

Biodiversity adjusted probability of default for European small and medium enterprises

Abstract

Biodiversity loss, ecosystem service decline, and environmental degradation can amplify credit risk for small and medium-sized enterprises, which have limited capacity to absorb shocks. These challenges may undermine financial stability and resilience. In this context, the European Union has committed to biodiversity recovery through the Biodiversity Strategy 2030 and the Green Deal, aiming to integrate biodiversity conservation efforts into socio-economic sectors. However, despite growing awareness of nature-related financial risks, the impact of biodiversity integrity on credit risk remains insufficiently explored. To the best of our knowledge, this is the first study to examine the relationship between biodiversity loss and default risk for small and medium-sized enterprises. By incorporating relevant environmental indicators in a discrete-time survival model and using data of loans to European small and medium-sized enterprises spanning the period from 2015 to 2020, the results show statistically significant effects of biodiversity loss and human pressure on the probability of default. Additionally, findings suggest significant interactions between biodiversity metrics and economic activities, revealing sectoral heterogeneity in the relationship between biodiversity loss and credit risk for loans to small and medium-sized enterprises. Furthermore, the inclusion of biodiversity-related variables leads to improvements in predictive performance across the tested models, highlighting the relevance of biodiversity indicators for credit risk assessment frameworks.

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