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# Increasing fiscal stress from compound hazard risk across the globe: how can innovative finance options build resilience?

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Strong evidence on mounting disaster and climate-related risks across the globe and first evidence on adaptation limits indicate that conventional approaches are challenged in terms of effectively preventing disasters and deliver on the Paris climate ambitions - even in an only $1.5^{o}$C warming world, which is, however, being exceeded. At the same time countries and communities across the world are already today stressed by current risk associated with hydrometeorological and geophysical hazards. Prior work on country extreme event risk has identified fiscal thresholds for multiple single hazards, where government's ability to provide relief to the affected population and rebuild post-event has been exhausted leading to long-term declines in socio-economic development indicators. While in a changing climate, hazards are increasingly compounding (floods, windstorms, landslides etc.), it has been less clear what this may mean for risk and risk management overall.

Building on state-of-the-art disaster and climate risk modelling, we develop global insight on fiscal stress arising compound hazard risk. We probabilistically identify fiscal risk thresholds ("financing gaps") for single and compound hazard risk from flood, cyclone, earthquake, tsunami and landslide hazards. The analysis shows that compound hazard risk leads to lower, i.e. more frequently occurring, gap return period year events, which may incur fiscal crises. For many (61) vulnerable countries this means such events may occur more often than every 10 years (equivalent to annual probability larger than 10%). As well, according to our analysis 54 low income, emerging and advanced economies would face such thresholds more often than once in 50 years (annual probability of larger than 2%).

In this context, policy responses ought to be ramped up including consideration for risk prevention and risk finance.  In terms of risk finance, as part of the Bridgetown initiative and Loss&Damage discourses the enhanced use of IMF's Special Drawing Right (SDR) entitlements has been discussed as a means to increase resilience of the most vulnerable countries. We show that the use of SDR can soften the impact from disasters. If low income and emerging economies are allowed to access 10% of their SDR entitlements post disaster, the chance of fiscal crises can be pushed out by 19 years for low income and by 12 years for emerging economies (change in annual probability of 5 and 8 percentage points, respectively. With international debate on climate finance gaining momentum, we suggest the international community ought to further consider the innovative use of climate finance mechanism to help build climate and disaster resilience.