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protect, accommodate, retreat

- **protection: sea walls, dikes**
- **accommodation: insurance, raising houses or essential equipment, fatalism, etc**
- **retreat: abandonment of dwellings**
- **current focus: protection, accommodation**
- **future policy need: framework for “retreat” phase, including “who pays?”**

market failure in assisted retreat?

1. adverse selection: asymmetric info on risk.
Info shared for coastal retreat, but slow onset may delay participation
2. moral hazard: behavioural change after scheme entry. e.g. less care of house contents if insured
3. risk and response misperception: e.g. hazardous employment, value of flood-prone land does not reflect risk.

private and group risk insurance

- **correlated risk for coastal areas**
 - can global re-insurance help?
- **but no fortuity due to predictability of slow onset climate change effects**

- **group risk insurance based on index**
 - essentially a financial option
- **but how to define index:**
 - due to climate change, not just severe weather?
 - and justifying permanent retreat?

catastrophe insurance and bonds

- **insurer may face problems:**
 - re-insurance can help, but:
 - loss may occur early, before capital adequate, or
 - insurer with capital may be take-over target
- **catastrophe bonds offer access to capital**
 - usually short-term instruments
 - cover unpredictable natural disasters
 - can they evolve to cover predictable slow-onset climate change?

government disaster management

- **disaster: serious community disruption, widespread damage**
- **institutional mechanisms already available**
- **expected assistance may generate moral hazard e.g. lack of protection measures**
- **is slow-onset erosion like a bushfire?**
 - **if all effects of CC are assisted, just get fiscal churn with everyone subsidising everyone else**

income contingent loans

- **repayment of government loans required only when borrower has sufficient income**
 - **unlike fixed commercial repayment schedules**
- **potentially applicable to drought relief for farmers, payment of fines for white collar crime, housing loans for households with temporarily low incomes, etc.**
- **currently only used for Higher Education Contribution Scheme (HECS)**

asset contingent loans?

- **can we apply HECS to coastal retreat?**
 - commercial loans available to those with incomes
 - other coastal retirees often asset rich, cash poor
- **therefore propose asset contingent loans**
 - but design requires careful consideration to avoid moral hazard and adverse selection, and
 - needs to be supported by cost-benefit analysis
 - does it need to be Budget-neutral?

mortgage contingent loans

- **owner cedes property to govt**
- **govt guarantees commercial house loan**
 - **for lower value than original to avoid adverse selection by those wishing to 'trade-up'**
- **govt deducts cost of dismantling, clearance**
 - **also capitalises interest payments, insurance, maintenance, if owner cannot pay**
- **govt holds first mortgage**
- **but may sell into commercial property market**

issues for consideration

- **is provision of public housing an alternative?**
- **evacuation breaks community – timing?**
- **potential adverse selection?**
 - e.g. assistance to existing residents only?
- **potential moral hazard?**
 - e.g. upkeep of new residence?
- **should govt manage private risk?**
 - Pty Ltd coys, social insurance, bushfire relief, etc
 - impose income or asset tests for recipients?
- **can we make use of reverse mortgage markets?**

further contemplation

- a first draft paper is available
- please email Leo.Dobes@anu.edu.au for a copy
- comment and critique gratefully received