

Abstract

Climate change studies repeatedly report the present value damage from global warming in the realms of trillion USD. To adopt an efficient climate policy, precise estimates of the costs and damages are essential. This thesis aims to review the most influential social cost of carbon models and to propose for the first time a best practice approach to constructing the damage function. Based on the reliability of the key estimates, two alternative approaches are proposed. The first consists of deriving a highly universal damage function and consequent calibration by multiple point estimates. The latter is based on damage disaggregation to different sectors and subsequent single-point calibration of each contribution separately. Both approaches address the current challenges for the damage function – a flexible functional form and treatment of intangible damages.

JEL Classification D62, D90, Q51, Q54

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