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# IMF Working Paper

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## **Government Insurance Against Natural Disasters: An Application to the ECCU**

by Alejandro Guerson

***IMF Working Papers* describe research in progress by the author(s) and are published to elicit comments and to encourage debate.** The views expressed in IMF Working Papers are those of the author(s) and do not necessarily represent the views of the IMF, its Executive Board, or IMF management.

I N T E R N A T I O N A L M O N E T A R Y F U N D

**IMF Working Paper**

Western Hemisphere Department

**Assessing Government Insurance Against Natural Disasters:****An Application to the ECCU<sup>1</sup>****Prepared by Alejandro Guerson**

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**Abstract**

This paper estimates insurance requirements against natural disasters (NDs) in the Eastern Caribbean Currency Union (ECCU) using an insurance layering framework. The layers include a government saving fund, as well as market instruments. Each layer is calibrated to cover estimated fiscal cost of NDs according to intensity and expected damage. The results indicate that ECCU countries could target saving fund stocks for relatively smaller and more frequent events in the range of 6-12 percent of GDP, enough to cover 95 percent of NDs' fiscal costs. To ensure financially-sustainable saving funds with a low probability of depletion, this requires annual budget savings in the range of 0.5 to 1.9 percent of GDP per year. Additional coverage could be obtained with market instruments for large and less frequent events, albeit at a significant cost. The results are based on a Monte-Carlo experiment that simulates natural disaster shocks and their impact on output and government finances.

JEL Classification Numbers: C6; G18; H6.

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<sup>1</sup> The results were presented at a Eastern Caribbean central Bank seminar during the 2019 ECCU regional consultation of the International Monetary Fund, and at the International Monetary Fund. Country-specific results were also presented at the Ministry of Finance in Dominica, and in St. Lucia.

Keywords: Natural disasters; ECCU; fiscal cycles; Monte Carlo experiment, debt sustainability.

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