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Where's the Greenium?

Environmental, social, and governance (ESG) measurement, corporate social responsibility (CSR) activities, and socially responsible investing (SRI) are increasingly important research topics in both academic and professional areas. This recent research focus has been primarily due to the increased number of assets invested following ESG principles, now reportedly more than one-quarter of the \$88 trillion of assets under management globally. While there is growing evidence of an association between ESG and CSR activities on security pricing, comparatively little is known about the channels through which ESG factors may affect asset prices.

A question of primary importance in this area is whether ESG investments have value to investors beyond the expected risk and return attributes of a security. For instance, if we were to present investors with a high-ESG security and a low-ESG security whose risk and returns are identical, would investors pay more for the high-ESG security? While standard arguments suggest that these securities should price identically, there is a growing literature that argues otherwise. Several studies present theoretical models where investors are willing to give up financial benefits to invest in environmentally friendly or socially responsible assets.

There is evidence of these effects showing that both investors and managers value green investments for their societal benefits. In experimental markets, investors respond positively to reports of green investments even when they are independent of future cash flows and risk, suggesting a tradeoff between wealth and societal benefits. The critical question is whether such experimental results generalize to actual market settings.

In our analysis, we focus on U.S. municipal issuers because these entities have been one of the largest issuers of green bonds. This setting is ideal for exploring our research question because these securities are explicitly issued to fund environmentally sustainable projects. As important, the way municipalities issue bonds provides a novel experiment to assess whether investors value the societal benefits associated with ESG activities. We leverage three unique institutional features of the U.S. municipal securities market to implement a methodological approach that is less prone to the standard correlated omitted-variable critique of prior ESG research.

The first is that municipal issuers commonly price multiple tranches of securities, both green and nongreen securities, on the same day with similar maturities. This occurs for several reasons, such as issuer requirements to track their use of funds to comply with IRS requirements and limits to bond issuance by state constitutional mandates.

The second feature of municipal bonds is that the credit for these green bonds is identical to the credit for their nongreen counterparts. Green bonds are identical to ordinary municipal bonds in all ways except that the use of proceeds is allocated to fund “environmentally friendly projects” (e.g., sustainable water management and energy production). The only effective difference between a green bond and a nongreen bond is the use of proceeds. Thus we can attribute any differences in security pricing to investor preferences for nonmonetary security features rather than differences in expectations about future cash flows or risk.

Finally, there are strong reasons to believe that our setting is one where we are most likely to find a greenium (if it exists), though it is a relatively small and specialized asset class. Specifically, the average issuance size (supply) in our sample is small (\$5.36 million on average) compared with corporate green-bond issuances, which are often hundreds of millions (or even billions) of dollars. Since the size of green issues is small, there is ample opportunity for green investors to be the marginal trader (which would not be the case for very large green issues in a market setting where green investors do not have the capacity to buy most of the offering). Thus our focus on small issues of green municipal securities is very likely to provide a powerful test of whether a greenium exists.

The primary result of our paper is that the greenium, or the premium that green assets trade to otherwise identical nongreen securities, is precisely equal to zero. Our results are based on a sample of 640 matched pairs of green and nongreen issues given out on the same day, with identical maturity and rating, and issued by the same municipality. We observe an economically trivial difference in yield (and spread) between green and nongreen bonds of approximately 0.45 basis points (indicating a slight green-bond discount). In fact, in approximately 85 percent of matched cases, the differential yield is exactly zero. These results provide strong evidence that investors are unwilling to sacrifice returns to support environmentally friendly projects, and thus the greenium is equal to zero.

We also examine how much investment bankers charge for issuing green securities (or the underwriter's discount) in comparison to nongreen securities. This is important for two reasons. First, it indicates whether banks consider green securities as riskier or more challenging to underwrite. Second, one of the primary challenges attributed to the growth of green bonds in municipal markets is the perceived cost of issuance. For our matched sample, we find that the underwriting cost charged for issuing green bonds is higher than nongreen bonds. Specifically, borrowing costs are on average approximately 10 percent higher for green securities than almost identical nongreen securities. The combination of equivalent yield and higher transactions costs is not consistent with the existence of greenium.

Concerns over greenwashing have arisen among investors due to the absence of a universal set of standards on whether a security is actually green. In response to these concerns, several agencies have created a new form of economic certification to ensure that issuers of green bonds are using the financing proceeds for environmentally friendly purposes. The Climate Bonds Initiative is the leading provider of these services and has been used by a number of municipalities to provide third-party certification. We explore the pricing effects of this certification and find no evidence that this leads to incremental yield benefits to municipalities. This finding mitigates concerns that greenwashing is responsible for our documented lack of premium. Additional tests relate to the underlying use of proceeds, and bond-specific green ratings also support these inferences.

In our final sets of tests, we explore various nonissuance cost-related benefits associated with green issuances. Specifically, some issuers have suggested that green issuances help to broaden the issuers' base of investors. We find evidence consistent with this, as green issues have a lower amount of ownership concentration by approximately 12–20 percent. Other market participants have also suggested that while a greenium does not currently exist, as the market matures and gains momentum, a greenium may emerge. We hypothesize and find that those states that value environmental sustainability issue more green bonds and pay these slightly higher costs for their perceived future benefits. Despite this effect, even in states with the highest level of green preferences (and therefore issuance), we still find no evidence of a current greenium.

Our analyses also provide new policy-relevant insights on the pricing of green securities of municipal markets and the benefits of third-party certification. Based on prior research that claims to document a greenium, some policy analysts are calling for more green-bond issuance to reduce the

cost of government borrowing. Our results suggest just the opposite conclusion. Not only is there no pricing differential but investment banks also appear to charge slightly more to issue green bonds on average. As there are other costs associated with green-bond issuance, our results suggest that municipalities increase their borrowing costs by issuing green bonds.

NOTE: This research brief is based on David Larcker and Edward Watts, "Where's the Greenium?," Journal of Accounting and Economics 69, no. 2-3 (April-May 2020), <https://www.sciencedirect.com/science/article/abs/pii/S0165410120300148>.

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