March 2026[1]

MACRO RESEARCH FOR DEVELOPMENT
An IMF-FCDO Collaboration

Country Application: Marshall Islands

A recent Selected Issues Paper applies the Debt, Investment, Growth, and Natural Disasters (DIGNAD) model to assess the macroeconomic impact of climate shocks and resilience policies in the Marshall Islands. The analysis highlights the country's high exposure to climate-related risks—including erosion, flooding, droughts, and infrastructure damage—and evaluates policy options to strengthen resilience.

Leveraging a dynamic general equilibrium framework, the analysis shows that resilient infrastructure investment, together with effective public investment management, can significantly reduce GDP contraction following both rapid-onset and slow-moving natural disaster shocks. Tax reform, notably a permanent increase in the VAT rate, can help facilitate infrastructure restoration in response to persistent sea level rise while supporting private investment and long-term growth despite dampened consumption. To address substantial financing needs for climate-resilient infrastructure, maximizing climate funding is essential, including through improved domestic revenue collection and external support from the renewed Compact and development partners.

Strengthening institutional capacity to access climate finance effectively is also critical. Given limited fiscal space, prioritizing adaptation investments while maintaining fiscal sustainability is key to enhancing long-term resilience. The analysis complements the Article IV consultation for the Marshall Islands.

Country Application: Republic of Palau

A recent analysis in the Article IV consultation for Palau applies the DIGNAD model to evaluate fiscal strategies for strengthening economic resilience. Palau is vulnerable to tourism-related macroeconomic shocks and climate-related disasters. The study assesses how the country can best utilize the fiscal space created by the renewed Compact Agreement with the United States and recent tax reforms.

Using the model, the analysis evaluates alternative fiscal strategies, finding that prioritizing resilience-enhancing public investment outperforms strategies focused on current spending. Frontloading infrastructure investments can help reduce future borrowing costs and mitigate the impact of shocks.

Training: Climate in Macroeconomic Frameworks

As part of the *Climate in Macroeconomic Frameworks* course, M. Khabbazan, T. Tiryaki, S. Agrawal and the IMF's Institute for Capacity Development delivered training on the DIGNAD model on February 26–27, 2026 at IMF's headquarters.

The DIGNAD toolkit helps assess debt sustainability risks following natural disasters while incorporating the need to rebuild public infrastructure within a general equilibrium framework. It also supports the analysis of ex-ante policies such as climate adaptation investment, stronger fiscal buffers, and improved public investment efficiency.

The course followed a blended format, with a virtual component (January 12–23, 2026) and an in-person week at IMF headquarters (February 23–27). The virtual phase focused on financial programming and debt dynamics, while the in-person sessions introduced IMF analytical tools, including the Natural Disasters Macroframework Toolkit (ND_MT), the Debt Dynamics Tool with Natural Disasters (ND_DDT), and the DIGNAD model. Opening remarks were delivered by B. Li.

The course attracted strong global interest, with 32 participants (including 21 women) selected through a competitive process from ministries of finance, central banks, and statistical offices. Participants highlighted the high quality and practical relevance of the training.

Conference Session: External Financing for Development

The special session *"External Financing for Development: New Evidence and Policy Perspectives"* was held during the 2026 American Economic Association Annual Meeting. The session highlighted cutting edge research from the IMF–FCDO Macro Research for Development (MRLIC) collaboration, underscoring the program's strong academic visibility and policy relevance.

Two MRLIC projects addressed timely questions on the entry and persistence of cross border financial flows to low income countries (LICs) and how climate shocks reshape the growth effects of FDI, official development assistance, and remittances. Presented and discussed by leading researchers and policymakers, the session exemplified effective academic–policy bridging, translating frontier empirical research into insights directly relevant for development finance, resilience, and macroeconomic policy design.

Published Paper: Knowledge Diffusion Through FDI

The paper *Knowledge Diffusion through FDI: Worldwide Firm-Level Evidence* by J. Ahn, C. Kim, N. Li, and A. Manera, has been published in the *Journal of International Economics*. Using firm-level FDI data across 60 countries, the study traces knowledge flows through patent citations. The results show that FDI can generate meaningful technology spillovers, but the magnitude of these benefits depends critically on host countries' absorptive capacity.

Host countries in the top decile of innovation capacity benefit up to eight times more than less innovative peers. Where technological proximity between investor and host is low, spillovers may be negligible altogether. This suggests that FDI alone cannot be relied upon to close the innovation gap between rich and poor countries. For lower-income countries to capture these benefits, complementary investments in education, research and development infrastructure, and institutions are essential — making the case for sustained donor support in building these domestic capabilities.

Published Paper: Playing with Blocs: Quantifying Decoupling

The paper *Playing with Blocs: Quantifying Decoupling* by B. Bonadio, Z. Huo, E. Kang, A. A. Levchenko, N. Pandalai-Nayar, H. Toma, and P. Topalova has been accepted for publication in the *Journal of International Economics*. The study takes a data-driven approach to measure trade decoupling over 2015-2023. Countries are classified into three groups based on changes in their data-inferred trade costs with the US and China: those shifting toward the US bloc, those shifting toward the China bloc, and those with no change in alignment.

The authors document that while cross-bloc trade costs have risen, they have been accompanied by declining within-bloc trade costs, leaving average trade costs only marginally lower and consistent with global trade resilience. Using a quantitative model, the paper computes the real income effects of this reconfiguration of trade costs. Model simulations suggest that real income in the median country globally, as well as the median country within each bloc, increased by about 0.4-0.6%. Finally, the authors find a modest degree of bloc misalignment, with the median country potentially better off switching blocs. These results suggest that trade decoupling may not align with trade-driven economic interests.

Published Paper: Growth Interrupted: How Crises Delay Global Convergence

Featured in the *Journal of International Money and Finance*, P. A. Imam and J. R. W. Temple examine how major crises, such as conflict and sovereign debt distress, shape the long-run dynamics of global income convergence. Using a Markov-chain framework, the paper analyzes income mobility across 119 countries, allowing economies to shift between normal growth periods and crisis regimes. The results show that crises significantly alter the likelihood that countries move up or down the global income ladder. LICs experience crises more frequently and for longer durations, sharply reducing their prospects for sustained catch-up. Repeated crises interrupt growth paths, reverse earlier gains, and help explain the persistence of low relative income and the emergence of “twin peaks” in the global income distribution.

For policymakers, the implications are clear. Strengthening macroeconomic resilience, preventing debt distress, and reducing conflict risks are not only stability objectives but also central to development. Over the long run, countries that converge are often not those that grow fastest, but those that avoid being repeatedly knocked off course by crises.

Published Paper: Dynamic Development Accounting and Relative Income Traps

In a recent article in *Economic Inquiry*, P. A. Imam and J. R. W. Temple revisit the long-standing question of why some countries remain persistently poor relative to the global frontier. Using a dynamic development accounting framework based on Markov transition matrices, the paper analyzes mobility in relative income and total factor productivity across countries over time. The results show that although many countries have experienced convergence in capital intensity and human capital, mobility in relative income remains limited. Countries starting from very low-income levels rarely improve their position relative to the more advanced economies, and escaping the lowest income category can take many decades. In this sense, the challenge for development is not only poverty itself, but the persistence of relative income gaps.

The analysis points to productivity growth as the main barrier to convergence. While many countries have accumulated capital and expanded education, these gains have not translated into comparable improvements in relative productivity. As a result, countries can invest more and educate more workers yet remain far from the global frontier if productivity growth does not keep pace. For LICs, the findings highlight the importance of policies that strengthen institutions, support technological diffusion, and foster sustained productivity growth. Ultimately, closing income gaps requires closing productivity gaps.

Published Paper: Social Unrest and Fuel Prices: The Role of Macroeconomic, Social, and Institutional Factors

In this paper, published in *The Energy Journal*, A. Drabo, K. M. Eklou, P. A. Imam, and K. Kpodar investigate the link between fuel prices and social unrest in a sample of 101 developing countries from 2001 to 2020. The findings show that fuel price increases are more likely to trigger unrest during economic downturns, in highly unequal societies, and where institutions are weak and corruption is high. This effect is less pronounced when governments invest in health and education.

Overall, the results support the grievance and deprivation theory in explaining the link between fuel prices and social unrest but find no evidence for the resource theory or the theory of political opportunities. The main takeaway for the political economy of energy subsidy reform is that well-timed reforms, stronger institutions, and higher social spending can significantly mitigate social tensions.

Working Paper and Conference Presentation: Mapping Government Spending Through AI

The Working Paper (WP) *AI Meets Fiscal Policy: Mapping Government Spending Across 64 Countries*, authored by S. Das, D. Furceri, N. Patel, and A. Peralta-Alva, builds the first global quarterly narrative database of discretionary government spending actions by applying a fixed GPT-4.1 prompt to *Economist Intelligence Unit Country Reports*. The resulting series identifies exogenous spending shocks for an unbalanced panel of 64 countries, including many LICs, from 1952:Q1 to 2023:Q4.

The database is validated by replicating expert narrative coding, showing that the identified shocks predict subsequent movements in measured government spending, and establishing alignment with action-based consolidation measures. Using country-by-country VARs that treat the narrative indicator as an internal instrument, the study derives comparable cumulative government spending multipliers. The median spending multiplier is about 0.7 over two years, with effects varying across countries—larger in less open economies and downturns, but smaller when uncertainty is high and larger when political support is greater.

The paper was presented by A. Peralta-Alva at the 19th International Joint Conference CFE-CMStatistics, held on December 13–15, 2025.

Working Paper: Weather Volatility and Food Price Dynamics in Uganda

In a recent study, C. S. Adam and P. Kaur Matta examine how fluctuations in rainfall and temperature affect the prices of domestically produced staple foods in Uganda. While the country has experienced an increase in the frequency of extreme weather events, changes in aggregate patterns of rainfall and temperature have been relatively modest and have evolved gradually over time. As a result, conventionally measured weather variation appears to have only a limited impact on food prices at the aggregate level. This paper instead uses granular earth-observation weather data and spatially disaggregated price data to examine how rainfall and temperature variability affect the short-run dynamics of staple crop prices.

The findings show that measures of weather variability do affect the evolution of prices for locally produced agricultural commodities, but the estimated effects are relatively small and sensitive to specification. As a result, failing to incorporate these effects into near-term inflation forecasting models is unlikely to lead to significantly larger forecast errors.

Conference Presentation: Global Trade Invoicing in a Fragmenting World Economy

At the JIE Stanford Conference on Geoeconomics held at Stanford University on February 28, 2026, E. Boz presented the paper *Patterns of Invoicing Currency in Global Trade in a Fragmenting World Economy* co-authored with A. Brüggen, C. Casas, G. Georgiadis, G. Gopinath, and A. Mehl.

The study introduces a comprehensive panel dataset on global trade invoicing currencies covering 132 countries from 1990 to 2023, including many LICs and new data on the use of the Chinese renminbi. The analysis shows that the U.S. dollar remains the dominant invoicing currency globally, while renminbi use has expanded gradually beyond Asia but remains modest overall. The paper also shows that countries not geopolitically aligned with the United States continue to rely on the dollar, although this reliance has declined in a few key economies. Additionally, since 2021, the correlation between invoicing currency use and the geopolitical distance to its issuer has become increasingly negative, reflecting growing polarization. Finally, there is no robust evidence of effective policy initiatives aimed at reducing dollar reliance in oil exports. These findings highlight the continued resilience of dominant currencies while pointing to emerging fragmentation in invoicing patterns along geopolitical lines.

Conference Presentation: Climate Shocks and the Growth Effects of FDI, ODA, and Remittances

At the 2026 American Economic Association Annual Meeting, A. Drabo presented the paper *How do Climate Shocks Interact with FDI, ODA and Remittances in Their Effects on Economic Growth?*. The paper extends the literature linking financial flows and economic growth by arguing that climate shocks may undermine the effect of FDI, ODA, and migrants' remittances on economic expansion.

Based on a neoclassical growth framework, the theoretical model shows that FDI, ODA, and remittances support economic growth, with stronger effects in countries with greater absorptive capacity. However, climate shocks weaken these positive effects in developing countries. Using a sample of low- and middle-income countries and an econometric strategy that addresses endogeneity concerns, the empirical analysis confirms these theoretical predictions. The results are robust to alternative measures of climate shocks, data structures, and sample periods. Overall, the findings underscore the importance of strengthening resilience to climate change, alongside global efforts to reduce greenhouse gas emissions.

Conference Presentation: Bilateral Financial Flows to LICs

During the 2026 American Economic Association Annual Meeting, P. Lastauskas presented an upcoming paper titled *"The Extensive Margin of Bilateral Financial Flows to Low-Income Countries"*, co-authored with S. Mallick, and B. Shang.

The study examines the constraints shaping cross-border financial relationships between countries. Using comprehensive data on foreign direct investment, portfolio flows, and aid for the period 2000–2023, the authors find that the main barrier to capital flows to LICs lies in the difficulty of establishing financial links. More than 85 percent of potential bilateral financial relationships never materialize, while those that do tend to persist over time. The results reveal substantial heterogeneity across types of flows and policy environments, highlighting how factors such as aid, trade agreements, and sanctions influence the ability of poorer economies to attract and sustain private capital inflows.

External Presentation: Bilateral Trade in Services Dataset

R. Zymek and N. Li presented the Bilateral Trade in Services: Insights from A New Research Dataset (BiTS) internally in the Middle East and Central Asia Department (MCD) of the IMF and externally at OECD, respectively. The dataset compiles official statistics on bilateral services trade flows from a range of sources, providing the most comprehensive dataset on bilateral services trade suitable for empirical analysis.

A companion paper describes the dataset and illustrates its uses through two research applications. The presentations aimed to promote the dataset to potential users and featured tailored analyses of services trade patterns among economies in the MCD membership.

Internal Presentation: Datasets and Toolkits for Country Surveillance

N. Li presented the Development Macroeconomics Division's suite of datasets and analytical toolkits at a RES in-reach event. The presentation showcased a range of resources available to support country surveillance, including the DIG model series for analyzing fiscal and growth tradeoffs under climate stress and governance reforms, the ECLIPSSE trade model for evaluating tariff and industrial policy impacts, and a nowcasting framework for real-time GDP estimation in data-scarce economies.

It also highlighted newly available datasets—including the Bilateral Trade in Services database, worldwide indices of uncertainty, sentiment, and financial distress, and estimates of gender occupational barriers—as well as ongoing work on energy security and long-run structural transformation modeling. The presentation contributed to raising awareness of MRLIC products among IMF teams, supporting their broader use in country work.

[1]This issue covers activities and outputs from December 1, 2025 to February 28, 2026. Information compiled by Hites Ahir (hahir@imf.org) and Ana Cepeda (acepedavalor@imf.org) with inputs from the authors. Final edits by Ana Cepeda.

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