Developing financial market instruments to protect against what could be dramatically escalating costs, should certain possible future climate change scenarios be realised

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BACKGROUND

McGregor (2006) places the material that follows in a broad context, when he writes: “The science of meteorology is deeply intertwined with the process of emergency management. Weather phenomena are the cause of many disaster events such as tornadoes and hurricanes and a factor in many others. Weather can also affect the way assistance is provided during or after an emergency. Since time to prepare is vital, much of meteorology is concerned with forecasting ... (but) the future poses its own special brand of weather hazards due to the uncertainties and scale of global warming and consequent changes in global climate patterns”.

DISCUSSION

The primary purpose of the paper is, in demonstrating how one may evaluate a “fair value” price for hedging and speculative instruments related to climate change, to propose that such products may be applied as an “insurance policy” to ameliorate, from a long-term perspective, the potentially escalating costs of managing the consequences of disasters and emergencies that may arise from climate change.

Labadie (2011) puts the issue of addressing difficulties from such a perspective thus: “Emergency managers will have to deal with the impending, uncertain, and possibly extreme effects of climate change. Yet, many emergency managers ... are unsure of their place in the effort to plan for, adapt to, and cope with those effects. This ... mostly is due to (a not unexpected) ... focus on ... a shorter event horizon (5 years vs. 75–100 years); and a shorter planning and operational cycle”.

The National Climate Change Adaptation Research Facility (2013) notes that: “Recent unprecedented climate-related extreme events have ... brought the (Australian) nation’s vulnerability to such disasters into sharp focus and placed a significant financial ... emotional and social burden on governments and affected communities”. It is the aforementioned financial burden that, through application of the market instruments whose development are discussed in this paper, one hopes to ameliorate.

CONCLUDING REMARKS

The paper demonstrates how to evaluate the cost of hedging and speculative instruments related to climate change. Whilst their development allows those who wish to place ‘bets’ on their views as to the likely future climate, the real value of the foregoing to those involved in disaster and emergency management lies in the instruments providing the opportunity to protect against what could be dramatically escalating costs, should certain possible future climate change scenarios be realised. From the paper’s analysis of the economics data, there emerges a strategy to ameliorate the financial burden arising from managing disasters that arise from climate-change-related extreme events.