



## A Multi-Peril View of Risk in Australia

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Countries are exposed to a variety of natural hazards. Typically a couple or more perils are modelled by a catastrophe model per country. In these cases, catastrophe models can be used to yield insights on the spatial distribution of hazards as well as which hazards might be more severe in a certain region. This paper will look at the multi-hazard region of Australia to illustrate the varying impacts of the earthquake, cyclone and bushfire perils from a hazard point of view by region and from a loss point of view by return period. Such an analysis shows that at longer return periods earthquakes can have a loss several times that of other perils. The analysis also shows that at lower return periods bushfires and cyclones are more significant perils and also that the impact of a particular peril varies by region. Also, the paper examines which of the three perils has the largest impact on estimated solvency capital for an industry-wide portfolio.

Lastly the paper will make a comparative analysis with another region, Germany, where a different peril is the key player. Such an analysis shows that the extra-tropical cyclone peril dominates at all return periods and the loss at certain return periods can be several times larger than the other modelled perils of earthquake and inland flood.