Natural disasters in Australia: Issues of funding and insurance

Chris Latham, Peter McCourt & Chris Larkin

© PwC

This presentation has been prepared for the Institute of Actuaries of Australia’s (Institute) 17th General Insurance Seminar. The authors wish it to be understood that opinions put forward herein are their own and are not necessarily those of PwC or the Institute.
So much to cover

1. Trends in cost of disasters over time
2. Current approach to funding in Australia
3. Who should fund?
4. International schemes
5. A scheme for Australia
But before we get started……

• **Natural disasters**: large scale natural events such as earthquakes, cyclones, storms, floods, bushfires

• Economic costs can be thought of in two broad groups:
  1. Preventative and risk management costs
  2. Post event costs

• We are only discussing item 2.
Data on past events

• Data on insured losses readily available
• Everything else is more challenging
• Consistency of “total loss” data between sources?
1. Trends in costs over time

Great natural catastrophes 1950 – 2009
Overall and insured losses with trend

- Overall losses (in 2009 values)
- Insured losses (in 2009 values)
- Trend overall losses
- Trend insured losses

© 2010 Münchener Rückversicherungs-Gesellschaft, Geo Risks Research, NatCatSERVICE – As at January 2010
Australian Insured Losses

ICA: Historical disaster statistics ($mil, 2010 dollars)
Why these increases?

- Socio-economic developments, such as increasing concentrations of values
- Increasing population
- Settlement and industrialisation of exposed areas
- Climate change and the increase in major weather-related natural disasters
What if we adjust for some of these factors?

- Crompton and McAneney (2008)
- Adjusted for growth in population, wealth and inflation since the time of the original event
- Number of dwellings and average dwelling values used as a proxy
The result – no apparent trend
The point

• Societal factors have been the major driver of historical long-term increase in disaster losses

• Future disaster losses will increase as a result of societal factors and economic development, independent of climate change
2. Current approach to funding

- The states and territories have largely assumed responsibility for managing natural disasters.
- The states are supported by the Commonwealth Government with respect to funding.
Sydney April 1999 Hail Storm

(Source: http://ozthunder.com/chase/chase13.htm)

(Source: Australian Science and Technology Heritage Centre)
Sydney 1999 Hail Storm - Funding

Sydney April 1999 Hail Storm - Funding

- Insurance: 77%
- Uninsured: 23%
Cyclone Larry

Cyclone Larry – Funding

- Insurance: 66%
- Government: 31%
- Donations: 3%
Black Saturday

Source: 2009 Victorian Bushfires Royal Commission – Final Report
Black Saturday – Funding

Black Saturday - Funding of Property Losses

- Insurance: 43%
- Donations: 13%
- Other: 22%
- Government: 22%
3. Who should fund

- The options range from
  1. The Government funds all costs from events to
  2. Everyone should look after themselves or
  3. Somewhere in between
Government Funding

• Features of such a scheme
  – Can guarantee coverage for all perils
  – Can make sure insurance is affordable to all
  – Can replace property on new for old basis, removing issues of underinsurance
  – Blanket coverage may provide disincentive to reduce risk
Everyone looks after themselves

- Features of this approach
  - Protection provided to those who choose to insure
  - May result in insurance not being available/affordable for some risks
  - Market forces will result in efficient pricing and risk/reward trade-off (in theory at least)
The current funding situation

• Sources of funding vary from one event to the next, in particular
  – Level of donations
  – Government assistance provided

• There is also a high level of losses not covered
Underinsurance & non-insurance

- **Underinsurance** - where the sum insured is below the rebuilding/replacement cost of the property

- **Non-insurance** - where people do not have insurance
Underinsurance & non-insurance

• VBFRC stated that “Non-insurance and under-insurance have impeded the rebuilding process”

• Charity Hazard
  – E.g. Assistance of up to $90,000 for rebuilding homes following Black Saturday
Non-insurance rates

• Industry non-insurance rates for buildings are relatively low (below 5%)
• Higher rates for contents (around 25%)
• VBFRC “About 13 per cent of destroyed residential properties might have been without insurance cover”
• Northbridge Earthquake-only 17% insured
• Kobe Earthquake-only 3% insured
Why do people not insure?

• “Hierarchy of denial”
  ➢ It won’t happen at all
  ➢ It won’t happen to me
  ➢ If it does happen to me, it won’t be too bad
  ➢ If it is bad, I can’t do anything about

• Insurance is limited: excesses, policy limits
• Insurance is expensive
Underinsurance

- ASIC report: between 27% and 81% of consumers were underinsured by 10% or more against current rebuilding costs
Underinsurance

• Why are people underinsured?
  – Consumer is the one who estimates rebuilding costs - an intrinsically difficult task
  – Variability in results from sum insured estimation tools provided by insurers
  – Rebuilding costs typically increase following disasters
  – Other reasons
4. International schemes

• New Zealand Earthquake Authority
  ➢ Started in 1945
  ➢ Covers more than earthquakes
  ➢ Covers only those who insure (90% of households)
  ➢ Premiums collected via insurers (NZ$90m per annum)
  ➢ Limits to cover—but pays 95% of all claims
  ➢ Effects international reinsurance
  ➢ Current funds of NZ$6billion
International schemes (contd)

• USA. National Flood Insurance Program
• Japan. Earthquake insurance, reinsured to govt.
• Spain. Compulsory government monopoly
• France. Insurers must offer insurance, but can reinsure back to government
• Switzerland. 73% of cantons compulsory cover from govt
• CCRIF. Covers 16 Caribbean nations
5. A scheme for Australia

• Does Australia need a scheme?
• The discussion post Tracy
• What might a scheme look like?
Does Australia need a scheme?

• Current arrangements create uncertainty in times of stress
• Potential for anomalies and inequities
• Government already large funder of costs
• A formal scheme would recognise the reality, remove the uncertainty, enable better funding
The discussion post Tracy

• Government in-principle decision to establish an NDIS (1976)

• Underlying principles:
  - Cover available to all at reasonable premiums
  - Encourage people to protect themselves
  - Seek equity through risk rating
  - Facilitate mitigation policies
  - Minimise call on Government funds
The discussion post Tracy

The scheme:

- Pool of insurers
- Government and industry to encourage maximum participation
- Those who opt-out not to receive benefits
- To cover household property and small businesses, not commercial property
- Special arrangements to those who could not afford insurance
The discussion post Tracy-what happened?

- Benign experience after Tracy
- Industry recovered financially
- Enthusiasm waned
- It was John Howard’s fault
What might a scheme look like?

• The 1976 proposals seem a good starting point
• Would respective roles of private insurers and Government change?
• The pool mechanism?
• The question of compulsion?
Government & Private Insurers

- Private insurance is only a partial solution => Govt involvement needed
- Private sector has the insurance expertise and experience
- Joint involvement makes sense
- Govt has experience as the reinsurer
The pool mechanism

- Pool run on insurance principles
- Pool would offer standard disaster cover
- Premiums set by advisory committee, risk rating by region
- Requires solidarity amongst participating insurers
Compulsion

• Some insurance is already compulsory
• Compulsion would increase viability of the scheme
• Could facilitate funding (e.g. levies on Council rates)
• Need for uninsured pool
• Why not?
In closing….

- Incidence of disasters will increase
- Existing arrangements will not cope well
- We need to prepare for an NDIS
- Recognise the reality, remove the uncertainty, enable better funding
References

- Australian Securities & Investments Commission, 2005, Getting home insurance right – A report on home building underinsurance
- Australian Government, 2006, Australian Government Assistance for those affected by Tropical Cyclone Larry
- Bureau of Transport Economics, 2001, Economic Costs of Natural Disasters in Australia
- Carolyn Kousky, February 2010, Reforming the National Flood Insurance Program, Resources for the Future
- Department of Transport and Regional Services, 2007, Natural Disaster Relief and Recovery Arrangements: Community Recovery Package Guidelines
- Department of Transport and Regional Services, 2007, Natural Disaster Relief and Recovery Arrangements: Determination
- George R Walker, 2005, Insurance and Disaster Reduction, International Symposium Disaster Reduction on Coasts
- Geoscience Australia, 2007, Natural Hazards in Australia - Identifying Risk Analysis Requirements
- Hiroaki Tsubokawa, 2006, Insurance issues of Catastrophic Disasters in Japan: Lessons from the 2005 Hurricane Katrina Disaster
- Institute of Actuaries of Australia, 2009, IAA Submission to Victorian Bushfire Royal Commission
- Insurance Council of Australia, 2006, ICA Response to the Report to the Council of Australian Governments on Natural Disasters in Australia
- Joanne Linnerooth-Bayer & Reinhard Mechler, 2009, Insurance against Losses from Natural Disasters in Developing Countries, Department of Economic & Social affairs (DESA Working Paper No. 85)
References

- Natural Disaster Insurance Scheme Working Party, 1976, *A Natural Disaster Insurance Scheme for Australia: A discussion paper tabled by the Minister assisting the Treasurer in the Commonwealth Parliament*
- Neil Weeks, *Financial Management of Catastrophes in Australia*
- Risk Frontiers, March 2010, *Newsletter*
- [www.wikipedia.org](http://www.wikipedia.org)