

ROLE OF CARBON TAX ON GREENHOUSE EMISSIONS: AN EMPIRICAL STUDY OF SELECTED NORDIC COUNTRY

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1. Introduction

The text discusses the perception of finance as an obstacle to societal improvement and introduces the concept of sustainable finances (SF) with a focus on its historical development and the motivations of ethical investors. Additionally, it explores the effectiveness of a carbon tax, especially in Denmark, Finland, Sweden, Slovenia, and Norway, in mitigating greenhouse gas emissions. The research also sheds light on the historical evolution of sustainable finances.

2. Research Methodology

The study examines greenhouse gas emissions and carbon tax data for five OECD countries from 1990 to 2019 and 1990 to 2022, respectively. The Phillips-Perron Unit root test is employed to assess time series stationarity, and Karl Pearson's correlation is used to analyze the relationship between carbon taxation and emissions. Data collection and maintenance involve the use of R Studio, EViews, SPSS, and Excel.

3. Findings and Discussion

The research indicates that Finland's carbon tax has contributed to a significant, adverse impact on the rise in greenhouse gas emissions, partially alleviated by tax exemptions for certain energy-intensive businesses. In contrast, Norway's carbon tax has not shown significant mitigation effects, largely due to the rapid growth of its energy production market, leading to increased emissions from the oil and natural gas sectors. The findings highlight the substantial impact and importance of Finland and Norway in the context of carbon taxation.

4. Conclusion and Implications

Carbon taxes affected Nordic countries differently. Finland's tax led to increased emissions, while Denmark, Sweden, and Slovenia saw negative impacts, partly offset by industry exemptions. Due to rapid energy sector growth, Norway's tax had minimal effect resulting in increased emissions. Policymakers should craft nuanced carbon tax policies with industry-specific considerations to cut emissions without hampering economic growth. Tailored strategies, not universal solutions, are crucial. Investors should weigh the environmental impact of their investments. Further research is needed to refine carbon taxation for better, sustainable environmental outcomes.

Keywords: Carbon tax, Greenhouse emissions, Panel unit-root test, Sustainable finance.