Flood risk, insurance and emergency management in Australia.

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ABSTRACT

The recent flooding events in Queensland in 2011 and the recent flooding occurring in New South Wales in 2012 have exemplified the existence of institutionally entrenched inadequacies within the current insurance regulatory regime. The biggest manifestation is the high penetration of inadequate insurance coverage. The consequence of inadequate insurance is economic mayhem for those who have endured property losses arising from weather-related disasters. This paper reviews the lessons from the Queensland floods (December 2010 – February 2011) and identifies that two major issues are the cost and availability of flood cover. It is argued that if insurers assist with mitigation measures, by assisting home owners to understand and prepare for floods, they reduce the cost to insurers, and therefore of insurance, which will ultimately be a benefit for all. Ⓡ

Flood risk insurance in Australia

The recent events and the flooding in NSW in February – March 2012 should resonate as a warning regarding the potential catastrophic weather related events to come. Despite 99 percent of Queensland being deemed a disaster zone due to the cumulative effects of Cyclone Yasi and the flooding (December 2010 – January 2011), the ferocity and intensity of weather-related disasters remains persistent. Economically the property losses endured as a result of the natural disasters is steadily increasing as more people and more infrastructure remains positioned within a close proximity to disaster zones.

Although some progress has been made since the Queensland floods of 2011, there remains a failure to implement economic and efficient action to make flood insurance affordable and accessible.

This paper is based on research being conducted with assistance from the Bushfire CRC on the role of insurance in responding to natural hazards. It will identify some causes of underinsurance, with particular reference to floods, and consider steps that individuals, insurers and governments may take to both increase the uptake of insurance whilst also increasing community resilience.

Lessons learnt from the Queensland flooding (December 2010 – January 2011)

The economic implications of the Queensland flooding coupled with Cyclone Yasi were devastating. These catastrophic events decimated personal property and destroyed critical state infrastructure. The total damage bill arising from the flooding was over $10 billion in property and infrastructure losses in addition to $30 billion due to the flow on effects to productivity and the Australian economy (Price Waterhouse Coopers, March 2011, 2; House of Representatives Standing Committee on Economics, June 2011, 3). The effects are still being felt in some of the worst affected areas where the full extent of the economic repercussions is yet to be seen.

The Australian people are currently contributing towards the Temporary Flood and Reconstruction Levy to help fund the recovery process (*Tax Laws Amendment (Temporary Flood and Reconstruction Levy) Act 2011* (Cth)). Despite the Temporary Flood and Reconstruction Levy being used to help pay for the $3.9 billion which the Commonwealth is required to contribute under the National Disaster Relief and Recovery Arrangements ('NDRRA') regime, (Senate Economics References Committee, 2011, 1-3) this money does not deal with the prevention of a future event. From a fiscal perspective, simply acting after an event rather than addressing mitigation and resilience is not ideal (Carter, 13 May, 2011, 17). The question thus remains in relation to the current flooding, whether the Australian people will be called on again to assist through the continuance of the current levy (beyond its initial collection period) or through an increase in the amount charged under the current levy. Despite a promise that the Temporary Flood and Reconstruction Levy is implemented as a temporary measure, it is possible that in the future this could continue. Prime Minister Julia Gillard has currently promised a limited timeframe for the operation

February 13, 2008. Townsville, QLD. Cars and trucks line the Bruce Highway south of Townsville waiting for flood water to recede.

of the Levy, however should the need arise given the Levy is already implemented it would be easier for the government to revise its initial implementation and legislate to continue its existence.

A key lesson from the Queensland flood experience was the need for action to reform the existing insurance and regulatory regime in light of an increased natural disaster threat. Commonwealth parliament has received a number of reports[1] which have highlighted and exposed predictable problems without providing any real solution or means of achieving a practical, effective and economically viable solution. Whilst these reports are useful, they lack the capacity to force or command action, rather it is the decision of the Commonwealth government to actually accept the findings and implement changes.

The crux of this inadequacy is manifested in the individuals who are being continually exposed to natural disasters. Despite the risk increasing, many have inadequate insurance and thus will not be able to financially survive a natural disaster should this cause them significant economic losses. The solution centres on a greater usage of the insurance market. Although this sounds ironically easy, the real challenge is creating systemic changes to pricing and availability to enable more people to have affordable coverage. Queensland's floods demonstrated inadequacies with flood coverage in terms of access to cover and affordability. There was also confusion amongst some insureds who honestly believed they were insured for flood but found out, post event, that their belief was misguided or their coverage varied from the level of coverage they thought they had (House of Representatives Standing Committee on Social Policy and Legal Affairs, February 2012, 37 – 50). In some instances some insureds realised after the event that they were not covered due to the confusion over the term 'flood' and the differences between riverine and flash flooding. Most insurance policies covered losses incurred through flash flooding, yet in many policies an exclusion clause operated to preclude coverage where the cause of the inundation was riverine flooding (Neumann, House of Representatives, 29 February 2012, 102).

The Australian Government has addressed the issue of problems with the flood definition and proposed a new definition. Currently the proposed definition has not been adopted despite the *Insurance Contracts Amendment Act 2012* (Cth) being passed into law on 23 March 2012. The proposed definition suggests "flood means the covering of normally dry land by water that has escaped or been released from the normal confines of any lake or river, creek or other natural watercourse whether or not altered or modified or from any reservoir, canal or dam" (Explanatory Memorandum, 2012, 14 [1.14]). The *Insurance Contracts Amendment Act 2012* (Cth) vows to implement a standard uniform definition of flooding, although the details of the precise definition were not enunciated, the likelihood is that the actual definition will largely replicate the proposed definition. Addressing the issue of creating a uniform flood definition encompassing riverine flooding, flash

1. In the aftermath of the Queensland flooding some of the reports looking into insurance include Treasury's *National Disaster Insurance Review: Inquiry into Flood Insurance and Related Matters*; Senate Economic References Committee's Report on *The Asset Insurance Arrangements of Australian State Governments*; House of Representatives Standing Committee on Social Policy and Legal Affairs, *Inquiry into the Operation of the Insurance Industry During Disaster Events*; Queensland's Flood Commission of *Inquiry, Inquiry into Flood Insurance*.

March 13, 2012: Barmah, VIC. Paddocks off Gearys Road submerged by floodwaters following flooding in Barmah, Victoria.

flooding and other forms of inundation is a means of seeking to redress the confusion over the parameters of flood coverage. This will resolve the confusion over a multiplicity of definitions employed by different insurers, which will be beneficial to both insurers and the insured. A standard definition of flood however, will not address the bigger issues of access and affordability.

Until a suitable resolution is sought to deal with these issues there will be implications for individuals, the state, insurers and emergency managers. It is however to be noted that the starting point should not be on implicating the insurance industry and placing blame but rather in seeking to achieve workable solutions involving all of the key stakeholders (Carter, 20 January 2011, 1).

Reflections from the Queensland floods

Given their financial constraints and their legal obligations to shareholders and the need to ensure solvency, insurers cannot act as welfare or quasi welfare services. More people need to have full insurance coverage and the system should better facilitate this objective.

Although the aftermath of the Queensland flooding saw an increase in the availability of flood coverage, the cost of this in some areas is simply too prohibitive. The justification for this is the use of actuarially sound modelling techniques, which indicate a significant risk for these areas. The problem is thus the high risk exposure of some properties force insurers to charge high premiums, which many of the residents particularly in the lower socioeconomic areas struggle to afford (Van den Honert and McAneney, 2011, 1170).

Furthermore, the cost of insurance coverage has continued to increase because of the payouts made by the industry and the external pricing pressures imposed from the reinsurance market.[2] The consequence of raising insurance premiums will be to force more people from the insurance market and this will continue to weigh heavily upon society, again implicating the Australian taxpayer who will by necessity be the insurer of last resort.[3] (Carter, 2011 (Vol 14), *Wild Fires- The Legal Regulatory System of Insurance and Emergency Services Funding*, 75 – 77).

2. The external pressure from the reinsurance market includes the threat of reinsurance increasing dramatically in light of the 2010 being the worst year on record for losses arising out of catastrophic events worldwide. See Stephen Warwick, June 2011, Impact of the Australian/ New Zealand Catastrophes- the Market's Reaction and the Lessons Learned for the Reinsurance Industry, paper presented at 9th Conference on Catastrophe Insurance in Asia, Beijing, China.
3. The terminology of the Australian taxpayer being the insurer of last resort is often brandied about without due consideration for its economic meaning. The author uses this terminology in light of the specific grants to individuals in the aftermath of the flooding to assist those without insurance to rebuild their property or to make repair to their property.

How insurers can help: Education of flood risk and flood intelligence[4]

Individuals should find out as much information as possible about the potential risks to enable them to prepare. It is essential that individuals exercise individual responsibility to protect their own property. It is easy for people to be complacent and not feel that there is a risk or be naïve and think the risk would never affect them personally (Emergency Management Australia, 2009, 53). They should, therefore, be encouraged to assist themselves through education and then with assistance take steps to mitigate their risk. Education and mitigation should be supplemented with adequate insurance coverage and insurers should in their own interests, assist shareholders to understand and mitigate their risks.

Although the responsibility of obtaining education falls upon an individual, access to risk education should involve the stakeholders: insurance companies, the State and emergency management. The expertise of the emergency management sector can be combined with the financial resources of the State and insurers to create training regimes which could be offered in a number of different forums including online and face-to-face delivery modes.

The delivery of education in risk exposure could help alleviate the problems associated with the cost of insurance. The insurance industry could offer premium discounts amounting to a certain proportion or percentage of the overall premium in return for an insureds time and effort in undertaking an approved training course. Further discounts could be provided for implementing mitigation measures. The provision of such discounts may provide sufficient incentive to prompt individuals to undertake their own responsibility in lowering their risk exposure.

The premium discounts for an insured undertaking an approved form of education in relation to risk exposure awareness coupled with subsequent mitigation can be modelled on the defensive driving course discount paradigms.[5] This model can give sufficient incentive for individuals to engage in disaster education. The motivation for insurers to invest into this scheme is that education can encourage action to be taken. In undertaking mitigation measures the insured would also reduce the probability of a loss to insured property and so reduce the insurers risk exposure.

Equipping individuals with sufficient knowledge is the starting point to entrench moral hazard and ensure personal responsibility is afforded. Given the huge economic costs incurred through natural disasters, insurance should be the primary means of promulgating a more socially entrenched economic protection mechanism. (Carter, July 2011, 6 – 7) Problematically, under the current paradigm there is an inadequate insurance penetration, something which needs to be addressed and resolved. Reports have found that some individuals were not fully aware of their potential exposure and due to this were risk adverse, whereas if they had known of their exposure, they may have taken up insurance coverage (House of Representatives Standing Committee on Social Policy and Legal Affairs, 2012, 37 – 50).

Individuals should also put into play preventative measures both before the occurrence of a disaster as well as a contingency plan about what they should do during a disaster. The planning should encompass both protection of an individual and his/her family as well as ensuring their house and contents survive a natural disaster.

Obligations to be imposed upon the insurance industry

Insurance is a commercial business thus; solutions are likely to be favoured in instances where there is an actual or projected profit. The inability of the insurance industry to provide sustainable insurance coverage at an affordable rate was specifically addressed by the Insurance Council of Australia (ICA). The ICA affirmed that the burden of providing flood cover at affordable rates Australia wide was too onerous for the industry[6] without significant governmental assistance (Insurance Council of Australia, July 2011, 2).

Investment in flood mapping and formal planning mechanisms

Insurers are economically in a position which would enable them to invest in long term programs facilitating widespread mitigation mechanisms. Insurers could seek to use the investment in such programs as a means of ensuring a greater penetration of insurance and more business (should greater levels of adequate insurance be reached).

Given insurers rely upon modelling of risks; the starting point is to ensure there are sufficient means to model the risk as accurately as possible. One problem which has been cited in relation to flooding is that there are often inadequate flood maps. When accurate modelling cannot be undertaken and the risk is unknown the

4. 'Flood intelligence is the product of a process of gathering and assessing information to assist in the determination of the likely effects of flood upon a community.' See Emergency Management Australia, 2009, Flood Preparedness Manual- Manual 20: Australian Emergency Manual Series, Australian Government (Attorney General's Department).

5. Some insurers provide a cheap or free defensive driving course for young insureds and offer them premium discounts for satisfactory completion. The objective behind this program is that theoretically those who undertake this driving course are more likely to be safer on the roads, which in turn will reduce the number of car accidents and thus reduce the losses for insurers..

6. The ICA in referring to the inability to provide coverage nationwide were specifically talking about the areas that were most exposed to flooding. The vast majority of residential property in Australia can be covered by flood insurance obtained based upon existing insurance models. See Insurance Council of Australia, July 2011, Response to 2011 Natural Disaster Insurance Review, Australia.

industry does not want to take on the risk. Investing in improving the flood mapping of Australia and ensuring that the mapping is provided to the necessary agencies and authorities is pertinent (Insurance Council of Australia, July 2011, 7; Insurance Council of Australia, 19 January 2011, 1).

Mapping alone is not the only way in which the industry can increase access to insurance, as there are some areas which due to the risk it is either not possible to get cover or the cost is exorbitant. The Insurance Council of Australia has suggested that currently approximately 'Seven percent of residential property in Australia is exposed to predictable and repetitive flooding causing an average of $400 – $450 million in damages per year.' For the remaining properties which are not at an exceptionally high risk of flooding the penetration of flood coverage is questionable whereby only 54 percent of insurance policies for household building and contents cover in Australia include coverage for flood damage (Insurance Council of Australia, July 2011, 2).

However, with flood mapping there is likely to be more clarity in terms of the perceived and actual risk which will mean that insurers are more certain of their exposure and thus able to price based upon this. Knowing the risk exposure is likely to reduce the cost of cover for the consumer. Greater knowledge of a risk and the ability to model this mean insurers do not need to make over conservative and inflated estimates, but rather can price with more certainty.

The State

It is very difficult to create a proper demarcation defining at a micro level the precise roles and responsibilities of individual stakeholders (and then subdividing within the stakeholder group). Yet it is imperative that the system promotes insurers and governments working together to combat the challenge that catastrophic losses pose. It is imperative that the Australian government has a formalised means of entrenching a greater concentration of adequate insurance throughout Australia. The Australian Government needs to assist in ensuring adequate levels of insurance across society so that they are not implicated as the insurer of last resort. If the government continues to operate as an insurer of last resort without the existence of a paradigm designed to assist in investing for such risks, it places pressure on them whilst discouraging the uptake of adequate levels of insurance. Therefore it would be much better for the Australian Government to demarcate their responsibility and have contingency plans in place in order to satisfy their objectives.

The way forward

There is no simple solution to the problem of inadequacy of insurance in Australia (particularly in relation to flood risk). Despite this, we cannot continue to keep our head in the sand knowing what the problem is and in fact producing reports which similarly acknowledge the problem (Treasury, 2011, 9 – 19; House of Representatives Standing Committee on Social Policy and Legal Affairs, 2012; Queensland Flood Commission of Inquiry 2011) without implementing any realistic solutions. The issue of natural disaster insurance was raised in the aftermath of the Queensland flooding and has been hugely beneficial in raising the profile of this issue. The inquiries conducted into this issue indicate the crux of the problem is the implications which inadequate insurance has upon society and upon the economic well-being of individuals after an event. (Treasury, 2011, 9)

Given the enormity of the problem, it would be advisable to start by undertaking mitigation and enhancing flood mapping so modelling can be more accurate (Mortimer, Bergin and Carter, February 2011, 1 – 5). In order to get individuals involved in mitigation, the starting point should be in the provision of education to individuals via a variety of different formats. The key to the facilitation of education to reduce property losses is to couple this with premium discounts for undertaking mitigation. It is important to reduce the expectation mentality of individuals, (Carter, 2011 (Vol 6), Taxing the Taxed) instead promoting the acquisition of adequate levels of insurance coverage and in doing so rewarding prudent insureds for undertaking measures which are likely to result in more resilient properties and fewer overall damages (Wilkins, April 2011).

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