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ESG Sentiment and Stock Returns: Empirical Evidence from the Russian Market

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Motivation

- ESG information matters not only as disclosure, but as a signal about firm quality, risk management and long-term resilience.
- Investors may react to ESG-related news, events and disclosures through stock price changes.
- The key question is whether ESG sentiment extracted from the information environment is systematically associated with daily stock returns.
- Russia provides an important empirical setting where ESG communication, financial markets and geopolitical uncertainty interact.



Research Question

Does firm-level ESG sentiment affect daily stock returns?

Main idea

ESG sentiment can capture how investors perceive corporate sustainability signals in real time.

- Positive ESG sentiment may improve expectations about cash flows and risk.
- Negative or intensive ESG news coverage may increase uncertainty.
- Market-wide sentiment may moderate firm-level reactions.



Related Literature

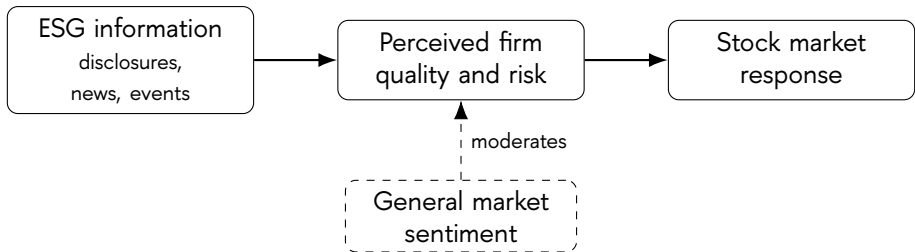
Study	Approach	Main finding
Krüger (2015)	CSR events	Negative CSR news → strong negative reaction; positive news → weaker effect.
Capelle-Blancard & Petit (2019)	33,000 ESG news	Negative ESG news → lower firm value; positive news → little market reward.
Serafeim & Yoon (2023)	ESG news + ratings	Market reaction depends on ESG expectations and rating disagreement.
Dorfleitner & Zhang (2024)	BERT + ESG news	Positive sentiment → positive returns; negative sentiment → stronger negative returns.
Vu et al. (2024)	News portfolios	ESG-news effects are mainly short-term and differ across ESG dimensions.

Research gap

Prior evidence focuses mainly on **developed markets** and **event-study settings**. We examine **daily ESG sentiment in Russia**, using **RuBERT-based measures** from financial media and Telegram, and test both the **direct return effect** and **market-sentiment moderation**.



Conceptual Framework



Mechanism

ESG information affects market valuation through investors' assessment of firm resilience, reputation, future cash flows, and risk.



Hypotheses

H1

More favorable firm-level ESG sentiment is associated with higher daily stock returns.

H2

General market sentiment moderates the relationship between firm-level ESG sentiment and daily stock returns.



Data

- Daily panel data for 46 companies included in the Moscow Exchange Index.
- Sample period: January 2023 – January 2026.
- ESG and market sentiment are estimated using RuBERT-based machine learning models.
- News sources include major financial Telegram channels and traditional business media.



Variables

Variable group	Measurement
Dependent variable	Winsorized daily log stock return
Main ESG variables	Current and lagged firm-level ESG sentiment
Information intensity	Current and lagged number of ESG news items about the firm
Market sentiment	Current and lagged general market sentiment
Controls	MOEX index return, RUONIA, stock volatility, log trading volume



$$Return_{it} = \alpha + \beta ESGSent_{it} + \gamma ESGSent_{i,t-1} + \delta News_{it} + \theta Controls_{it} + \mu_i + \varepsilon_{it}$$

- Baseline models: pooled OLS, random effects and fixed effects.
- Model selection: Breusch–Pagan LM test, F-test for fixed effects, Hausman test.
- Main specification: firm fixed effects with robust standard errors clustered at the firm level.
- ESG variables are also tested in lagged form to reduce simultaneity concerns.



Model Selection

Test	Null hypothesis	Statistic	p-value
Breusch–Pagan LM	No individual error component	425.96	0.0000
F-test for fixed effects	All firm effects are zero	15.86	0.0000
Hausman test	FE and RE differences are not systematic	386.38	0.0000

Conclusion

The tests support the use of a fixed effects specification.



Main Results: Stock Returns

Variable	FE coefficient	Significance
Current firm ESG sentiment	0.00234	***
Lagged firm ESG sentiment	0.00080	n.s.
Number of firm ESG news	-0.00079	*
Lagged number of firm ESG news	-0.00134	***
MOEX index return	0.96508	***
Log trading volume	0.00249	***
Observations	25,384	
Overall R^2	0.1946	

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$.



Interpretation of H1

- The coefficient on current ESG sentiment is positive and statistically significant.
- This supports the idea that investors incorporate ESG-related information into daily stock valuation.
- The lagged ESG sentiment effect is not statistically significant.
- This suggests that the market response is short-term and concentrated on the current trading day.

H1

The results provide partial support for H1.



Why News Intensity Matters

- The number of ESG news items is negatively associated with stock returns.
- This means that more ESG coverage is not automatically good news.
- Intensive ESG attention may reflect controversies, regulatory pressure, environmental incidents or reputational risks.
- Therefore, sentiment and information intensity should be analyzed separately.

Key takeaway

Tone matters, but the volume of ESG news may capture investor concern and uncertainty.



Moderation by Market Sentiment

$$Return_{it} = \alpha + \beta ESGSent_{it} + \lambda MarketSent_t + \rho(ESGSent_{it} \times MarketSent_t) + \theta Controls_{it} + \mu_i + \varepsilon_{it}$$

Interaction term	Coefficient	Significance
ESG sentiment $\times$ market sentiment	0.01338	n.s.
Lagged ESG sentiment $\times$ lagged market sentiment	0.00218	n.s.

H2

The moderation effect is not statistically confirmed at this stage.



Contribution

- provides evidence from the Russian stock market, while most prior ESG-news studies focus on developed markets.
- measures firm-level ESG sentiment on a daily basis rather than considering only isolated ESG events.
- combines traditional business media with financial Telegram channels and applies a RuBERT-based sentiment measure.
- distinguishes the *tone* of ESG information from the *intensity* of ESG news coverage.
- tests whether the effect of firm-level ESG sentiment depends on broader market sentiment.

The study moves from “Does ESG matter?” to **how ESG information is perceived and incorporated into stock prices in real time.**



Limitations and Next Steps

- Separate positive and negative ESG signals.
- Distinguish between ESG disclosures, media news and corporate events.
- Extend the analysis to corporate bond spreads.
- Test asymmetric reactions under high and low market sentiment.
- Add robustness checks with alternative sentiment models and event-study specifications.



Thank you for your attention!