The European sustainable debt market – do issuers benefit from an ESG pricing effect?

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What is the greenium?

> *"The Greenium refers to pricing benefits for sustainable debt issuer, based on the logic that investors are willing to pay extra or accept lower yields in exchange for sustainable impact"*
>
> – United Nations Development Programme

- ESG bonds price at a yield advantage for the issuer
  - The amount by which the yield of the ESG instrument is lower compared with the conventional instruments, considering all other factors are equal
  - Can be measured in the primary and secondary market

- Why would investors be willing to forgo returns?
  - Intrinsic motivation: preferences for sustainable financial instruments
  - Demand and supply equation mismatch
  - Sustainability profile reduces perceived overall risks of the issuer

Motivation

Why is this relevant?

- Market developments
  - Rapid market growth of ESG-labelled debt over the last years
  - Coupled with a growing variety of ESG debt types
    - Use of proceed bonds
    - Sustainability-linked bonds
- Scrutiny despite existence of various industry standards
  - ICMA principles and CBI alignment to signal bond alignment with sustainability objectives
  - Issuer pledges to UN Global Compact Principles to signal issuer commitment
  - Third-party verification to increase credibility of the bond of the issuer's pathway
- Growing body of literature but inconclusive findings
  - Fatica et. al; Pietsch and Salakhova link greenium to credibility
  - European Central bank flags greenwashing risks and absence of climate risk pricing as reasons for non-existence of a greenium
- Why does this matter for ESMA?
  - Financial stability concerns
  - Mandate to monitor ESG market developments

Refinitiv dataset of listed bonds

- 360.000 bonds from EEA issuers as of March 2023 (includes inactive bonds)
- 52.000 bonds after filtering for available yield to maturity
- 24.000 bonds after filtering for available issuance credit rating
- 23.000 bonds after filtering for issuance date >1990 and maturity date <2200
- 17.000 bonds after filtering for issued amount = outstanding amount
- 11.000 bonds after filtering for currency = EUR
- **9.000 bonds** after excluding covered/securitised bonds and hybrid ESG bonds

Benchmarked against **MiFiD data:** covering **~10%** of **overall bond market**

	Face value (in EUR bn)	Unique bonds	Unique issuers	Average issued amount (in EUR mn)	Average issuance rating	Average remaining maturity (in years)	Average yield-to-maturity (in %)
Conventional bond	2,968	7,808	1,021	380	A	6.5	4.20
CBI aligned GB	330	506	206	652	A	6.2	4.23
Self-labelled GB	48	80	48	601	BBB	6.0	4.20
Social bond	192	120	45	1,599	A	7.8	3.84
Sustainability bond	80	93	39	865	A	8.5	3.62
SLB	64	89	54	716	BBB	6.7	4.89
Total	**3,682**	**8,696**	**1,103**	**423**	**A**	**6.5**	**4.20**

Linear models and sample matching

Baseline regression:

$$
\begin{aligned}
&\boldsymbol{Bond\ yield_i} = \beta_0 \\
&+ \beta_1 * Issuance\ rating_i \\
&+ \beta_2 * \log(Issued\ amount_i) && \text{Standard yield determinants} \\
&+ \beta_3 * \log(Remaining\ maturity_i) \\
&+ \beta_4 * \log(Relative\ bid - ask\ spread_i) && \text{Liquidity proxy} \\
&+ \beta_5 * Issuer\ sector_i && \text{To control for sector biases} \\
&\boxed{\begin{aligned}&+ \beta_6 * ESG\ bond\ type_i \\ &+ \beta_7 * ESG\ bond\ issuer_i \\ &+ \beta_8 * Issuer\ ESG\ signatory_i\end{aligned}} && \text{Main coefficients of interest} \\
&+ \beta_9 * Issuer\ domicile_i && \text{Control variables for issuance} \\
&+ \beta_{10} * Issuance\ year_i + \varepsilon_i && \text{country and issuance year}
\end{aligned}
$$

Other linear models to assess robustness:

1. Restricting sample to issuers that have both ESG and non-ESG bonds outstanding
2. Propensity score matching to pair to each ESG bond exactly one non-ESG bond that is most similar in all other bond characteristics (i.e. credit rating, issuer country, etc.)
3. Bonds and yields as of 2022 – baseline regression
4. Bonds and yields as of 2021 – baseline regression

Results

No evidence of a systematic pricing advantage

		Baseline	ESG Bond Issuers	Matched Data	As of Mar 2022	As of Mar 2021
Intercept		3.01***	2.95***	2.95***	0.21	-0.27
		(-0.11)	(-0.1)	(-0.18)	(-0.4)	(-0.24)
Controlled for issuance rating (dummy, ref. AAA)		Yes	Yes	Yes	Yes	Yes
Issued amount		-0.04***	-0.02	-0.07***	-0.02	-0.06***
(log Euro)		(-0.01)	(-0.02)	(-0.02)	(-0.01)	(-0.01)
Remaining maturity		0.01	0.08**	-0.13*	0.38***	0.25***
(log years)		(-0.03)	(-0.03)	(-0.07)	(-0.02)	(-0.02)
Relative bid-ask spread		0.15***	0.09***	0.32***	0.16***	0.14***
(log basis points)		(-0.02)	(-0.02)	(-0.06)	(-0.03)	(-0.03)
Controlled for issuer sector (dummy, ref. Sovereign)		Yes	Yes	Yes	Yes	Yes
ESG bond type (dummy, ref. Conventional)	CBI Aligned green bond	0.05	-0.01	0.07	0.07	-0.09
		(-0.06)	(-0.04)	(-0.06)	(-0.04)	(-0.06)
	Self-labelled green bond	-0.07	-0.05	-0.04	0	-0.1
		(-0.07)	(-0.06)	(-0.07)	(-0.09)	(-0.12)
	Social bond	-0.03	-0.07	0.05	0.03	-0.10*
		(-0.07)	(-0.07)	(-0.07)	(-0.06)	(-0.06)
	Sustainability bond	-0.03	-0.13*	0.05	0.10*	-0.04
		(-0.06)	(-0.07)	(-0.07)	(-0.06)	(-0.09)
	Sustainability-linked bond	0.04	0.14	0.07	0.16	-0.20***
		(-0.13)	(-0.11)	(-0.13)	(-0.14)	(-0.08)
ESG bond issuer		-0.03		-0.05	-0.15***	-0.09***
(dummy, ref. No)		(-0.04)		(-0.07)	(-0.04)	(-0.03)
Issuer ESG signatory		-0.08	0.01	0.02	-0.09	-0.06
(dummy, ref. No)		(-0.06)	(-0.08)	(-0.08)	(-0.08)	(-0.05)
Country FE		Yes	Yes	Yes	Yes	Yes
Time FE		Yes	Yes	Yes	Yes	Yes
Observations		8696	5403	1776	7437	6137
R-squared		0.60	0.54	0.63	0.66	0.45

Standard errors in brackets are clustered at an issuer level. Stars indicate significance at the 99%, 95% and 90% confidence level.

Conclusion

Key take aways

- No systematic existence of a Greenium for neither sustainable bond category
- ESG bond issuers benefitted from yield discounts in the past due to their issuer characteristics, however, this trend does not continue into the present
- Public ESG commitments do not have any effect on bond yields overall
- Financial stability concerns remain small
- Potential implications for sustainable financing needs