Type of Review: Annual Review

Project Title: Macroeconomic Research in Low Income Countries

Date started: March 2012 Date review undertaken: June 2013

Instructions to help complete this template:

Before commencing the annual review you should have to hand:

- *the Business Case or earlier project documentation.*
- *the Logframe*
- *the detailed guidance (How to Note)- Reviewing and Scoring Projects*
- *the most recent annual review (where appropriate) and other related monitoring reports*
- *key data from ARIES, including the risk rating*
- *the separate project scoring calculation sheet (pending access to ARIES)*

You should assess and rate the individual outputs using the following rating scale and description. ARIES and the separate project scoring calculation sheet will calculate the overall output score taking account of the weightings and individual outputs scores:

Description	Scale
Outputs substantially exceeded expectation	A++
Outputs moderately exceeded expectation	A+
Outputs met expectation	A
Outputs moderately did not meet expectation	B
Outputs substantially did not meet expectation	C

Introduction and Context

What support is the UK providing?
"Macroeconomic Research in Low Income Countries" represents a strategic partnership in research 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 research 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 June, 2015.

DFID will provide £4.14 million over three years. (US$6.6m - of this $1,924,170 has been spent to date).

What are the expected results?

The **outcome** of the project is better macroeconomic policy making in LICs leads to faster economic growth, job creation and poverty reduction in LICs. The **impact** is: a deeper understanding of, and better engagement by IMF policy makers on LIC-specific macroeconomic issues based on robust analysis and evidence, and the development of toolkits to enable LICs to benefit from development in six key thematic areas.

The outcomes of the project are anticipated to encompass the following;

(i) ***Produce high quality research.*** Some of the research is aimed at high quality journals, but a large proportion is aimed at operational research, to build and pilot useful applied frameworks.

(ii) ***Strongly encourage the uptake of research by IMF country teams***. IMF country teams will use many of the frameworks developed under the project to inform discussion with authorities. For example the Fund expects at least 3 country teams to use the public investment/debt sustainability analysis tool in the year of completion and reference such analysis in Article IV and other staff reports.

(iii) ***Encourage the uptake of research by country authorities.*** The Fund expect that under this project, that at least two central banks will make use of the monetary policy models developed, as evidenced through interactions with IMF staff and noted in IMF staff reports. The uptake of research will be supported by workshops and conferences by bringing together key academics, policymakers and technocrats to discuss the outputs of research. Through the feedback such forums provide they increase the quality and relevance of such research

(iv) ***Strengthen engagement by IMF senior policymakers on issues affecting LICs***. Research under the project is expected to provide direct inputs and influence Fund Board papers on LICs. For example under topic 3 the project research helped provide an analytical basis for the Board paper on natural resource rich LICs. The close collaboration between the research and policy teams on this project greatly facilitated this outcome.

(v) ***Expand the network of researchers working on macroeconomic issues affecting LICs***. The IMF plan to establish a process similar to the annual research conference that will commission up to ten research papers on LICs related to topics covered under the proposal, with the aim to publish papers as a conference volume. This is proposed to support the goal of broadening the base of LIC macroeconomic researchers, bringing in new talent into close contact with policy makers.

What is the context in which UK support is provided?

The Growth Report of the Commission on Growth and Development (2008)[1] concluded that 'it is impossible for poor countries to lift large populations out of poverty without growth'. Furthermore the commission noted that while we have an understanding of the basic ingredients that make up a successful growth strategy, and, importantly, we have an understanding of what makes a bad strategy we need to deepen our understanding, in particular on how to apply strategies to economic and political context.

A large share of policy research on economic issues (including on macroeconomic issues) is focused on developed economies – a trend that has accentuated more recently with the onset of financial and euro crisis. Research on developing countries tends to focus on higher income/high population developing countries, such as Brazil, China, India, and Indonesia while research in Low Income Countries (LICs) has received less attention from the research community. Part of the explanation for this lack of empirical work is grounded in a lack of quality data on LICs making it difficult to undertake applied research.

The Commission on Growth states that no economy can flourish in the midst of macroeconomic instability. Wild fluctuations in the price level, the exchange rate, the interest rate, serve as a major deterrent to private investment, the proximate driver of growth. Empirical studies by Bleaney (1996) and Fischer (1991, 1993) concluded that macroeconomic stability matters for sustained growth. Economists and policy makers, however, disagree about the precise definition of stability and the best way to preserve it particularly in developing countries, giving rise to an important research agenda. For example, very high inflation is clearly damaging to investment and growth. Bringing inflation down is also very costly in terms of lost output and employment. These issues are even more complex in a developing country context where there is greater volatility in macroeconomic variables and yet considerable desire to grow fast and integrate into world markets.

An important question is to ask why DFID should commission growth research. There are several key ways in which DFID commissioned research on growth will add value to international efforts in this area. Firstly, DFID has resources and incentives to deliver research that has a focus on policy and is used, as opposed to research that is of general interest. While, there is an active academic community in growth research financed by multiple sources, including core government funding to the research councils, such as, in the UK, the Economic and Social Research Council (ESRC), this research delivers high quality and independent research, but it has been less good at ensuring research has impact on economic policies. Secondly, in comparison to other institutions, DFID has strong incentives to focus research on the least developed countries, an area that is under-resourced. Finally, DFID growth research establishes greater diversity and competition in provision of research and advice on growth to developing country policy-makers that is independent and not 'message or ideologically driven'. DFID growth research directly supports DFID's strategic priorities including the 'Wealth Creation', 'Gender' and 'Private Sector Development', pillars of UK government's structural reform plan. The Research Strategy 2008-2013 also commits DFID to 'improve our understanding of processes and policies to support economic growth'. It contributes to the delivery of Research and Evidence Division's (RED) three strategic objectives, namely: (1) capacity to do and use; (2) new knowledge to help shape policy; and 3) evidence and new research are used for better decision-making.

There are a number of reasons why DFID is intervening in macroeconomic research. Firstly, the capacity to do macroeconomic research and use the evidence is very small. Secondly, the current global crisis in the macro-economy is creating new challenges for LICs which need to be addressed whilst diverting scarce resources to solving macroeconomic problems primarily of the developed and emerging world. A key rationale for DFID investment in macroeconomic research is to protect and promote the LIC agenda.

[1] Commission on Growth and Development (2008),' The Growth Report: Strategies for Sustained Growth and Inclusive Development', World Bank, Washington, D.C.

Section A: Detailed Output Scoring

Output 1: *High quality, policy relevant research on macroeconomic issues affecting LICs Produced*

Output 1 score and performance description: A++

The project has produced a very impressive number of outputs during its first year. Against output 1.2 (published papers) the project achieved at the high end of the performance spectrum; and in the case of output 1.1 (working papers), the outputs substantially exceeded the high target for the first year. The research papers covered a broad spectrum of topics, many of them being highly topical addressing high profile policy relevant matters. The papers were assessed for their quality, relevance and originality by a team of DFID economists. Their assessments were very positive overall, with outputs scoring favourably against all these criteria. As the number of working papers substantially exceeded expectations in terms of their quantity, and scored well against the quality, originality and relevance criteria also, the review team evaluated that an A++ was a justified score for this output.

The review team noted there were no significant cost drivers or substantial delays during the first year and or anticipated for the delivery of remaining project outputs. Revisions to the project budget or log frame are therefore not required at this time.

Progress against expected results:

During the project's first year, the IMF have completed **13 working papers** and **published one paper in an academic journal** on four out of the six topic headings. This compares to a medium performance target of 8 working papers and no published paper, and a high performance target of 12 Working Papers and one published paper.

	Type of Output	Actual Output		Output Targets
1.	**High Quality, policy relevant research on macroeconomics in LICs produced**			
1.1	Working Papers	13	H	12
			M	8
			L	4
1.2	Published Papers	1	H	1
			M	0
			L	0

Details of the IMF Working Papers plus the published paper are expanded below for the four out of six topics.

Topic 1: Monetary and Exchange Rate Policy in Low-Income Countries

The goal of the research on monetary and exchange rate policies in LICs is to advance the understanding of existing regimes as well as the macroeconomic environment in which monetary policy operates. The topics being covered so far are diverse reflecting the many questions that remain unexplored in the literature.

- Andrle and others (2013) develop a forecasting and policy analysis system (FPAS) specifically for sub-Saharan African (SSA) countries. The model explicitly assigns a central role to food prices and their relation to global developments to analyze the dynamics of inflation. The authors apply the model to Kenya, which is representative of the challenges SSA countries have faced in recent years.

- Baldini et al. (2012) examine the role of the financial system in transmitting external shocks.

- Benes et al. (2013) look at the role of managed floats and exchange rate interventions in monetary policy regimes.

- Shen and Shu-Chun (2012) study the effect of government spending under limited international capital mobility.

Topic 2: Public Investment, Growth, and Debt Sustainability

On the topic of public investment, growth, and debt sustainability, many LICs are working to deliver on an ambitious promise to scale up public investment to meet huge needs in infrastructure, energy, and other critical sectors. This scaling up however, is often funded by non-concessional loans that can threaten macroeconomic stability. To examine these issues, the team has completed three working papers.

- Buffie et al. (2012) have put forward a dynamic LIC-specific macroeconomic model that provides a sophisticated debt sustainability analysis tool for LICs. This model enables country authorities, IMF country teams, and others to build a wide variety of logically consistent scenarios for public investment surges and other shocks. The use of the model should allow country teams and policymakers to understand better the implications of various assumptions and should drive demand for, and eventually generate, better information. To date, the model has been applied to Togo, Côte d'Ivoire, Burkina Faso, Cape Verde (see Yibin (2012)), Rwanda, and Liberia. Applications to Afghanistan, Senegal, Ghana, Tanzania, and Ethiopia are well underway.

- Andrle et al. (2012) present an analysis of the public investment scaling-up strategy for Togo using a dynamic macroeconomic model that explicitly analyzes the links between public investment, economic growth, and debt sustainability. The model has also been used to assess the growth projections underlying the standard Excel-based debt sustainability analysis for Togo.

Topic 3: Macroeconomic Management of Natural Resources

The third topic of research focuses on the management of natural resources in LICs. The work in this area will assist country authorities in LICs to manage natural resource revenues by examining the macroeconomic consequences of different savings and investment strategies. Research on this topic also examines the current account norm; that is, when a country receives a resource windfall, the appropriate current account deficit depends on the balance between investment at home and abroad (saving in a sovereign wealth fund). The topic also includes looking at efficient government investment and the role that the private sector can play even when externalities are present.

- Berg et al. (2013) develop a "sustainable investing tool" which allows policymakers to consider the macroeconomic and fiscal implications of different investment and saving strategies. The team is also in the process of developing another model for assessing current account norms in resource-rich LICs. The sustainable investing tool has been applied to Angola, the CEMAC currency union, Azerbaijan, and Mozambique.

- Araujo et al. (2013) develop a model with private and public investment and frictions that capture certain low-income country characteristics such as absorptive capacity and borrowing constraints. The model was applied to the CEMAC currency union in West Africa and is being applied to Ghana and Azerbaijan.

- Warner (2013), examines efficient government investment. The traditional framework says that state intervention is justified when the spending provides public goods or when the intervention addresses externalities, provided the social return is above a threshold. This paper argues that another consideration needs to be brought into the mix - whether, in spite of the externalities, the private sector has an incentive to undertake the activity. It is argued that these two considerations together define a more efficient framework under which to justify state intervention.

Topic 5: Financial Deepening and Macroeconomic Stability and Sustained Growth

Financial deepening and macro-stability has been identified as a priority area in the years ahead for the Fund, and the team has produced three working papers on this important topic.

- Poghosyan (2012) analyzes factors driving persistently higher financial intermediation costs in LICs relative to emerging market country comparators and finds that concentrated market structures and lack of competition in LICs banking systems and institutional weaknesses constitute the key impediments preventing financial intermediation costs from declining.

- Dabla-Norris and Narapong (2013) examine the impact of financial depth on macroeconomic volatility using a dynamic panel analysis for 110 advanced and developing countries. The results show that financial depth plays a significant role in dampening the volatility of output, consumption, and investment growth, but only up to a certain point.

- Barajas et al. (2013) introduces the concept of the financial possibility frontier as a constrained optimum level of financial development to gauge the relative performance of financial systems across the globe and show that an overshooting of the financial system significantly beyond levels predicted by its structural fundamentals is associated with credit booms and busts.

Recommendations:

The review team note the IMF's impressive performance against output 1 during the first year. This strong performance was achieved despite delays mobilising staff during the first 6 months. We note the successful collaboration between RES, Africa Department and Policy Divisions, as a new and innovative partnership, one that has contributed to strengthening the relevance and use of the research by IMF country operational teams as well as country Authorities.

DFID country and policy economists reviewed the outputs of the programme, for their quality, relevance and originality. They came to the view that the projects scored favourably against all these criteria.

While the material was of high quality, addressing highly topical and original issues, a general view was expressed for the IMF to consider converting the Working Papers into more accessible shorter 'policy briefs' to maximise further the uptake and use of the research by the broader policy making community.

It was also noted that while DFID economists had a good knowledge of macroeconomic issues in their respective countries, they were not experts in the methods and models adopted in the working papers or well up on the recent academic literature. As a result they were not able to provide a thorough critique of the papers from a methodological stand point.

We would therefore recommend the IMF agree to independent expert peer review of papers, by an individual(s) not connected to the research programme or IMF, to come to a view on the internal and external validity of the research findings. These assessments could then feed into future annual review exercises while providing useful feedback to the researchers, and help strengthen the analytical content of the papers. We suggest this be funded, in the first instance, through existing project resources.

We recommend the impact weighting be left unchanged at 30%.

Impact Weighting (%): 30%
Revised since last Annual Review? *Y/N N/A THIS IS THE FIRST YEAR ANNUAL REVIEW*

Risk: Low/Medium/High. LOW
Revised since last Annual Review? *Y/N*

Output 2: IMF Research Products (policy analysis, tools and frameworks) used by IMF country teams and partner authorities.

Output 2 score and performance description: A++

The project scored an A++ as outputs substantially exceeded expected performance. The expected performance against Output 2.1 was to achieve between 1 (low) to 6 (high) examples of uptake by IMF teams. The project achieved 10 instances of uptake. This is 67% higher than the high target for the year. Progress against output 2.2, was also highly commendable. The target was to achieve between 0 (low) and 1 (high) example of uptake by country Authorities. The team achieved the high target for this sub output. The IMF has therefore met the high performance target for output 2.2 and exceeded performance against output 2.1. Such progress therefore warrants an A++ box marking.

Progress against expected results:

The IMF have been collaborating closely with country teams and partner authorities over the past year, and to date, the IMF report been ten different instances of engagement and use by country teams and partner authorities. Full details are expanded below.

	Type of Output	Actual Output Year 1		Output Targets Year 1
2.1	**Uptake by IMF Teams**	**10**	H	**6**
			M	**3**
			L	**1**
2.2	**Uptake by Authorities**	**1**	H	**1**

M	**0**
L	**0**

Angola:

•The IMF team discussed a dynamic stochastic general equilibrium model calibrated to Angola to show how Angola could be impacted in the event of an oil shock. Through the use of fiscal buffers and a slower scaling up of public investment, Angola would be able to withstand a 2008/2009-size price shock within three to five years.

Benin:

•Benin's 2012 Article IV report contains a "Financial Sector Review" Supplement. This enhanced review of Benin's financial sector was the first of several pilot reviews called for by the IMF Executive Board in the May 2012 meeting on the "Enhanced Financial Sector Surveillance in Low-Income Countries" paper. The purpose of the review was to better understand the interplay between financial deepening, macro-stability and the effectiveness of macroeconomic policies. It piloted the paper's approach to analysis: a specific framework for monitoring qualitative and quantitative indicators, identifying gaps (including through statistical benchmarking), and developing financial sector policies. The Article IV report highlighted the review of Benin's efforts to strengthen stability, increase oversight and broaden access to its financial system.

Burkina Faso:

• Appendix III of the Burkina Faso report examined the relationship between public investment, growth, and debt sustainability using the model developed in Buffie et al. (2012). The results showed that, under certain conditions, scaling-up investment to levels envisioned in the new PRSP could raise economic growth substantially in the medium to long term, boost private investment, and increase consumption. They also indicated that financing options for the investment surge should be selected based on their implications for long-term fiscal and debt sustainability. Given the country structural conditions—as reflected in the efficiency of public investment and rate of return, among others—a better macroeconomic outcome would be achieved through moderate and sustained increase in public investment, financed through higher grants and concessional loans, as well as increased government revenue. The authorities welcomed the analysis and broadly agreed with the policy recommendations. They expressed interest in using the model's results for meetings with donors.

Cape Verde:

• To evaluate public investment scaling-up strategies in Cape Verde, various scenario and sensitivity analyses were developed using the Buffie and others (2012) model. The results suggested that a moderate scaling-up of public investment—combined with ensuring the quality of public investment to raise productivity—was more likely to contribute to stable and sustained growth over the medium to long term. These results served to discuss with the authorities that the focus of some of this public investment plans needs to move from capital accumulation to improvements in the quality and efficiency of public infrastructure. More ambitious plans might be feasible if some of the structural bottlenecks were solved combined with a concerted effort to revamp tax policy and administration in order to generate resources to finance these plans.

Côte d'Ivoire:

• Appendix 4 applied the Buffie et al. (2012) model to analyze the relationship between public investment, growth, and debt sustainability in Côte d'Ivoire. Simulation results advised against a massive and sustained surge in public investment growth due to the likelihood that debt sustainability problems could arise even if structural conditions improved. The results suggested, instead, a moderate scaling up of public investment alongside structural reforms in such areas as public investment efficiency, the ability to collect more revenue, and the return to investment and productivity on both the traded and non-traded sectors.

Kenya:

• This IMF country report on Kenya incorporated the model developed in Andrle et al. (2013) to analyze whether disinflation is supply or demand driven in Kenya. The results show that monetary policy played a key role in both overall and non-food inflation as well as in the reversal of Kenya's exchange rate depreciation.

Liberia:

• The Buffie et al. (2012) model was used to examine the macroeconomic impact of scaling up public investment in Liberia. The simulations presented in the report captured some of the costs and benefits of three potential investment strategies. The more ambitious investment program yielded the larger growth dividend over the medium term, but at the risk of unsustainable debt dynamics. Other results showed that a combination of increased public investment and efficiency of capital spending could lead to a 1 percentage point increase in the average annual growth rate of real per capita income over ten years. These results helped to discuss with the authorities the importance of step up efforts to tackle bottlenecks to project implementation and even more importantly to properly prioritize and select high return projects that effectively translate into productive capital.

Rwanda:

• Using the model by Buffie et al. (2012), the Rwanda team studied the challenge of scaling up public investment and the associated resource requirements. Model simulations showed that scaled-up investment could provide a boost to growth, but mobilizing the required resources for the scaling up would be challenging because of unfeasible fiscal and private sector adjustments. Simulations that incorporated a combination of increases in tax revenue, expenditure rationalization, and judicious resort to external borrowing were the most realistic in terms of implementation. The simulations also demonstrated the importance of relying, to the extent possible, on concessional loans, and of the efficiency of the public investment process. The authorities appreciated the discussion and said they would draw on these results in the development of their EDPRS II.

Senegal:

• IMF economists from SPR and RES met with Senegalese authorities to train them on the use of the Buffie et al. (2012) investment, growth, and debt sustainability model. During the training, the team implemented the model under various financing scenarios and modified key parameters.

• Senegalese staff of the Ministry of Economics and Finance (notably Kalidou Thiaw) finalized the presentation and presented the results to Senegalese colleagues and the Fund mission team. In ongoing work, the Senegalese authorities are modifying the model (with assistance from DFID-financed IMF staff and consultants) to allow them to analyze different expenditure and revenue options to deficit reduction in Senegal. This assistance involves remote consultation and a further mission in April 2013.

Togo:

• Appendix III of the Togo Country Report examined the relationship between public investment, growth, and debt sustainability using the model developed in Buffie et al. (2012). The model was used to inform the policy dialogue with the authorities on sustainable investment scaling up plans. The application suggested that a larger investment scaling up could promote growth without jeopardizing debt sustainability, under certain conditions that would nevertheless require continued strong reform efforts on improving the efficiency and quality of public investment, implementing a sustainable debt management strategy, and increasing revenue collection.

To further maximize the IMF's impact on uptake and the network of LIC researchers, the IMF have developed a publically available website providing detailed information on the project and upcoming conferences and events and access to all policy and working papers. The website will be updated quarterly, and can be accessed through this link. Furthermore, the IMF has disseminated their first quarterly e-newsletter to LIC researchers, project stakeholders, and IMF staff.

Recommendations:

The IMF has performed extremely well against this objective, surpassing expectations for the year. It is evident from the examples listed above that the research is feeding directly into policy making in partner countries, challenging existing orthodoxy, and providing credible alternative investment strategies and scenarios for policy makers.

To strengthen further the impact of the research we recommend the IMF provide a list of names of beneficiaries to the funder, plus also seek feedback directly from users to evaluate use and impact of the research. This feedback can serve the purpose of strengthening country analytics and facilitating dialogue on the research. It is right that the IMF have focused in the first year on developing quality research. We recommend this continue in the second year, while strengthening uptake activities in the second and third years. It is impressive that these two outputs have moved forward in parallel. We would also recommend the IMF collect feedback directly from country Authorities to assess how the work is/has affected decision making.

We recommend the impact weighting is reduced to 25% for the second and third years.

Impact Weighting (%): 30% **(25% for 2nd and 3rd years)**
Revised since last Annual Review? *Y/N NO. THIS IS THE FIRST ANNUAL REVIEW.*

Risk: Low/Medium/High: LOW
Revised since last Annual Review? *Y/N NO*

Output 3: IMF strengthens engagement by senior IMF policy makers on macroeconomic issues affecting LICs

Output 3 score and performance description: A ++

	Type of Output	Actual Output		Output Targets
3.1	High-Level Policy Conferences	6	H M L	3 2 1
3.2	Results of papers reflected in IMF board discussions and IMF policy papers such as Staff Discussion Notes, policy memos to management, etc.	4	H M L	3 2 1

The expected deliverable for this output is to strengthen engagement by IMF policy makers on issues affecting LICs through two mechanisms; sub output 3.1 to deliver high level policy conferences reflecting the findings of research papers funded under this project, and under 3.2 for the research findings, produced under the programme to be reflected in IMF board discussions.

Under output 3.1 the programme committed to delivering between 1(low) to 3 (high) high level policy conferences reflecting the programme's research findings. The IMF achieved 6 policy conferences in the first year, significantly exceeding the high performance target, while against output 3.2 they delivered 4 outputs that were reflected in IMF board discussions and IMF policy papers (such as, policy memos, Staff Discussion Notes, policy memos) compared to a high performance target of 3. The IMF has therefore exceeded expectations of performance against both sub-outputs. The review team scored this individual output an A++.

Progress against expected results:

The papers produced under this project have not only contributed to the overall body of existing research on LICs but also have brought much-needed attention to the importance of LIC research at the Fund. The IMF's Deputy Managing Director Min Zhu, Chief Economist Olivier Blanchard, and African Department Director Antoinette Sayeh, among others, are all keenly aware of the importance and impact of this project. Mr. Blanchard gave specific attention to the IMF-DFID project at a department-wide awards ceremony where he noted that

> "[l]ow-income countries are not `systemically important,' in the jargon we use here, and we do not do enough research on LICs. But the issues are critical. This project with DFID is going a long way to correcting this problem."

And as Ms. Sayeh stated:

> "Given the exigencies of the global financial crisis and the need to focus the Fund's energies on systemically important countries, it is not surprising that research on LICs has not had the priority that we might have desired. The DFID-financed project goes a substantial way to addressing this gap. We value in particular the close collaboration that has taken place between your staff and my own, as well as the practical and applied nature of much of the research."

This is a significant achievement during the first year of the project's life.

A description of how the research programme has strengthened engagement by senior IMF policy makers on issues affecting LICs is presented firstly by topic and then by output indicators as per the logframe.

Topic 2: Public investment, growth, and debt sustainability:

The IMF's policy and analysis on public investment/growth links and their role in debt sustainability analysis has been transformed by the research under this topic. Low-income countries are capital scarce and credit-constrained, so traditional debt sustainability analyses that put too little attention on public investment/growth linkages risk making incorrect judgments about the scope for scaled up public investment to be sustainable. At the same time, LIC-specific features such as investment inefficiency and poor absorptive capacity may limit the benefits of excessive debt-led public investment scaling up.

In response to the need for strengthening analysis of the investment/growth nexus in debt sustainability analyses (DSAs) for low-income countries (LICs), the team developed a dynamic LIC-specific macro-economic model (item 1.1.5) that makes explicit (i) the investment-growth linkages; (ii) the potential inefficiencies of public investment; (iii) public debt accumulation (external concessional, external commercial, and domestic); and (iv) the fiscal policy reactions necessary to ensure debt-sustainability.

The model has been successfully applied to several countries (i.e., Togo, Burkina Faso, Cote d'Ivoire, Cape Verde, Rwanda and Liberia) in the context of policy work at the Fund (e.g., Art. IVs and program reviews) and complemented the IMF-World Bank DSAs by helping study the macroeconomic effects of public investment surges in LICs (see section 2.1, items 2,3,4,5,6, and 7). The model and the country applications were mentioned in the recent IMF Board paper on the "Review of the Policy on Debt Limits in Fund-Supported Programs," (item 3.2.1) as a tool that staff can use to assess fiscal, growth, and debt sustainability implications for alternative investment scenarios (Box 3 of item 3.2.1).

A course on the model, including a hands-on session, was recently offered to IMF country desks economists as part of the course series organized by the IMF Institute for Capacity Development. There was also an internal IMF seminar, where country desks and mission chiefs of the African Department discussed the main lessons of applying the model in their policy work and interactions with country authorities. Furthermore, the team has also provided training on how to use the model to country authorities in Liberia and Rwanda.

The team's work is also reflected in an IMF Board paper on the Fund's policy on debt limits in Fund-supported programs. The Board paper states that Fund teams should "focus on the broad institutional framework for public expenditure management and the macroeconomic impact of investment . . . The new tool developed by Fund staff to assess the fiscal, growth, and debt sustainability implications of alternative investment scenarios can be helpful in that regard." It then references Box 3 (page 27) on "Understanding the Fiscal, Growth, and Debt Sustainability Implications of Alternative Investment Scenarios", which describes Buffie et al. (2012) and reviews its application by Fund teams.

Topic 3: Macroeconomic management of natural resource wealth:

IMF policy towards resource-rich countries has not shown sufficient attention to the characteristics of LICs. It has generally been based on a version of the "permanent income hypothesis" that has emphasized saving resource revenues abroad and smoothing spending at home. However, LICs face profound capital scarcity, including of pubic capital, as well as highly constrained access to international capital markets. Thus, the policy needed to be refocused towards these issues.

To provide analytical frameworks for analyzing the macroeconomic and fiscal implications of different fiscal approaches, the team constructed a macroeconomic model (Berg et al., 2013, item 1.1.8), accounting for developing country specific features, such as investment inefficiency and low absorptive capacity. Through simulations of many investment trajectories under different resource revenue scenarios, the framework can help inform policy decisions in determining the size of investment scaling-up and the adequacy of fiscal buffers built from resource windfalls.

To assess the external sustainability, the team also built a simple framework that analyzes the optimal consumption and investment behaviors and the implied current account benchmark for LICs that receive a resource windfall (item 1.1.10). Both frameworks have been applied by country teams in the context of Article IV consultation.

Moreover, the research conducted in building these frameworks formed two of the five key innovations in the recent IMF Board paper (item 3.2.2) that provides macroeconomic frameworks for resource-rich developing countries. In particular, the Board paper recognizes the pressing development needs of LICs and shifts away from the traditional Fund advice—based on the permanent-income-hypothesis consumption-smoothing framework—for LICs to realize the development gains from resource windfalls.

More country applications and efforts are underway to encourage outreach to country authorities.

The Berg et al. (2012) paper and the Araujo et al. (2013) paper are both highlighted in an IMF Board paper on resource-rich developing countries. The paper develops new macro-fiscal frameworks and policy analysis tools for RRDCs that could enhance Fund policy advice. Two of the five "key innovations" in the paper are based on Berg et al. (2012) ("Public Investment in Resource-Abundant Developing Countries", item 1.1.8 above) and Araujo et al. (2013), item 1.1.10 above. Moreover, application 2.1.8 to Angola is described in this Board paper.

Topic 5: Role of financial deepening in fostering macroeconomic stability and sustained growth:

Shallow and undiversified financial systems in LICs limit macroeconomic policy choices, hamper policy transmission and implementation, and impede opportunities for risk transfer. This is of particular concern given LICs' more pronounced vulnerability to external shocks. Of course the Fund has paid attention to this problem for some time. However, the 2011 Triennial Surveillance Review called for widening the lens through which surveillance is conducted in LICs to better account for the interplay between financial deepening and macro-financial stability.

Thus, the team conducted a number of research projects in this area (so far, items 1.1.11, 1.1.12, and 1.1.13 have been issued). These research projects formed a principle input into an important IMF Board paper on the topic (item 3.2.3) and an IMF/DFID policy conference attended by Fund management and major outside researchers (item 3.1.4).

As highlighted in an IMF Survey article, IMF management welcomed the paper: "There are important linkages between the degree of financial depth and the effectiveness of a country's macroeconomic policies. This paper is an important first step in systematically highlighting these linkages," said IMF Deputy Managing Director Min Zhu. "I am hoping that our bilateral surveillance in low-income countries will increasingly focus on these linkages to help countries better manage volatility and achieve strong durable growth." The work is referenced in the Fund's first financial sector surveillance strategy document, highlighting the need to "Facilitate sustainable financial deepening in countries with shallow financial systems to support economic growth and stability." The analysis of one of the published working papers was featured in the October 2012 Fund's Flagship Global Financial Stability Report (GFSR), in a box on "Financial Deepening and Economic Performance."

Following the pilot application of the paper's framework in Benin (item 2.1.9), applications are underway in several other countries, including WAEMU, Senegal, and Ghana.
While the September 2012 joint IMF, World Bank, DFID and Consortium for Financial Systems and Poverty (CFSP) conference served to position the Fund on a critical macro-financial issue, participants pointed to the need for a sustained engagement with academics, practitioners and policy makers. In this context, Prof. Robert Townsend of MIT agreed to serve as an external advisor in helping strengthen Fund analysis and advice to member countries. With the financial assistance of the DFID project, the Fund will partner with the CFSP, led by Prof. Townsend, to form an experts network, promote knowledge-sharing events, and strengthen in-reach and outreach. This initiative has also been welcomed by Fund management.

Work on this topic has also been incorporated into an IMF Board paper. In fact, the research presented in Poghosyan (2012), Dabla-Norris and Narapong (2013), and Barajas et al. (2013) formed the basis of much of this Board paper. The application of this work to Benin was the first pilot application of this paper.

Topic 6: Growth through diversification:

In a Staff Discussion Note, Papageorgiou and Spatafora lay out stylized facts and macroeconomic implications of economic diversification in LICs. A conference—Diversification and Structural Transformation for Growth and Stability in Low-Income Countries—was held on February 21, 2013, and attracted more than 150 attendees. Min Zhu opened the conference, and Ricardo Hausmann of Harvard University provided the opening remarks.

Progress against output 3.1 High level policy conferences

1. Modernizing Monetary Policy Frameworks in Money-targeting Sub-Saharan African Countries. April 20, 2012 AFR Readout on Seminar (Supporting_Docs_3.1.1.a), Invitation and Program (Supporting_Docs_3.1.1b), Note by interdepartmental working group (Supporting_Docs_3.1.1c) (these are not publicly available). (Topic 1)

Summary: A large number of sub-Saharan African countries that are operating monetary policy frameworks centered around targeting monetary aggregates are facing various and evolving challenges mainly stemming from: i) large and unexpected shocks; ii) a fast changing financial sector landscape; and iii) a greater role of price signals in the financial systems. These new challenges, facing most money-targeting sub-Saharan African economies, have begun to challenge monetary policy implementation, raising the need for re-thinking monetary policy frameworks in the sub-region. This seminar—a closed-door meeting between IMF staff and central bank governors and their high-level staff from several SSA countries—created a platform to share country experiences from the region and stimulate new thinking on modernizing monetary policy frameworks to respond to these new challenges facing emerging African economies. It served to help launch at a high policy level subsequent cooperation between IMF (RES/SPR/AFR) staff and several central banks in the region (Kenya, Tanzania, Rwanda) based on research in topic 1 of this project.

2. African Economic Conference, October 31, 2012
   Item 1.1.5 presented by Felipe Zanna.
   http://www.africaneconomicconference.org/2012/aec-papers.html (Topic 2)

3. Annual Meetings Seminar: Good Management of Natural Resources: Lessons and Opportunities for Low-income Countries. October 10, 2012.
   Deputy Managing Director Shinohara's presentation based largely on item 3.2.2). http://www.imf.org/external/AM/2012/mmedia/view.aspx?vid=1890653934001 (see at 17:30 for his main remarks). High-level policymakers included Kwabena Duffour, Minister of Finance and Planning, Ghana. (Topic 3).

4. IMF/DFID Conference on Financial Deepening, Macro-Stability, and Growth in Developing Countries. Organized by Era Dabla-Norris (IMF), Kenichi Ueda (IMF/CFSP), and Martin Cihak (World Bank/IMF). September 24, 2012. IMF, Washington, DC. High-level policymakers included Zhu Min, Deputy Managing Director of the IMF, and Antoinette Saheh, Director of the African Department at the IMF.
   http://www.imf.org/external/np/seminars/eng/2012/spr/index.htm (Topic 5)

Summary: The International Monetary Fund, jointly with the World Bank, the Consortium for Financial Systems and Poverty, and the UK Department for International Development held a conference "Financial Deepening, Macro-Stability, and Growth" at the IMF headquarters in Washington DC on September 24, 2012. The conference was intended to provide a forum for discussing research on financial deepening issues in emerging market and low-income countries and to facilitate the exchange of views among researchers and policymakers. Robert Townsend (MIT) delivered the Keynote address. The conference was open to the public.

5. IMF/DFID Conference on Diversification and Structural Transformation for Growth and Stability in Low-Income Countries, February 21, 2013. IMF, Washington, DC.
   http://www.imf.org/external/np/seminars/eng/2013/SPR/index.htm (Topic 6)

Summary: The International Monetary Fund and the UK Department for International Development held a joint conference at the IMF Headquarters in Washington, DC, on February 21, 2013. The conference provided a forum for discussing the latest research on the structural transformation process in low-income countries and facilitated the exchange of views among researchers and policymakers. Among the participants were Ricardo Hausmann (Harvard University), Dani Rodrik (Harvard University), Richard Rogerson (Princeton University), and Arvind Subramanian (Peterson Institute). Kaushik Basu (Chief Economist, World Bank) delivered the lunch remarks. High-level policymakers included Min Zhu IMF Deputy Managing Director. The event concluded with a policy panel. The conference was open to the public.

6. Frontier Asia: Economic Transformation and Inclusive Growth. IMF-JICA Conference, January 27-28, 2013. Bangkok, Thailand.
   Session on Economic Transformation and Diversification (presentation by Chris Papageorgiou), drawing on item 3.2.4 as well as ongoing research, while Era Dabla-Norris presented in the session on financial deepening, drawing on item 3.2.3 and related research. High-level policymakers included Deputy Managing Director Shinohara, Kiyoshi Kodera, vice-president of

the Japan International Cooperation Agency, and Djoomart Otorbaev, First Vice Prime Minister, Kyrgyz Republic. http://www.imf.org/external/np/seminars/eng/2013/bangkok/index.htm (Topics 5 and 6).

Progress Against Output 3.2 Research Output/Papers reflected in IMF policy papers and/or discussion notes, etc

1. "Review of the Policy on Debt Limits in Fund-Supported Programs", March 22, 2013. IMF Board Paper (Topic 2)) (not published yet, link to come, will be sent by UK Executive Director's office)

Summary: This Board paper reviews the IMF's policy on debt limits in Fund-supported programs. The Board paper states (page 26) that Fund teams should "focus on the broad institutional framework for public expenditure management and the macroeconomic impact of investment . . . The new tool developed by Fund staff to assess the fiscal, growth, and debt sustainability implications of alternative investment scenarios can be helpful in that regard." It then references Box 3 (page 27) on "Understanding the Fiscal, Growth, and Debt Sustainability Implications of Alternative Investment Scenarios", which describes Buffie et al. (2012) and reviews its application by Fund teams.

2. "Macroeconomic Policy Frameworks for Resource-Rich Developing Countries." August, 2012. IMF Board Paper.
http://www.imf.org/external/pp/longres.aspx?id=4698
http://www.imf.org/external/pp/longres.aspx?id=4699
http://www.imf.org/external/pp/longres.aspx?id=4700 (Topic 3)

Summary: This Board paper aims to widen the prism through which Fund policy analysis is conducted for resource-rich developing countries (RRDCs). While all resource-rich economies face resource revenue exhaustibility and volatility, RRDCs face additional challenges, including lack of access to international capital markets and domestic capital scarcity. Resource exhaustibility gives rise to inter-temporal decisions of how much of the resource wealth to consume and how much to save, and revenue volatility calls for appropriate fiscal rules and precautionary savings. Under certain conditions, it would be optimal for a significant share of a RRDC's savings to be in domestic real assets (e.g., investment in domestic infrastructure), though absorptive capacity constraints need to be tackled to promote efficient spending and short-run policies are needed to preserve macroeconomic stability. The paper develops new macro-fiscal frameworks and policy analysis tools for RRDCs that could enhance Fund policy advice. Two of the five "key innovations" in the paper are based on Berg et al. (2012) ("Public Investment in Resource-Abundant Developing Countries", item 1.1.8 above) and Araujo et al. (2013), item 1.1.10 above. Moreover, application 2.1.8 to Angola is described in this Board paper.

3. "Enhancing Financing Surveillance in LICs: Financial Deepening and Macro-Stability." April, 2012, IMF Board Paper.
http://www.imf.org/external/np/pp/eng/2012/041612.pdf (Topic 5)

The research presented in Poghosyan (2012) (item 3.1.11), Dabla-Norris and Narapong (2013) (item 1.1.12), and Barajas et al. (2013) (item 1.1.13) formed the basis of much of this Board paper. The application of this work to Benin (item 2.1.9) was the first pilot application of this paper.

4. Papageorgiou, Chris, and Spatafora, N., 2012, "Economic Diversification in LICs: Stylized Facts and Macroeconomic Implications," Staff Discussion Notes No. 12/13.
http://www.imf.org/external/pubs/cat/longres.aspx?sk=40166.0 (Topic 6)

Summary: Limited diversification is an underlying characteristic of many low-income countries (LICs). Concentration in sectors with limited scope for increases in productivity and quality may result in less broad-based and sustainable growth. Moreover, lack of diversification may increase exposure to adverse external shocks and macroeconomic instability. The SDN has three objectives. First, to review and extend the evidence, from the existing literature and ongoing IMF work, that point to diversification as a crucial aspect of the development process. A major focus is be on cross-country and crossregional differences in the pace of diversification. Second, to draw lessons from the experiences of those countries that have successfully diversified their economies. Third, to analyze the relationship between diversification, growth, and volatility.

Recommendations:

We note the high profile the programme is commanding amongst senior staff at the IMF. We recommend a continuation of these efforts by the programme team. In light of the emphasis on engagement by senior IMF staff, we recommend a modification to the language in output indicator 3.1 as follows – from the current 'High level policy conferences reflects findings of research papers funded under this project' to 'High level policy conference attended by senior IMF policy makers, reflect findings of research papers funded under this project'. This revision better links the indicator to the expected output. We also recommend the impact weighting for this output be reduced from 30% to 25% for the second and third year of the project.

Impact Weighting (%): 30% (25% for 2nd and 3rd years)
Revised since last Annual Review? *Y/N N/A*

Risk: Low/Medium/High. LOW
Revised since last Annual Review? *Y/N N/A*

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

Output 4 score and performance description: A++

The expected deliverable for this output is for the IMF to strengthen capacity by expanding the network of LIC researchers working on LIC macroeconomic issues, through 3 channels: through commissioned papers; attendance of external researchers at high level policy conferences; outputs disseminated in e-newsletter and updated public webpage. No commissioned papers were expected during the first year. The IMF has achieved 6 high level policy conferences in comparison to a high output target of 2, and set up the public webpage and circulated the outputs consistent with the high target. This performance is consistent with a A++ rating, as progress has substantially exceeded expectations.

	Type of Output	Actual Output		Output Targets
4.1	Commissioned Papers	0	H	0
			M	0
			L	0
4.2	Attendance of External Researchers at High-Level Policy Conferences	6	H	2
			M	1
			L	1
4.3	Outputs disseminated in e-newsletter and updated public web page	2	H	2
			M	2
			L	1

Progress against expected results:

To expand the network of LIC researchers, the IMF have presented at high-level policy conferences around the world, hosted two high-profile conferences at the Fund, hired researchers who were previously not working on LIC-related issues, and commissioned 13 papers (involving 25 total authors).

A major achievement of the project has been to attract a number of high-level researchers to work on the macroeconomics of low-income countries, particularly in sub Saharan Africa, and provide them with the context and contact with policy makers they need to produce relevant research.

High-level Policy Conferences :

• Modernizing Monetary Policy Frameworks in Money-targeting Sub-Saharan African

Countries. April 20, 2012.

• This seminar—a closed-door meeting between IMF staff and central bank governors and their high-level staff from several SSA countries—created a platform to share country experiences from the region and stimulate new thinking on modernizing monetary policy frameworks to respond to these new challenges facing emerging African economies. It served to help launch at a high policy level subsequent cooperation between IMF (RES/SPR/AFR) staff and several central banks in the region (Kenya, Tanzania, Rwanda) based on research in topic 1 of this project.

• DFID/IMF Conference on Financial Deepening, Macro-Stability, and Growth in

Developing Countries. Organized by Era Dabla-Norris (IMF), Kenichi Ueda (IMF/CFSP), and Martin Cihak (World Bank/IMF). September 24, 2012. IMF, Washington, DC.

• Annual Meetings Seminar: Good Management of Natural Resources: Lessons and

Opportunities for Low-income Countries. October 10, 2012.

• Deputy Managing Director Shinohara drew heavily on the Board paper “Macroeconomic Policy Frameworks for Resource-Rich Developing Countries” for his remarks.

• African Economic Conference, October 31, 2012.

• Felipe Zanna presented Buffie et al. (2012).

• International Growth Center Workshop on Fiscal and Monetary Policy, November 2-3,

2012.

• Rafael Portillo presented ongoing DFID-financed research on the implications of structural transformation for inflation and monetary policy.

• Felipe Zanna presented Buffie et al. (2012).

- NBER Policy-Oriented Conference, December 2012, Zanzibar Tanzania.
- Andrew Berg presented work on the macroeconomic management of natural

resources.

- Frontier Asia: Economic Transformation and Inclusive Growth. IMF-JICA Conference,

January 27-28, 2013. Bangkok, Thailand.

- Chris Papageorgiou presented in the session on Economic Transformation and Diversification, and Era Dabla-Norris presented in the session on the Role of Financial Deepening.
- IMF/DFID Conference on Diversification and Structural Transformation for Growth and

Stability in Low-Income Countries. Organized by Nicola Spatafora (IMF) and Chris

Papageorgiou (IMF), February 21, 2013. IMF, Washington, D.C.

New Researchers:

- Luisa Charry was director of monetary policy analysis in the Central Bank of Colombia and after the Head of Equity Research at Valores Bancolombia in Bogota. Martin Fukac worked on monetary policy modeling at the Federal Reserve Bank of Kansas City and before that at the Reserve Bank of New Zealand. Both now work closely with country teams and central bank researchers in developing countries.
- Adrian Peralta is from the Federal Reserve Bank of Saint Louis, while Irena Telyukova is an assistant professor at the University of California, San Diego. Both have published extensively (e.g. in Econometrica and Review of Economic Studies) and on macroeconomics of heterogeneous agents. They are now focusing their skills on heterogeneous agent models for macro policy analysis in LICs.

In addition to staff work on the six research topics, the project has commissioned 13 papers that focus on additional topics of interest to LICs. In an effort to build research capacity, the 25 authors of these papers range from Ph.D. students to full professors and the submissions have come from both inside and outside the U.S.

To further maximise the IMF's reach and impact on the network of LIC researchers, they have developed a publically available website that provides detailed information on the project and upcoming conferences and events and access to all policy and working papers. The website is being updated quarterly. Furthermore the IMF has disseminated their first quarterly e-newsletter to LICs researchers, project stakeholders and IMF staff.

Recommendations:

We note the commendable progress against this output. We understand the IMF are training central bank staff in East African, in the use of the modern monetary frameworks and tools, so we recommend the log frame more systematically capture this capacity building effort in partner countries. The review team t recommends, adding a 3rd indicator, to reflect the full range of activities being delivered by the programme. The IMF to suggest a form of words.

We recommend the IMF revise the language in indicator 4.1 to read as follows, 'commissioned papers from new researchers' to better link the indicator to the output.

We also recommend a revision to output indicator 4.2 to read 'attendance of external researchers <u>and policy makers</u> at high level policy conferences'. Changes underlined.

We also recommend the impact weighting increase from 10% to 20% for the 2nd and 3rd years of the programme, consistent with the shift towards facilitating research use and uptake of research products.

Impact Weighting (%): 10% (first year) 20% (second and third years).
Revised since last Annual Review? *Y/N NO. THIS IS THE FIRST YEAR ANNUAL REVIEW.*

Risk: Low/Medium/High. LOW
Revised since last Annual Review? *Y/N NO. THIS IS THE FIRST YEAR ANNUAL REVIEW.*

If the project involves more than 4 Outputs please copy the box above and paste below.

Section B: Results and Value for Money.

1. Progress and results

1.1 Has the logframe been updated since last review?

NO. THIS IS THE FIRST YEAR ANNUAL REVIEW

1.2 Overall Output Score and Description:

A++

The IMF have met or exceeded the targets set for the first year of the programme. In some cases they have substantially exceeded high output target. On this basis the review team feel that an A++ scoring is fully justified to reflect progress achieved so far.

1.3 Direct feedback from beneficiaries

As part of the first year annual review exercise we requested feedback from DFID economists on the programme. They fed back views against the following criteria;

- **Relevance** (how useful is the research? Does it deal with issues current and topical for low income countries
- **Originality** (does the research provide new insights or shed new light on intellectual thinking on the topic)
- **Accessibility** (is it readable, are key concepts explained, are the models easy to understand?)

- **Quality** (are methods appropriate to research questions? Do they measure causality? Is it generalizable to other countries ? Is there a clear logical argument? Are conclusions based on the study's results? Alternatively termed validity and cogency)
- **Uptake** (are you or your partners aware of this project? If so how? How best could the IMF publicise this project)

DFID colleagues expressed the view the research was of high quality, relevant, tackled the prevailing policy issues and also original. While the working papers were generally accessible a recommendation was made for the IMF to consider making the working papers even more accessible through the production of shorter policy briefs.

1.4 Summary of overall progress

During the first year of the project the IMF have exceeded each target outlined in the original proposal. More importantly the broad body of research has been well received by senior IMF staff, IMF Executive Board members, policymakers in LICs, and a wide array of researchers interested in macroeconomic issues in LICs, a key objective set for the programme. The DFID funding has allowed IMF staff to expedite the production of working papers; moreover, the funding has provided expanded opportunities to closely link IMF research with the provision of technical assistance. For example, the project team have invited central bank staff from LICs have been invited to visit the Fund, held training and conferences in several African nations, and further encouraged greater collaboration between central bank economists in LICs and Fund economists. The project has influenced IMF policy, encouraged close interdepartmental coordination and collaboration, and received strong commitment and support from IMF country teams and authorities. In addition, the project has been recognized in both the Research and Strategy, Policy, and Review (SPR) departmental annual awards ceremonies. In SPR, the Macroeconomic Policy Frameworks in Resource-Rich Developing Countries Board paper (which built on research from the DFID project) was recognized for its outstanding contributions. In the Research Department, the IMF-DFID project as a whole was honoured for its excellence in cross-departmental collaboration.

The papers have not only contributed to the overall body of existing research on LICs but also have brought much-needed attention to the importance of LIC research at the Fund. The IMF's Deputy Managing Director Min Zhu, Chief Economist Olivier Blanchard, and African Department Director Antoinette Sayeh, among others, are all keenly aware of the importance and impact of this project.

Mr. Blanchard gave specific attention to the IMF-DFID project at a department-wide awards ceremony where he noted that
"[l]ow-income countries are not `systemically important,' in the jargon we use here, and we do not do enough research on LICs. But the issues are critical. This project with DFID is going a long way to correcting this problem."

And as Ms. Sayeh stated:

> "Given the exigencies of the global financial crisis and the need to focus the Fund's energies on systemically important countries, it is not surprising that research on LICs has not had the priority that we might have desired. The DFID-financed project goes a substantial way to addressing this gap. We value in particular the close collaboration that has taken place between your staff and my own, as well as the practical and applied nature of much of the research."

Work in each of the main topic areas of the project illustrates the benefits of the tight coordination of research and uptake that is built into the design of the project:

- The monetary policy forecasting and policy analysis system (FPAS) developed in Andrle et al. (2013) is specific to sub-Saharan Africa and assigns a central role to food prices in the analysis of inflation. It, along with supportive background research, anchors the IMF's engagement with many stakeholders on the modernization of monetary policy frameworks in SSA. Because of the funding from DFID, the research team, along with Fund staff from the African Department, has provided direct training on this monetary policy model to several African central banks (Ghana, Kenya, Rwanda, and Uganda). This training has already become the centerpiece of the Fund's engagement with the East African Community on their efforts to modernize their monetary policy frameworks, as demonstrated by the feature role it played in seminars with central bank governors of these countries at the IMF Spring Meetings in April 2013. The research is also the analytic core of ongoing internal IMF analysis of how to modify Fund conditionality on monetary policy in SSA LICs and of innovative efforts to train African Department Staff themselves on these issues, in part to improve the dialogue with country authorities.

- The model in Buffie et al. (2012) is a dynamic LIC-specific model that addresses deficiencies in the current IMF-World Bank debt sustainability framework (DSF). Efforts at internal uptake included a course with a hands-on session for IMF country desk economists, and an internal African Department seminar that provided an opportunity for mission chiefs to discuss the main lessons of applying the team's research in their policy work and interactions with country authorities. And these efforts have borne fruit: this model has been widely used by IMF staff to enrich their analyses of public investment/growth linkages in assessing debt sustainability, partly through engagement with authorities in several countries. The project has also had some early successes in the more difficult task of achieving uptake with country authorities. The team has held a one-week training session on this model in both Rwanda and Liberia. Liberian authorities have requested additional training and have offered to pay for the cost. The team has also worked closely with Senegalese country authorities to apply the DSF model to a variety of investment scaling-up scenarios. A two-week visit to Senegal provided the opportunity to calibrate the DSF model using data provided by Senegalese counterparts, and to begin collaborating on a paper based on the exercises conducted and results obtained during the mission.

- The research on macroeconomic management of natural resources, in Araujo et al. (2013) and Berg et al. (2013) (published in the *IMF Economic Review*) has been critical in encouraging a rethink by the IMF of its policy towards the use of sovereign wealth funds. The two papers have resulted in tools aimed at helping countries decide when to convert some of these resources into domestic public capital; these tools were featured as "critical innovations" in the recent IMF Board paper on Macroeconomic Policy Frameworks for Resource-Rich Developing Countries. And thanks to the DFID funding, it has been possible to help pilot these tools in a number of country cases including Angola, Azerbaijan, and the Democratic Republic of Congo. The project has so far worked mainly with IMF area department staff and, through them, with authorities in partner countries.

- The research on the distributional implications of macroeconomic policies is more ambitious, in that it strays much further from existing literature. But initial draft papers have been presented at several conferences and are forming the basis for collaboration within the institution on application of these micro/macro models to specific country cases.

- The research in Barajas et al. (2013), Dabla-Norris and Narapong (2013) and Poghosyan (2012) was instrumental in developing a new IMF approach to financial sector surveillance in LICs, as presented in a recent IMF Board paper "Enhancing Financing Surveillance in LICs: Financial Deepening and Macro-Stability." The research provides frameworks for analyzing policy and institutional constraints to sustainable financial deepening, accounting for countries structural characteristics, while also specifying the linkages between financial deepening and macroeconomic stability. The close interdepartmental collaboration and ownership in the project has continued as the framework has been rolled out in pilot country applications. In these countries (including Benin, Senegal, Ghana, and several others) the findings are discussed with the authorities, and featured in Article IV staff reports. Team members presented and had a lively discussion with a group of high-level policy makers in Asia, in a recent IMF conference in Thailand.

- Papageorgiou and Spatafora's (2013) presentation of stylized facts and frameworks for analyzing economic diversification provided the basis for several country case studies prepared by IMF country teams that drew policy lessons. A DFID-financed conference connected IMF management, senior staff (including Olivier Blanchard) with top academics in this field, and previewed other ongoing work of the team, including a toolkit to analyze quality upgrading.

A major achievement has been to attract a number of high-level researchers to work on the macroeconomics of low-income countries, particularly in sub-Saharan Africa, and provide them with the context and contact with policymakers they need to produce relevant research. Among economists hired under the project for one-to-two-year contracts, highlights include:

- Luisa Charry was Director of Monetary Policy Analysis in the Central Bank of Colombia and after the Head of Equity Research at Valores Bancolombia in Bogota. Martin Fukac worked on monetary policy modeling at the Federal Reserve Bank of Kansas City and before that at the Reserve Bank of New Zealand. Both now work closely with country teams and central bank researchers in developing countries.

- Adrian Peralta is from the Federal Reserve Bank of Saint Louis, while Irena Telyukova is an assistant professor at the University of California, San Diego. Both have published extensively (e.g. in *Econometrica* and *Review of Economic Studies)* and on macroeconomics of heterogeneous agents. They are now focusing their skills on heterogeneous agent models for macro policy analysis in LICs.

Team members have presented their papers at several conferences that included attendees from various Central Banks, the World Bank, regional development banks, and Harvard, Oxford, Berkeley, MIT, and other well-regarded institutions. The team's research has also been discussed at the IMF's Annual Meetings, and we have held two conferences to bring together LIC researchers. The first conference—Financial Deepening, Macro-Stability, and Growth in Developing Countries—was held on September 24, 2012, and IMF Deputy Managing Director Min Zhu gave the opening remarks while Robert Townsend of MIT delivered the keynote speech. The second conference—Diversification and Structural Transformation for Growth and Stability in Low-Income Countries—was held on February 21, 2013. Min Zhu opened the conference, and Ricardo Hausmann of Harvard University provided the opening remarks. The conferences were open to the public and attracted more than 150 attendees.

To further maximize reach and impact on the network of LIC researchers, the IMF have developed a publically available website that provides detailed information on the project and upcoming conferences and events and access to all policy and working papers. The website is being updated quarterly, and can be accessed through this link. Furthermore, the IMF has disseminated its first quarterly e-newsletter to LIC researchers, project stakeholders, and IMF staff.

1.5 Key challenges

The main challenges the IMF faced related to the difficulties involved in scaling up, particularly in getting the right people.

To fulfil the needs of this project and to build research capacity, the IMF needed to hire high-quality macroeconomists interested in working on LICs. In order to meet this project goal, the IMF focused on two models: 1) offer contracts for individual papers, or 2) hire new staff for one to two year postings.

The IMF determined over time that the first option, while very useful in some contexts, was neither easily scalable nor manageable in terms of staff time, particularly for the production of research intended for operational use. Thus, they gave greater emphasis on the hiring of new researchers for one or two years, leveraging better the significant effort required to attract new researchers.

This led to the most obvious challenge, which was that the IMF underestimated the amount of time it would take to complete their search for these new hires and then bring them on board. Getting talented macroeconomics to change the direction of their research towards LICs, and to take temporary (if as long as two-year) positions proved challenging. In the end, the attractions of the work and the IMF environment allowed the IMF to succeed. Over the last year, the IMF have found that their new contractual team members actually helped collaborate more with visiting scholars and other temporary resources, further validating their decision to hire temporary staff rather than contract out for papers. As a result of this underestimation, the IMF early on reprogrammed some of the resources from the first year to a new third year of the project, and pushed correspondingly back the dates for the log-frame outputs.

By design, the project itself is a joint effort between the Research (RES) and Strategy, Policy, and Review (SPR) Departments. Moreover, to encourage uptake of the research outputs, the IMF have worked very closely with area departments at the IMF, particularly the African Department. This degree of interdepartmental collaboration is somewhat unusual at the Fund, and because of the layers of bureaucracy involved, has at times proved challenging. For example, budgeting and hiring decisions are (except for this project) invariably made within a single department. The inherently interdepartmental nature of the project, with team leaders from two departments, has at times created its own difficulties, but has been critical in breaking down barriers and greatly facilitating the uptake of the research in area departments and IMF policy papers.

These bureaucratic and operational challenges led to a substantial cost in terms of human resources and budget staff. In particular, the integration of the DFID-financed work with Fund procedures could not readily be contracted out. Initially, however, the project under-spent on overhead costs, in particular failing to hire a project officer to help with these tasks. Eventually, Lisa Kolovich was brought in as project officer. In addition, some of the "counterpart" funds made available by the allocation of IMF staff time to the project, were used to provide additional staff assistant resources to the HR team in the research department, easing the burden on them.

The IMF have found that the integration of DFID-financed activities with the other work of the divisions at the Fund has been, as expected, a management challenge. The difficulties have included the fact that commissioning truly usable (uptakeable) research implied substantial investments by Fund staff to shape the research from beginning to end. Thus, IMF staff were a very scarce resource in the process. The reward has been in the tight integration of research and uptake as noted earlier in this section.

The operational nature of the team's research has perhaps made it harder for the work to be published in top macroeconomic journals. Many of these journals may not be very interested in applied work focused on sub-Saharan Africa. However, the IMF have been able to produce 13 working papers and have had one paper published in the first year.

A final important challenge is that the IMF has had a hard time meeting demand for uptake in some areas. An important underlying principle of the team's work is that uptake is not mainly about sending copies of research papers, or even the underlying computer codes and data, to policymakers and staff economists in area departments, central banks, and other such policy institutions. Rather, it is important that, first, at least some of the research be designed and executed with the uptake goals in mind from the start. And second, that the researchers help with pilot applications, in order to illustrate how the research can be used by policymakers. This principle has been followed, but it has placed limits on how many instances of uptake the IMF can support.

This has been a particular challenge for the IMF in the area of monetary policy frameworks. In this area, the team are seeing exciting synergies with their work in various countries in SSA, particularly in East Africa. The team had started with a model in which they would do the research and focus their uptake activities on one or two central banks that could become regional leaders. This still seems a viable approach. The authorities in the various central banks, however, see benefits in moving in parallel, including with joint training and research. The East African Community countries, in particular, are eager to move more jointly. The project had not allowed for this quite reasonable demand.

Moreover, the IMF did not anticipate the scale of demand from within their own African department. They have been able to draw on other non-DFID resources such as their Institute for Capacity Development, and have been able to use DFID resources to draw on consultants who present relatively low transaction costs and have exactly the right mix of skills (notably OGResearch, led by David Vavra), and have engaged in training/uptake activities simultaneously with several central banks. But the scale of demand remains a challenge.

Despite all these challenges, the IMF have surpassed their targets for the first year and anticipate that they will again exceed their "High" targets in the second year.

1.6 Annual Outcome Assessment

At outcome level, the project is on track to deliver at the outcome level, namely facilitating a deeper understanding of, and engagement by IMF policy makers on LIC specific macroeconomic issues, leading to improved policy making in specific thematic areas.

Outcome	**Deeper understanding of and better engagement by IMF policymakers on LIC-specific macroeconomic issues, leading to improved policymaking in specific thematic area**			
	Outcome indicator	**Actual Output**		**Output Targets**
O.1	Evidence of Improved IMF policymaking and integration of LIC specifics in project thematic areas	3	H M L	3 2 1

At the outcome level the IMF had committed to achieving between 1 (low) and 3 (high) examples of improved IMF policy making and integration of LIC specifics into project thematic areas. The IMF achieved 3 instances of improved IMF policy making linked to the project's thematic areas. This is equivalent to the high outcome target.

A detailed description of the types of activities and thematic areas influenced by the programme are outlined below.

<u>Public Investment, Growth, and Debt Sustainability:</u>

The IMF's policy and analysis on public investment/growth links and their role in debt sustainability analysis has been transformed by the research under this topic. Low-income countries are capital scarce and credit-constrained, so traditional debt sustainability analyses that put too little attention on public investment/growth linkages risk making incorrect judgments about the scope for scaled up public investment to be sustainable. At the same time, LIC-specific features such as investment inefficiency and poor absorptive capacity may limit the benefits of excessive debt-led public investment scaling up.

In response to the need for strengthening analysis of the investment/growth nexus in debt sustainability analyses (DSAs) for low-income countries (LICs), the team developed a dynamic LIC-specific macro- economic model (item 1.1.5[2]) that makes explicit (i) the investment-growth linkages; (ii) the potential inefficiencies of public investment; (iii) public debt accumulation (external concessional, external commercial, and domestic); and (iv) the fiscal policy reactions necessary to ensure debt-sustainability.

The model has been successfully applied to several countries (i.e., Togo, Burkina Faso, Cote d'Ivoire, Cape Verde, Rwanda and Liberia) in the context of policy work at the Fund (e.g., Art. IVs and program reviews) and complemented the IMF-World Bank DSAs by helping study the macroeconomic effects of public investment surges in LICs (see section 2.1, items 2,3,4,5,6, and 7). The model and the country applications were mentioned in the recent IMF Board paper on the "Review of the Policy on Debt Limits in Fund-Supported Programs," (item 3.2.1) as a tool that staff can use to assess fiscal, growth, and debt sustainability implications for alternative investment scenarios (Box 3 of item 3.2.1).

A course on the model, including a hands-on session, was recently offered to IMF country desks economists as part of the course series organized by the IMF Institute for Capacity Development. There was also an internal IMF seminar, where country desks and mission chiefs of the African Department discussed the main lessons of applying the model in their policy work and interactions with country authorities. Furthermore, the team has also provided training on how to use the model to country authorities in Liberia and Rwanda.

Macroeconomic Management of Natural Resources:

IMF policy towards resource-rich countries has not shown sufficient attention to the characteristics of LICs. It has generally been based on a version of the "permanent income hypothesis" that has emphasized saving resource revenues abroad and smoothing spending at home. However, LICs face profound capital scarcity, including of pubic capital, as well as highly constrained access to international capital markets. Thus, the policy needed to be refocused towards these issues.

To provide analytical frameworks for analyzing the macroeconomic and fiscal implications of different fiscal approaches, the team constructed a macroeconomic model (Berg et al., 2013, item 1.1.8), accounting for developing country specific features, such as investment inefficiency and low absorptive capacity. Through simulations of many investment trajectories under different resource revenue scenarios, the framework can help inform policy decisions in determining the size of investment scaling-up and the adequacy of fiscal buffers built from resource windfalls.

To assess the external sustainability, the team also built a simple framework that analyzes the optimal consumption and investment behaviors and the implied current account benchmark for LICs that receive a resource windfall (item 1.1.10). Both frameworks have been applied by country teams in the context of Article IV consultation.

Moreover, the research conducted in building these frameworks formed two of the five key innovations in the recent IMF Board paper (item 3.2.2) that provides macroeconomic frameworks for resource-rich developing countries. In particular, the Board paper recognizes the pressing development needs of LICs and shifts away from the traditional Fund advice—based on the permanent-income-hypothesis consumption-smoothing framework—for LICs to realize the development gains from resource windfalls.

More country applications and efforts are underway to encourage outreach to country authorities.

Financial Deepening for Macroeconomic Stability and Sustained Growth:

[2] All item numbers in this section on "Outputs and Impacts" refer to the research outputs listed in the Appendix 3 of this report.

Shallow and undiversified financial systems in LICs limit macroeconomic policy choices, hamper policy transmission and implementation, and impede opportunities for risk transfer. This is of particular concern given LICs' more pronounced vulnerability to external shocks. Of course the Fund has paid attention to this problem for some time. However, the 2011 Triennial Surveillance Review called for widening the lens through which surveillance is conducted in LICs to better account for the interplay between financial deepening and macro-financial stability.

Thus, the team conducted a number of research projects in this area (so far, items 1.1.11, 1.1.12, and 1.1.13 have been issued). These research projects formed a principle input into an important IMF Board paper on the topic (item 3.2.3) and an IMF/DFID policy conference attended by Fund management and major outside researchers (item 3.1.4).

As highlighted in an IMF Survey article, IMF management welcomed the paper. The work is also referenced in the Fund's first financial sector surveillance strategy document, highlighting the need to "Facilitate sustainable financial deepening in countries with shallow financial systems to support economic growth and stability." The analysis of one of the published working papers was featured in the October 2012 Fund's Flagship Global Financial Stability Report (GFSR), in a box on "Financial Deepening and Economic Performance."

Following the pilot application of the paper's framework in Benin (item 2.1.9), applications are underway in several other countries, including WAEMU, Senegal, and Ghana.

While the September 2012 joint IMF, World Bank, DFID and Consortium for Financial Systems and Poverty (CFSP) conference served to position the Fund on a critical macro-financial issue, participants pointed to the need for a sustained engagement with academics, practitioners and policy makers. In this context, Prof. Robert Townsend of MIT agreed to serve as an external advisor in helping strengthen Fund analysis and advice to member countries. With the financial assistance of the DFID project, the Fund will partner with the CFSP, led by Prof. Townsend, to form an experts network, promote knowledge-sharing events, and strengthen in-reach and outreach. This initiative has also been welcomed by Fund management.

2. Costs and timescale

2.1 Is the project on-track against financial forecasts: Y/N No

The following table provides an indicative breakdown of planned versus actual spending for Year 1: Table 2

DFID Budget: Projected and Realized, FY 2013 (March 2012-February 2013)

	Budget		Realized				Remaining	
Category	**Original**	**Revised**	**Actual**	**Committed**	**Projected**	**Total**	**Total**	**Percent Difference**
Contractuals	$ 1,109,768	$ 796,000	$ 689,831	$ 95,229	$ -	$ 785,060	$ (10,940)	-1.4%
Visiting Scholars	$ 1,202,883	$ 635,000	$ 335,258	$ 134,592	$ 56,913	$ 526,764	$ (108,236)	-17.0%
Travel and Other Costs	$ 356,369	$ 350,000	$ 141,974	$ 32,500	$ 30,000	$ 204,474	$ (145,526)	-41.6%
Conferences	$ 186,805	$ 130,000	$ 20,629	$ 23,500	$ -	$ 44,129	$ (85,871)	-66.1%
Travel	$ 119,565	$ 170,000	$ 121,346	$ 9,000	$ 30,000	$ 160,346	$ (9,654)	-5.7%
Contingency	$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ (50,000)	-100.0%
IMF Staff	$ 589,666	$ 506,565	$ 419,622	$ -	$ 20,194	$ 439,816	$ (66,749)	-13.2%
IMF Staff Backstopping/Uptake	$ 543,102	$ 460,000	$ 377,114	$ -	$ 15,663	$ 392,777	$ (67,223)	-14.6%
Project Management	$ 46,565	$ 46,565	$ 42,508	$ -	$ 4,531	$ 47,039	$ 474	1.0%
Subtotal	$ 3,258,687	$ 2,287,565	$ 1,586,686	$ 262,321	$ 107,108	$ 1,956,114	$ (331,451)	-14.5%
TTF Management Fee(7%)	$ 228,108	$ 160,130	$ 111,068	$ 18,362	$ 7,498	$ 136,928	$ (23,202)	-14.5%
TOTAL	**$ 3,486,795**	**$ 2,447,695**	**$ 1,697,754**	**$ 280,683**	**$ 114,605**	**$ 2,093,042**	**$ (354,652)**	**-14.5%**

The project has underspent substantially against the original budget, but marginally against the revised budget. The budget was revised because of delays in recruitment (see below).

The categories which saw a difference of greater than five percent between the revised budget and realized expenditures are Visiting Scholars, Travel and Other Costs, and IMF Staff. For the Travel category, the contingency budget of $50,000 was not used. The only category slightly above the revised budget was in project management, but the difference between planned and actual was only one percent.

2.2 Key cost drivers

The biggest costs envisaged in the budget were for additional staff on short-term contracts, and visiting scholars. As detailed in Section 1.5, the project found that it was more effective to hire staff for one year or more contracts, rather than to hire them for one paper at a time, hence the budget line for 'Visiting Scholars' is substantially underspent.

This change in procurement approach caused delays, leading to a re-profiling of the budget, pushing $1m back into a third year.

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

2.3 Is the project on-track against original timescale: Y/N Yes

The project has done well against Milestone 1, and in many cases has exceeded even the 'High' targets

In the coming year, the IMF will continue their work on all six broad topics of research as well as continue to expand their research capacity. The following provides a brief overview of their plans for each topic.

1) Monetary and exchange rate policies in LICs:

a. Examples of ongoing work on this topic include looking more closely at the real determinants of food price inflation, potential pitfalls from the use of VARs to uncover the effects of monetary policy in low-income countries, and in-depth case studies of recent monetary policy decisions in East Africa.

b. Part of this work is being pursued in collaboration with academic economists (Christopher Adam from Oxford University, Edward Buffie from Indiana University, Peter Montiel and Peter Pedroni from Williams College, Stephen O'Connell from Swarthmore College), as well as economists with ample experience in central bank research and operations (David Vavra and Jan Vlcek, both from OGResearch, a Prague-based think-tank).

c. In addition to the ongoing work on Kenya, Uganda and Rwanda, IMF staff are working on in-depth analyses of monetary policy in Ghana and Tanzania. The IMF is also encouraging researchers who are new to development macroeconomics to work on issues of monetary policy in LICs.

2) Public investment, growth, and debt sustainability:

a. The team is currently working with the Czech consulting firm OGR on extending the model to more systematically incorporate uncertainty and external shocks. The IMF also working on assessing risks of debt sustainability in countries that discover natural resources and are considering borrowing against future export revenues.

b. Applications of the model to actual cases of investment scaling up include Ghana, Senegal, Afghanistan, Ethiopia, and Tanzania.

c. The team is collaborating with Edward Buffie (Indiana University), Christopher Scott Adam (University of Oxford), David Bevan (University of Oxford), and Mouhamadou Bamba Diop and Kalidou Thiaw (Direction des Previsions et des Etudes Economiques).

d. They will be conducting a weeklong modeling workshop in Liberia in August, 2013.

3) Macroeconomic management of natural resource wealth:

a. The team is currently combining the sustainable investing tool with the debt sustainability framework (see Topic 2) so that the tool can be applied to countries that scale up investment using natural resource revenues combined with external borrowing. Applications in progress include Kazakhstan, Mozambique, and Turkmenistan, and a starti has been made with Sierra Leone and Gabon.
b. The team is collaborating with Ioana Moldovan (University of Glasgow).

4) Macroeconomic policies and income distribution:
a. The team is working on the first version of a working paper which should be ready this summer, and the paper will be presented at the CSAE conference in Oxford this spring; the Department of Economics of Georgetown University; Summer meetings of the Econometric Society (mid June of this year, at the University of Southern California); and the Annual Meeting of the Society for Economic Dynamics (late June in South Korea).
b. The IMF have hired a top scholar (Irina Telyukova from UCSD) in the field of macro models based on micro data to dig deeper into the distributional consequences of macroeconomic policy and shocks in low income countries. A draft paper should be completed by Autumn, 2013.

5) Role of financial deepening in fostering macroeconomic stability and sustained growth in LICs.
a. Professor Robert M. Townsend of MIT has agreed to serve as an external advisor to help strengthen the Fund's analysis and policy advice in surveillance to member countries.

6) Growth through diversification:
a. A working paper on export quality in developing countries and another on five case studies (Angola, Bangladesh, Malaysia, Tanzania, and Vietnam) on economic diversification are forthcoming.
b. Additional plans for the coming year include an IMF Board paper on diversification and structural transformation, focusing on policy challenges and responses.
c. A web-based toolkit is being developed so that researchers will have access to a variety of diversification indices.

In addition to staff work on the six research topics, 13 papers have been commissioned that focus on additional topics of interest to LICs. These papers cover issues such as the:
- management of capital flows;
- impact of uncertainty on macroeconomic management;
- distributional effects of fiscal and monetary policy;
- growth impact of privatization;
- link between financial liberalization and macroeconomic stability; and
- methods for estimating output and growth in real time.

In an effort to build research capacity, the authors of these papers range from Ph.D. students to full professors, and the submissions have come from both inside and outside the U.S. The project team will host a pre-conference on July 22-23, 2013 and a final conference on January 30-31, 2014. All authors will be invited to submit their papers to the Pacific Economic Review's special issue on the conference. Papers will be publically available on the IMF-DFID website, through the Pacific Economic Review, and should any paper be selected for publication in another journal, through gold access provided by this grant.

3. Evidence and Evaluation

3.1 Assess any changes in evidence and implications for the project

There are no changes to the evidence that challenge the original justification for the project. The project continues to fill gaps in the research agenda.

3.2 Where an evaluation is planned what progress has been made?

Because the project has only completed its first year, it is still quite early to conduct any sort of proper evaluation of the program.

4. Risk

4.1 Output Risk Rating: Low/Medium/High

The project is judged to be **Low** risk. This rating is justified by the progress made during the first year of the programme, and the fact that the project has delivered and surpassed log frame expectations in its first year.

4.2 Assessment of the risk level

While the overall rating of risk for this project is low, there are a few risks to consider. One of the objectives is to expand the pool of researchers working on LICs, and to do so, 13 papers have been commissioned. In selecting these papers, the team were looking for not only high-quality work but also authors/co-authors who were "new" to the macro/LIC field (please see the discussion on "Definition of a new researcher" below). As with any commissioned paper, there exists the risk that the authors could have been close to completing a paper already when they saw the call for papers notice; thus, it would not be really new work. Mitigation measures included web searchers to see if earlier versions existed and correspondence with the authors to confirm the novelty of their submissions as part of the selection process. Several proposals were turned down on that basis. Furthermore, the authors confirmed in writing that the papers were at an early stage of development, had not been issued as working papers, and had not been submitted for publication at a peer-reviewed journal.

Another risk is that in the effort to attract new researchers to the field, papers might be funded that are not usable (uptakeable) by country authorities and IMF staff. Futhermore, because much of the work on commissioned papers is done at arm's length, some papers might be submitted that will not be well received by country authorities.

Definition of a new researcher: researchers are "new" if they have not worked substantively in the field of LIC macroeconomics, especially with respect to sub-Saharan Africa. A researcher is "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.

Perfect cases of "new blood," are **Philip Lane** (Professor at Trinity College Dublin), who has a vast research portfolio on topics related to advanced and emerging market countries but little or nothing on LICs; and **Nicholas Bloom**, who has focused on the macroeconomics of advanced economies, although he has one paper on firms' management practices in India. (Note: India is not a LIC according to the IMF's definition.)

Some examples of researchers considered "new" but whose classification may involve interesting definitional questions include:

o **Eswar Prasad** (Professor at Cornell University), who has spent almost his entire career studying emerging markets. The main exception are three papers with co-authors that focus on a full sample of developing countries, including some LICs (Prasad et al., 2007; Chinn and Prasad, 2003; Agenor et al., 2000), and Prasad and Anand (2010), which looks at inflation in India.

- **Christopher Otrok** (Professor at the University of Missouri), whose research has been on the macroeconomics of advanced economies, the only exception being one co-authored paper on monetary policy in SSA.

To further illustrate how the above definition has been used, it may be helpful to consider two cases where the person was judged not to be "new":

- **Romain Houssa** (Professor, University of Namur), who has undertaken a diverse body of work on cross-country datasets covering all levels of economic development, but more than half of his papers are on LICs.

- **Matt Lowe** (first-year graduate student at the MIT) who specializes in development, macroeconomics, and political economy. His first paper has looked at the marginal product of capital in a cross-section of countries, including LICs. His second paper, written for the conference, assesses the impact of railway privatization in Africa.

- Authors affiliated with international development institutions (World Bank, African Development Bank) whose research tends to cover developing countries, and who have extensive knowledge of and operational experience with LIC issues.

A commissioned paper is "new" if at least one coauthor is new, by the above definition.

4.3 Risk of funds not being used as intended

The risks of funds not being used as intended remain LOW.

4.4 Climate and Environment Risk

Climate and environment risks remain unchanged from those described in detail within the business case for the project.

5. Value for Money

5.1 Performance on VfM measures

While it is still quite early in the project to fully evaluate the cost effectiveness (i.e. value for money) of this project, all decisions related to the project are guided by this principle. All contractual hires undergo a competitive process, and Fund guidelines for travel and conferences are strictly followed. Outputs are produced under firm timeframes and must meet Fund requirements for publication. The quality of papers is further evaluated when the papers are submitted to peer-reviewed publications.

Direct project management costs represented approximately two per cent of the total first year budget; if this includes the Trust Fund management fee, program management costs were still below nine per cent. This means that the vast majority of the funds available to this project were spent on producing high quality research rather than on project management. In terms of outputs, the IMF have exceeded all of the “High” targets indicated on the log frame and hence unit costs of research papers are at the low end of the spectrum.

Some of the outputs include:

- 13 working papers
- 1 published paper
- 2 IMF Board papers
- 2 high profile conferences hosted at IMF
- 6 training or technical assistance missions.

5.2 Commercial Improvement and Value for Money

Based on experience over the first year, the IMF have learned a few important best practices which they plan to incorporate into their plans for years 2 and 3. For example, they have moved towards hiring longer-term visiting scholars, and have brought in a project officer and administrative assistant to help manage the project. These two decisions will allow the IMF to operate more efficiently in the coming year, particularly now that the first year process of scaling up is complete.

They are planning to work with more central banks than originally envisaged, to meet the high demand for technical assistance and training. To do this, they have been able to draw on and through resources provided by DFID leverage other non-DFID resources such as their own Institute for Capacity Development. The project has been able to use DFID resources to draw on consultants who present relatively low transaction costs and have exactly the right mix of skills.

5.3 Role of project partners

5.4 Does the project still represent Value for Money : Y/N

Yes. The project represents very good value for money. The unit cost per working paper compares favourably to other commissioned research papers within the growth research portfolio.

5.5 If not, what action will you take?

6. Conditionality

6.1 Update on specific conditions

There are no specific conditions attached to the programme, over and above those specified in the business case.

7. Conclusions and actions

The project has exceeded expectations during its first year. We note it has been well received by senior IMF staff, Executive Board members, policymakers in LICs, and a wide array of researchers interested in macroeconomic issues in LICs, a key objective set for the programme.

The papers have not only contributed to the overall body of currently very limited research on LICs but brought much-needed attention to the importance of LIC research at the Fund. The IMF's Deputy Managing Director Min Zhu, Chief Economist Olivier Blanchard, and African Department Director Antoinette Sayeh, among others, are all keenly aware of the importance and impact of this project.

The high quality, relevance and originality of outputs have been confirmed by DFID staff reviews, and demonstrated by one paper being accepted for journal publication.

The research is also closely linked with the provision of technical assistance, has already influenced IMF policy, encouraged close interdepartmental coordination and collaboration, and received strong commitment and support from IMF country teams and authorities. On the basis of this progress the review team scored the project an A++.

We have recommended some modest changes to the log frame to improve the fit between the outputs and indicators and to better capture all the activities being delivered under the programme. We have recommended a shift in the output weighting for the second year towards encouraging uptake and themes by IMF teams and country authorities. The review team recommends the IMF consider translating the Working Papers into shorter and more accessible Policy Briefs, to increase further the uptake of the project's outputs. We also recommend the papers be independently peer reviewed by an expert in the field not linked to the project or the IMF. DFID will make recommendations in this regard. We request the IMF fund this through existing project resources.

8. Review Process

The Annual Review process was carried out over a period of 3 months. It involved consultation with the IMF, DFID country economists, and policy colleagues. It involved review of progress reports, various IMF policy documentation and the research outputs. It was carried out by DFID Growth Research Team staff (Senior Economic Advisor, Economic Advisor, Deputy Programme Manager), the Senior Economic Advisor, Ghana, the Economic Advisor, Zambia, Economic Advisor agricultural research team (formerly economic advisor in the macroeconomic policy team). The latter 3 colleagues acted as independent peer reviewers. The report was quality assured by Growth Research Programme Manager, Growth Research Team. Video conference discussions were held with IMF staff to provide inputs into the review process, feedback on the scoring and discuss and agree recommendations contained in the report. VCs were also held with DFID country staff. The approver for the project is DFID's Chief Economist.