

Estimating Farmers' economic value for reducing risk to flooding events

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Background

Extreme weather events are projected to increase in the coming decades in Ireland, however, uncertainties remain in relation to the scale and extent of the impact on farming. We designed a discrete choice experiment (DCE) to establish farmers' preferences for farm insurance against extreme weather events.

Data and Methods

Data collected from a representative sample of 270 Irish farmers' in 2019. We also collected information on farmer attitudes, demographic profile and farm characteristics. Figure 1 shows an example of the attributes and levels chosen for the DCE

Figure 1: DCE Attributes and Levels

Attribute Name and Description	Levels
Length of insurance contract: This was described as how long the insurance would last	1, 2, 5, 10 years
Method of Assessment: This was described as how damages would be assessed	On-Farm Inspection or Weather-Indexed
Cost per year €	€50, €100, €200, €400, €600, €800

Key Findings

General Attitudes

- 35% of farmers stated that they are concerned about current or future impact of extreme weather events on their farm
- Half of farmers indicated that they would support compulsory measures to help farm better adapt to extreme weather
- Larger farms (=>50 hectares) more concerned about extreme weather

Flood Restrictors

- 43% of farmers indicated willingness to engage in collective action to apply flood restrictors on rivers to reduce flooding to downstream communities

Discrete Choice Experiment Results

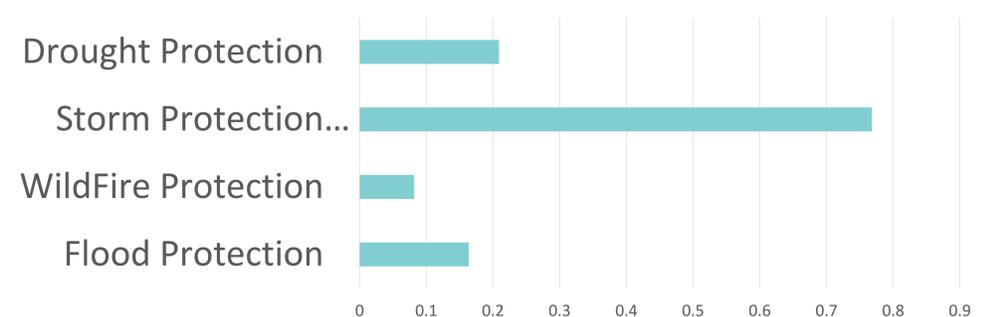
- 70% of farmers indicated a willingness to buy insurance against extreme weather events
- On average, farmers' favoured longer insurance contracts and index-based methods of assessment over traditional on-farm assessment of damages

Table 1: Willingness to pay estimates

Variable	€ per year; (std Dev)
Length of insurance contract	€25.26 (€32.88) for each add. year
Indexed-based Insurance ** relative to on-farm inspection	€141.61 (199.62)
ASC – No Insurance	€-222.82

- Farmers' willing to pay €25 for each additional year of insurance contract and they would be willing to pay €141 for index-assessment rather than on-farm inspection
- Younger farmers', farmers in midland region, farmers previously affected by extreme weather more likely to buy insurance
- 79% of farmers rated insurance for storm protection as important

Figure 2: Importance of insurance for types of weather events



Acknowledgements and Contact

**This research is part of the RiskAquaSoil Project co-financed by the European Regional Development Fund (FEDER) through the cooperation programme Interreg Atlantic Area, with reference EAPA – 272/2016

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