Catastrophe Risk Financing

In the past decade, the frequency and severity of natural catastrophes and extreme events has radically increased, causing major economic losses and human suffering. Despite the Caribbean region being one of the more disaster-prone areas of the world, less than 4 percent of disaster damage is covered by insurance -one of the lowest levels of insurance coverage - compared to more than 30 percent in North America, the region with the highest coverage. The low levels of private insurance observed in the region, along with the limited diversification of risk feasible at the domestic level, have created large volumes of contingent liabilities to governments in the aftermath of all too frequent storms. It is here that the vital importance of insurance and risk management, in tackling the challenges posed by climate risk and extreme events, becomes apparent, particularly in small economies, given that insurability is essential for the welfare and growth of any society.

According to estimates by the insurer Swiss Re, in 2013 the economic cost of natural and human disasters amounted to USD 130 billion, and the insurance sector spent a total of USD 44 billion for catastrophe risk. In a region where the lion's share of both population and infrastructure rests along the coastline, the destruction of natural habitat, utilities, communication and transportation networks, as well as critical buildings is likely to endanger tourism and agriculture, the lifeblood of most economies in the Greater Caribbean region. Following a sequence of high profile natural catastrophes, private insurers in the region have shown an increasing reluctance to underwrite this type of risk leaving public agencies in many countries to fill the breach. The question remains however on whether insurance in catastrophic events should be borne privately, shared or should be the responsibility of governments.

Two conditions must be met for a risk to be considered insurable. The first is the capacity to identify and quantify, at least estimate partially, the possible outcome of the event as well as the amount of losses associated to potential claims should the event occur. The second is the capacity to establish premium rates that reflect the various levels of risk. If these two conditions are met, the risk is then considered to be insurable. Fundamental to the insurance business is the principle of pooling. This consists of spreading the cost of a hazard amongst members of a group potentially vulnerable to the same threat. Following the law of large numbers, all else being equal, as the number of aggregated contracts grows higher, the more predictable the amount of losses will be in a given period. In the

face of catastrophic events, this risk is managed in part by transferring a portion of it to international reinsurance and capital markets, spreading potential losses amongst more parties, and therein protecting single members of the risk pool from exposure to claims so large that it would cause bankruptcy and leave the insured with no means to recover. It is also expected that the aggregation of the individual risks into a large and diversified portfolio will help achieve lower costs for the reinsurance coverage.

Developing countries however have typically found themselves to be poorly insured against and by extension exposed to catastrophic risk, partly as a consequence of the limited availability of affordable insurance options, but also because of the general expectation that governments will provide some support; with the governments in turn expecting to receive aid from an external party. Given this institutionalised reliance on the government, spreading the risk of catastrophe losses over a sufficiently large base of buyers becomes more difficult and compounds the inability of insurers to offer affordable products.

Such a major limitation has become even more of a concern with emerging or newly recognized risks over the long-term, such as climate change. As indicated in the new Intergovernmental Panel on Climate Change report, climate change is underway and mankind's influence is very material; increases in average temperatures and sea levels as well as change in precipitation patterns and intensification of hurricanes have been widely observed. In fact, earlier projections of future patterns are being revised to reflect faster occurrences as well as potentially greater devastating economic and social consequences. Given this situation, the global insurance and reinsurance companies are forced to be creative and revisit the classic formulas of coverage by introducing new mechanisms and parameters. Notwithstanding the aforementioned issues, there have been some positive and significant developments in the insurance arena. It has become widely recognized that insurance can provide the previously neglected low-income population with important benefits which can help prevent individuals and families from falling back into extreme poverty when they are faced with a financial loss. Poor households traditionally have had less access to formal insurance to protect themselves against risks such as the loss of an asset, as a result of a natural hazard. As a result there has been a thrust to develop micro-insurance products to suit these particular needs. Some of the products being offered are community led in conjunction with financial institutions, thus increasing the acceptability of the initiative. However given the low financial capacity of the target market, the challenge remains in finding the correct balance between the provision of adequate protection and affordability to deliver real value to the insured.

The lack of liquidity immediately after a disaster usually delays recovery and undermines public investment programs. For this reason, more effective financing strategies by taking ex ante actions are needed by regional governments. Some of the alternatives available include the establishment of national insurance funds, reinsurance underwriting and use of hedging instruments in the capital market. The region has seen the development of the Caribbean Catastrophe Risk Insurance Facility (CCRIF), the world's first regional fund utilising parametric insurance, owned operated and registered in the Caribbean for Caribbean governments. The fund, which has now been expanded to cover Central America under a separate facility, gives governments the opportunity to purchase catastrophe coverage with lowest-possible pricing. The CCRIF is designed to quickly provide short-term liquidity upon triggering, thus limiting the financial impact of the catastrophe to the government. Since losses by any given event tend to be concentrated in only a few countries, the CCRIF gains economies of scale and diversification by pooling all the countries in a single portfolio. Given the inherent implication that the correlation of risk among the whole group of countries is low, it is expected that as reserves increase, the pool will become increasingly resilient and less dependent on reinsurance, with a consequent reduction in the cost of premiums.

As a patchwork or mosaic where diverse political statuses, histories, levels of wealth, cultures and languages happen to co-exist, the Greater Caribbean appears as an interesting showcase to benchmark and critically analyze approaches, initiatives and instruments. Governments can take several different approaches in crafting policies for managing catastrophe risks from providing national insurance and reinsurance products to encouraging micro-insurance at the local level. This is a fairly new area which should be prioritized by regional authorities and institutions. Given the regions exposure, what is at stake however, is to move from post-disaster response mode, to pre-disaster risk management planning, thus privileging a long-term approach. Ex-ante financing programmes fit more effectively the context of comprehensive risk management. Societal resilience and loss mitigation will require the involvement and cooperation of multiple actors: governments, corporations, individuals as well as the insurance sector. Given the disaster history of the region, and its impact on the economies, the insurance and reinsurance sector have given governments surprisingly little input to understand and set financial strategies in the face of the sovereign risk in the event of disasters. It is well known that an efficient insurance industry can stimulate economic growth as well as reduce the exposure that entities both private and public face. Accordingly, the future should not be seen as an exercise in gambling. All bets are off and the choice is ours.

George Nicholson is the Director of Transport and Disaster Risk Reduction of the Association of Caribbean States. Any comments or feedback should be submitted to feedback@acs-aec.org