Abstract

Key words: Economic valuation, Choice experiment, Sct. Jørgens Lake, Random-utility models, Cloudburst securement, Climate change adaptation, City nature, Municipality of Copenhagen, Policy relevant usage of CE, Environmental economics

This thesis carries out a pilot study of an economic valuation of the cloudburst securement project of Sct. Jørgens Lake. The Municipality of Copenhagen are obliged to secure the city towards cloudburst and have based on that created both a climate change adaptation plan and a cloudburst securement plan for the city. The cloudburst securement plan includes a project catalogue of 300 projects in which the project of dredging Sct. Jørgens Lake is found. The dredging will expose areas which will function as a city park around the lake, and which will in the event of a cloudburst be flooded and thus function as a water reservoir. A CE questionnaire for the project was developed, with the park being described by the 5 attributes; coating, traffic, trees, benches, and nature. A sample of 141 responses was collected, with an effective sample of 99 respondents. The sample allowed significant results to be obtained, and a mixed-panel-logit model was estimated with a McFadden-pseudo-R^2 of 0.26. The maximum WTP/household/year was found for the situation where the path coating was gravel, there was combined cycling and walking paths, benches placed along the shallow and aesthetic nice tress and large open areas was established. This situation yielded a WTP of 752 DKK/household/year, when the WTP for the opt-out opportunity was withdrawn. The sample did not fulfil the validity test related to income groups, and there was not found any difference in WTP across income groups. The WTP was aggregated across relevant household and a total welfare change of 1.9 billion DKK over a period of 50 years, using a discount rate of 4% until year 35, and a rate of 3% from year 36-50, was found. The results cannot be used to say anything specific on preferences for the population of Copenhagen/Frederiksberg, as the sample was not representative. Despite the missing representativeness, this study has provided insight to how economic valuation can be used for policy planning in relations to the 300 cloudburst securement projects that the Municipality have planned. Furthermore, the study has shown how a valuation on the establishment of a city park around Sct. Jørgens Lake could lead to a positive welfare change, and thus an extra benefit that could be included in project evaluation.