

M2 EGR 2024-2025 Empirical Project: Research Proposal

Do Green Bonds Experience a Liquidity Premium? An Overview

Alexander Köhler, Guillaume Yatibingui, Jing Zhang

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1 Introduction

Liquidity is at the heart of any risk analysis. Financial assets with liquidity experience a demand and regulatory premium. Green bonds, designed to finance projects with environmental benefits, have seen substantial growth in recent years. This growing market raises important questions about green bonds' relative value compared to conventional bonds, in particular whether they command a liquidity or yield premium, or vice versa¹. This issue holds significant implications for financing conditions, market efficiency, and investor behaviour. Our research seeks to determine whether green bonds possess superior liquidity attributes compared to conventional bonds and to analyse the factors driving any observed liquidity premium or yield difference.

2 Literature Overview

we will follow and build upon established methodologies from key literature in the emerging green finance space. Zerbib (2019) employs a matching method with a two-step regression procedure to isolate yield differentials, revealing a minor negative premium for green bonds, when controlling for liquidity differences. MacAskill et al. (2021) systematically review determinants of the "greenium," highlighting issuer characteristics and market structures affecting green bond pricing. Hachenberg and Schiereck (2018) compare green-labelled bonds using matched samples and comparing bonds of the same issuer, find tighter spreads (correlated with better liquidity²) for green bonds in specific cases. On the other hand, Febi et al. (2018) analyse how liquidity risks affect bond yields, controlling for bond idiosyncrasies and macroeconomic variables and find that illiquidity risk has been decreasing and has become negligible. The overall liquidity difference between a green bond and a conventional bond remains unclear. Hong and Kacperczyk (2009) find that green bonds enjoy a demand premium by long term investors, partly due to ESG reporting being increasingly required from asset managers and these being under societal pressure. Yet this higher demand could also be detrimental to liquidity due to asset managers precisely having lower asset turnover and thus limiting market depth and potentially price stability (R. and A. 2015). Leveraging the different approaches used in the literature, we propose analysing liquidity proxies like bid-ask spreads and average volumes traded, comparing green and conventional bonds to assess the presence and magnitude of any liquidity premium with an additional focus on yield differences.

3 Overview of Data

To assess liquidity premiums, we will recreate a dataset of green and conventional bonds from sources such as Bloomberg's Green Bond Database, similar LSEG indexes or other providers³, the Climate Bonds Initiative. Key variables for analysis include daily averages (or closings) of bond yields, bid-ask spreads, issuance sizes, and trading volumes. Cross-sectional and time-series econometric models will be employed to isolate the effect of green labelling on liquidity premiums, controlling for macroeconomic conditions, credit ratings, and other bond-specific factors as in Zerbib (2019) or literature mentioned in MacAskill et al. (2021). Accordingly, our analysis will incorporate panel data methods and time-series econometrics to effectively manage potential issues such as serial correlation and potential endogeneity issues. This comprehensive

¹Green bonds face additional reporting requirements and potentially face more buy-and-hold investors constraining liquidity

²A natural measure of liquidity is the spread between bid and ask prices, see Amihud and Mendelson (1986)

³See for example: <https://efdata.org/>

approach aims to elucidate the relationship between green bond market characteristics and liquidity premiums.

References

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A Annex: Data and Methodology

We are currently unable to provide a data preview as we will require either access to a Bloomberg Terminal or a LSEG terminal.