# The economics and ethics of Stern discounting

Birmingham University

**Dr Cameron Hepburn**
Elizabeth Wordsworth JRF in Economics
James Martin Fellow in Climate Policy

# Structure of presentation

1. Background
2. Stern discounting
3. Responses / critiques
4. Flooding the delta
5. Eta, eta, pumpkin eta
6. Consistency with 'the data'
7. The ethical fault lines
8. My view

# 1. Background

- Stern modelling of costs of climate change employs a *consequentialist* and *welfarist* approach
- Other perspectives
  1. Deontological and legal approaches
     - Fiduciary duty (trustee for the unborn)
     - Duty of care (avoid reasonably foreseeable harm)
  2. Teleological approaches
     - e.g. What would the virtuous society do?
  3. Consequentialist, but non welfarist
     - e.g. Agent-based ethics
- Today I employ the welfarist approach
- But interdisciplinary problem, economics is more powerful if we recognising its limitations
- Draw on Beckerman and Hepburn (2007, WE), but views are mine



# Discounting

- In welfarism, the discount rate embodies the (implicit) view on intergenerational justice
- This is not 'ethically neutral' (it cannot be)
- Some basic clarifications:
  1. Why discount the future at all?
  2. What are we discounting?
  3. Can't we just use market rates?

# 1.1 Why discount the future at all?

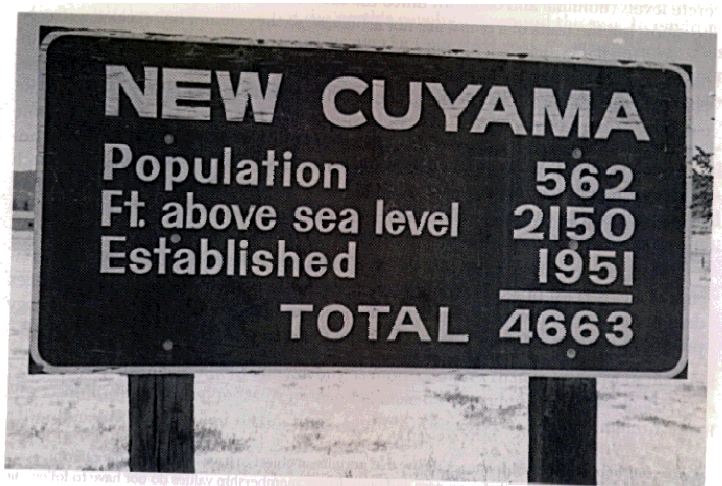
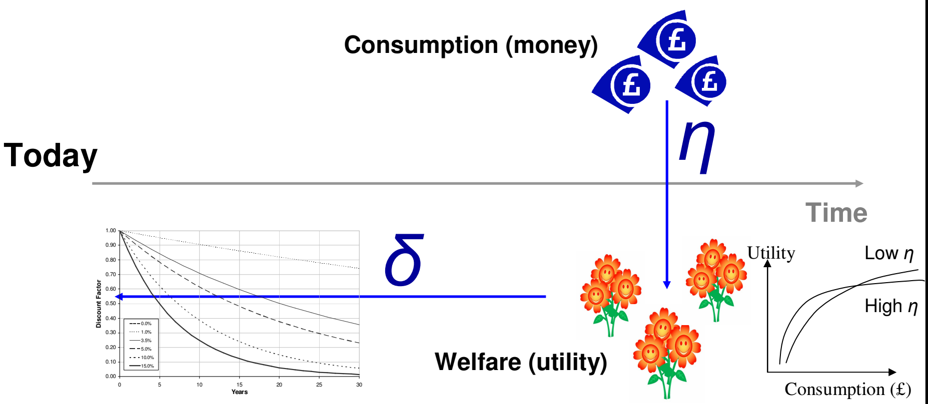



**Figure 1-8:** Sign posted at the entry to New Cuyama, California.



# 1.2 What are we discounting?

- Utility/welfare: discount rate is $\delta$
- Consumption/cash: discount rate $r = \delta + \eta g$



# 1.3 Can't we just use market rates?

- Market imperfections → misleading signals of value
  - Externalities
  - Taxation
  - Sub-optimum income distribution
  - Imperfect information, market power etc
- Also markets aggregate:
  - Private decisions
  - by currently existing individuals / corporations
  - acting in their capacity as consumers / producers
  - Generally over relatively short time-horizons
- Market rates are not irrelevant (shadow cost of capital)
- But should not elevate revealed preference to 'revealed ethics'



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## 2. Stern discounting

- Do not discount merely because of date of birth
- But $\delta$ = 0.1% for extinction risk
- Elasticity $\eta = 1$
- Consumption discounting is endogenous to the particular path, with growth rate $g$
    - Initial growth 'averages' around 2% (higher for developing countries), slowing to overall 'average' of 1.3%
    - Debatable: e.g. rate of technological progress
- Impacts of risk built into model by Monte Carlo approach
- Reasonable, but not really correct to describe this as "discounting the future **very heavily**"



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# 3. Responses / critiques

- Broad agreement that discounting is critical, the Review could have devoted even more time to it, and that sensitivity analysis is valuable (in CUP book)

- Dasgupta: $\delta = 0.1\%$ ✓; $\eta$ higher (ineq) ✗; *inconsistent*
- Nordhaus: $\delta$ = higher ✗; $\eta = 1$ ✓; *inconsistent*
- Weitzman: $\delta$ = higher ✗; $\eta$ = higher ✗; *inconsistent*
- Tol: ✗ *inconsistent* with Green book
- Maddison: $\delta$ higher ✗; $\eta$ ballpark ✓; *inconsistent*
- Quiggin: $\delta = 0.1\%$ ✓; $\eta = 1$ ✓
- Gollier: $\eta$ higher (risk) ✗
- Beckerman, Hepburn: $\delta$ "reasonable minds can differ"; $\eta$ too parsimonious, market consistency neither necessary nor desirable



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# 4. Flooding the delta

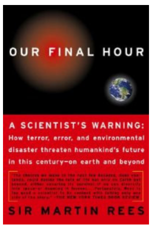
- Impersonal consequentialism (δ = 0) is very appealing – I find it compelling, especially when the lens is that of the global decision-maker
- But it is not the only approach
- Others prefer 'agent-relative ethics'
- This is a compelling *description* of how individuals, and also even nation states, behave
- It also has a respectable *normative* basis at the individual level (Hume, Arrow, Schleffer)
- I find it inappropriate at the global decision maker level, Beckerman finds it appealing



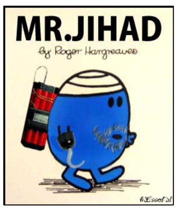
# Catastrophe risk

- How reasonable is δ = 0.1%?
- Some (including me) might argue that a 10% chance of wiping ourselves out in 100 years is too pessimistic
- But others are more pessimistic! Lord Rees: even odds of making it to the end of the century (equivalent to δ = 0.7%)

50/50




*"I think the odds are **no better than fifty-fifty** that our present civilisation on Earth will survive to the end of the present century."*



# Structure of presentation



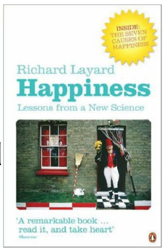


# 5. Eta, eta, pumpkin eta

- The standard EU model with a Benthamite SWF is asking too much of $\eta$, the elasticity of marginal utility
- It embodies our attitude to
  - risk
  - spatial inequality
  - intergenerational inequality
- Yet these are conceptually different and may be "inconsistent" within one person
  - Notwithstanding Harsanyi, Rawls etc
- The Stern Review model is underspecified

# Direction of 'bias'?

- **Risk:** more risk aversion that $\eta = 1$ is plausible (Gollier, 2006), which increases c-e costs of climate change
- **Spatial inequality:** Dasgupta (2006) and others argue for higher $\eta$, because we ought to care about the poor world. Pearce et al. (2003) point out that this preference is not revealed. Direction of bias unclear
- **Intertemporal inequality:** Happiness literature suggests that relative consumption matters more than absolute. This is suggestive of less aversion to intertemporal inequality, and a lower $\eta$, with a higher PV of climate damages



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# 6. Consistency with 'the data'

- Nordhaus, Dasgupta, Weitzman et al inconsistency:
  - Stern discounting is not consistent with '*today's market place*'
- Quiggin: but pre-existing inconsistencies between EU and 'the data' – can derive anything from a contradiction
  - Quiggin also argues r = 1-2%, not r = 4%
- Beckerman and Hepburn: there are far more fundamental issues at stake here
- How should economists take our ethics?
- Is deriving ethics from the market a sensible idea?



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## 7. The ethical fault lines

- To do 'revealed ethics' in this way, we need to make five leaps of faith:
  - Individual → social
  - Short term → long term
  - Consumer → citizen
  - Current → future
  - And finally, Is → Ought
- What would Hume say? Tsk!
- But philosopher-kings are also dangerous
- Happily, there are a range of intermediate positions




## Any optimism should be cautious

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## My view on the Stern Review

- Right for the wrong reasons?
- Right for the right reasons?
- *Very probably right, for reasons I find ethically appealing, others may legitimately disagree*

*Thank you*