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ESG Investing and Passive Fund Management. Tracking Ability of Passive ESG Equity Exchange-Traded Funds

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Abstract

The rapid growth of passive investing and the increasing emphasis on Environmental, Social, and Governance (ESG) criteria have intersected to form a new class of investment products: passive ESG equity Exchange-Traded Funds (ETFs). While these funds aim to offer both market exposure and sustainable investment features, concerns remain regarding their ability to accurately replicate benchmark indices. The primary objective of this dissertation is to evaluate and compare the tracking ability of passive ESG equity ETFs listed on European exchanges, in relation to their non-ESG counterparts, and to identify the key factors affecting replication quality. The study examines 48 ESG and 86 non-ESG ETFs throughout 2021 to 2024 using comparative analysis and dynamic panel (GMM) estimation. The replication performance is measured by tracking error through three standard metrics. The study explores how fund characteristics such as total expense ratio (TER), assets under management (AUM), age, benchmark volatility, and replication method affect the tracking performance of ETFs. The research shows that ESG integration does not negatively affect and may even improve the replication performance of passive equity ETFs. The constructed dynamic panel models show that tracking errors of both ESG and non-ESG ETFs persist strongly from one period to the next. The TER and benchmark volatility increase tracking errors, but AUM reduces tracking errors only in ESG ETFs. The tracking performance of both groups remains unaffected by fund age. The Chow test established that fund size and cost affect tracking error differently between the two groups. However, the extended panel dynamic GMM model that included interaction terms did not confirm stable differences between groups. The model indicated that fundamental factors that determine tracking error performance remain largely the same for passive ESG equity ETFs and non-ESG ETFs listed on European exchanges. The dissertation adds to academic knowledge about ETF replication efficiency while offering practical insights to improve passive ESG investment product management. The study confirms that ESG ETFs function as investment vehicles that unite sustainability with good replication performance.

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