The Impact of ESG Preferences on Stock Borrowing Volumes and Fees∗

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Highlights

- Green investors derive non-monetary utility (the "green premium") from holding green stocks, leading them to overweight these stocks despite lower expected returns.
- Traditional investors underweight green stocks, viewing them as overpriced based solely on risk-return considerations.
- Empirical evidence suggests green and brown stocks have higher borrowing volumes than neutral ones, partially supporting the hypothesis of greater demand.
- Borrowing fees are significantly higher only for green stocks, supporting the idea that green investors demand compensation for the lost green premium when lending.
- The borrowing fee premium is economically small (~1 basis point), but the study still highlights how ESG preferences can affect stock lending dynamics and asset pricing.

The Impact of ESG Preferences on Stock Borrowing Volumes and Fees*

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Abstract

Capital market models propose a green premium in expected stock returns due to differing ESG preferences. Green investors favor green stocks, causing a scarcity raising borrowing volumes and fees. Using U.S. stock lending data, we find both green and brown stocks show higher borrowing volumes than neutral ones. However, only green stocks exhibit slightly higher fees, indicating limited supply driven by ESG preferences. Brown stocks show no such constraint. Though statistically significant, the fee premium for green stocks is economically minor – below one basis point – possibly due to weak ESG preferences or green investors neglecting the premium lost when lending.

JEL classification: G12, G13, Q54, Q56

Keywords: ESG preferences, green premium, stock borrowing fee, borrowing volume

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Abstract

Capital market models propose a green premium in expected stock returns due to differing ESG preferences. Green investors favor green stocks, causing a scarcity raising borrowing volumes and fees. Using U.S. stock lending data, we find both green and brown stocks show higher borrowing volumes than neutral ones. However, only green stocks exhibit slightly higher fees, indicating limited supply driven by ESG preferences. Brown stocks show no such constraint. Though statistically significant, the fee premium for green stocks is economically minor – below one basis point – possibly due to weak ESG preferences or green investors neglecting the premium lost when lending.

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1. Introduction

Several equilibrium models suggest that investors' environmental, social, and governance (ESG) preferences impact expected stock returns. Pastor/Stambaugh/Taylor (2021) argue that "green investors" experience non-monetary utility from holding green assets—the "green premium." They overweight green stocks vis-à-vis the risk-return-optimal portfolio, paying inflated prices for green stocks. "Traditional" investors, devoid of ESG preferences, consider only financial risk and return. They underweight the apparently overpriced green stocks. The extent of this capital market separation mainly depends on the extent of investors' ESG preferences and the green premium.

Previous empirical studies have documented green premia as high as −180 basis points (bps) p.a. in public equity (Pastor/Stambaugh/Taylor, 2022) and –470 bps p.a. in private equity (Barber/Morse/Yasuda, 2021). Such substantial figures imply a pronounced underweighting of green stocks by traditional investors, such that even negative portfolio weights may be optimal from a risk-return perspective. Therefore, if ESG preferences and green premium are as strong as suggested in previous literature, we hypothesize that borrowing volumes are higher for greener stocks.

Further, as green stocks are held in higher proportion by green investors, these are the more likely lenders in traditional investors' covered short sales. However, the usual compensation for lenders includes only monetary benefits, like dividends, but no non-monetary benefits, like the green premium. Hence, green lenders should demand a borrowing fee premium to offset the loss of the green premium when lending green stocks. Thus, we hypothesize that borrowing fees are higher for greener stocks, resulting in a borrowing fee premium as a derivative of the underlying green stock premium.

For our empirical tests, we use U.S. stock lending data from S&P Global (Markit). Further, we identify stock's greenness using the average excess weight of stocks in sustainable versus conventional mutual funds (Jacob/Rohleder/Wilkens/Zink, 2025). The results show that both green stocks and brown stocks have higher active loan volumes compared to neutral stocks, partly supporting our first hypothesis. Fully confirming our second hypothesis, this higher lending volume is accompanied by statistically significantly higher borrowing fees only for green stocks. However, the borrowing fee premium between green and brown stocks is economically of minor relevance with values of one basis point at most. As we only analyze a derivative of the green stock premium, this finding is no indication of the latter being of minor economic relevance.

We interpret our findings such that the higher borrowing demand for green stocks faces limited supply because the stocks are overproportionally held by green investors, who only reluctantly lend the stocks due to their ESG preference, thereby increasing borrowing fees. Conversely, the higher borrowing demand for brown stocks faces no shortage of supply because traditional investors have no preferences regarding these stocks. Thus, our investigation contributes to a better understanding of how ESG preferences impact security prices. Further, we contribute to a better understanding of the determinants of stock borrowing volumes and fees.

2. Literature review and contribution

Equilibrium models of investor behavior under ESG aspects (e.g., Heinkel/Kraus/Zechner, 2001, Pastor/Stambaugh/Taylor, 2021, Zerbib, 2022, Berk/van Binsbergen, 2024) suggest a capital market separation based on differential ESG preferences of green and traditional

investors.[1] Leister/Rohleder/Wilkens (2025) provide the first large-scale empirical investigation of this capital market separation, showing that green stocks concentrate in the portfolios of green investors while brown stocks accumulate in the portfolios of traditional investors. Empirical tests of the effects of this preference-based market separation on security prices include attempts to quantify the "green premium" in bond yields, reporting figures from –2 to –6 bps p.a.,[2] and in expected equity returns, reporting figures between –1 and –180 bps p.a. for public equity,[3] and up to –470 bps p.a. for private equity (Barber/Morse/Yasuda, 2021). We contribute to this literature by providing the first theoretical reasoning and empirical testing of the effects of investors' ESG preferences on a specific type of security prices: stock borrowing fees.[4]

Thereby, we also contribute to the literature on the determinants of stock borrowing volumes and fees in general. This literature posits that stock borrowing fees are predominantly influenced by the short selling demand in the respective stocks but also by, e.g., liquidity, market capitalization, financial returns, and risk exposures (e.g., D'Avolio, 2002; Cereda/Chague/De-Lasso/Genaro/Giovanetti, 2022). To the best of our knowledge, our paper is the first to connect stock borrowing with the field of sustainable finance.

3. Hypothesis development

According to the equilibrium model by Pastor/Stambaugh/Taylor (2021), stock prices follow a two-factor CAPM similar to Equation (1), where $\mathrm{E}(er_i)$ is the expected return of stock *i* in

[1] See also, e.g., Fama/French (2007), Pedersen/Fitzgibbons/Pomorski (2021), Avramov/Cheng/Lioui/Tarelli (2021), Dreyer/Sharma/Smith (2023), Eskildsen/Ibert/Jensen/Pedersen (2024).
[2] E.g., Baker/Bergstresser/Serafeim/Wurgler (2018), Zerbib (2019), Pastor/Stambaugh/Taylor (2022), Nanayakkara/Colombage (2019), Bachelet/Becchetti/Manfredonia (2019), Larcker/Watts (2020), Dorfleitner/Utz/Zhang (2021).
[3] E.g., Berk/van Binsbergen (2024), Pastor/Stambaugh/Taylor (2022), Garvey/Iyer/Nash (2018), In/Park/Monk (2019), Bolton/Kaczperczyk (2021, 2023), Görgen/Jacob/Nerlinger/Riordan/Rohleder/Wilkens (2020), Hsu/Li/Tsou (2020), Aswani/Raghunandan/Rajgopal (2021), El Ghoul/Guedhami/Kwok/Mishra (2011), Chava (2014), Eskildsen/Ibert/Jensen/Pedersen (2024), Jacob/Rohleder/Wilkens/Zink (2025).
[4] Analogous considerations are possible for other ways to short securities, like futures and other derivatives.

excess of the risk-free rate, $\beta_{i,M}$ is the market beta of stock i, and $\mathrm{E}(er_M)$ is the expected market risk premium. $\beta_{i,\gamma}$ denotes a stock's ESG beta and γ_M is the market green premium, which is negative and represents average ESG preferences—not ESG risk.[5,6] It follows that green expected returns are lower than brown ones *c.p.* while green stock prices are higher.

$$\mathrm{E}(er_i) = \beta_{i,M}\mathrm{E}(er_M) + \beta_{i,\gamma}\gamma_M \quad (1)$$

Green investors maximize their portfolio utility by overweighting green stocks and underweighting brown stocks vis-à-vis the standard CAPM market portfolio. Traditional investors maximize their utility by underweighting the seemingly overpriced green stocks and overweighting brown stocks. The extent of the excess weights mainly depends on the extent of ESG preferences. If the green premium is sufficiently large, the underweighting of green stocks by traditional investors could even lead to negative portfolio weights. Therefore, we posit:

Research Hypothesis 1: Borrowing volumes are higher for greener stocks.

Further, as green stocks are held in higher proportion by green investors, these are the more likely lenders of green stocks in traditional investors' covered short sales. However, lender compensation only covers financial benefits, like dividends, but no non-monetary benefits, like the green premium. Therefore, rational green investors should demand a borrowing fee premium to offset the loss of the green premium from lending green stocks. Therefore, we posit:

Research Hypothesis 2: Borrowing fees are higher for greener stocks.

[5] Pastor/Stambaugh/Taylor (2021) integrate an additional carbon risk factor carrying a classic risk premium in a model extension.

[6] In their derivation, also the ESG taste factor of Pastor/Stambaugh/Taylor (2021) considers agents' relative risk aversion. However, following Goldstein/Kopytov/Shen/Xiang (2022) such risk aversion may be related to agents' uncertainty about the quality of the ESG signal (e.g., Berg/Kölbel/Rigobon, 2022) rather than to an ESG risk premium.

4. Data sources and preparation

To test these hypotheses, we employ the S&P Global (Markit) Securities Finance dataset (MFS), which contains daily information regarding security lending in global equity, such as "active utilization" and "indicative fee."[7] Further stock characteristics from Refinitiv include market value, turnover, bid/ask-spreads, returns and other stock fundamentals. To select our sample, we concentrate on U.S. stocks, remove the 10% highest indicative fees, the 10% highest active utilization (many reported as 100% or higher), negative bid/ask-spreads, the top 5% of relative bid/ask-spreads, stocks with a market value below $300 million (micro caps) and with a price below $1 (penny stocks). Additionally, we exclude new and delisted stocks since they may be subject to specific short selling.

To proxy stocks' greenness, we follow Jacob/Rohleder/Wilkens/Zink (2025) and use stocks' "active ESG weight" (AESG).[8] This variable measures the average excess weight of stocks in sustainable mutual funds compared to conventional funds. Sustainable funds are identified using fund prospectus information, which Birk/Jacob/Wilkens (2024) show to be the most relevant information for investor flows. AESG directly reflects observable ESG-driven investor behavior and is independent of external ESG ratings and scores, which are criticized, e.g., due to the arbitrariness of scope, measurement, and weighting and thus differ greatly between rating providers (e.g., Berg/Kölbel/Rigobon, 2022). As AESG is available with monthly frequency, we aggregate the daily stock lending data accordingly. Matching the MFS, Refinitiv, and AESG datasets leads to our final sample of 2,691 U.S. stocks in the period from 2018 to 2022.

[7] Appendix A reports detailed variable descriptions.
[8] We thank the authors for providing the data. For a detailed description of their methodology, please refer to their paper. The availability of this data limits our sample period to 2018-2022.

Table 1 presents summary statistics.[9] The mean (median) indicative fee is 30 (29) bps with a standard deviation of 5 bps. Active utilization is 8% on average with a standard deviation of 9%. Short loan quantity is 3.3 million shares on average. Firms' average market capitalization is $12 billion, average monthly total turnover amounts to 51%. The average return is 1.3% per month and the average dividend yield is 1.9%. The average AESG is 0.2% percent, with a median of −0.9% and a standard deviation of 5.7%, whereby numerous stocks have a considerable AESG, as can be seen from the 5th and 95th percentiles.

[Insert Table 1 here.]

5. Empirical results

To test *Research Hypothesis 1,* we conduct panel regressions of monthly active utilization on AESG, controlling for borrowing fees, further stock characteristics as detailed in Table 1, firm and time-fixed effects, and firm-clustered standard errors. Table 2 presents the results.[10] Columns 1 (standardized AESG) and 2 (AESG median dummy) show insignificant coefficients, inconsistent with the hypothesis. An Oster (2019) test for omitted variable bias shows a delta of 1.57, which is clearly above the critical value of 1, suggesting no relevant bias.[11] However, looking at columns 3 to 6, where we consider non-linearity by using AESG quintile (Q) and decile (D) dummies, respectively, reveals a U-shape in the coefficients. Especially the extreme percentiles of very brown (Q1/D1) and very green stocks (Q5/D10) show significantly positive coefficients. For instance, column 5 shows that active utilization is 0.374 percentage points (pps) higher for green stocks (Q5) compared to neutral stocks

[9] Internet appendix (A) considers normality of our main dependent variables and related robustness checks.
[10] The internet appendix reports panel specification tests (E), tests for normality in error terms (B), tests for autorcorrelation in error terms (C), variance inflation factors (D), as well as related robustness checks.
[11] See internet appendix (J) for details.

(D3), while brown stocks (Q1) exhibit a 0.364 pps higher utilization.[12] A visualization of this pattern is provided in Figure 1.

[Insert Table 2 here.]

[Insert Figure 1 here.]

To test *Research Hypothesis 2*, we run similar panel regressions with indicative borrowing fee in bps as the dependent variable, controlling for active utilization. Table 3 presents the results. An Oster (2019) test for omitted variable bias yields a delta of 0.93, which is only slightly below the critical value of 1 and thus suggests relative robustness against bias.[13] Consistent with our hypothesis the coefficients in columns 1 and 2 are significantly positive. Further, looking at columns 3 to 6 reveales no relevant non-linearity with increasing coefficients from brown to green. In terms of magnitude, for instance column 5 shows a borrowing fee premium of 0.294 bps (Q5–Q1). This pattern is also visualized in Figure 1.

[Insert Table 3 here.]

6. Robustness tests

As the Oster (2016) test result regarding the borrowing fee regressions is slightly below the critical value of 1, we provide additional evidence against potential omitted variable bias in our results. Therefore, we ran a number of robustness tests including even stricter Firm#Year fixed effects to control for non-constant cross-sectional heterogeneity between firms, placebo tests by randomizing AESG and adding irrelevant controls, as well as 2SLS instrument

[12] The internet appendix reports robustness checks using lagged independent variables (F), and regressions with institutional ownerwhip as additional control variables (I). Moreover, Granger causality tests (H) indicate that borrowing fees are caused by AESG but not vice-versa. Active utilization and AESG granger cause each other. Both may be expected as neutral investors should be inclined to short green stocks, which are identified by their active ESG weight. In the opposite direction, green stocks shorted by neutral investors may be bought predominantly by green investors, including funds, thereby increasing their active ESG weight.

[13] See internet appendix (J) for details.

variable regressions, instrumenting AESG with external ESG ratings and CO_2 emissions, to isolate the effects of sustainability driven asset allocations by investors.[14] The results are presented in Table 4 and clearly indicate that our main results are robust. Specifically, all tests show coefficient estimates for AESG which are positive, statistically significant, and quantitatively in the same range as our main result. The only exception is Placebo II, where we randomized AESG and thus expected an insignificant coefficient close to zero.

[Insert Table 4 here.]

7. Additional analyses

7.1. COVID

Our sample period from 2018 to 2022 experienced the onset of the COVID-19 pandemic, potentially changing investors' preferences regarding ESG. Taking a look at the Google search volume index for "ESG" reveals a pronounced upward trend such that attention for ESG has been significantly higher during the pandamic than before.[15] Therefore, we split our sample into pre and post-COVID subperiods and separately re-estimated the models presented in tables 2 and 3. The shows a clear shift in securities lending behavior around the COVID-19 pandemic. Before March 2020, sustainable stocks were not borrowed or lent significantly more than conventional or unsustainable ones. Borrowing fees for ESG stocks were only marginally higher in a few specifications, but no consistent pattern emerged. After the onset of the pandemic, however, borrowing behavior and fee structures diverged. Unsustainable stocks were borrowed more frequently, indicating a rise in shorting activity. Sustainable stocks, on the other hand, were only slightly more borrowed, yet their borrowing

[14] For details, see internet appendix (G) instrument variable regressions, (O) Firm#Year FEs, and (P) placebo test.
[15] For brevity, the Google search volume plot (M), respective regressions (M), and the pre- vs. post-COVID regression tables (K) are reported in the internet appendix.

fees increased noticeably. At the same time, fees for unsustainable stocks declined despite higher borrowing volumes.

This pattern can be explained by shifts in both supply and demand. On the supply side, the post-COVID rise of ESG investing likely led to a higher concentration of sustainable stocks in the hands of long-term, ESG-focused investors. Probably, these investors are more likely to limit securities lending for policy or reputational reasons, which reduces supply and drives up fees. On the demand side, short sellers may have increasingly targeted unsustainable firms after COVID, reflecting heightened market awareness of ESG-related risks or regulatory developments. Although demand for borrowing these stocks rose, their broader availability kept fees low. Overall, these findings suggest a post-pandemic shift in how markets perceive and price ESG characteristics, with both investor behavior and market sentiment contributing to the observed changes.

7.2. Sustainablity Sentiment

It is reasonable to assume that the patterns we observe may be specifically strong during times with high sentiment towards sustainability. A first indication may be drawn from the pre- vs. post-COVID split, which coincides with low vs. high awareness of ESG. To look more closely into the matter, we split our sample at the median of the aggregate climate concerns index by Ardia et al. (2023)[16] into high and low climate concerns.[17] Specifically, we interacted this dummy with our core explanatory variable to explore potential moderating effects. The results remain robust. Interestingly, we observe that borrowing fees for highly unsustainable stocks tend to increase during periods of elevated climate concern – potentially

[16] https://sentometrics-research.com. We thank the authors for providing the data.
[17] For brevity, the results are reported in the internet appendix (N).

due to increased short-selling demand. In contrast, utilization rates remain unaffected by the interaction.

7.3. Alternative ESG variables

In our main analysis, we define green stocks as those excessively held by sustainable funds as identified by Morningstar. To check for the robustness of our main results, we alternatively define green stocks by their carbon intensity (scope 1+2 CO_2e divided by net sales), MSCI E Score, MSCI ESG industry-adjusted score, and MSCI ESG weighted average score. The results confirm our main findings qualitatively, but the effects are less statistically significant.[18] However, this could be expected as it has been shown that ESG data is inconsistent across rating providers (Berg/Kölbel/Rigobon, 2022) and thus may proxy only rudimentarily for investors' investment behavior while AESG directly utilizes investors' observable investment decisions.

8. Discussion

Looking at the patterns between AESG, borrowing volumens, and borrowing fees in Figure 1 reveals that only the higher borrowing volume of green stocks is accompanied by higher borrowing fees. Consistent with our hypothesis development, we interpret this finding such that there is limited supply of green stocks for borrowing because they are held in higher proportion by green investors (Leister/Rohleder/Wilkens, 2025). These are reluctant to lend green stocks unless borrowers pay a premium. Conversely, there seems to be no shortage of brown stocks for borrowing as borrowing fees remain low even if borrowing volumes increase. Traditional investors, who excessively hold brown stocks, which are boycotted and divested by green investors (e.g., Rohleder/Wilkens/Zink, 2022), may even be keen on lending them, accepting lower borrowing fees.

[18] For brevity, the results are reported in the internet appendix (L).

Overall however, while the effects are statistically significant, their economic relevance is debatable with borrowing volumes 0.37 pps higher and borrowing fees one bps higher at most, respectively, for greener stocks. One possible reason is that the extent of ESG preferences is insufficient for larger effects. Another reason is that green investors may ignore the loss of the green premium when lending green stocks—possibly because they are unaware of their fund managers lending the stocks in the first place. Finally, green investors may lend green stocks underproportionally despite overproportionally holding them because of their preferences.

Such behavior may be grounded in signaling theory, as increased non-lending could be a signal to the market: “We support this stock - we don't want it to be shorted.” Moreover, from an agency perspective, there exists a conflict of interest: many ESG investors are asset managers who only manage other people's money. While clients may want to invest in an ESG-compliant way, managers could generate additional returns by lending to generate more flows through both ESG attributes and superior financial performance. Thus, our results could indicate that ESG investors do not act rigidly in practice, but make strategic trade-offs depending on the situation, which could explain the economically minor effects.

9. Conclusion

This paper offers the first theoretical reasoning and empirical testing of the impact of ESG preferences on stock borrowing volumes and fees. Based on recent equilibrium models of investor behavior under ESG aspects and empirical findings regarding green premium and capital market separation, we hypothesize that ESG preferences should be reflected in higher borrowing volumes and fees for greener stocks. The empirical tests partly confirm the former and fully confirm the latter, however both effects are economically small.

Nevertheless, our findings have implications for green investors, who should only lend green stocks if borrowing fees adequately reflect the green premium. This advice also extends to other derivatives on green stocks, like futures, forwards, swaps, and options whose prices should adequately reflect the lack of non-monetary utility compared to the actual stock.

Appendix

Appendix A – Variable descriptions

Variable	Database variable codes / abbreviation	Description
Panel A. S&P Global Markit Securities Finance		
Indicative Fee	IndicativeFee	The expected borrow cost, in fee terms, for a hedge fund on a given day. This is a derived rate using Markit Securities Finance's proprietary analytics and data set. The calculation uses both borrow costs between Agent Lenders and Prime Brokers as well as rates from hedge funds to produce an indication of the current market rate. It should not be assumed that the indicative rate is the actual rate a Prime Broker will quote or charge but rather an indication of the standard market cost.
Short Loan Quantity	ShortLoanQuantity	Number of securities on loan with dividend trading and financing trades removed.
Active Utilisation	ActiveUtilisation	Percentage of actively lendable securities in lending programmes which are currently out on loan, calculated as the value of assets on loan from lenders divided by the active lendable value.
Panel B. Active ESG weight		
Active ESG weight	AESG	Active ESG weight is adopted from Jacob/Rohleder/Wilkens/Zink (2025) and refers to the systematic overweighting or underweighting of stocks by sustainable investment funds relative to conventional ones. It is quantified as the difference in stock weightings between sustainable and conventional funds – identified using self declared ESG information from fund prospectuses –, multiplied by the assets under management of sustainable funds, scaled by the stock's free-float market capitalization. This approach should reflect actual ESG-oriented capital allocation.

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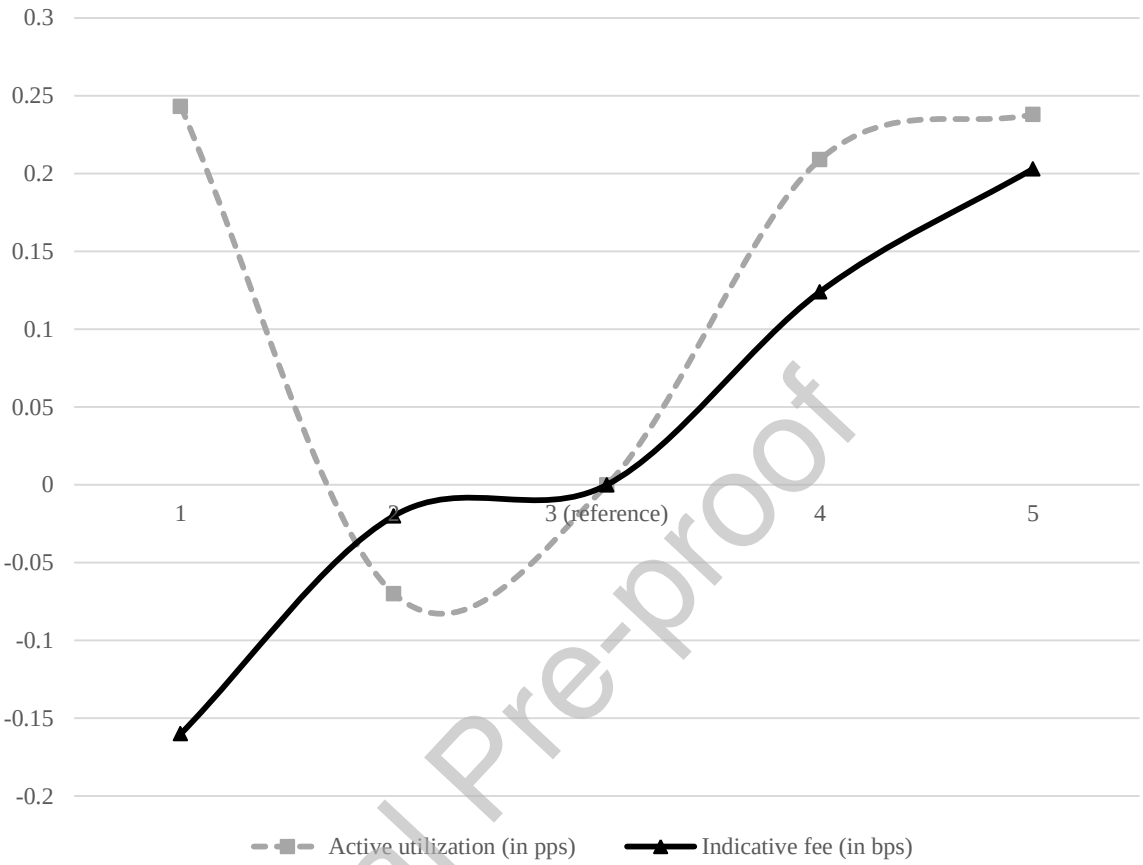
Figures and Tables

Figure 1
Visualization of the effect of active ESG on active utilization and borrowing fees



This figure demonstrates the relation of stocks' active ESG weight (AESG), active loan utilization, and indicative borrowing fees in the U.S. stock market from 2018 to 2022. The figure is based on the respective coeficients from column 3 in Tables 2 and 3, using AESG quintiles on the horizontal axis. On the vertical axis, active utilization is displayed in percentage points (pps) and indicative fee is displayed in basis points (bps).

Table 1
Summary statistics of U.S. borrowing fee data

			Percentlies		
	Mean	SD	5th	50th	95th
S&P Global (Markit) Securities Finance data					
Indicative fee	30.464	5.201	26.451	29.450	37.085
Utilization	8.096	9.373	0.263	4.206	29.476
Short loan quantity	3,348,772	7,222,438	56,445	1,290,954	12,800,000
Refinitiv Stock Characteristics					
AESG	0.227	5.745	-5.460	-0.851	10.380
Market value (mil)	12,162	52,927	249	2,250	45,596
Total assets (mil)	24,934	135,151	161	2,560	75,347
Net Sales (mil)	6,692	22,328	27	1,200	27,186
Leverage	0.837	27.115	0.000	0.582	4.361
Dividend Yield	1.891	2.492	0.000	1.220	6.270
Capex	0.040	0.155	0.000	0.005	0.164
Turnover	50.535	117.056	0.585	14.105	302.299
Return	1.271	12.861	-19.068	0.955	23.217

This table shows summary statistics for out sample of stock lending, active ESG weight, and stock fundamentals data in the U.S. stock market from 2018 to 2022. The indicative fee is denoted in basis points (bps), active utilization is denoted in percentage points (pps), and short loan quantity is denoted in thousands. AESG estimates how much of a stocks freefloat market capitalization is excessively held by ESG funds and is denoted in percent. Market value is the average market capitalization of the stocks in million USD. Total assets are the average total assets of the stocks in million USD. Net sales are the average net sales of the stocks in million USD. Leverage is the ratio of debt to equity and dividend yield is the dividend per share expressed as a percentage of the share price. Capex is the capital expenditure in relation to total assets. Liquidity is the number of monthly shares traded in relation to the freefloat shares. Return is the monthly excess return.

Table 2
Panel regressions of active utilization on active ESG weight

Dependent: Active utilization			Grouping Overall		Grouping Industry Adjusted	
			Quintiles	Deciles	Quintiles	Deciles
AESG standardized	0.182					
	(0.177)					
AESG dummy		0.004				
		(0.110)				
AESG Q1 / D1			0.243*	0.463**	0.364**	0.631***
			(0.145)	(0.197)	(0.150)	(0.198)
AESG Q2 / D2			-0.070	0.142	0.021	0.298**
			(0.101)	(0.144)	(0.104)	(0.146)
AESG Q3 / D3			*reference*	-0.024	*reference*	0.138
				(0.128)		(0.128)
AESG Q4 / D4			0.209*	-0.059	0.169	0.041
			(0.117)	(0.099)	(0.115)	(0.098)
AESG Q5 / D5			0.238	*reference*	0.374**	*reference*
			(0.176)		(0.163)	
AESG D6				0.061		0.139
				(0.095)		(0.095)
AESG D7				0.218		0.255*
				(0.138)		(0.136)
AESG D8				0.268		0.222
				(0.178)		(0.171)
AESG D9				0.199		0.321*
				(0.202)		(0.184)
AESG D10				0.417*		0.666***
				(0.240)		(0.238)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Underlying-clustered SEs	Yes	Yes	Yes	Yes	Yes	Yes
R^2	81.87	81.86	81.88	81.89	81.89	81.90
Within-R^2	35.11	35.10	35.15	35.17	35.17	35.21
Observations	75,629	75,656	75,629	75,629	75,629	75,629

This table shows panel regressions of monthly active utilization in the U.S. stock market from 2018 to 2022 on the firms' active ESG weight (AESG), firm control variables, firm and time fixed effects. As control variables, we include indicative borrowing fees and short loan quantity, market value, total assets, net sales, leverage, dividend yield, turnover, CAPEX and prior month return. AESG estimates how much of a stocks freefloat market capitalization is excessively held by ESG funds. The variable is standardized to mean zero and a standard deviation of one. AESG dummy represents above median weightings of AESG. Stocks are grouped overall and by industry in quintiles (Q1-Q5) and deciles (D1-D10). The regressions consider firm-clustered standard errors to control for heteroskedasticity and autocorrelation. Standard errors are in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% level, respectively. (Within) R^2 is denoted in %.

Table 3
Panel regressions of borrowing fees on active ESG weight – Firm fixed effects

Dependent: Indicative fee			Grouping Overall		Grouping Industry Adjusted	
			Quintiles	Deciles	Quintiles	Deciles
AESG standardized	0.141*					
	(0.083)					
AESG dummy		0.139***				
		(0.047)				
AESG Q1 / D1			-0.160**	-0.231**	-0.159**	-0.165*
			(0.068)	(0.094)	(0.068)	(0.094)
AESG Q2 / D2			-0.020	-0.095	-0.026	-0.057
			(0.048)	(0.068)	(0.047)	(0.068)
AESG Q3 / D3			*reference*	0.009	*reference*	0.044
				(0.061)		(0.064)
AESG Q4 / D4			0.124**	-0.032	0.076	0.016
			(0.055)	(0.054)	(0.055)	(0.049)
AESG Q5 / D5			0.203***	*reference*	0.135*	*reference*
			(0.078)		(0.077)	
AESG D6				0.016		0.120**
				(0.053)		(0.059)
AESG D7				0.129*		0.120*
				(0.069)		(0.069)
AESG D8				0.152*		0.180**
				(0.078)		(0.082)
AESG D9				0.316***		0.271***
				(0.096)		(0.095)
AESG D10				0.039		0.095
				(0.114)		(0.119)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Underlying-clustered SEs	Yes	Yes	Yes	Yes	Yes	Yes
R^2	43.85	43.84	43.88	43.90	43.87	43.88
Within-R^2	7.75	7.78	7.80	7.84	7.78	7.80
Observations	75,629	75,656	75,629	75,629	75,629	75,629

This table shows panel regressions of monthly indicative fee in the U.S. stock market from 2018 to 2022 on the firms' active ESG weight (AESG), firm control variables, firm and time fixed effects. As control variables, we include active utilization and short loan quantity, market value, total assets, net sales, leverage, dividend yield, turnover, CAPEX and prior month return. AESG estimates how much of a stocks freefloat market capitalization is excessively held by ESG funds. The variable is standardized to mean zero and a standard deviation of one. AESG dummy represents above median weightings for the AESG. Stocks are grouped overall and by industry in quintiles (Q1-Q5) and deciles (D1-D10). The dependent variable is in basis points (bps). The regressions consider firm-clustered standard errors to control for heteroskedasticity and autocorrelation. Standard errors are in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% level, respectively. (Within) R^2 is denoted in %.

Table 4

Robustness Tests

	Firm# Year FE	Placebo I	Placebo II	Instrument I	Instrument II	Instrument III
AESG standardized	0.253***	0.141*	0.024	0.123*	0.102*	0.218*
	(0.094)	(0.083)	(0.022)	(0.069)	(0.059)	(0.119)
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Irrelevant controls		Yes				
Randomized AESG			Yes			
Firm fixed effects		Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm#Year fixed effects	Yes					
Underlying-clustered Ses	Yes	Yes	Yes	Yes	Yes	Yes
R^2	60.31	43.85	43.83	43.86	43.86	43.86
Within-R^2	4.06	7.75	7.76	7.77	7.77	7.77
Observations	75,521	75,629	75,656	75,649	75,649	75,649
First-stage R^2				12.53	13.82	13.82
First-stage observations				79,908	75,647	75,647

This table shows panel regressions of monthly indicative fee in the U.S. stock market from 2018 to 2022 on the firms' active ESG weight (AESG), firm control variables. As control variables, we include active utilization and short loan quantity, market value, total assets, net sales, leverage, dividend yield, turnover, CAPEX and prior month return. AESG estimates how much of a stocks freefloat market capitalization is excessively held by ESG funds. The variable is standardized to mean zero and a standard deviation of one. The dependent variable is in basis points (bps). The regressions consider firm-clustered standard errors to control for heteroskedasticity and autocorrelation. Standard errors are in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% level, respectively. (Within) R^2 is denoted in %. In column 1, firm and year-fixed effects are interacted to control for firm-fixed effects within specific years. In column 2, three irrelevant randomly drawn control variables are included as placebo test. In column 3, AESG is randomized as placebo test. In column 4, AESG is instrumented by the predicted value of AESG using ESG ratings and CO_2 emissions, controlling for industry fixed effects (first stage regression). In column 5, AESG is instrumented using the predicted value of AESG using ESG ratings and CO_2 emissions, controlling for financial fundamentals and industry-fixed effects (first stage regression). In column 6, AESG is instrumented using the predicted value of AESG using ESG ratings and CO_2 emissions, and financial fundamentals, controlling for industry-fixed effects (first stage regression).

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The Impact of ESG Preferences Statement on Editability

All files have been uploaded in MS Word format.