

Extended Abstract

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Paper/Poster Title	Using farmers' ex ante preferences to design agri-environmental contracts: A systematic review
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Abstract prepared for presentation at the 98th Annual Conference of The Agricultural Economics Society will be held at The University of Edinburgh, UK, 18th - 20th March 2024.

Abstract	200 words max
<p>Ensuring that farmers' ex ante preferences are accounted for is crucial for the design of effective agri-environmental contracts. We present a systematic review of 127 discrete choice experiment (DCE) studies of farmers' preferences with respect to agri-environmental contracts. DCE studies evaluate two central features of farmers' behaviour: 1) their willingness to accept land use prescriptions, such as fertiliser use, application of pesticides, restrictions on cropping, livestock management, integration of silvopasture, maintaining soil health or water use restrictions; and 2) their responses to variations in incentive and commitment criteria, such as reward schemes, monitoring regimes, technical assistance, flexibility of agreements, administrative burden and collaborative implementation. Our analysis considers how these different elements are interlinked and applied in experiments to simulate farmers' decision-making processes. We examine recent methodological improvements in explaining farmer behaviour, including the accommodation of preference heterogeneity, the combining of discrete (enrolment) and continuous decisions, and the incorporation of farmers' sense of identity. DCEs have been applied for the ex ante analysis of different policy instruments to inform the European Common Agricultural Policy and agri-environmental schemes outside the EU. The results of this systematic review may be useful in informing the future design of such agri-environmental programs.</p>	
Keywords	Choice modelling, stated preferences, discrete choice experiments, agri-environmental policy, agri-environmental contracts, environmental governance, ex ante evaluation
JEL Code	Q15, Q51, Q57 see: www.aeaweb.org/jel/guide/jel.php?class=Q)
Introduction	100 – 250 words
<p>Despite a considerable number of available DCE-based studies on farmers' contractual design preferences for agri-environmental measures, the existing evidence is scattered. Previous studies have attempted to summarise the empirical literature and outline the influence of selected contract elements on the acceptance of agri-environmental climate measures (AECM) in Europe (Mamine & Minviel., 2020; Tyllianakis and Martin-Ortega, 2021). However, these studies have not sufficiently elucidated the specific management constraints or contextual factors within which these contract elements were investigated. This review aims to fill this gap and systematically analyse preferences for agri-environmental measures by specifically considering land use prescriptions imposed on farmers. Thus, a) preferences for agri-</p>	

environmental contracts are made comparable, and b) research gaps can be clearly noted.

This paper contributes to the current literature in four major ways. First, this paper provides a structure of empirical evidence by systematically reviewing the current state of the literature on farmers' stated preferences for agri-environmental measures. Second, it identifies how applications of DCEs to farmers' preferences have evolved over time, exploring common patterns and differences in terms of geographical regions, agricultural measures, and contract design features, and depicts methodological advances. Third, it considers empirical findings and highlights areas where the evidence is mixed and likely context dependent. Finally, it identifies gaps in the literature, highlights design features that remain under-researched and makes recommendations for future research.

Methodology

100 – 250 words

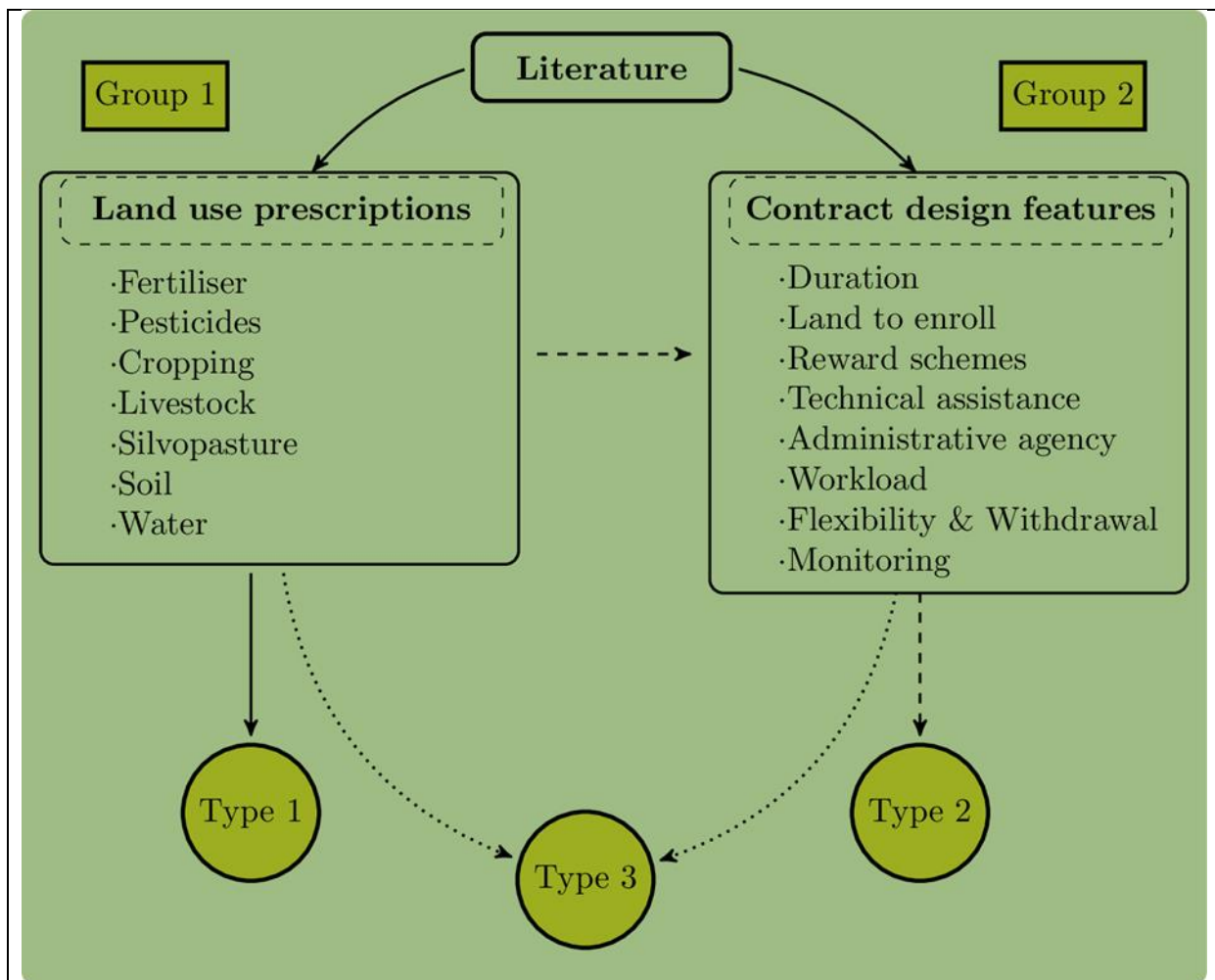
The systematic literature search was carried out in both ISI Web of Science and Google Scholar. We followed a structured approach to synthesise the empirical literature on DCEs conducted with farmers to learn about their preferences for agri-environmental measures. The Reporting Standards for Systematic Evidence Syntheses in Environmental Research (ROSES) formed the basis of the applied research protocol to provide reliable, valid, and replicable results (Haddaway et al., 2018).

Results

100 – 250 words

To structure the systematic review of the literature, we follow the observation by Le Coent et al. (2017), who distinguish between two types of DCE studies conducted with farmers (depicted in detail in Figure 2 below):

- 1) Studies whose attributes address land use prescriptions through agricultural activities, and
- 2) Studies whose attributes relate to institutional economic and agri-environmental contract design.



Discussion and Conclusion

100 – 250 words

This review synthesises how DCEs have been used to inform the design of agri-environmental policies. In the past, DCEs have contributed to the governance of ecosystem services in agricultural landscapes by assessing farmers’ ex ante preferences for agri-environmental measures. Therefore, quantifying farmers’ preferences for different land use prescriptions and contract design features has been essential for ex ante policy analysis. For farmers, the provision of environmental goods and market goods often implies trade-offs, and knowing their preferences for the different policy features may be important to achieve a necessary level of commitment that facilitates policy implementation and integration.

We conclude that DCEs provide valuable insights into the preference structure and decision-making processes of individuals. While DCEs can be useful for policy design, they should be complemented by other methods (El Benni et al., 2023). Therefore, policy makers are advised to draw from a comprehensive toolkit, including other experimental approaches based on revealed preferences such as field experiments and randomised controlled trials (RCTs), as well as qualitative research to complement DCE results. This triangulation of methods helps balance the strengths and weaknesses of each approach (Colen et al., 2016).