosing an exchange rate regime (Chris Adam, Ibrahim El-Badawi). The conference papers will be published as a book in early 2020.

### 3. Workshop on the Design of Monetary Policy Frameworks

Building on the continued efforts in the IMF-DFID collaboration in providing guidance on the modernization of monetary policy frameworks, staff from the IMF organized a highly successful workshop on “The Design of Monetary Policy Frameworks” at the IMF headquarters on October 26th. The workshop featured a keynote speech by Sir Paul Tucker, a presentation by Filiz Unsal on an ongoing project on monetary policy frameworks, a luncheon speech by Andrew Berg and Rafael Portillo on the book “Monetary Policy in Sub-Saharan Africa” and two panel discussions. The first panel focused on dimensions in need of improvement or change for various monetary policy building blocks. The second panel considered country experiences with designing and implementing sound principle-based frameworks.

### 4. [Workshop on Coping with Climate Change](#)

In collaboration with a number of organizations, including the National Academy of Sciences, Engineering, and Medicine, the IMF held a workshop on “Coping with Climate Change” on October 1, 2018 at the OCP offices in Paris. The event, sponsored by DFID and other partners, aimed to forge links among economists in different fields who share an interest in enhancing their understanding of climate change issues. With that overall aim in mind, the workshop brought together climate change experts and established scholars from other fields of economics who have done some work on climate change issues but are not experts. Specifically, the workshop solicited expert feedback on recent work on econometric evidence on decoupling of emissions and growth; and on general equilibrium modeling of policy choices for countries, particularly low-income countries, to cope with effects of climate change. Furthermore, it showcased recent efforts by central banks and the financial sector to assist the global effort to combat climate change. Experts from the Banque de France at the forefront of this effort were also invited.

5. [Trade Policy, Inclusiveness and the Rise of the Service Economy](#)

Over the past two decades, services have been the fastest growing segment of global trade, employment and output. The rise of the service economy has fundamentally altered the economic landscape across the world, and is likely to play a key part in shaping the global economy in the future.

As a result, services have rapidly moved up trade policy agendas worldwide. In fact, since 2006 77% of all signed preferential trade agreements included substantive services provisions, up from only 16% in the 1990s.

The unprecedented prominence of services in global trade offers challenges and opportunities that are yet to be sufficiently understood. The analytical void underlying this phenomenon risks resulting in important misalignments between the implementation of trade policy frameworks and the global agenda for inclusive growth.

Against this backdrop, the Council on Economic Policies, the International Monetary Fund, the World Bank and the World Trade Organization are organizing a workshop on 25-26 April, 2018 in Geneva, Switzerland, on policy relevant aspects of the links between trade in services and inclusive growth. Papers presented in the workshop will be considered for an expedited review process for a Review of International Economics special issue to be published in 2019.

6. [Empowering Women in the Workplace](#) (Annual Meeting Seminars)

This panel discussion covers how increasing female participation in the labor force can support countries' growth, development, and stability objectives, including on policies geared toward helping women cope with new technologies. The panel will draw on IMF's new research on gender diversity and resilience and will discuss the future of work. The panel will focus on which policy designs are most successful at increasing women's empowerment and how these policies could support countries' growth, development, and stability objectives; including by discussing policies needed to help women cope with technological change.

## Output 3.2 – Results of papers reflected in IMF Board discussions and papers

### *Papers discussed by the IMF Executive Board*

#### 1. [Building Resilience in Developing Countries Vulnerable to Large Natural Disasters](#)

Many developing countries are vulnerable to natural disasters that can have large macroeconomic effects; disaster-risk management is a macro-critical challenge. For small states and low-income countries, the capacity to develop, finance, and implement a disaster risk-management strategy is often limited, even as the economic case for doing so is compelling. This paper discusses the components of such a strategy and looks at how support for national resilience-building from international financial institutions (IFIs) and other development partners might be coordinated.

#### 2. [A Strategy for IMF Engagement on Social Spending](#)

Interest in social spending issues has intensified over the last decade. The Fund has also increased its engagement on social spending issues. This paper outlines a strategy to guide IMF engagement on social spending issues going forward, with specific tools and resources available that include several DFID outputs (e.g., the inequality how-to note, the 2017 Staff Discussion Note on inequality issues in LIDCs, the fuel subsidy template).

## Output 3.2.1 – Results of papers reflected in IMF policy papers

### *Fiscal Monitor/WEO/REO/SDN*

#### 1. [Economic Gains From Gender Inclusion: New Mechanisms, New Evidence](#)

While progress has been made in increasing female labor force participation (FLFP) in the last 20 years, large gaps remain. The latest Fund research shows that improving gender diversity can result in larger economic gains than previously thought. Indeed, gender diversity brings benefits all its own. Women bring new skills to the workplace. This may reflect social norms and their impact on upbringing and social interactions, or underlying differences in risk preference and response to incentives for example. As such, there is an economic benefit from diversity, that is from bringing women into the labor force, over and above the benefit resulting from more (male) workers. The study finds that male and female labor are imperfect substitutes in production, and therefore gender differences in the labor force matter. The results also imply that standard models, which ignore such differences, understate the favorable impact of gender inclusion on growth, and misattribute to technology a part of growth that is actually caused by women's participation. The study further suggests that narrowing gender gaps benefits both men and women, because of a boost to male wages from higher FLFP. The paper also examines the role of women in the process of sectoral reallocation from traditional agriculture to services and the resulting effect on productivity and growth. Because FLFP is relatively high in services, sectoral reallocation along development paths serves to boost gender parity and productivity.

#### 2. [Work in Progress: Improving Youth Labor Market Outcomes in Emerging Market and Developing Economies](#)

Economic development and growth depend on a country's young people. With most of their working life ahead of them they make up about a third of the working-age population in the typical emerging market and developing economy. But the youth in these economies face a daunting labor market—about 20 percent of them are neither employed, in school, nor in training (the youth inactivity rate). This is double the share in the average advanced economy. Were nothing else to change, bringing youth inactivity in these economies down to what it is in advanced economies and getting those inactive young people into new jobs would have a striking effect. The working-age employment rate in

the average emerging market and developing economy would rise more than 3 percentage points, and real output would get a 5 percent boost.

3. African Department's (AFR) Regional Economic Outlook (REO) April 2018: [Box 2.2 Modelling the Economic Impacts of Revenue Mobilization in Resource-Rich Sub-Saharan African Countries](#)

This analysis, focusing on the CEMAC region, provides lessons applicable more broadly to sub-Saharan Africa economies. It shows that revenue mobilization is a particularly powerful means to reduce government indebtedness, but it may also generate undesirable effects on inequality. This highlights the need to adopt mitigating policies, in particular, cash transfer programs targeted to the most vulnerable, especially if the specific revenue mobilization instruments are likely to affect poor households' incomes.

4. African Department's (AFR) Regional Economic Outlook (REO) April 2018: [Chapter 3—The Future of Work in Sub-Saharan Africa](#)

We created two indices of countries' export vulnerability to automation. These indices are based on different measures of the automatability of occupations that have been suggested in the literature by Frey and Osborne (2017) and Brynjolfsson, Mitchell, and Rock (2018). These indices are mapped to industries, and then to export goods to ascertain how vulnerable an export sector is to automation.

5. [Pursuing Women's Economic Empowerment](#)

The economic and social imperative for women's economic empowerment is clear. Greater gender equality boosts economic growth and leads to better development outcomes. It contributes to reducing income inequality and boosting economic diversification and, in turn, supports economic resilience. Gender equality is one of the 17 global UN Sustainable Development Goals, which provide a roadmap for ending poverty, protecting the planet, and ensuring that all people enjoy peace and prosperity.

The G7 has emphasized the need for closing the gender gap. The Taormina Leaders' Summit in 2017 renewed the emphasis on promoting women's empowerment, which the leaders see as a crucial contribution to promoting sustainable development. In this regard, leaders committed to mainstreaming gender equality into all their policies. This is carried forward by Canada's G7 Presidency.

With growing recognition that gender equality promotes economic stability and growth, the IMF has scaled up its work in this area and is committed to continue these efforts. Work by the IMF will focus on (i) deepening its understanding of the economic benefits of women's empowerment, both in the labor market and through more equal opportunities for boys and girls, also against the background of persistent megatrends, including in an environment of rapid technological change; (ii) integrating the analysis into Fund policy dialogue with member countries; (iii) providing customized assistance, workshops, and peer-learning courses in areas such as gender budgeting; and (iv) expanding collaboration with other international institutions on the subject to benefit from complementary areas of expertise.



## Output 4.1 – Commissioned Papers

### 1. Phases of Globalization, Wages and Inequality

Joël Hellier

*Open Economy Review*, forthcoming

To analyse the globalization-wages-inequality relationship, we extend the North-South HOS model by assuming (i) that the size of the South (emerging countries) increases over time, (ii) that the North (advanced countries) and the South have very different factor endowments, (iii) several northern and southern countries with different skill endowments, and (iv) North-South technological differences, productivity catching up and technological transfers. The model generates three phases of globalization, corresponding to different production patterns and to specific changes in inequality in the North and in the South. In the North, inequality continuously increases and unskilled workers purchasing power continuously decreases during the first phase of globalization, and inequality diverges across countries. In the South, very different profiles in terms of inequality dynamics are possible, depending on the country's skill endowment and on the its technological gap with the North. Unlike the traditional North-South HOS approach, the model predictions fit with observed facts.

## Output 4.1.1 – Toolkits

1. [Commodity Terms of Trade Database](#)
2. A Toolkit to Evaluate the Welfare Effects of Fiscal Consolidations in Low-income Countries. [Internal Site](#) and [External Site](#).

A Toolkit to Evaluate the Welfare Effects of Fiscal Consolidations in Low-income Countries. The inequality toolkit receives a major update which allows the users to compute the transitional dynamics and welfare decompositions into aggregate and distributional components for policy reforms, as well as full open source support upon the demand from outside the Fund. A corresponding major update of the working paper documenting the analytical framework was also issued, along with numerous other improvements. It was distributed as an update to the previous toolkit, despite the substantial upgrade, for two reasons: 1) To allow returned users to utilize results from the previous toolkit as much as possible; and 2) to prevent potential confusion caused by multiple toolkits.

#### **Output 4.2 – Attendance of External Researchers at High-Level Policy Conferences**

1. Center for Studies and Research on International Development, at University of Auvergne, France – May 2018
2. “Voyage to Indonesia” series of seminars leading up to the IMF Annual Meetings in Bali in October – [July 2018](#)
3. 2018 Annual Meeting of the Society for Economic Dynamics – [June 2018](#)
4. German Economic Association Research Group on Development Economics – [June 2018](#)
5. 24th Computing in Economics and Finance International Conference – [June 2018](#)
6. Financial Inclusion: Zooming in at Analytical Corner of the IMF-World Bank’s Annual Meeting – [October 2018](#)
7. IMF: Gender Inequality and the Macroeconomy at LSE Inequalities Institute – [November 2018](#)
8. The IMF-DFID team presented on gender inequality research. A one-day course for DFID country economists, presenting a broad overview of the IMF’s body of research on the macro and gender, the gender budgeting study, two toolkits, and the theoretical research on gender/income inequality – October 2018
9. International Conference and Workshops on Participatory Budgeting and Gender Responsive Budgeting Nexus: African Context and Perspectives – [November 2018](#)
10. Presenting "Borrowing Costs and The Role of Multilateral Development Banks: Evidence from Cross-Border Syndicated Bank Lending" at the International Finance Corporation Sector Economics Seminar – January 2019
11. NBER Summer Institute on Trade-in-Services Toolkit – July 2018
12. UNU-WIDER Conference on Development, Finland (Helsinki) – [September 2018](#)
13. Trade Impacts of Fossil Fuel Subsidies – [October 2018](#)
14. World Bank Conference on Globalization, Malaysia (Kuala Lumpur) – [January 2019](#)
15. CSAE Conference 2019: Economic Development in Africa, Oxford, UK – [March 2019](#)
16. 2019 Forum on Scenarios for Climate and Societal Futures, Denver, USA – [March 2019](#)
17. 8th International Research Workshop in Microfinance – September 2018
18. 1st Endless Summer Conference on Financial Intermediation and Corporate Finance – [September 2018](#)
19. ASSA Annual Meeting – American Economic Association – [January 2019](#)

20. Chicago Financial Institutions Conference – March 2019
21. 12th Swiss Winter Conference on Financial Intermediation – [March 2019](#)
22. Departmental Seminar Series at Stony Brook University – [March 2019](#)

### **Output 4.3 – Results disseminated in e-newsletters**

1. [June 2018 Newsletter](#)
2. [September 2018 Newsletter](#)
3. [December 2018 Newsletter](#)
4. [March 2019 Newsletter](#)

#### *Extras*

#### **Blogs/Article**

1. It's too soon for optimism about convergence – [VoxEU](#)
2. How income gains from globalisation are distributed – [VoxEU](#)
3. Chart of the Week: Distribution of Globalization's Gains – [IMF Blog](#)
4. Citizenship and Growth – [Finance & Development](#)
5. IMF's intranet article on gender budgeting
6. IMF-UN Women [blog](#) on gender budgeting