

The Relationship Between Corporate ESG Ratings and Initial Public Offering Pricing Efficiency

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Abstract:

This paper takes the United States market as its research object to explore the relationship between the Environmental, Social, and Governance (ESG) ratings of enterprises and the pricing efficiency of Initial Public Offerings (IPOs). Traditional IPO literature mostly explains the phenomenon of underpricing on the first day from the aspects of information asymmetry, underwriter reputation and market sentiment. Yet, the role of ESG, as an emerging non-financial factor, remains underexplored. This paper analyzes the potential impact of ESG on pricing efficiency from three perspectives: information asymmetry, investor demand, and institutional certification. It also examines the moderating effects of external guarantees and rating differences. The research shows that ESG disclosure can enhance transparency, boost investor confidence, and reduce underpricing under certain conditions. However, greenwashing and rating inconsistency may weaken its signaling function, leading to resource misallocation. This paper expands the theoretical framework of IPO pricing efficiency and provides empirical references and practical inspirations for regulatory authorities, issuers and investors when utilizing ESG information.

Keywords: ESG; initial public offering; greenwashing.

1. Introduction

In recent years, global sustainable investment has witnessed explosive growth, and the ESG concept has gradually become one of the core elements of the capital market. According to the Global Sustainable Investment Alliance, by the end of 2021, the global scale of sustainable investment assets had exceeded 35 trillion US dollars, accounting for more than one-third of the total global asset management, with an

increase of over 50% compared to 2016. This trend is not only reflected in the expansion of asset scale but also in the transformation of institutional behavior. More and more institutional investors are incorporating ESG indicators into their investment decision-making processes, especially in Europe, North America and the Asia-Pacific region. The number of asset management institutions adopting Environmental, Social, and Governance (ESG) strategies is constantly rising, reflecting the wide acceptance and

institutionalized development of the sustainable investment concept on a global scale.

Although the ESG concept has been widely spread, there is still considerable controversy over its actual effect in the capital market. The global investor research report released by EY indicates that although 85% of investors believe that “greenwashing” is becoming increasingly serious, 93% of investors still have confidence in enterprises achieving their sustainable development goals. 66% of the surveyed investors admitted that the weight of ESG factors might be weakened in actual investment decisions. Such data reveal that on the one hand, investors expect it to provide valuable non-financial signals, while on the other hand, they question the quality and credibility of its disclosure. This constitutes the key proposition in current ESG research and regulation.

In the U.S. IPO market, there has been a long-standing phenomenon of Initial Public Offering (IPO) underpricing, where the offering price is systematically lower than the first-day closing price, indicating inefficiency in IPO pricing. Traditional academic research has mostly analyzed this from the perspectives of information asymmetry, underwriter reputation, institutional investor behavior, or market volatility sentiment. However, in contrast, the research on the impact of ESG as an emerging non-financial factor in the IPO process is still in its infancy, with significant differences in relevant empirical results and no unified theoretical explanations yet.

From a theoretical perspective, ESG ratings may serve as positive signals for a company’s non-financial performance, which helps enhance market information transparency, reduce information asymmetry during the IPO stage, and thereby improve pricing efficiency. However, at the same time, issues such as differences in the methods of rating agencies, uneven voluntariness, and quality of disclosure may also lead to ESG ratings interfering with market judgments, weakening their positive effects, or even having adverse effects. Against this backdrop, whether third-party assurance is introduced and the degree of disagreement among different rating agencies may serve as key moderating variables that influence the role of ESG in IPO pricing.

Building on the above background, this paper systematically examines the relationship between corporate ESG ratings and IPO pricing efficiency, and further explores the moderating effects of external assurance and rating disagreement. The study contributes to enriching the theoretical framework of IPO pricing efficiency and fills an empirical gap in research on ESG in the primary market.

2. Theoretical Foundation

2.1 The Connotation and Development of ESG

Ratings

2.1.1 The evolution of the ESG concept: from CSR to ESG investing

The proposal of the ESG concept can be traced back to the theory and practice of Corporate Social Responsibility (CSR). Since the 1970s, CSR has emphasized that while enterprises create economic value, they also need to undertake environmental protection, employee welfare and social responsibility. However, CSR is more often regarded as a moral constraint and external pressure, lacking unified measurement standards and systematic investment guidelines. After entering the 21st century, with the advancement of the global sustainable development agenda, investors have gradually recognized the impact of environmental and social factors on the long-term value of enterprises. As a result, the ESG concept emerged and has gradually replaced CSR as an important framework for capital market analysis. Compared with the ambiguity of CSR, ESG introduces a quantifiable rating and evaluation system, enabling non-financial information to be systematically incorporated into investment decisions. For instance, after integrating ESG into its portfolio management, global asset management giant BlackRock has significantly enhanced its ability to respond to climate risks and corporate governance issues. Microsoft has also ramped up its carbon neutrality goals and employee diversity initiatives as part of its ESG strategy, and this has won the company strong approval from the capital market. These examples make it clear that ESG has become a key tool for today’s businesses: it helps them boost their risk management skills and draw in long-term capital.

2.1.2 ESG evaluation system

At present, there are diversified ESG evaluation systems internationally. Mainstream rating agencies such as Morgan Stanley Capital International (MSCI), Sustainalytics, Refinitiv, Bloomberg, etc., all score the ESG performance of enterprises based on different dimensions and weights. For instance, MSCI ESG ratings focus on a company’s risk management capabilities in areas such as environmental protection, labor rights, and board structure. Refinitiv, on the other hand, emphasizes the performance of enterprises in terms of sustainable development strategies and the transparency of information disclosure. However, due to differences in evaluation methods and data sources, ESG rating results often lack consistency and may even show significant divergence. This not only reflects the complexity of ESG ratings in practice, but also provides a new problem space for the academic community to study the relationship between ESG and capital market behavior.

2.2 Measurement of IPO pricing efficiency

IPO pricing efficiency is one of the core topics in capital market research, as its measurement directly reflects whether the offering price effectively incorporates firm value and market demand. Classic literature generally adopts the first-day underpricing rate as the primary indicator, defined as the excess return of the first-day closing price relative to the offering price. A significantly lower offering price compared to the first-day market price indicates substantial undervaluation during the issuance process and insufficient pricing efficiency. The seminal work of Loughran and Ritter laid the foundation for this field. Through a systematic analysis of long-term U.S. IPO data, they documented the persistent presence of significant underpricing in the U.S. market, with considerable variation across different periods. For example, the underpricing level surged during the dot-com bubble [1]. Such persistent deviations highlight a systemic gap between the offering price and the market value.

Within the traditional research framework, measuring IPO pricing efficiency has mostly focused on two financial indicators: first-day price performance and long-term returns from buy-and-hold strategies. But as research methods have advanced and data resources expanded, scholars have started using more precise ways to gauge it. Katsafados et al. are part of this recent shift. In their study of 2,481 U.S. IPOs, they still used first-day underpricing as the key indicator. But went further by applying machine learning. This technique let them pair financial variables with textual information from prospectuses, which in turn helped them predict if an IPO was undervalued and estimate the extent of that underpricing. Their findings show that textual disclosure makes it far easier to explain first-day underpricing. This suggests the information environment and disclosure quality directly impact pricing efficiency [2]. This evidence broadens our approach to measuring IPO pricing efficiency, making it clear that efficiency isn't just limited to the traditional price gaps it used to focus on. It can also be observed when it quantify factors like information uncertainty and how well the market communicates.

2.3 IPO Pricing Efficiency and Underpricing

Over the past few decades, empirical research has time and again shown that IPOs in the U.S. market are usually significantly underpriced. This long-standing trend has long been seen as a sign that pricing isn't efficient and it's also what many researchers call the "IPO puzzle". Loughran and Ritter noticed that how much underpricing happens has swung sharply across different market phases: it averaged roughly 7% in the 1980s, then jumped to nearly 65% during the 1999–2000 dot-com bubble [1]. These changes don't just show how volatile IPO performance

can be. They also reveal how market structure, the types of investors involved, and what issuers want can interact in complicated ways. During speculative periods, some companies going public have appeared more focused on market visibility and long-term reputation than on hitting immediate fundraising goals. They've even adjusted their valuations in a strategic way, even if doing so led to bigger first-day price jumps. While this kind of behavior makes sense from a signaling angle, it can accidentally amp up the cycle of underpricing. Among all the factors that shape this trend, "information uncertainty" is widely seen as a key reason behind differences in underpricing levels. In The variability of IPO initial returns, Lowry, Officer, and Schwert found that IPO underpricing ties closely to this uncertainty: the higher it gets, the greater both the first-day returns and how much those returns vary [3]. This finding further cements the tight link between underpricing and the market's information environment.

In sum, IPO underpricing isn't just a key indicator of pricing efficiency. It's also a result shaped by several factors, including information asymmetry, underwriter incentives, analyst coverage, and market structure. As investors increasingly factor in non-financial considerations like ESG, researchers have started looking into whether it can help shrink information gaps in the IPO process. This line of inquiry suggests that such disclosures may offer fresh insights into how pricing efficiency comes about.

3. The Mechanism through which ESG Affects IPO Pricing Efficiency

3.1 The Perspective of Information Asymmetry

In the IPO market, information asymmetry is widely thought to be a key cause of first-day underpricing. After all, companies going public almost always understand their true value and future potential a lot better than outside investors. This gap between what insiders know and what others can get access to leads to two common issues when setting IPO prices: adverse selection and moral hazard. The first crops up when investors can't tell strong-performing firms from weaker ones. To cover the risk of picking a poor performer, they ask for higher returns and this demand for more reward only pushes IPO underpricing even higher. The second has to do with how issuers act. Managers might take advantage of that gap: they could hype up their company too much, or only share data that makes them look positive. Over time, this sort of behavior wears away at investor confidence [4].

From this angle, ESG disclosure helps counter information asymmetry, and it does so in a useful way. Unlike standard financial reports, it doesn't just stick to financials; instead, this tool shows how responsibly a company runs. That

includes things like how it performs environmentally, its impact on society, and how well it's governed. These details, in turn, help investors get a fuller picture of a firm, like how credible its management is, how stable it'll be long-term, and what risks it might face.

Empirical work supports this logic. For instance, Boulto's cross-country study, *Mandatory ESG Disclosure, Information Asymmetry, and Litigation Risk: Evidence from Initial Public Offerings*, examined more than 15,000 IPOs in 36 markets. The research results show that in countries where ESG information disclosure is mandatory, especially in those with low benchmark transparency but strong legal accountability, the degree of low pricing in ipos tends to decline. These findings suggest that more comprehensive information disclosure can narrow the information gap and enhance pricing efficiency. This influence is particularly prominent in highly uncertain and trust-building markets.

3.2 The Perspective of Investor Demand

In asset pricing theory, investor preferences and demand structure are regarded as the key determinants of market prices. In traditional financial research, it is usually assumed that investors make rational decisions mainly based on risk and return [5]. However, with the rise of sustainable investment, scholars have increasingly realized that non-financial preferences, such as environmental responsibility, social value, and governance quality can also have a significant impact on market pricing.

At the IPO stage, such preference effects are particularly pronounced. Firms with strong ESG performance often attract a distinct group of "green investors" who focus on sustainable investment. These investors are willing to accept lower financial returns in exchange for holding ESG-friendly assets, thereby creating excess demand during the offering stage, stimulating subscription enthusiasm, and pushing up issue prices. Meanwhile, the ESG effect may be amplified through media coverage, institutional investors' ESG policies, and index fund allocation demands. Recent studies further suggest that investor non-financial preferences are increasingly salient in capital markets, shaping not only secondary market trading but also primary market pricing [6]. Consequently, firms with high ESG performance are more likely to gain investor favor in the IPO process, which can help reduce first-day underpricing and improve pricing efficiency.

Nevertheless, the investor demand view also carries certain risks. When market optimism runs too high, firms with strong ESG reputations can become overvalued during the IPO process, fueling short-term price bubbles. Meanwhile, if the ESG information that underpin this optimism is ultimately proven unreliable, whether due to greenwashing or inconsistent rating standards, investors' enthusiasm may lead to funds flowing to substandard en-

terprises, thereby exacerbating the problem of resource misallocation. A typical case is the German payment company Wirecard: The company once received a decent ESG score and was included in several ESG-themed funds. In 2019, Wirecard was exposed for large-scale financial fraud, and its serious corporate governance flaws also came to light. This scandal led to the evaporation of billions of dollars in market value and also shook the market's perception of ESG. The confidence in the screening mechanism is sufficient to indicate that the weakness in the verification process may turn the signals that should reflect the quality of the enterprise into the source of systemic risks.

Overall, although excellent ESG performance can improve the efficiency of IPO pricing by meeting investors' non-financial preferences, insufficient information quality may also trigger an overreaction in the market.

3.3 The Perspective of Institutional Certification

Beyond just information sharing and what investors prefer, institutional middlemen also play a big part in shaping how well IPO prices reflect a company's true value. Underwriters, big institutional investors, and external auditors all act like "validators" of a firm's quality. Their involvement sends trusted signals to the market and helps cut down on uncertainty around what the company is really worth. Companies that do well on ESG fronts often draw in top-tier investment banks to act as their underwriters. Having this kind of institutional support makes them more visible in the capital market and eases investors' worries about whether the issuer is reliable. This backing from reputable groups can lower fears tied to picking the wrong investment and at the same time, give the company more leverage when setting prices in the primary market.

Empirical work echoes this logic. In the study *How does ESG ratings influence IPO's underpricing?* Evidence from the US market, researchers find that, after accounting for factors such as underwriter reputation, firms with ESG ratings show meaningfully lower underpricing than those without. The results indicate that ESG ratings, together with credible intermediaries, operate as a form of certification, improving investors' confidence and leading to more efficient pricing outcomes [7].

Similarly, Duong, Luong and Nguyen pointed out in their cross-national research report *Mandatory ESG Disclosure and IPO Underpricing Worldwide* that in countries where mandatory ESG reporting is implemented, the level of low IPO pricing is often significantly lower. They also found that by the end of the issuance year, these companies had attracted more ESG-focused institutional investors. The evidence is in line with the idea of the certification mechanism, in which intermediaries and long-term investors

interpret ESG disclosure as a sign of a company's quality. This explanation is conducive to building market confidence and improving the efficiency of IPO pricing [8].

In addition, when ESG disclosure is subject to independent third-party assurance, the transparency and credibility of information are further enhanced. Such external oversight helps restrain opportunistic disclosure behavior by issuers, reduces potential moral hazard, and enables investors to more effectively assess firm quality, thereby contributing to improved IPO pricing efficiency.

However, the certification effect of institutions does not always operate positively. If ESG ratings themselves exhibit significant divergence, or if certain intermediaries fail to effectively fulfill their monitoring responsibilities, the certification effect may be weakened or even nullified, thereby creating uncertainty in its impact on IPO pricing efficiency. Therefore, from the institutional certification perspective, the role of ESG in IPO pricing efficiency depends on the effectiveness of certification mechanisms as well as the quality and consistency of the information environment.

4. Conclusion

Taking the U.S. IPO market as the research context, this paper systematically examines the relationship between corporate ESG ratings and IPO pricing efficiency. Traditional IPO literature primarily explains underpricing from the perspectives of information asymmetry, underwriter reputation, market sentiment, and institutional environment. Yet, little consensus has been reached regarding the role of ESG, as an emerging non-financial factor, in the IPO pricing process. With the rise of sustainable investing and the evolution of regulatory frameworks, ESG has become a central issue in global capital markets. Clarifying its role in IPO pricing efficiency, therefore, carries both academic value and practical significance.

From the perspective of information asymmetry, ESG disclosure and ratings serve as additional signals that help reduce investors' uncertainty about firm quality. From the investor demand perspective, strong ESG performance may attract responsible investment funds and green investors, enhance subscription enthusiasm, and improve offering prices. From the institutional certification perspective, underwriters, institutional investors, and third-party assurance strengthen the credibility of ESG information, thereby indirectly enhancing market trust. While these three perspectives provide distinct explanatory pathways, they

all point to the potential role of ESG in improving information transparency and shaping investor expectations.

However, the role of ESG in IPO pricing is not unidirectional. Issues such as greenwashing, inconsistent ESG rating standards, and inadequate supervision of intermediary agencies may all undermine the credibility of ESG information. When such problems arise, the signaling role of ESG will weaken accordingly, and it may even distort IPO pricing, causing the direction of capital allocation to deviate from a reasonable track. Which means that although ESG can reduce market uncertainty from a theoretical perspective, its actual impact on pricing efficiency largely depends on information quality, rating consistency, and the completeness of the system.

Overall, ESG's impact on IPO pricing efficiency cuts both ways. When the information is reliable and ratings are consistent, it tends to improve transparency, boost investor confidence, and support fairer pricing. But when greenwashing or rating mismatches prevail, it can distort signals and lead to poor capital allocation. This discussion highlights both the potential and the pitfalls of ESG in IPO markets, while pointing to what regulators, investors, and policymakers can take from it to promote sustainable finance and healthier market performance.

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