

Sustainability in the Adoption of Agri-Environmental-Climate Schemes

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Abstract. The research explores the intricate dynamics of farmers' decision-making in the context of the European Union's agri-environmental-climate schemes (AECSs), with a focus on the temporal factors that impact participation and the long-term viability of environmentally friendly practices. The study utilises data from the Slovenian Farm Accountancy Data Network (FADN) spanning from 2014 to 2021. It employs two step approaches including Heckman selection models and discrete-time duration models to examine the complexities of adopting AECS and the length of time they are implemented. The results indicate that 69.8% of Slovenian FADN farms employ AECSs, and 82% of these farms demonstrate ongoing engagement, indicating a dynamic relationship between adoption and maintenance. The study specifically identifies factors that have an impact on the length of participation in AECS. The research emphasises the importance of taking into account time-varying factors when analysing farmers' choices regarding the renewal of AECS contracts or opting out of the scheme. The study provides valuable insights into how farmers' participation changes over time, which is important for tailoring AECSs to align with farmers' decision-making patterns.

Keywords: agri-environmental-climate programmes, adoption, selection model, duration analysis, Common Agricultural Policy

1 Introduction

The purpose of this research is to contribute to the emerging novel research on the adoption and duration of AECSs by examining the influence of the time dimension on farmers' decision-making when they have to choose between renewing their contract and staying in the AECS. More precisely, it aims to expose the effects of time-varying factors influencing the innovation diffusion patterns, such as the farmer's learning process connected to the duration effect, as well as determinants like some static farmer and farm structural characteristics, over the "staying or leaving" option.

2 Data and Methods

The Slovenian FADN balanced panel data are used for the period 2014-2021. We use two step approaches. First, we employ Heckman selection models to explain the adoption of AECS and the intensity of AECS. Second, we investigate the drivers of the duration of the AECS.

3 Results

Most of the Slovenian FADN farms with adopted AECS experienced one continuous spell, while the rest have two or three. This suggests farms switch between AECS adoption and maintenance. The sustainability in the adoption of AECS is explained by different farm specific human and natural factor endowments, agricultural subsidies and type of farming.

4 Discussion and Conclusion

The research contributes valuable insights to the ongoing discourse on the efficacy and sustainability of AECSs in promoting eco-friendly practices among European farmers. It provides a comprehensive viewpoint on how these schemes encourage environmentally friendly practices among farmers in Europe (Unay-Gailhard and Bojnec, 2016; Canessa et al., 2024). The research employs a two-step approach, utilizing Heckman selection models and discrete-time duration models. The findings underscore the significance of considering time-varying factors in understanding farmers' choices between renewing AECS contracts and leaving the scheme. The research reveals that 69.8% of Slovenian FADN farms utilize AECSs, with 82% displaying continuous involvement. The adoption patterns indicate a fluctuation between AECS adoption and maintenance, with various farms lasting different durations in the program. The research emphasizes the importance of tailoring AECSs to farmers' decision-making patterns for more effective and lasting environmental benefits.

References

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