

« Climate Change and Prioritarianism »

EUROPEAN COMMISSION
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1- General motivation

Consumption under risk: How much to consume energy today given that the future climate damage is risky?

The answer depends on our assumptions about social preferences across time and across states



2- Literature

The economic literature on climate change has often assumed a common utilitarian social welfare function (SWF)

- IAMs: DICE & RICE (Nordhaus 1994, 2008), PAGE (Stern 2007), FUND (Anthoff and Tol 2009)
- Discounting literature: Gollier (2002, 2013), Weitzman (2009)

As an alternative, we assume a prioritarian SWF



3- Prioritarianism

A prioritarian SWF:
$$W = \sum_{i} g(u_i(c_i))$$
 with $g' > 0$ and $g'' < 0$

Standard SWF in public economics (Mirrlees 1971, Johansson-Stenman 2005), with roots in moral philosophy (Parfit 1991, Adler 2013)

A key moral distinction: a prioritarian SWF distinguishes an ex ante from an ex post approach to risk equity

- Ex ante prioritarian (EAP) approach: SWF = sum of transformed expected utilities,
 cares about the difference in expected utilities
- Ex post prioritarian (EPP) approach: SWF = expectation of the sum of transformed utilities, cares about the difference in *realized* utilities state by state

4- Main results

The model: a simple cake-eating model where the size of the cake is unknown

- Assumptions: standard (i.e., increasing, concave, differentiable etc.) functional forms for SWF and utility functions
- Learning is allowed

Result 1: There is more current consumption under EAP than under utilitarianism

Result 2: There is *less* current consumption under EPP than under utilitarianism



5- Some implications

A well-known precautionary savings argument:

- O Discounting literature: Under utilitarianism, risk usually justifies lower discount rates, namely less consumption today (Gollier 2013)
- o This paper: Under prioritarianism, the argument is reinforced under the ex post approach, but is weakened under the ex ante approach

General implication, and further research:

- Raises the issue of the sensitivity of climate risk policy to the properties of the SWF beyond utilitarianism (see, e.g., Fleurbaey 2013)
- Raises the more fundamental issue of the "appropriate" SWF to use? (axiomatics, but see also recent empirical or experimental research on social preferences)



Thank you!





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