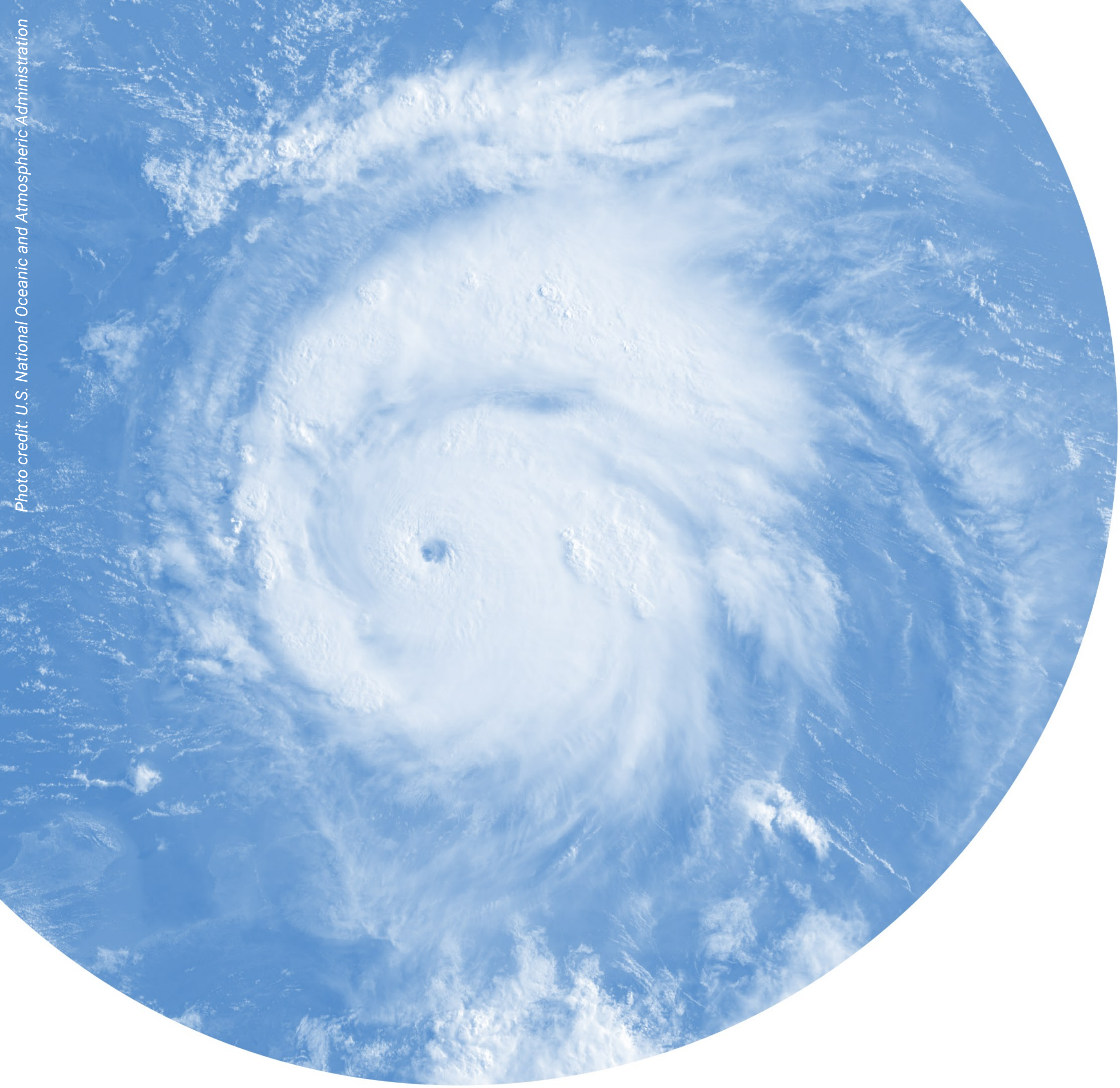


Photo credit: U.S. National Oceanic and Atmospheric Administration

INSIGHTS: FINANCIAL PROTECTION

WORLD BANK SHOULD COURSE-CORRECT FOR MORE FLEXIBLE CAT BOND TRIGGER CONDITIONS IN THE WAKE OF JAMAICA'S EXPERIENCE WITH HURRICANE BERYL

By
Sara Jane Ahmed
Jwala Rambarran

22 JULY 2024

A return to the etymology of the word catastrophe–a 'reversal' and an 'overturning'–may prove salutary if it reminds global financial institutions today of the need for policy overhaul given recent experience in the Caribbean and a global future increasingly dominated by climate chaos.

Jamaica, with advice from the World Bank, is the first small island state to use catastrophe (CAT) bonds, as part of its multi-layered disaster risk financing strategy to help the country "respond, recover and rebuild" after natural disasters. It is certainly an innovative approach to financial protection. And yet Jamaica — hit hard in the first days of July by Hurricane Beryl, the earliest recorded category 5 hurricane in the Atlantic Ocean — will not receive any payout from its second World Bank-facilitated CAT bond. Even worse, unless current terms are overturned to ensure actual delivery of payouts, investors will continue to enjoy returns, far above the US Treasury rate, from the current pool of outstanding CAT bonds. It is also important to note that hurricanes which did not inflict their full wrath on Jamaica but still left considerable damage in their wake - Grace in August 2021 and Ian in September 2022 - did not trigger any payouts from the country's first World Bank-supported CAT Bond. This situation is troubling and requires immediate attention from the World Bank's leadership.

Despite the devastation to property and infrastructure along Jamaica's southern coast and significant damage to crops in several breadbasket parishes caused by Hurricane Beryl, Jamaica will not receive any payout from its CAT bond. Investors were spared any loss of principal due to the specific trigger terms of the CAT bond, while the Government of Jamaica must now draw on resources from its self-funded Contingency Fund and Natural Disaster Fund to help finance the emergency response and recovery spending in the aftermath of Hurricane Beryl.

Jamaica is fortunate that Hurricane Beryl did not make landfall and that the trajectory of the centre of the hurricane passed far away from the capital city of Kingston. In addition, not every storm is expected to trigger all parametric insurance instruments. However, the disappointing payout outcome of Jamaica's CAT bond underscores the need for the World Bank to reassess the usefulness of this complex and costly financial instrument and even perhaps for Jamaica to renegotiate the terms of its CAT bond to better serve its natural disaster financing strategy.

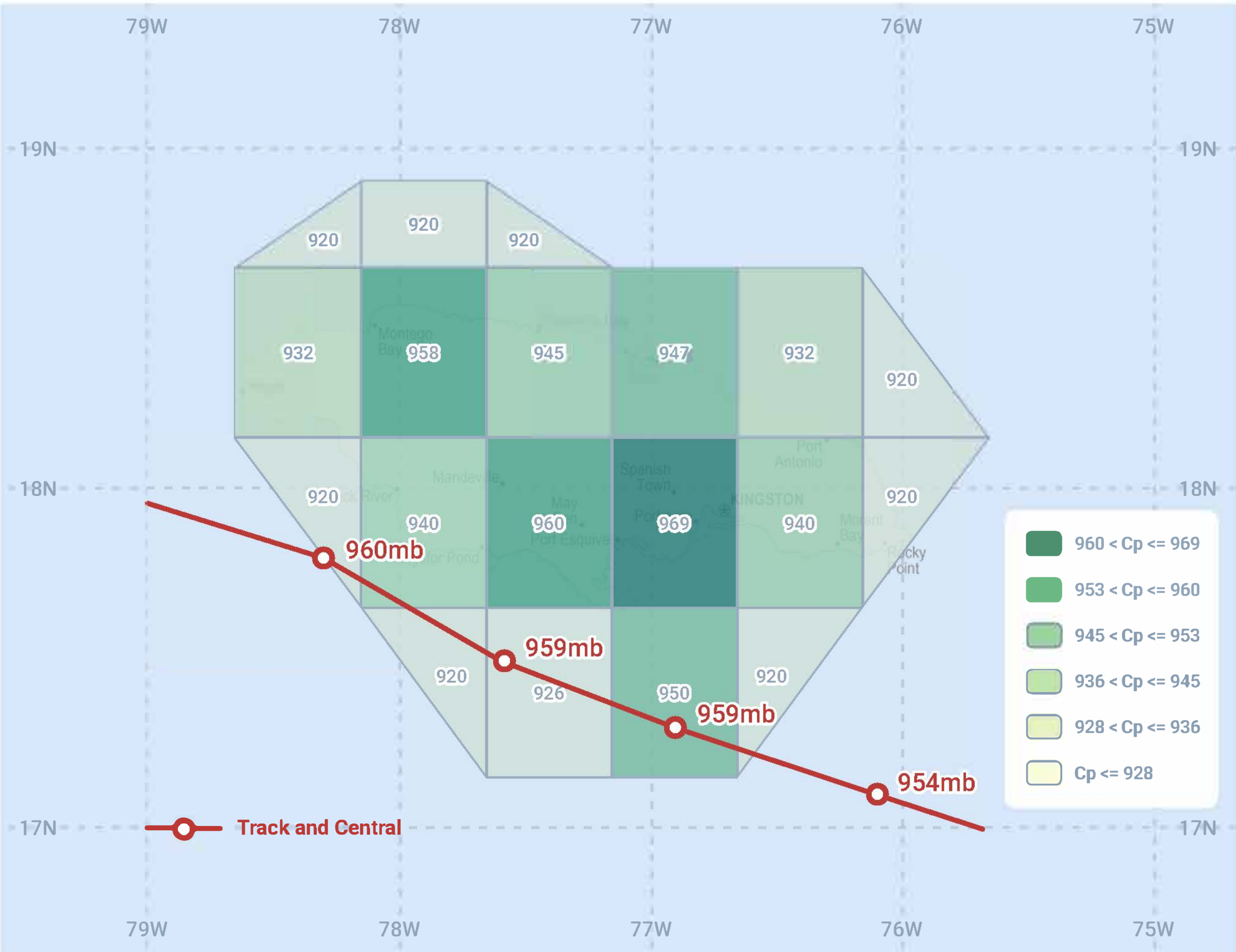
CAT bonds are designed to transfer the risk of natural disasters from issuers to capital market investors, and the ensuing funds that the country receives do not count against its debt ceiling. In exchange for a higher yield compared to traditional fixed income investments, investors accept the risk of absorbing significant write-downs on the principal of the bond, if a predefined catastrophic, insured event occurs. In addition, CAT bonds offer portfolio diversification for large institutional investors since the losses on these bonds are not correlated with other capital market instruments. The market for CAT bonds has experienced significant growth in recent years, reaching a record size of US$48 billion at the end of June 2024. Investors enjoyed double digit record returns of almost 20% in 2023 from the current pool of outstanding CAT bonds.

Jamaica is highly vulnerable to natural disasters of varying intensity and severity. Between 1950 and 2023, Jamaica has been hit by 23 hurricanes which caused significant physical and financial damages. The loss and damages from Hurricane Gilbert in 1988 alone were an estimated US$2.3 billion (in 2020 constant US$) or 50% of the country's GDP. Like the rest of the Caribbean, these extreme weather events are expected to become more frequent and more intense in Jamaica, resulting in greater financial losses. Jamaica's CAT bond is meant to complement the country's portfolio of disaster risk financing instruments, strengthening its resilience against destructive and costly natural disasters without increasing sovereign debt which is at a currently high level of over 70% of GDP.

Jamaica's second CAT bond, arranged by the World Bank and structured by Swiss Re Capital Markets and Aon Securities, provides insurance protection for named storms over four Atlantic hurricane seasons ending December 2027, and pays investors a return of seven per cent above the US Treasury rate.

Like Jamaica's matured first CAT bond, this second CAT bond uses a classic CAT-in-a Box structure which partitions areas on and around the island of Jamaica into 19 parametric boxes. Within each box, a set of storm tracks and central air pressure thresholds are defined. A payout of some, or all, of the principal can only be triggered if a storm passes through one or more of these areas and the central pressure of the storm is at or below a minimum threshold. Payouts are on a linear sliding scale with a minimum of 30% of the CAT bond's principal. Despite Hurricane Beryl passing through some parametric boxes, the air pressure during the hurricane was not at a [predetermined threshold] to activate Jamaica's catastrophe bond coverage, leaving investors safe from any loss of principal.

Figure 1. Jamaica CAT bond's parametric trigger zone boxes plotted against path and pressure of Hurricane Beryl



Source: www.artemis.bm

While the Government of Jamaica must be commended for improving its financial resilience through pre-arranged funding for natural disasters, Jamaica's experience with Hurricane Beryl and its CAT bond reveals a few critical areas for consideration.

MORE FLEXIBLE TRIGGER CONDITIONS

According to the Centre for Disaster Protection, good triggers should be reliable, timely, resistant to manipulation, cost-effective, legitimate and mutually agreed. Triggers range from 'hard' quantitative assessment of event loss (like air pressure at a specific level) to 'soft' subjective judgment (like declaring a state of emergency). Jamaica's CAT bond, designed by the World Bank, did not payout following the passage of Hurricane Beryl because the conditions for triggering a payout are hard and specific. This rigidity protects investors but leaves Jamaica vulnerable to catastrophic risk. Further, the granularity of the 19 parametric boxes poses a challenge if significant damage occurs in Jamaica on a wider scale but does not meet the precise trigger conditions in any single box. Beryl was an atypical hurricane, breaking many meteorological records for the months of June and July, including its location, intensity and longevity. Hurricane Beryl, however, is the first hurricane of an expected 'extraordinary' Atlantic hurricane season, with up to seven major hurricanes of Category 3 or higher, any or all of which could further damage lives and livelihoods of peoples and communities across the Caribbean region.

In this respect, we call upon the World Bank to strengthen the analytics associated with its CAT bonds, particularly through more flexible and broader trigger conditions, because the current structure of these bonds may likely result in significant returns for investors, but the affected, insured countries will scramble to find alternative funding for relief and recovery. A combination of hard and soft triggers is feasible, as shown by the World Bank's very own Catastrophe Deferred Drawdown Option (CAT DDO), which is an innovative contingent line of credit that provides immediate liquidity to a country in the event of a disaster. The Inter-American Development Bank's debt pause clauses through its Flexible Financing Facility (FFF) via the Principal Payment Option (PPO) are also based on a combination of hard and soft triggers. So too, is Barbados' pandemic debt clause.

MORE USE OF CCRIF

CCRIF is the regional catastrophe fund for Caribbean governments established to limit the financial impact of devastating hurricanes and earthquakes by quickly providing financial liquidity when its parametric insurance products are triggered. Jamaica's payout experience with CCRIF, though mixed, seems to be far better than that with the World Bank-sponsored CAT bonds. Jamaica received a US$500,000 payout in 2016 after its CCRIF parametric insurance policy was triggered following an earthquake. This was followed by a payout of US$3.5 million in 2020 after discrete but significant rainfall events associated with Hurricanes Zeta and Eta triggered Jamaica's excess rainfall policy with CCRIF.

Subsequently, Jamaica, in 2021, became the first Caribbean country to independently sponsor a CAT bond with World Bank support that provided protection of up to US$185 million for three Atlantic hurricane seasons ending December 2023. Jamaica received no payouts under its first independently sponsored CAT bond with the World Bank because no hurricane directly tracked over Jamaica over 2021-2023. For this reason, the country also did not receive any payouts from CCRIF.

Now, however, Jamaica's recovery efforts from Hurricane Beryl are set to benefit from approximately US$26.6 million in payouts from CCRIF after the storm triggered its tropical cyclone policy and excess rainfall policy under the parametric risk transfer facility. In fact, CCRIF continues to demonstrate the benefits to Jamaica of further expanding its parametric catastrophe insurance coverage.

MORE ADAPTATION

That said, a critical consideration in this context is the practicality of scaling up CCRIF's coverage to the required liquidity amounts. While expanding CCRIF's coverage could significantly enhance financial resilience for Jamaica and other Caribbean countries, the required scale to achieve adequate liquidity in a worst-case scenario, such as a severe hurricane, is substantial. For instance, Hurricane Ivan in 2004 resulted in US$360 million in damages in Jamaica, which equates to approximately US$581 million in 2023. CCRIF alone cannot feasibly cover such extensive losses. Even with the implementation of CAT bonds, the financial gap would necessitate additional borrowing in a worst-case scenario. This situation places the Jamaican government in a challenging position, highlighting the need for comprehensive adaptation efforts and realistic financial strategy to address such significant climate risks.

OPPORTUNITIES FOR THE GLOBAL SHIELD AGAINST CLIMATE RISKS TO STRENGTHEN REGIONAL RISK CARRIERS

The G7-V20-led Global Shield against Climate Risks (Global Shield) deploys pre-arranged and trigger-based financing solutions to climate-vulnerable developing countries through a robust national process and its financing vehicles. It would be critical for the Global Shield to expand access to the Caribbean countries by 2025 for opportunity to access premium and capital support. Strengthening regional risk carrying capacity through regional risk pools such as CCRIF is a key part of resilience-building. Specifically, this can include access to cost benefit analysis of regional risk pools, expanding coverage to include multiple climate perils in insurance products, standardization where possible across the risk pools, and the creation of a reinsurance facility of regional risk pools to bring down the cost of reinsurance.

EARLY OPERATIONALIZATION OF THE FUND FOR RESPONDING TO LOSS AND DAMAGE

The passage of Hurricane Beryl throughout Jamaica and the rest of the Caribbean reinforces the need for the newly created 'Fund for Responding to Loss and Damage' to shift into operational gear to provide concessional financial support to affected countries in the aftermath of these kinds of climate disasters. It also highlights the importance of longer-term support for small, climate-vulnerable countries like those in the Caribbean so that they do not get trapped into the never-ending debt spiral and hence in an unsustainable debt situation. Not only will the immediate relief cost for Jamaica be large, but there will also be a significant long-term economic cost associated with rebuilding and reconstruction. Properly designing the Fund for Responding to Loss and Damage will be critical to ensuring financial resources are available in the event of these kinds of major natural disasters in the future.

CONCLUSION

We commend the Government of Jamaica for its proactive stance in utilizing a composition of risk financing tools, particularly as climate change increases the frequency and intensity of tropical storms and hurricanes. However, the lack of any payout from the CAT bond following Hurricane Beryl demonstrates the need for partners in the risk financing space to quickly course correct. Specifically, for the World Bank to reassess the structure of these CAT bonds. By renegotiating more favourable bond terms to allow for more flexible and context-specific payout conditions, Jamaica can better finance recovery efforts in the wake of future catastrophic events. According to Fitch ratings, for this current CAT bond, Jamaica will make annual payments of US$ 10.5 million, equivalent to a 1.0% increase in interest costs or 0.2% increase in total expenditures, costing Jamaica US$ 42 million over the life of the CAT bond. Without urgent course-correction, CAT bonds in developing countries could remain a perverse transfer tool, one that transfers scarce fiscal resources to the hands of investors with significant returns above the US Treasury rate. As climate shocks continue to evolve, so too must catastrophe risk instruments designed to offer financial protection to climate-vulnerable developing countries.

Disclaimer: The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of the institutions they represent.

ABOUT THE AUTHORS

Sara Jane Ahmed is the Managing Director and Finance Advisor to the Vulnerable Group of Twenty (V20) Ministers of Finance of the Climate Vulnerable Forum (CVF). She is the founder of the Financial Futures Center. Ahmed is an investment advisor for private equity groups specializing in originating and structuring energy opportunities. She is part of the board of institutions such as IEEFA, Climate Smart Ventures, and Knox College. Ahmed is a member of the Task Force on Climate, Development and the International Monetary Fund, a consortium of experts working to advance development-centered climate policy at the IMF.

Jwala Rambarran is the former Governor of the Central Bank of Trinidad and Tobago. He is a Senior Policy Advisor to the Caribbean Policy Development Centre, a Senior Advisor for Financial Futures Center, and a Distinguished Fellow at ClimateWorks Foundation.. His research interests span debt, climate finance, and reform of the global financial architecture, especially in relation to the Global South and Caribbean small island states. He is a member of the Task Force on Climate, Development and the International Monetary Fund.