

Accepted Manuscript

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PII: S0167-6687(17)30045-8

DOI: <http://dx.doi.org/10.1016/j.insmatheco.2017.08.006>

Reference: INSUMA 2378

To appear in: *Insurance: Mathematics and Economics*

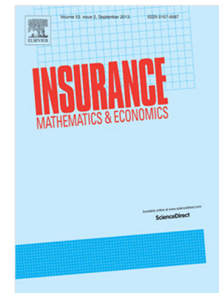
Received date: January 2017

Revised date: August 2017

Accepted date: 19 August 2017

Please cite this article as: Zhu W., Wanting robustness in insurance: A model of catastrophe risk pricing and its empirical test. *Insurance: Mathematics and Economics* (2017), <http://dx.doi.org/10.1016/j.insmatheco.2017.08.006>

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Wanting robustness in insurance:**A model of catastrophe risk pricing and its empirical test**

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Abstract: Motivated by the fact that a lack of information about natural disasters may lead agents to be ambiguity averse to catastrophe risks, we introduce a new type of penalty function and propose an adjusted equilibrium model based on the function by allowing agents to act in a robust control framework against model misspecification with respect to rare events. The pricing formulas are then derived for various catastrophe linked securities such as catastrophe futures, options and bonds. We also estimate and test the model using empirical data of catastrophe bonds and compare it with various other models and investigate the robustness performance of alternative pricing formulas.

Key Words: Ambiguity Aversion; Robust Control Theory; Catastrophe Risk Pricing

JEL Classification: G12 G13 G28

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