Task Force 5
Purpose & Performance: Reassessing the Global Financial Order

DE-RISKING DEVELOPING COUNTRY CURRENCIES FOR CLIMATE FINANCING

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Abstract

Climate investments in the Global South require trillions of dollars annually. Private investors from the Global North, making such investments, are deterred by the possibility of sharp depreciation of currencies. The market mechanism for hedging long-term emerging market currency risk is broken. Global South sovereigns can bolster confidence about the availability of foreign exchange, if the central bank of a developing country has swap arrangements with central banks of hard currency countries to assure that such currency can be made available when required. The International Monetary Fund, with support from G20 countries, and the Bank for International Settlements can create an ecosystem for facilitating large capital flows between countries by parcelling risks to those who can best afford to bear them. This Policy Brief recommends, among others, that the G20 encourage its partner countries to create long-term central bank swap arrangements with specific currency covers for green investments.

The Challenge

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Every year, developing countries require trillions of dollars of investments in climate mitigation, adaptation, and resilience. Such investments can be a large fraction of the total investment flows in a developing country. These countries look to the developed world for funding such large requirements on account of the principles of 'polluter pays' and 'common but differentiated responsibilities and respective capabilities' (CBDRRC), and the commitment of US$100 billion a year to climate financing.

Depreciating developing country currencies sap confidence of investors; innovation required.

The flow of Global North's private capital to the Global South is hampered by volatile and depreciating currencies of the latter. Global South currencies, especially given inflationary pressures in their local economies, tend to have a bias towards depreciation in the long run. This poses a challenge for long-term Global North private investors, who seek returns in their local (hard) currencies. Given the smaller sizes of Global South economies and their limited capital account convertibility, deep and liquid currency hedging markets do not exist for investors to offload their risks.

Bouts of sharp depreciation in Global South currencies are caused by unavailability of foreign exchange reserves in hard currencies at the time of economic crises. A reason for, and a marker of, an economic crisis is the lack of such reserves. The lack of reserves creates two types of fear in the minds of foreign investors: (a) whether their investment will be repatriable in their currencies, and if so, (b) at what exchange rate. Currency risk scored the highest with regard to risks faced by investors in renewable energy projects in India. [1]

Long-term markets for currency hedges are fundamentally broken.

The "desire to hedge only results in liquid markets if somebody is willing to take the other side of the transaction.…A financial intermediary could sell the appropriate insurance for idiosyncratic risks that are easily diversifiable, but creating a market for macroeconomic risks, such as exchange rate and interest rate risk, is much more difficult unless agents are exposed to such risks in opposite ways

and are willing to be involved in the market." [2]

The hedge market is liquid and competitive in the case of a few large developing market[3] currencies, and that too only in the short range, say, one-year forward or at best five-year forward (though the latter is rarer or illiquid). This is because hedging markets have developed around the current account of trade in goods and services, conducted by importers and exporters. A bank or a financial institution can create a trade of intermediation between the needs of importers and those of exporters in a country as there are natural contrary needs. Such economic agents have a shorter time horizon than investors who invest for multiple years or decades.

Long-term hedge market is broken for developing countries as they are normally recipients of foreign capital inflow (via foreign direct investment, portfolio flows or aid) and rarely have any material foreign assets ownership, which needs foreign exchange outflows from the country. This means that there is limited, if any, two-way flow of currencies in the Global South countries at tenures deep in the future. This lack of double coincidence of wants creates a broken market.

Since the market is naturally broken, the price points at which hedges may be structured can be, and are, uneconomic. In effect, the counterparty, such as a bank that may be persuaded to write a long-term hedge on a developing market currency, will try to protect itself from exceptionally large movements in the currency: the pricing of such a hedge can be so high that it can make the cost of hedged finance uneconomic for the developing country.

Currency risk, in one version of proposed solutions, has been addressed by making the local central bank a guarantor for the exchange rate to the investor. [4] This leaves the developing country exposed to currency movements requiring the said central bank to lock away foreign exchange reserves for this underwriting. It also does not create a framework for risk-sharing between the Global North and the Global South.

Ensuring the availability of foreign exchange, when required

Developing countries need to reassure investors that repatriation of funds, if required, will be possible with the availability of hard foreign exchange in the future. Developing country sovereigns get access to hard currencies via ongoing current account surpluses and/or capital inflows. In times of crises, either or both can turn sharply negative.

Global South sovereigns can bolster confidence about the availability of foreign exchange, if the central bank of a developing country has a swap arrangement with a counterparty central bank of a hard currency country to assure that such currency will be made available when required.

A group of developed country central banks of the US, Canada, England, European Union, Japan, and Switzerland have, over the years, strengthened the currency swaps between themselves. As the Federal Reserve notes:[5] "The network of swap lines among these central banks is a set of available standing facilities and serve as an important liquidity backstop to ease strains in global funding markets, thereby mitigating the effects of such strains on the supply of credit to households and businesses."

Few developing countries have access to such swap facilities. The US created time-bound swap lines for the US dollar to the tune of US$60 billion each with the central banks of Australia, Brazil, Mexico, Norway, Singapore, South Korea, and Sweden in light of the COVID-19 pandemic.[6] These swap lines continued till the end of 2021 and have not been renewed.

Some countries now have bilateral swap agreements between their central banks to allow for access to hard currencies, especially during a crisis. For example, India and Japan have a created a US$75-billion swap line between the two central banks. Such swaps are typically time-bound and are created for the purpose of having access to a hard currency for a short period of time. In many cases, these are bilateral agreements—countries need to create several swaps in case they need certainty on funds in different currencies.

The role of central banks in creating the global financial safety net has been well documented.[7] The US Federal Reserve has put in place 32 swaps for a total commitment of US$420 billion and 54 swaps have been ensured by the People's Bank of China for US$511 billion: these served as the key pillars of the 143 bilateral swaps, totalling US$1,605 billion, in 2021. It is noted that these arrangements are not globally integrated, many countries are left out (predictably developing countries), and the size of the potential drawings is small.

A reasonable, predictable price (exchange rate)

What is missing in these swaps is the price (i.e. exchange rate) at which these transactions will be carried out between the countries—it is left to the 'market rate' around that time. In any case, these swaps are meant for short durations, typically less than three months, before the currencies are exchanged again between the central banks.

For longer-dated swaps, as are required for climate investments running into multiple years, this creates a challenge because the currency market may be in crisis when hard currency funds for repatriation are required. A crucial element of the swap between the central bank counterparties for encouraging climate investments needs to be developed: the price (exchange rate) must be agreed upfront.

The concern for investors is not just the regular depreciation of the developing country currency (which can be accounted for) but episodes of large depreciations (which create significant risk aversion and high cost of capital). Over the long term, currencies tend to have reasonably predictable depreciation rates, even including episodic large movements. A numerical example is noted in the Appendix.

The G20's Role

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Unlike in the case of current swaps, wherein central banks do not take on the currency risks of counterparty banks but use them as a means of providing liquidity, the proposal outlined in this note requires central banks to maintain an open position on the currencies that they underwrite swaps on. Since markets to hedge long-term currencies do not exist, this risk will be housed with the central banks.

The assumption of such currency risks by developed-world central banks is their contribution to making the fund flow for climate investment easier and more affordable. This is their skin in the game to facilitate large-scale flows of climate investments.

Such a swap covers only for the exchange rate risk and not for the risk of the underlying project. What is being mitigated in this structure is only the rate of the currency depreciation, and not the underlying investments, which may have their own trajectory. The underlying investment in a climate mitigation, adaptation or resilience project may or may not earn the expected returns: that is the risk that the provider of capital takes on the basis of their understanding and ability to underwrite.

Defining the swap and the roles of the International Monetary Fund and the Bank for International Settlements

There are many aspects in this model that need to be tied in more comprehensively. How does one ensure that the central banks on either side pay up? How is the link to the investor and the specific investment made tight? How does one demonstrate that this idea will supercharge the flow of funds, at a lower/more affordable cost, to the developing world?

Acting as an aggregator and intermediary, the International Monetary Fund (IMF) can shore up the political will for a web of long-term (multi-year/multi-decadal) swaps among central banks of developing and developed countries for climate investments. These swaps cover risks of sharp currency depreciation in a developing country and availability of hard currency at the time of repatriation, thereby reducing risks for private investors.

Since these swaps involve central banks, the Bank for International Settlements (BIS) can create the right regulatory and coordinating capacity, especially at the technical and operational levels. Standardisation and pricing of these instruments, managing counterparty risks, and creating the legal frameworks and escrow protections, if required, can be detailed amongst central banks.

The IMF can serve as a clearing house for the long-term swaps that central banks agree to undertake. While the issue of availability of foreign currency has been solved by a few developing counties for some hard foreign currencies using bilateral swap, such swaps are not readily available to all countries. The current swaps are short-term in nature and address liquidity concerns, instead of focusing on the pricing and availability of currency over long periods. The IMF can detail and develop the framework for these proposed swaps.

The taxonomy for what climate investment is and which specific investments qualify for such currency protection can be developed by the BIS, which is already coordinating the Network for Greening the Financial System (NGFS). Climate/green taxonomies can continue to evolve over time.

If the contract design so requires, the IMF may create structures to hold on to funds in escrow from either side or possibly use the special drawing rights (SDRs), available for each country, to create contract enforceability. Given the linkages of (a) the IMF with other market participants and Bretton Woods Institutions, and of (b) the BIS to the central banks, which regulate financing institutions in their home geographies, a ready pipeline of assets that can be funded using this structure can be assembled.

This product can create a significant diversification benefit within itself. While currencies of some developing countries may depreciate more than forecasted, others may compensate. Management of such risks on these currencies and the low correlation between them can create buffers for the IMF, which can then design products requiring less contingent capital commitment from developed country central banks.

As the innovation is piloted, it will be useful to put this structure in place for securitised cash flow instruments or secured debt of the underlying projects. The range of outcomes for tightly defined cashflows, especially at a portfolio level, can be estimated with more certainty. Once the system of such currency risk coverage settles into being workable, the protection can be considered for riskier instruments, such as convertibles and equity.

Why and how should various stakeholders come together?

From investors' perspective, the availability of this product significantly reduces the risk that they undertake and, therefore, the risk premium that they charge to the developing country projects. As the lower-risk premia flow through their evaluation criteria, investors can support a wider range of projects (which can now become viable at a lower cost of funds) or can make the current projects more viable in the markets (by reducing their cost of funds, leaving the underlying companies/investments to address the market with lower-cost products).

In this structure, the IMF and the BIS lead product innovation and act as an exchange and clearing house amongst governments. By bringing in central banks to facilitate investment flows, it reduces the pressure and demands on IMF's resources.

In 2009, developed world governments promised to annually provide US$100 billion for climate investments to the developing world. Given the fiscal constraints, now more so due to the pandemic, inflation, and the Ukraine conflict, there is concern about the ability to meet these commitments. In any case, a large part of such commitments are being met by private investments that investors from the developed world are making in developing countries. A back-ended commitment, dated many years from now, with a reasonable certainty on not being way off the market, can help these governments facilitate more vibrant and larger fund flows to developing countries.

Long-term currency swaps offer a remarkably high multiple on the contingent capital, deployed by the Global North countries. Since no current fiscal commitment is made, it is light on the stretched public purses of the developed countries. While a certain amount of contingent risk is

being underwritten by central banks, the benefits of fund flows enabled today into a critical global public good of climate far outweigh the probability of small losses incurred many years in the future.

From the perspective of the developing countries, these swaps indicate more explicitly to their citizens that there may be a depreciation bias in the currencies. This offers a strong reason to the local sovereign/central bank to keep its currency within a broad range: citizens of such countries will now have a marker against which to judge their central banks and monetary authorities. This can naturally nudge countries towards following macro-prudential policies, such as having a relatively small fiscal deficit-to-GDP ratio, keeping the debt-to-GDP ratio in check, building up foreign exchange reserves to manage volatility, and managing inflation within its economy. These are unintended positive outcomes from the design of this instrument.

While investments required for financing climate projects in developing countries are large as a proportion of their GDP, they need to pace the flow of foreign capital, especially if their capital accounts are not fully convertible. The design of this instrument does not necessarily require capital account convertibility. Participating central banks should consider a freer flow of capital across member countries: the amount of capital flowing in can be modulated via the swap arrangements.

Developing countries have not been able to hold the developed world accountable to their commitment of capital for climate change. Indeed, many countries are now considering erecting import tariffs on account of climate change. One objective of the tariffs is to increase climate awareness and investments in countries that may be lagging. A corollary to import tariffs imposed by developed countries can involve making climate financing (via these central bank swaps) available in developing countries.

Recommendations to the G20

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Backstops by central banks across developed and developing countries on currency risks can offer investors comfort that their investments, when redeemed, will not suffer on account of sharp depreciations. Such investors can consequently lower their risk perceptions and premium charged to the capital provided to developing country projects. This Policy Brief recommends the following:

- The G20 must encourage its partner countries to create long-term central bank swap arrangements with specific currency covers for investments in green projects. These swaps must be long-dated and run for multiple years or decades, unlike the current central bank swaps or special drawing rights, which offer short-term liquidity.
- Risks on long-term depreciation of developing market currencies must be shared among central banks via the swaps, intermediated by IMF/ BIS.
- Credible pilot of climate swaps can be a template for expanding funding and lowering capital costs for climate investments in other developing countries.

In their newly reimagined roles in the global financial architecture, the IMF, with support from the G20 countries, and the BIS can create an ecosystem for facilitating large flows of capital to the developing world for climate finance.

Appendix

A numerical example to make the product design clearer

A two-country world can be imagined, one advanced economy and another developing. The current exchange rate between the currencies of the two countries can be assumed to be 80 (i.e. one can get 80 units of currency of the developing economy for one unit of the currency of the developed country). The long-term depreciation rate (observed over the last, say, 20-25 years, over various rolling periods) can be considered three percent per annum.

As discussed in this Policy Brief, markets are unable to hedge the currency risk over more than a year or so. For a 20-year climate project (say, a solar or an offshore wind farm or an electric charging station), investors require longer-term comfort on the movement of currency exchange rates.

For example, for an oil importing country, a sharp rise in the price of oil can alter current account dynamics unfavourably. Similarly, a 'risk-off' in the minds of the investors can impact capital flows – not only in terms of stopping new flows but also pulling out old ones. In both cases, the foreign exchange reserves that the developing country would have created can be depleted rapidly. Such depletions, without the ability to replenish hard currency reserves quickly and confidently, can create a vicious cycle of further withdrawals and depreciation.

It can be assumed that the forecast for the movement of the exchange rate is similar to the historical trends observed so far. This need not be the case; it is better to use it here to avoid creating confusion with too many different numbers. Various macroeconomic theories underpin possible outcomes on the exchange rate over the long term: these include theories on interest rates, inflation, and productivity. Using long-range historical datasets available on the performance of developing country currencies and applying theories of estimating the future, forecasts can be made about the possible values of the developing world currency vis-a-vis the developed world currency over time.

In the coming 20 years, if the exchange rate is expected to depreciate at three percent per annum, the expected

exchange rate will be 145 units (i.e. 80 * 1.03^20).

Private hedging markets will be unable to underwrite a contract of exchanging two currencies 20 years out. However, the central banks of the two countries can agree to exchange hard currency against the developing world currency at the said exchange rate many years down the line (in this case, 20 years later).

Forecasts are prone to errors and this means that one of the counterparties will be left holding residual risk at the time of the maturity of the swap.

If the market exchange rate at the end of 20 years turns out to be, say, 130 (i.e. the developing country sees less depreciation than expected), this is a loss for the central bank of the developing country. To repay one unit of hard currency, it will have had to spend only 130 units of the local currency, but it is now committed to giving 145 units. Alternatively, the reality 20 years down the line can be that the market exchange rate is, say, 160 (or worse, way beyond, as there have been intermittent or current currency crises). In such a case, the central bank of the developed world remains committed to providing hard currency at the rate of 145 to the developing country, which then goes on to offer the hard currency to the investors redeeming and repatriating their investments.

Attribution: Akhilesh Tilotia, "De-risking Developing Country Currencies for Climate Financing," *T20 Policy Brief*, July 2023.

Endnotes

1 Gireesh Shrimali, "Financial Instruments to Address Renewable Energy Project Risks in India.", *Energies* 14, no. 19 (2021): 6405, https://doi.org/10.3390/en14196405.

2 Laura Alfaro, Mauricio Calani, and Liliana Varela, *Firms, Currency Hedging and Financial Derivatives* (New Orleans: The Allied Social Science Associations, 2023).

3 The monikers "Global South" and "developing markets/countries" have been used interchangeably. Similarly, for "global North" and "developed markets/countries."

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6 "Federal Reserve announces the extension of its temporary U.S. dollar liquidity swap lines with nine central banks through December 31, 2021," The Federal Reserve, last modified June 16, 2021, https://www.federalreserve.gov/newsevents/pressreleases/monetary20210616c.htm.

7 Edwin M. Truman, "Central Banks and the Global Financial Safety Net," in *Building Back A Better Global Financial Safety Net,* ed. Kevin P. Gallagher and Haihong Gao (Boston: Global Development Policy Center, 2021), 23-33.


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