

The social discount rate of ordinary Danes

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The social discount rate is used to trade off societal investment costs against future earnings. The level of the social discount rate plays a crucial role in deciding which long-term public investments are profitable. This issue is particularly salient when it comes to climate investments, where benefits of reduced climate damages materialize over a very long time horizon.

There is a long-standing debate among economists about what an appropriate social discount rate is. Some argue that market interest rates should be used as a guide, while others argue that one should consider market flaws and ethical arguments as well. This approach typically leads to a lower discount rate.

These two approaches each have their pros and cons. In this project, we take a third approach to the debate of setting the “right” social discount rate by asking a representative sample of Danes a series of questions about their willingness to pay for climate investments with a time horizon of 100 years. We use the answers to these questions to infer a social discount rate.

Our preferred method yields a social discount rate of 1.7 per cent per year over a 100-year time horizon. This is lower than the equivalent social discount rate used by the Danish Ministry of Finance. It is also lower than the default rate used in the integrated assessment model DICE. Interestingly, it is of comparable size to the social discount rate obtained from asking a survey of experts on the matter.¹

We illustrate how different discount rates leads to different levels of optimal climate investments. We also illustrate the effect of using a discount rate like that of ordinary Danes on optimal temperature paths in integrated assessment models such as the DICE model.

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¹ Drupp, M. A., Freeman, M. C., Groom, B., & Nesje, F. (2018). Discounting disentangled. *American Economic Journal: Economic Policy*, 10(4), 109-34.