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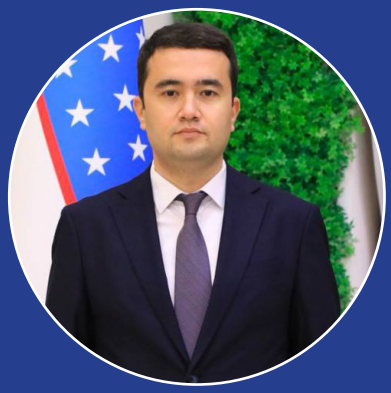

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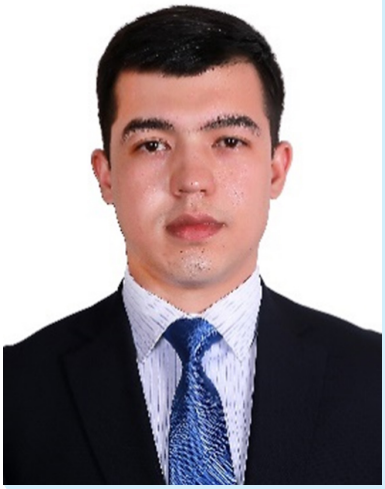
STABILIZING IPOS: THE ROLE OF THE GREENSHOE MECHANISM



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Abstract: The Greenshoe option is a widely used price stabilization mechanism in initial public offerings (IPOs), enabling underwriters to issue additional shares or repurchase stock to maintain market stability. This paper examines the operational mechanics, advantages, and risks associated with Greenshoe implementation, with a particular focus on its relevance for Uzbek companies. Through an analysis of successful cases, the study highlights how the mechanism enhances liquidity, reduces post-IPO volatility, and strengthens investor confidence. The findings suggest that the Greenshoe option can be a valuable tool for emerging markets, provided that appropriate regulatory, economic, and operational conditions are met. Additionally, the paper explores potential barriers to its implementation in Uzbekistan, including legal constraints, market depth, and institutional readiness. By drawing lessons from global best practices, this study offers policy recommendations for adopting the Greenshoe option in Uzbekistan's evolving capital markets.

Key words: going public, underwriting, post-IPO, additional shares, liquidity, implementation policy.

INTRODUCTION

The Greenshoe option is a widely used stabilization mechanism in initial public offerings (IPOs), designed to mitigate price volatility and maintain market confidence. Named after the Green Shoe Manufacturing Company, the first issuer to use this method, Greenshoe allows underwriters to manage fluctuations in share prices by issuing additional shares if demand is high or buying back shares if prices fall. This mechanism benefits all market participants: it provides issuers with additional capital, investors with price stability, and underwriters with better risk management tools. Given its role in shaping post-IPO market performance, understanding the Greenshoe methodology is crucial for evaluating its advantages, risks, and applicability in different financial markets, including emerging economies like Uzbekistan.

The Greenshoe option operates through an over-allotment strategy, where underwriters sell more shares than initially planned typically up to 15% of the original offering. If demand remains strong, underwriters execute the option to issue and sell additional shares at the IPO price, increasing the capital raised. Conversely, if the stock price drops, underwriters purchase shares in the open market to stabilize prices, preventing excessive post-IPO declines. This flexibility makes Greenshoe a vital tool in IPOs, ensuring a smoother market entry for newly listed companies.

LITERATURE REVIEW

Initial Public Offerings (IPOs) are critical events for companies seeking to raise capital and enter public markets. However, IPOs are often accompanied by significant price volatility, which can undermine investor confidence and destabilize the market. To address this issue, the Greenshoe mechanism, also known as the over-allotment option, has emerged as a key stabilization tool. This literature review examines the effectiveness of the Greenshoe mechanism in stabilizing IPOs, drawing on empirical evidence from prior research.

The Greenshoe mechanism allows underwriters to issue additional shares, typically up to 15% of the original offering, to stabilize the stock price in the event of excessive demand or price fluctuations. First introduced in the 1960s, this tool has since become a standard practice in IPO underwriting. Research indicates that the

Greenshoe mechanism effectively reduces price volatility, thereby enhancing post-IPO market confidence. For instance, Ellis et al. (2000) found that IPOs with Greenshoe options experienced significantly lower price volatility in the first 30 days of trading compared to those without such options[1].

One of the primary benefits of the Greenshoe mechanism is its ability to counteract downward price pressure. When a stock trades below its offering price, underwriters can repurchase shares in the open market, thereby creating demand and supporting the price. This process, known as price stabilization, has been shown to enhance investor confidence and reduce the likelihood of post-IPO price crashes. A study by Aggarwal (2000) demonstrated that IPOs with stabilization activities, including the use of Greenshoe options, exhibited less severe price declines in the aftermarket[2].

Moreover, the Greenshoe mechanism contributes to market efficiency by aligning the interests of issuers, underwriters, and investors. Underwriters are incentivized to stabilize the stock price to maintain their reputation and ensure the success of future offerings. This alignment of interests has been empirically validated by Ljungqvist et al. (2003), who found that underwriters with a strong track record of stabilization were more likely to attract high-quality issuers and investors[3].

Despite its benefits, the Greenshoe mechanism is not without limitations. Critics argue that it can lead to moral hazard, as underwriters may overprice IPOs knowing they have the option to stabilize the price. However, empirical evidence suggests that such concerns are overstated. A study by Benveniste and Busaba (1997) found that the Greenshoe mechanism does not significantly distort IPO pricing, as underwriters face reputational risks and regulatory scrutiny that deter opportunistic behavior[4].

The Greenshoe mechanism plays a vital role in stabilizing IPOs by reducing price volatility, supporting post-IPO prices, and aligning the interests of market participants. While concerns about moral hazard exist, empirical evidence overwhelmingly supports its effectiveness as a stabilization tool. Given its demonstrated benefits, the Greenshoe mechanism remains a crucial component of modern IPO underwriting strategies. However, further research is warranted to assess its impact across different regulatory environments and economic conditions, particularly in emerging markets where IPO volatility tends to be higher.

RESEARCH METHODOLOGY

This study employs a qualitative approach to analyze the effectiveness and applicability of the Greenshoe mechanism in stabilizing initial public offerings (IPOs). The study reviews historical IPO data from global financial markets where the Greenshoe mechanism has been implemented, focusing on successful cases such as Alibaba (2014), Facebook (2012), Saudi Aramco (2019), Visa (2008), and Twitter (2013). Regulatory frameworks from key financial jurisdictions, including the U.S. (SEC Regulation M, Rule 104) and the European Union (ESMA guidelines), are examined to assess the legal and operational conditions necessary for Greenshoe implementation.

This study compares the performance of IPOs with and without the Greenshoe mechanism to evaluate its impact on stock price stability, investor confidence, and liquidity. Selected IPOs from various regions serve as case studies to illustrate best practices, challenges, and outcomes of using the Greenshoe mechanism.

ANALYSIS AND RESULTS

The Greenshoe mechanism operates through a three-step process: overallotment, stabilization, and option exercise. Underwriters initially overallot shares, selling more than the issuer has offered, creating a short position. If the stock price rises, the underwriters exercise the Greenshoe option to cover the short position by purchasing additional shares from the issuer at the offering price. Conversely, if the price declines, underwriters repurchase shares in the open market to stabilize the price and cover their short position. This dual functionality enables underwriters to efficiently manage supply and demand dynamics, ensuring price stability during the critical post-IPO period [5].

The success of the Greenshoe mechanism depends on the underwriter's ability to accurately gauge market demand and investor sentiment. A study by Chemmanur and Liu (2011) highlights that underwriter with superior market intelligence and robust distribution networks are better positioned to utilize the Greenshoe mechanism efficiently, resulting in more stable IPO performance [6].

The Greenshoe mechanism is widely adopted in developed markets, such as the United States and Europe, where regulatory frameworks support its use (see Table 1, Successful Greenshoe Implementations).

1 https://www.researchgate.net/publication/4992726_Risk_Reputation_and_IPO_Price_Support
2 https://www.econstor.eu/bitstream/10419/22505/1/bafifo30.pdf
3 https://essay.utwente.nl/68884/1/SNIPPERT_MA_BMS.pdf
4 https://ideas.repec.org/a/cup/jfinqa/v32y1997i04p383-403_00.html

For instance, the U.S. Securities and Exchange Commission (SEC) permits stabilization activities under Rule 104 of Regulation M, provided that they are conducted transparently and within predefined limits [7]. Similarly, the European Securities and Markets Authority (ESMA) has established guidelines to ensure that stabilization practices do not distort market integrity [8].

Table 1. Successful Cases of the Greenshoe Mechanism in IPOs.

Company	IPO Size (Before Greenshoe)	Greenshoe Impact	Final Raised Amount	Outcome
Alibaba Group (2014)	$21.8 billion	Underwriters exercised the option, issuing 48 million additional shares	$25 billion	Became the largest IPO at the time; shares gained 38% on the first trading day
Facebook (2012)	$16 billion	Additional 83 million shares issued to stabilize the market	$18.4 billion	Prevented early price crashes despite initial trading difficulties
Saudi Aramco (2019)	$25.6 billion	Additional shares issued due to demand	$29.4 billion	Became the largest IPO in history; attracted significant global investment
Visa (2008)	$17.9 billion	The Greenshoe option was fully exercised, adding $2.7 billion	$20.6 billion	Helped stabilize the market amid the financial crisis; stock rose 28% on the first day
Twitter (2013)	$1.82 billion	Exercised the Greenshoe option, adding 10.5 million shares	$2.09 billion	Increased liquidity and investor confidence; shares surged 73% on the first day

In emerging markets, however, the adoption of the Greenshoe mechanism remains inconsistent. While countries such as India and Brazil have integrated Greenshoe options into their IPO frameworks, others lack the necessary regulatory infrastructure to support such practices. Research by Khurshed et al. (2014) suggests that the absence of stabilization mechanisms in emerging markets contributes to higher IPO volatility and lower investor confidence [9]. This disparity highlights the need for regulatory harmonization to facilitate the broader global adoption of price stabilization tools.

The Greenshoe mechanism has distinct implications for issuers, underwriters, and investors. For issuers, it increases the likelihood of a successful IPO by mitigating the risk of price declines, which could harm the company's reputation and future fundraising prospects. Underwriters benefit from enhanced risk management and the ability to maintain strong client relationships, while investors gain confidence from reduced price volatility and the assurance of price support [10].

The effectiveness of the Greenshoe mechanism in stabilizing IPO prices is widely recognized. To better assess its impact, a comparison of IPO performance with and without Greenshoe implementation is necessary (Table 2). IPOs utilizing the Greenshoe option typically experience lower volatility, increased liquidity, and higher investor confidence compared to those without this stabilization tool. The table below summarizes key performance differences between IPOs that adopted the Greenshoe mechanism and those that did not.

Table 2. IPO performance with and without Greenshoe mechanism[5]

Performance Indicator	With Greenshoe	Without Greenshoe
Post-IPO Price Volatility (First 30 Days)	Lower (10-20% fluctuation) due to price stabilization efforts	Higher (30-50% fluctuation) as stock price adjusts to market conditions
Liquidity & Trading Volume	Higher trading volume as underwriters manage supply and demand	Lower liquidity, leading to potential price manipulation or panic selling
Stock Price Stability	More stable price movements due to underwriters' intervention	Higher likelihood of sharp price drops or spikes
Investor Confidence	Higher confidence as investors trust price stability measures	Lower confidence, especially in retail investors, due to uncertainty in price direction
Short-term Return (First Week After IPO)	Moderate, as price is stabilized and excessive speculation is reduced	Extreme highs or lows due to supply-demand mismatches

5 https://www.investopedia.com/articles/optioninvestor/08/greenshoe-option-ipo.asp

Long-term Stock Performance (First 6 Months)	More predictable price movement as the market stabilizes	Prone to significant post-IPO underperformance, especially in overhyped offerings
Underwriter Control	Stronger control over the market to prevent sharp declines	Limited ability to intervene, leading to natural price discovery with increased volatility
Examples	Alibaba (2014), Facebook (2012), Visa (2008), Twitter (2013), Saudi Aramco (2019)	Rivian (2021), Robinhood (2021), Lyft (2019) – faced significant post-IPO price drops

However, the mechanism also raises concerns about information asymmetry. Retail investors, who often lack access to detailed information about stabilization activities, may perceive price stability as a sign of strong fundamentals rather than the result of underwriter intervention. This misperception can lead to suboptimal investment decisions, as noted by Ritter and Welch (2002) in their analysis of IPO underpricing and investor behavior [11].

While the Greenshoe mechanism is widely regarded as an effective stabilization tool, it is not without criticism. Some scholars argue that the mechanism can create a false sense of market stability, masking underlying issues such as overvaluation or weak demand. For instance, Derrien and Womack (2003) found that stabilization activities can temporarily inflate IPO prices, leading to sharper corrections once the stabilization period ends [12].

Additionally, the Greenshoe mechanism may disproportionately benefit institutional investors at the expense of retail participants. Institutional investors often receive preferential allocations during the over-allotment phase, while retail investors bear the brunt of price declines if stabilization efforts fail. This inequity has prompted calls for greater transparency and fairness in the allocation process [13].

Despite its widespread use, the Greenshoe mechanism remains an understudied area in IPO research. Future studies could explore its long-term impact on market efficiency, particularly in emerging markets, where regulatory frameworks are still evolving. Additionally, research could investigate the interplay between the Greenshoe mechanism and other stabilization tools, such as lock-up agreements and price support from anchor investors.

Another promising avenue is the examination of Greenshoe mechanisms in the context of alternative IPO methods, such as direct listings and special purpose acquisition companies (SPACs). As these methods gain popularity, understanding how traditional stabilization tools can be adapted to new market structures will be crucial for maintaining market stability [14].

While the Greenshoe mechanism is a widely adopted tool for IPO stabilization, it is not the only strategy available. Alternative approaches, such as price stabilization funds and direct government intervention, have been employed in various markets, each with its own advantages and limitations (Table 3). A comparative analysis of these strategies provides valuable insights into their effectiveness and suitability for different market contexts.

Table 3. Advantages and Risks of the Greenshoe Mechanism.

Aspect	Advantages	Risks
For Issuers	- Stabilizes stock price post-IPO, enhancing investor confidence.	- Potential market manipulation concerns if misused.
	- Increases capital raised if additional shares are issued.	- Dependence on underwriters' strategy.
For Investors	- Reduces post-IPO volatility, ensuring a more predictable stock price.	- Limited transparency on underwriters' actions.
	- Enhances trust in IPO pricing.	
For Underwriters	- Provides flexibility in managing demand and supply.	- Risk of mispricing demand, affecting the IPO's success.
	- Opportunity for additional profit if executed correctly.	- Regulatory scrutiny on price stabilization practices.
For the Market	- Improves liquidity and reduces short-term volatility.	- Potential artificial demand if overused.

Price stabilization funds are pools of capital set aside by issuers or underwriters to support stock prices during the post-IPO period. These funds are used to purchase shares in the open market if the price falls below a predetermined threshold. Unlike the Greenshoe mechanism, which relies on overallotment, price stabilization funds require an upfront capital commitment. This approach has proven particularly effective in markets with high retail investor participation, as it provides a transparent and direct form of price support.

For example, in Japan, the use of price stabilization funds has been linked to reduced IPO volatility and increased investor confidence. A study by Hamao et al. (2000) found that Japanese IPOs with stabilization funds experienced significantly lower price fluctuations in the first month of trading compared to those without such funds [15]. However, the effectiveness of this strategy depends on the size of the fund and the issuer's ability to allocate sufficient resources, which may not be feasible for smaller companies.

In some cases, governments have directly intervened to stabilize IPO prices, particularly in emerging markets or during periods of economic instability. Such interventions may involve state-owned entities purchasing shares or regulatory bodies imposing price limits. While direct intervention can provide immediate stability, it raises concerns about market distortion and the potential for political influence. For instance, during the 2008 financial crisis, the Chinese government intervened in several high-profile IPOs to prevent market collapses. While this intervention successfully stabilized prices in the short term, it also led to long-term inefficiencies, as noted by Allen et al. (2012) in their analysis of China's IPO market [16]. Government intervention is generally considered a last resort, as it undermines market autonomy and investor trust.

When comparing these strategies, the Greenshoe mechanism stands out for its flexibility and alignment with market principles. Unlike price stabilization funds, it does not require an upfront capital commitment, and unlike government intervention, it operates within a transparent regulatory framework. Empirical evidence suggests that the Greenshoe mechanism is more effective in reducing price volatility and maintaining investor confidence over the long term [17]. However, its success depends on the expertise of underwriters and the regulatory environment, underscoring the need for complementary policies. To ensure the successful implementation of the Greenshoe mechanism, regulators, stock exchanges, and financial institutions must collaborate to create a supportive ecosystem. Below is a step-by-step roadmap for policy implementation (Table 4).

Table 4. A Roadmap for Greenshoe Policy Implementation.

Steps	Actions to be taken
Step 1: Establish Clear Regulatory Guidelines	Regulators should develop clear and comprehensive guidelines for the use of the Greenshoe mechanism, outlining permissible activities, disclosure requirements, and monitoring procedures. These guidelines should align with international best practices, such as those established by the International Organization of Securities Commissions (IOSCO)
Step 2: Enhance Transparency and Disclosure	Underwriters should be required to disclose detailed information about stabilization activities, including the size of the overallotment option, the duration of stabilization, and the criteria for intervention. This transparency will help build investor trust and reduce information asymmetry
Step 3: Strengthen Underwriter Accountability	Regulators should impose strict penalties for misuse of the Greenshoe mechanism, such as overpricing IPOs or engaging in manipulative practices. Underwriters should also be incentivized to prioritize long-term market stability over short-term gains, possibly through performance-based regulations
Step 4: Provide Training and Capacity Building	Stock exchanges and financial institutions should offer training programs for underwriters, issuers, and investors to enhance their understanding of the Greenshoe mechanism and its benefits. This capacity building is particularly important in emerging markets, where awareness of stabilization tools may be limited
Step 5: Monitor and Evaluate Outcomes	Regulators should establish a robust monitoring framework to evaluate the effectiveness of the Greenshoe mechanism in reducing IPO volatility and supporting market stability. Regular evaluations will help identify areas for improvement and ensure that the mechanism remains aligned with market needs
Step 6: Promote Global Harmonization	Given the increasing globalization of financial markets, regulators should work towards harmonizing stabilization practices across jurisdictions. This harmonization will facilitate cross-border IPOs and enhance the overall efficiency of global capital markets

CONCLUSION AND RECOMMENDATIONS

The Greenshoe mechanism has proven to be an effective tool for stabilizing stock prices and reducing post-IPO volatility, as demonstrated by its successful implementation in major IPOs worldwide. Its role in

enhancing investor confidence and ensuring liquidity makes it a crucial component of well-developed capital markets. Analyzing cases such as Alibaba, Facebook, Saudi Aramco, Visa, and Twitter highlights that the Greenshoe mechanism is particularly beneficial in large-scale IPOs, where price fluctuations can significantly influence market perception. However, the adoption of the Greenshoe mechanism in emerging markets, particularly in Uzbekistan, presents unique challenges. Regulatory gaps, limited underwriter expertise, and relatively shallow capital markets pose significant barriers to its implementation. Despite these challenges, the potential benefits of Greenshoe in stabilizing Uzbekistan's IPO market make it a viable strategy for future capital market reforms.

To ensure its successful implementation, Uzbekistan should prioritize the following measures:

- Establishing a clear regulatory framework that aligns with international standards.
- Enhancing transparency in stabilization activities to build investor trust.
- Providing specialized training programs for underwriters and financial institutions.
- Strengthening market infrastructure to support Greenshoe operations.

With the right policy adjustments and institutional capacity-building, the Greenshoe mechanism could play a vital role in improving Uzbekistan's IPO ecosystem, attracting foreign investment, and fostering long-term market stability. Future research should explore the long-term effects of the Greenshoe mechanism in emerging economies and its interaction with other IPO stabilization tools.

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