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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
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- comment and critique gratefully received