

Climate Adaptation: Government Policy

Allan Hsiao
Princeton University

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Domestic policy

Fundamental questions

- ① Migration or in-place adaptation
- ② Short- or long-run horizon
- ③ Public or private responses

Sea level rise and sea walls

IPCC 2019: GMSL will rise between 0.43 m and 0.84 m by 2100

- But damage estimates tend to be relatively low
 - Optimistic view of in-place protection (Anthoff et al. 2010)
 - Or of migration (Desmet et al. 2021)
- Trade-off between short- and long-run effects
 - Protection is not permanent given continued SLR
 - Short-run benefit, but long-run cost as coastal population grows
 - Larger population increases future risk and future migration costs

The case of Jakarta (Hsiao 2023)

- Interplay between public and private adaptation
 - Or local and national adaptation
 - Or current and future adaptation
- Moral hazard from uninternalized costs
 - Agents engage in risky development at the coast
 - Time-inconsistent principal pays to defend the coast
 - Crowds out inland adaptation, so coastal lock-in at high social cost
- Rationalizes high land prices despite future risk



International policy

Fundamental challenges

- ① Global externalities
- ② Distributional effects

Migration and trade policy

- Migration and trade facilitate adaptation, but face frictions
 - Both are global in nature, but countries optimize domestically
- Migration policy reinforces borders
 - 143 million people internally displaced by 2050 (World Bank 2018)
 - But domestic migration cannot avoid country-level risk
 - And international migration involves political difficulties
- Trade policy reflects domestic concerns (Hsiao-Moscona-Sastray 2023)
 - After a domestic production shock, trade helps consumers but hurts producers
 - Governments may respond by reducing trade

Climate finance

- Promises by wealthy nations at COP15 in Copenhagen (2009)
 - Goal of \$100B per year in pledges by 2020 (enough?)
 - \$20B short at face value, which includes loans
 - Losses and damages no longer hypothetical
- Active area of discussion and policy debate
 - COP26: Scotland pledged £2M for “structural inequalities”
 - COP27: establishment of “loss and damage” fund
 - Climate adaptation projects by World Bank and IMF



PAY UP FOR
LOSS AND
DAMAGE

SHOW
US
THE MONEY

CLIMATE
JUSTICE

ACTION'S NOW NO
LATER

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