

Mitigation – Adaptation Tradeoffs in Climate Policy

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Climate change is regarded as one of the main threats to mankind. In order to avoid the catastrophic consequences that this phenomenon might cause, the society has two options: adapting to the modified climatic conditions or stabilizing the atmospheric concentrations of GHGs. Mitigation of climate change can take different alleys like, e.g., reducing the combustion of fossil fuels, shift to low-carbon energy use or the sequestration of carbon dioxide. Adaptation consist on those adjustments in the socioeconomic systems aimed at accomodating the actual or expected climatic conditions.

The two pillars of climate policy exhibit different properties, which makes a careful integration of them necessary in order to attain globally efficient policy outcomes. Alternatively, individual countries could strategically exploit the different properties to their own advantage, which implies that they have to take the divergences into account when striving for a national welfare maximum.

One of the most important divergences is the degree of publicness. Mitigation is a global public good and thus mitigation activities in one country will generate externalities affecting all other. This in turn bears the risk that countries enjoying global positive externalities will take a free-ride on other countries' mitigation efforts. Such a free-riding risk is not pending with respect to adaptation efforts, as adaptation is largely seen as a private good from an individual country's point of view. Furthermore, domestic adaptation may generate strategic advantages in international negotiations on mitigation, as - due to vulnerability reduction via adaptation – the urgency of mitigation from an adapting country's point of view is diminished such that it is the other countries that should have a higher interest in accepting a higher burden in international mitigation efforts.

In this survey, we consider studies addressing such interrelations between the options of mitigation and adaptation. We restrict our attention to such studies focused on public policy measures. Besides research exclusively investigating domestic adaptation and mitigation activities, we also discuss studies which consider international transfers supporting mitigation and adaptation abroad. Such transfers are of rising interest as it was pledged to mobilize \$100 billion in international climate financing annually by 2020 at the 16th Conference of Parties (COP) to the United Framework Convention on Climate Change (UNFCCC) in Cancun in 2010. These international transfers are planned to support both adaptation and mitigation projects in developing countries.

Our survey aims to give an overview of the present state of research concerning the management of the tradeoffs between public adaptation and mitigation policies and to describe remaining research gaps. It helps to identify scope for further research in this important climate science area.